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AS01. AMBULATORY MEDICINE

001 - Submission No. 1605

DATA FROM THE FIRST CONTACT WITH AN OUTPATIENT CLINIC AFTER AN HOSPITAL DICHARGE FOR HEART FAILURE

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Background and Aims: Heart failure (HF) is widely recognized as a major global public health burden. Current pressure on health systems has been forcing authorities to develop new strategies. Creating such programs presents itself as a challenge, as it also requires patient's empowerment for their success. Aim of this study is evaluate HF patient self-perception of their clinical state and self-management strategies after hospital discharge for HF decompensation.

Methods: HF patient referred to a HF outpatient clinic at a private hospital were evaluated. From clinical records demographic data, responses at their first appointment to the European Heart Failure Selfcare Behavior Scale (EHFSBS) and the Kansas City Cardiomyopathy Questionnaire were collected.

Results: From December 2021 to October 2022, 131 patients were evaluated (59.5% male, mean age of 79 years (31-103 years)) generating 294 multidisciplinary appointments: 2.2 appointments/patient in average (min: 1; max: 11). In their first visit, 85.6% of the patients were, at least, slightly limited in the activities of daily living: 62.7% felt limited by tiredness and 35.9% had shortness of breath, at least once a day. 44.4% of patients did not know what to do in case of HF decompensation. 2.7% reported feeling depressed. According to the EHFSBS filled in at first contact, 23.2% of pts weigh themselves daily, 40.8% limited the amount of ingested fluids and 22.6% would contact in case of HF decompensation.

Conclusions: Our preliminary data points out to the highly prevalence of residual HF symptoms after hospital discharge and need of improving patient awareness on HF self-management.

002 - Submission No. 1649

ADDRESSING THE JOINT CHALLENGES OF INPATIENT DIAGNOSTIC CT IMAGING FOR CANCER INVESTIGATION VIA THE AMBULATORY CARE UNIT OF A BUSY TERTIARY TEACHING HOSPITAL

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Background and Aims: Interface discussions between our Ambulatory Assessment Unit (AAU) and our radiology department, highlighted an unsustainable practice within our joint service: one-hour target turnaround times (TAT) for urgent inpatient CT scans requesting cancer staging or cancer investigations. This is creating an expectation of cancer diagnosis via AAU and of specialist reporting by non-specialist radiologists. We propose a novel sustainable planned outpatient Ambulatory pathway for this patient cohort.

Methods: We audited 637 inpatient CT requests from 01/16/21-01/03/21. We then selected the scan requests with the following clinical indications for analysis (n=57): 1) Staging scan 2) Suspected malignancy 3) Suspected metastatic disease 4) Suspected recurrence of malignancy. Exclusion criteria: Requests that also questioned an acute medical emergency.

Results: 1) Cancer investigations made up for 9% of total inpatient CT scans requested. 2) 96% of them were managed on an Ambulatory outpatient basis. 3) 39% of scans reported a new malignant or suspicious lesion that needed MDT review. 4) 37% of scans had other significant findings that either warranted further ambulatory treatment or workup on discharge.

Conclusions: Inpatient cancer investigations by CT imaging make up for 9% of our total CT scan usage. The creation of a new outpatient ambulatory pathway for this patient cohort could reduce inpatient CT scanning by 330 scans yearly. A new sub-acute

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ambulatory outpatient CT slot (5 days from request to report) supplemented with a weekly MDT consisting of Acute Oncology, Ambulatory Care, and Radiology, can streamline cancer imaging and tissue diagnosis while mitigating the downsides associated with same-day CT imaging.

003 - Submission No. 1597

THE HIDDEN POTENTIAL FOR NOVEL PULMONARY EMBOLISM (PE) RISK STRATIFICATION TOOLS IN ADDRESSING CT PULMONARY ANGIOGRAM (CTPA) OVERUSE IN AMBULATORY CARE

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Background and Aims: CTPA overuse is a common issue in emergency care worldwide. CTPA scans make up about 45% of all the inpatient CT scan requests from our Ambulatory Assessment Unit (AAU). In just 5 years, CTPA requests have increased 3.5-fold, compared to a proportionally minimal rise in patient footfall. Risk stratification tools for Pulmonary Embolism, like the YEARS algorithm and the Age-Adjusted D-Dimer (AADD) rule, could reduce this need.

Methods: We audited all 273 CTPA's performed over a 2-month period (1/9/21 to 31/10/21). We retrospectively applied the YEARS algorithm and the AADD rule (using the Fibrinogen Equivalent Unit cut-off) for each patient. 65 and 97 patients met the exclusion criteria for the YEARS algorithm and the AADD rule respectively

Results: Application of YEARS algorithm (n=208): "PE Excluded" in 86 patients, "PE Not Excluded" for 122 patients. None of 19 PE's were missed. Application of AADD rule (n=176): "VTE unlikely" in 44 patients, and "VTE Possible" in 132 patients. 4 out of 20 PEs were missed: 2 single segmental, 1 single subsegmental, and 2 isolated subsegmental PE's. Upon review of images by 2 specialist chest radiologists, they concluded that none of the missed PE's were true PE's.

Conclusions: Our findings show promise in using novel PE risk-stratifying tools like the YEARS algorithm and the AADD rule in the Ambulatory Care setting. With a potential 31% reduction of total CTPA scans (522 fewer CTPA scans yearly), and 0 missed PE's, the YEARS algorithm looks promising if applied during the initial assessment of patients with suspected PE.

004 - Submission No. 2021

MANAGEMENT OF CELLULITIS VIA OUTPATIENT PARENTERAL ANTIBIOTIC THERAPY IN AMBULATORY EMERGENCY CARE UNIT

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Background and Aims: Skin and soft tissue infections are common indications for treatment via Outpatient Parenteral Antibiotic Therapy (OPAT). Our aim was to assess the duration of IV antibiotic therapy in Ambulatory Emergency Care Unit (AECU) and assess compliance with local hospital (St Peter's Hospital, Surrey, UK) guidelines. We also assessed the efficacy of the management of cellulitis via OPAT in an AECU setting.

Methods: Retrospective analysis of data from April 2021-September 2022 identified 176 patients who received IV antibiotics via OPAT in AECU. Hospital protocol 1st line antibiotic for cellulitis was Flucloxacillin and 2nd line was Teicoplanin/ Clarithromycin for 7 days treatment followed by review.

Results: 44% (N=78) of patients were diagnosed with cellulitis. From this cohort, 66% were aged ≥61 years, 66% were males and 34% were females. The three commonly used antibiotics in the hospital were Ceftriaxone (45%), Daptomycin (35%) and Teicoplanin (14%). The treatment duration was not as per the hospital protocol, it was found to be increased in 73% cases. Treatment was efficacious as demonstrated by post treatment white blood cell count <11 in 76 % of cases. In 62% of patients, post treatment CRP remained high (≥10 mg/L) which correlates with frequently observed lag.

Conclusions: Antibiotic regimen deviated from hospital protocol in a significant number of cases in addition to prolonged treatment duration. Separate cellulitis OPAT clinic should be established with detailed documentation and rationale for extended duration. Modified Dundee classification should be implemented to grade the cellulitis severity. The hospital guidelines need to be amended to accommodate this.

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005 - Submission No. 185

STRUCTURE OF MULTIMORBIDITY AND GERIATRIC SYNDROMES IN OUTPATIENTS AGED 55 AND OLDER

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Background and Aims: Assessment of the structure of multimorbidity, geriatric syndromes, and their relationship in outpatients.

Methods: The open one-stage study included 378 outpatients aged 55 to 93 years. Socio-demographic, anthropometric, clinical, laboratory parameters, comorbidities, and geriatric syndromes were assessed.

Results: The age of patients was 73 years (68;79), with a prevalence of patients aged 60 to 74 years - 218 people (57.7%), and female (61.7%). More than three diseases were observed among 268 (71%) patients. The most frequent diseases were arterial hypertension (95%), diabetes mellitus (42%), or obesity (39%). Geriatric syndromes occurred in 80% of patients: hearing and vision loss (71%), sleep (55%) and movement disorders (48%), urinary incontinence (26%), and falls during the previous year (20%). Factors associated with frailty were high fear of falls (OR, 10.2; 95% CI 5.00-20.71; p=0.001), falls during the previous year (OR, 5.11; 95% CI 2.89-9.04; p=0.001), sleep disorders (OR, 3.78; 95% CI 2.44-5.88; p=0.001), female gender (OR, 0.61; 95% CI 0.40-0.94; p=0.024). The optimal age cut-off for the prediction of a frailty with a sensitivity of 62% and a specificity of 60% was 72.5 years or older (AUC 0.626±0.029, 95% CI 0.57-0.686 p=0,001).

Conclusions: Arterial hypertension, diabetes mellitus, and obesity are main pathologies in the structure of multimorbidity; sensory deficits, sleep or mobility disorders – in geriatric syndromes. The identification of frailty associated with functional impairment, and poor prognosis is crucial, especially among patients of 72.5 years and older.

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AS02. CARDIOVASCULAR DISEASES

006 - Submission No. 443

UROSEPSIS INDUCED-TAKOTSUBO CARDIOMYOPATHY – A CASE REPORT

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Case Description: A 73-year-old woman presented to the emergency department with dyspnea, diarrhea and abdominal pain. Her medical history included arterial hypertension, diabetes mellitus, chronic kidney disease stage 3 and hypercholesterolemia. At admission, she was hypertensive and febrile. Initial bloodwork showed leukocytosis and C-Reactive Protein elevation. Urinary sediment revealed proteinuria and leukocyturia. Thoracic radiography showed bilateral pulmonary infiltrates and cardiomegaly. Blood and urine cultures were collected, and cefuroxime was initiated. Clinical worsening was noticed in the following 24 hours as fever persisted and global respiratory failure with shock developed. A rise in high sensitivity troponin (TnI, 26710 pg/ml) and ST elevation on all precordial leads, I, II and aVL, were detected. Non-mechanical ventilation did not succeed, and we proceeded to orotracheal intubation.

Clinical Hypothesis: Acute myocardial infarction (AMI).

Diagnostic Pathways: An emergent cardiac catheterization was performed, showing no significant coronary lesions. Left ventriculography showed apical and anterolateral segments' akinesia, suggesting Takotsubo cardiomyopathy (TC). ACE inhibitor and a beta-blocker were initiated. Urine culture revealed an *E. coli* and therapy was changed to ampicillin. One week later, we observed symptom relief and a decrease in TnI. Two weeks after diagnosis there was echocardiographic improvement.

Discussion and Learning Points: TC, also known as stress cardiomyopathy, is typically preceded by emotional or physical stressor. Sepsis induced TC has been increasingly reported attributable to inflammatory mediators, catecholamine toxicity and inadequate coronary blood flow. As in this case, clinical course and prognosis are usually benign. AMI, a higher incidence entity, was necessarily excluded, considering the presence of high cardiovascular risk and elevated morbidity associated with this disease.

007 - Submission No. 1847

EXPERIENCE IN STATIN-INTOLERANT PATIENTS TREATED WITH PCSK9 INHIBITORS IN A SPANISH THIRD LEVEL HOSPITAL

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Background and Aims: The main objective was to characterize our statin-intolerant patients treated with PCSK9 inhibitors (PCSK9i). Our secondary aim was to study whether these patients met the target LDLc according to their cardiovascular risk.

Methods: A cross-sectional, descriptive, by protocol study conducted on statin-intolerant patients treated with PCSK9i (n=51) included in a follow-up cohort in the Internal Medicine Department of the Hospital Universitario Reina Sofía, Córdoba (HURS). We analyzed biochemical parameters measured before treatment and after two follow-up visits (6 and 12 months): total cholesterol, LDLc, HDL, Lipoprotein a (Lp (a)) and triglycerides. To establish cardiovascular risk groups, we used the ESC/EAS 2019 guideline on the treatment of dyslipidemia.

Results: We included 51 statin-intolerant patients (30 men, 21 women) with a mean age of 59.7 years (+/- 10.5), 29 patients presented heterozygous familial hypercholesterolemia (56.9%) and 27 patients were in secondary prevention (52.9%). At start of PCSK9i treatment LDLc was 167.67 (+/- 53) mg/dl, 6 months after PCSK9i was 99.18 (+/- 49.3) mg/dl and at 12 months 95.55 (+/- 53.3) mg/dl (p<0,001). At start of PCSK9i treatment Lp(a) was 71.43 (+/- 65.6) mg/dl, after treatment 57.35 (+/- 65) mg/dl. Mean percentage of LDLc reduction after initiation of PCSK9i was 42.88%. 15 statin-intolerant patients met the target, 5 of them

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presented heterozygous familial hypercholesterolemia, 10 were in secondary prevention and 2 presented both conditions.

Conclusions: PCSK9i are currently a fundamental treatment option in patients with high to very high cardiovascular risk. However, in statin-intolerant patients, complementary therapies are probably necessary to optimize their therapeutic objectives.

008 - Submission No. 2044

SPONTANEOUS AORTIC DISSECTION: A CASE REPORT

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Case Description: A 33-year-old male with a history of high blood pressure, overweight, ex-smoking, chronic otitis, and OSAS, who attended the Emergency Department due to asthenia and chest pain of one month's duration. On examination, the bifid uvula and hypertelorism stand out. Severe pericardial effusion with data of cardiac tamponade was observed by echocardioscopy, draining 1600 cc of bloody fluid in the ICU by means of pericardiocentesis, maintaining poor control of blood pressure. On arrival in the ward, elevated D-dimer was noted and transthoracic echocardiography revealed Stanford type A aortic dissection and severe aortic regurgitation, confirmed by CT angiography, and he was rushed and operated via a valved aortic tube.

Clinical Hypothesis: The clinical presentation made us think of a genetic cause, specifically Loeys-Dietz syndrome.

Diagnostic Pathways: A genetic study was carried out for 64 genes (TGFBR1 and TGFBR2 included) associated with aortic, vascular and connective tissue pathologies (S,E 99%), being negative. The study of the pericardial fluid didn't reveal a neoplastic, infectious, or inflammatory cause.

Discussion and Learning Points: The pericardial effusion was probably in the context of a very early aortic dissection that was not detected on the first echocardiography. Most patients with mutated TGFBR1 or TGFBR2 have Loeys-Dietz syndrome, associated with hypertelorism, split uvula or cleft palate, aortic aneurysms, and dissections. In this case, no genetic mutation was found, but this finding doesn't exclude the pathology.

009 - Submission No. 870

QUANTITY AND QUALITY OF DIETARY LIPIDS MODULATE THE METABOLOMIC PROFILE OF PATIENTS WITH METABOLIC SYNDROME: THE LIPGENE STUDY

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Background and Aims: People in western societies are predominantly in postprandial state. Here, we aim to promote better management of MetS patients by understanding the diet-metabolism interactions in both, fasting and postprandial states.

Methods: 75 patients with MetS from the Spanish LIPGENE cohort were included in the study. MetS patients were randomly stratified to follow one of four isoenergetic diets for a 12-week long-term study. The four diets were high SFA and MUFA (HSFA and HMUFA) and low-fat high-complex carbohydrates (LFHCC) and LFHCC supplemented with n-3. The metabolomics analysis of plasma samples was carried out using LC-TOF/MS. Orthogonal Projection to Latent Structures Discriminant Analysis was used to identify specific modulations driven by the different diets.

Results: Following the dietary intervention results showed a decrease in inflammation biomarkers, such as acetylcarnitine and L-carnitine during the fasting state, and hexanoyl-L-carnitine and isobutyryl-L-carnitine during the postprandial period, mediated by the replacement of HSFA by HMUFA. Antioxidant compounds such as 4-hydroxybenzaldehyde and L-valine were expressed at higher levels after consumption of the HMUFA diet compared to the HSFA. HSFA also presented altered levels of Phosphatidylcholine, a metabolite previously linked with insulin resistance and CVD. The n-3 supplementation in the LFHCC diet showed a significant increase in 3-carboxyl-4-methyl-5-propyl-2-furanpropanoic acid, a long-lasting steatosis protection factor.

Conclusions: These findings suggest that patients with MetS will benefit from personalized dietary recommendations where HMUFA and n-3 supplementation should receive particular attention.

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010 - Submission No. 881

SUPERIOR MESENTERIC VEIN THROMBOSIS IN A YOUNG MAN, MAY THE COVID-19 INFECTION BE AN ETIOLOGIC AGENT?

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Case Description: A 39-year-old man with no records of previous disease, goes to the emergency room with epigastric pain after five days of symptoms. No other gastrointestinal alteration was detected. No other clinical records rather than a COVID-19 infection occurred a month before the hospital admission. After objective examination, the patient displayed a bloated tympanized abdomen.

Clinical Hypothesis: Intra-Abdominal Inflammatory process

Diagnostic Pathways: As initial evaluation an ECG was performed with no alteration as well as Chest and Abdomen X-Ray. The blood test revealed Leukocytosis and high levels of C-Reactive Protein. A Pelvic and Abdomen-CT was then performed, resulting in superior mesenteric venous thrombosis (MVT) with extension to the portal vein. The Patient was then admitted starting anticoagulation treatment and to study possible etiologic agent. During the admission the patient was screened for occult neoplasia, as well as acquired and inherited thrombophilia with no alterations. No clinical record or familiar record for thrombose was found. The thrombophilia test was then repeated after the acute phase with negative results.

Discussion and Learning Points: Amongst the various types and causes of mesenteric ischemia, superior mesenteric vein thrombosis remains a rare and ambiguous disease. If a patient presents with MVT, past medical records should be reviewed, and the patient should be screened for underlying disease. MVT may also occur due to systemic infection, and in this case report, because of no other etiologic agent, the most obvious cause was most likely to be addressed to a COVID-19 infection.

011 - Submission No. 863

EFFICACY OF VAGAL NEUROMODULATION IN ONE CASE OF CYCLIC VOMITING SYNDROME

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Case Description: We reported a case of a 20-year-old female who presented to our outpatient clinic for Cyclic Vomiting Syndrome (CVS). Since the age of 12 she had CVS attacks characterized by 3 days of nausea, vomiting and severe dehydration every 2 months. Previous echocardiography, EEG and brain imaging were negative.

Clinical Hypothesis: The patient was evaluated in our clinic in order to exclude the presence of a dysautonomia.

Diagnostic Pathways: We performed 7-day ECG monitoring and a head up tilt test. The ECG monitoring revealed a severe heart rate increase from sleep to wakefulness in the morning (ΔHR=70 bpm) and a progressive reduction of the ΔHR on the days preceding the vomiting episode. The HUTT revealed an exaggerated HR response during orthostatism (ΔHR=35 bpm) in the absence of orthostatic hypotension, suggesting a diagnosis of Postural Orthostatic Tachycardia Syndrome.

Discussion and Learning Points: Considering the POTS possibly linked to an autonomic dysfunction with a shift of the sympathovagal balance towards a sympathetic predominance, we decided to start a 6-month treatment with transcutaneous auricular vagus nerve stimulation. This was performed by the patient at home for 4 non-consecutive hours/day, with a stimulation frequency of 25 Hz and an intensity of 0.5-5 mA according to the personal daily skin sensitivity. After 6 months of tVNS, the patient reported no CVS attacks, and a new 7-day ECG monitoring revealed a decreased ΔHR from sleep to wake (ΔHR=40 bpm). The observed beneficial results could be due to a neuro-modulatory effect of tVNS. Further studies are needed to evaluate the efficacy of tVNS in CVS.

012 - Submission No. 1570

HEPATOCARCINOMA AND DILATED CARDIOMYOPATHY. ADVANCES IN ONCOLOGY AS A DOUBLE-EDGED SWORD

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Case Description: A 78-year-old male patient with several cardiovascular risk factors, heart failure of hypertensive origin and chronic kidney disease was diagnosed in 2020 with hepatocarcinoma and initially treated with chemoembolization. He relapsed later in 2021, so target therapy with a VEGF tyrosine kinase inhibitor (lenvatinib) was started. Six months after starting this drug, the patient visited the emergency department for dyspnea and edema of the lower limbs.

Clinical Hypothesis: He was diagnosed with decompensated heart failure and echocardiography revealed a dilated cardiomyopathy that was previously unknown.

Diagnostic Pathways: An etiological study of dilated cardiomyopathy was performed with laboratory echocardiography and coronary angiography. The latter showed a critical lesion in the anterior descending artery that was revascularized with a drug-eluting stent, with good evolution and no intraprocedural incidences. After therapeutic optimization of heart failure,

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revascularization and suspension of lenvatinib, clinical, analytical and ventricular function improved.

Discussion and Learning Points: The aim of this case is to illustrate the importance of pharmacological etiology in cardiovascular risk, taking it into account in the differential diagnosis of both hypertension and cardiovascular events (mainly stroke and heart failure), with special mention of new oncological therapies such as tyrosine kinase inhibitors.

013 - Submission No. 981

PLASMA LIPIDIC FINGERPRINT ASSOCIATED WITH DEVELOPING TYPE 2 DIABETES MELLITUS IN PATIENTS WITH CO-OCCURRENCE OF CORONARY HEART DISEASE: CORDIOPREV STUDY

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Background and Aims: The identification of biomarkers for early detection of the risk of developing T2DM is especially important in CHD patients. We aimed to identify a profile of lipidic species associated with developing T2DM in the plasma of CHD patients.

Methods: This study used 462 nondiabetic patients with CHD from the CORDIOPREV. In total, 107 patients developed T2DM after 5 years of dietary intervention. The diagnosis of T2DM was carried out according to the criteria of the American Diabetes Association after a median follow-up of 60 months. A random classification of the patients was performed in both a Training and a Validation Set, in which the validity of the Lipidomic Risk score was tested.

Results: Liquid chromatography-tandem mass spectrometry annotated 440 lipid species. From those, the random survival forest (RSF) identified 15 lipid species with the lowest prediction error. These lipids were combined in a Lipidomic Risk score and showed association with the development of T2DM (Hazard ratio (HR) of 2.87 in the "Training Set" and HR of 1.43 in the "Validation Set"; HR per unit standard deviation (SD)). Likewise, patients with higher Risk Score values had lower insulin sensitivity (P = 0.006) and higher liver insulin resistance (P = 0.005).

Conclusions: Our study showed the potential of highly sensitive lipidomics in identifying patients at risk of developing T2DM. In addition, the lipid species identified as associated with T2DM development, combined with clinical variables, provided a model to be used in clinical practice to identify patients at T2DM risk.

014 - Submission No. 1294

OBESITY AND METABOLIC SYNDROME PREVALENCE IN A VULNERABLE POPULATION. E-DUCASS STUDY

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Background and Aims: Food insecurity is implied in the most important health problem in the world: the increase in non-communicable diseases. Metabolic syndrome is a pathological clinical situation highly related to cardiometabolic diseases. The objective of this study is to evaluate the prevalence of obesity and metabolic syndrome in the participants included in the E-DUCASS study at the beginning of the study (NCT05379842).

Methods: We carried out a descriptive cross-sectional study including 460 participants from the E-DUCASS study vulnerable to suffer food insecurity. Anthropometric parameters, blood pressure measurement and analytical values taken from capillary blood were obtained from each participant. Obesity and metabolic syndrome were established according to the WHO criteria and the National Cholesterol Education Program Adult Treatment Panel III criteria, respectively.

Results: BMI in the population under 18 years of age was 23±5.3 kg/m2 and in the adult population was 29.7±7.5 kg/m^2. The percentage of obesity in the <18 was 40.4% and 46.2% in the adult population. The prevalence of Metabolic Syndrome in the <18 was 34.2% while in adults was 40.6%.

Conclusions: The prevalence of obesity and metabolic syndrome was very high in a vulnerable population from the E-DUCASS program compared to the general Spanish population. Programs improving health literacy and cardiovascular health in vulnerable population could reduce the metabolic burden in this population.

015 - Submission No. 1987

FACTORS ASSOCIATED WITH DECREASED VISUAL ACUITY IN A COHORT OF 330 PATIENTS DIAGNOSED WITH RETINAL VENOUS OCCLUSION

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Background and Aims: 1) To describe the factors associated with the severity of decreased visual acuity (VA) at the time of diagnosis of retinal venous occlusion (RVO). 2) To determine the changes in VA 6 months after diagnosis of RVO.

Methods: A prospective clinical study of a cohort of 330 patients

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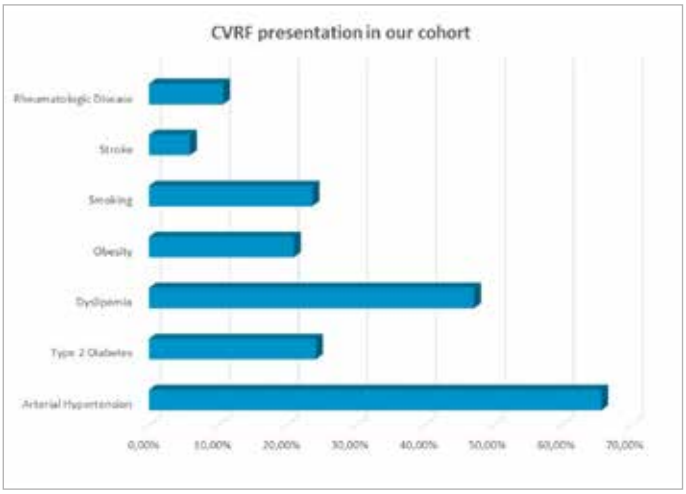
diagnosed with RVO in 2022. The RVOs were classified into central retinal vein occlusion (CRVO) and branch venous occlusion (BVO). Visual acuity was assessed using the ETDRS scale. The c^2 test was used for comparisons between groups and multivariate logistic regression for the analysis of factors associated with the severity of VA.

Results: All patients of our study had some cardiovascular risk factor (CVRF, Figure 1), the most predominant being arterial hypertension (65.8%), followed by dyslipidemia (47.3%). Only 11% of our sample had no CVRFs and 60.8% had 2 or more. Mean VA at diagnosis was 49 letters and 6 months after, was 54.6 letters ($p<0.001$), related to treatment and acute phase resolution of the event. Of note, 75.4% of patients with a VA at diagnosis ≤ 25 letters were hypertensive, although no statistically significant difference was demonstrated ($p=0.07$). No significant differences were found between patients with CRVO and those with BVO.

Conclusions: 1) The association of VA with any of the CVRF studied in our sample could not be demostrated although there is a trend to worse prognosis in hypertensive patients. 2) Younger patients and those with RVO were less likely to have decreased VA in this cohort.



015 Figure 1.

016 - Submission No. 570

THE OLD X-RAY, THE SNITCH

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Case Description: 37 years old man, dependent for daily life activities, medical history of intellectual development disorder with moderate mental retardation, impulse control disorder with occasional psychotic symptoms, asthma, deep vein thrombosis under rivaroxaban. He was brought to the emergency department due to obnubilation and bradycardia. It was documented a second-degree block Mobitz II on electrocardiogram and he was hospitalized for pacemaker implantation. Blood tests revealed hypothyroidism (thyroid-stimulating hormone 5.99, free thyroxine 0.3 and triiodothyronine 1.6) and he was started on levothyroxine. The thoracic x-ray showed an increased cardiac silhouette.

Clinical Hypothesis: Pericardial effusion.

Diagnostic Pathways: The echocardiogram showed left ventricle preserved systolic function, with significant septum shift, to the left during inspiration and to the right during expiration ("septal bounce"); moderate pericardial effusion (20mm) with retraction movement of the right atrium, without diastolic compromise of the right ventricle. A pericardiocentesis was performed draining 400mL of serous liquid and no isolated microorganisms. Therefore, it was assumed that hypothyroidism was the most probable cause. The dosage of levothyroxine was increased with control of thyroid function. Upon revaluation there was no evidence of pericardial effusion relapse.

Discussion and Learning Points: Pericardial effusion can be asymptomatic thus a high index of suspicion is extremely important, especially in patients with psychiatric pathology whose expression capacity may be limited. Even though echocardiogram is the gold standard for pericardial effusion's diagnosis, this case demonstrates how a simple chest X-ray shouldn't be overlooked.

017 - Submission No. 774

"SPONGE HEART": A CASE REPORT OF IMPAIRED EJECTION FRACTION OF DIFFICULT INTERPRETATION

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Case Description: A 62-year-old man presented to the Emergency Department for worsening left flank pain for four days and palpitations for one month. He had a medical history of hypertension, dyslipidemia, and hypothyroidism. The electrocardiogram showed atrial fibrillation 130 bpm and frequent ventricular extrasystoles. The CT showed a left renal infarction of probable embolic origin. Cardiac ultrasound showed severe diffuse left ventricular hypokinesis with 20% ejection fraction (EF) and apical trabeculations. During the hospital stay, anticoagulant therapy was started, in addition to specific therapies for heart failure and rate control. Cardiac magnetic resonance showed non-compaction cardiomyopathy (NCM) phenotype with areas of late gadolinium enhancement.

Clinical Hypothesis: Which is the cause of the left ventricular dysfunction? NCM, tachycardiomyopathy or misdiagnosed ischemic heart disease? Which is the cause of the embolism? Atrial fibrillation or a thrombus dislodged from ventricular trabeculations? Is prompt ICD implantation indicated?

Diagnostic Pathways: Coronary angiography was negative, thus ruling out an ischemic etiology. Electrical cardioversion was performed to revert eventual arrhythmia-induced cardiomyopathy. Long term anticoagulation was started. An ICD was implanted considering the severe reduction of the EF and the presence

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of cardiac fibrosis. Echocardiography at 90 days showed EF improvement (48%). The patient's genetic screening was negative. The pedigree chart revealed NCM phenotype in three first grade relatives; the father died in his 50's of unexplained sudden death.

Discussion and Learning Points: NCM is a relatively rare condition with different clinical phenotypes. Many factors, such as arrhythmias could be crucial for clinical presentation relevance and prognosis.

018 - Submission No. 1235

PRACTICE GUIDELINES FOR CARDIOVASCULAR DISEASE: HOW IS DEPRESSION ADDRESSED?

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Background and Aims: Depression frequently affects patients with cardiovascular disorders (CVD). When these conditions co-occur, outcomes such as quality of life and life expectancy worsen. In everyday practice, this specific and prevalent disease-disease interaction complicates the management of these patients. Yet, practice guidelines may address this co-occurring condition too little. To evaluate how CVD practice guidelines specifically address depression, and whether they provide operational guidance for screening and management to practitioners.

Methods: We searched for national and international CVD guidelines published in English only, and only the newest versions. We then screened these recommendations for any mention of depression, specifically for its screening, diagnosis, treatment, and management.

Results: We found CVD practice guidelines from Europe, Asia, Asia-Pacific, Africa, and North and South America. In most of these guidelines, depression was not addressed. Those guidelines which mentioned depression called for awareness but lacked operational recommendations for screening, diagnosis, treatment, and management. Newer guidelines gave more attention to psychosocial factors and mental health, including recommendations on depression.

Conclusions: Overall, depression remains inadequately addressed in CVD guidelines. Guidance for the management of depression in patients with CVD is needed to enable early detection and handling of this high-risk population.

019 - Submission No. 809

ASSOCIATION OF PULSED TRANSMITRAL AND TISSUE DOPPLER PARAMETERS WITH HEART FAILURE

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Background and Aims: To assess whether the E wave measured by trans-mitral Doppler, the e' wave of tissue Doppler (TD) in the medial mitral annulus and its E/e' ratio can be valid parameters for the detection of heart failure (HF).

Methods: An observational case-control study was carried out in a second-level hospital with patients attending with HF and the controls attending for other reasons, without HF. Pulsed trans-mitral flow Doppler and TD analysis were performed. A total of 127 echocardiographies were performed, of which 71 patients had HF. E and e' wave by TD and E/e' ratio were analyzed. Mann–Whitney U test was used to perform univariable analysis.

Results: The mean E wave in patients without HF was 64.21 cm/s and with HF 90.63 cm/s ($p < 0.01$), concluding that there were significant differences in the E wave in the HF group. The e' wave in patients without HF was 12 cm/s and in patients with HF, it was 8.00 cm/s ($p < 0.01$). The E/e' ratio in patients without HF was 8.04 and in patients with HF it was 14.53 ($p < 0.001$), so there is a statistically significant association between the ratio and the presence of HF.

Conclusions: The E and e' wave and their ratio differ significantly in patients with HF and may be useful parameters in its detection. Our study is a unicentric, case-control study, with the limitations inherent to this type of study. Echocardiography was performed by experienced physicians, which may also be a bias for the extrapolation of results.

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020 - Submission No. 135

PREMATURE VENTRICULAR CONTRACTIONS IN PATIENTS WITH VITAMIN D DEFICIENCY

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Background and Aims: Premature ventricular contractions (PVC) are a frequent EKG finding with varying implications for individuals with cardiac structural disease, coronary artery disease, and other systemic diseases. PVCs vary from asymptomatic, so-called "benign" to severe malignant ventricular arrhythmias. Recently, 25-(OH)-cholecalciferol, the active form of vitamin D, has been recognized as a key player in cardiovascular pathology, with implications for coronary artery disease (CAD), non-valvular atrial fibrillation, peripheral artery disease, and metabolic syndrome. Our aim was to analyze and quantify the correlation between serum vitamin D concentration and burden of daily PVCs.

Methods: A total of 109 patients from our clinic were included in the study. The number of premature ventricular contractions were assessed by 24-hour Holter-EKG monitoring. Vitamin D active metabolite concentration was assessed by sequenced blood samples. The intervention consisted of daily administration of vitamin D3 2000 units – 5000 units daily for a duration of 1 to 3 months, (with individual difference among patients) and reassessment of both the number of PVCs and also the vitamin D concentration after treatment.

Results: In 92.4% of patients, vitamin D insufficiency was found. After therapy, the average number of PVCs decreased by 68.63%. Statistical analysis of different patient groups revealed a positive correlation between the increase in serum active vitamin D and the decrease in daily PVC number, an equation being able to predict the PVC decrease.

Conclusions: The efficiency of vitamin D in lowering the number of ventricular premature beats was comparable to other methods of treatment, as PVCs decreased by 68.63% (± 29.20577).

PVC difference = 2500 x vitamin D difference - 15000

020 Figure 1. The equation predicting PVC difference in the group over 60 years old

PVC difference = 1200 x vit D difference - 10000

020 Figure 2. The formula to predict the decrease in PVC number

021 - Submission No. 1357

ACUTE PERICARDITIS WITH PLEUROPULMONARY INVOLVEMENT: A SYSTEMIC AUTOINFLAMMATORY DISEASE

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Background and Aims: Pericarditis with pleuropulmonary involvement is a systemic phenotype that shares similarities with autoinflammatory diseases (fever, increased inflammatory parameters, neutrophilia, response to IL1 inhibitors). We compared this phenotype (systemic subset) with pericarditis with exclusive pericardial involvement (isolated subset) to define its prevalence and to identify associated risk factors.

Methods: 412 patients with idiopathic pericarditis were enrolled. In univariate analysis we compared nine different variables: age, sex, RCP values, leucocytes count, neutrophils count, lymphocytes count, neutrophils/lymphocyte ratio (NLR), number of relapses, need for pericardiocentesis. Because of non-normal distribution we used Mann-Whitney test for the first seven variables and c^2 test for the last two. In multivariate analysis we identify three latent variables (neutrophil leukocytosis, lymphopenia, and number of recurrences) and we calculate the statistical difference by Mann-Whitney test.

Results: Systemic subset showed a prevalence of 51.2%. Compared with isolated subset, in univariate analysis the subjects with pleuropulmonary involvement undergo pericardiocentesis more frequently (40 vs 3), have higher age of onset (45 vs 40), higher mean CRP values (128.8±81.2 vs 49.9±60.2 mg/l), higher leukocyte count (13143.3±2600.3 vs 9910.3±2546.1/mm^3) with higher neutrophils number (10402.5±2361.3 vs 6779.8±1974.4) and lower lymphocyte count (1693.9±530.4 vs 2079.3±721). As results the NLR was higher in systemic phenotype (6.6±2.4 vs 3.4±1). On multivariate analysis, neutrophil leukocytosis, lymphocytopenia and number of flares was higher in the systemic subset.

Conclusions: These results demonstrate the clinical relevance of the systemic phenotype and confirm the close similarity with autoinflammatory diseases, suggesting a pivotal role of IL1. In addition, the study confirms the role of NLR as a marker of the extent of the inflammatory process.

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022 - Submission No. 2197

FOCUSING ON BIOMARKERS IN CARDIORENAL SYNDROME

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Background and Aims: Cardiorenal syndrome encompasses complex multifactorial facets and carries significant morbidity and mortality worldwide. The bi-directional relationship between the heart and kidneys, where dysfunction in one organ worsens the function of the other, has been the leading motor for research in the last few years. The cardiorenal syndrome classification has five subtypes that reflect primary and secondary pathology and simultaneous co-dysfunction secondary to the systemic condition.
Methods: In cardiorenal syndrome, biomarkers have become increasingly prevalent in therapy, diagnosis, and prognosis. It has been demonstrated that the severity of CRS is potentially linked to beta-2-microglobulin and tissue inhibitor of metalloproteinases 1 (TIMP 1) levels. Vascular endothelial growth factor (VEGF), platelet-derived growth factor (PDGF), and soluble vascular endothelial growth factor receptors-1 (sFlt-1) are elevated in patients with heart failure. sFlt-1 is a biomarker implicated in endothelial dysfunction in chronic kidney disease and connects microvascular disease with heart failure in CKD. Another biomarker, a member of the interleukin-1 receptor family, the soluble suppression of tumorigenicity-2 (sST2), is implicated in the development of CKD and is linked with cardiovascular events and survival in CKD patients, being also a tool for prognostic prediction in HF patients with renal dysfunction. Galectin-3, cystatin C, mid-regional pro-adrenomedullin (MR-proADM), troponins, microRNAs, beta-2-microglobulin, are just a few biomarkers with promising results in recent studies for the diagnosis of SCR.
Results: Focusing on the cardio-renal biomarkers contributes not only to the diagnosis of this syndrome but also to the improvement of the prognosis and therapeutic strategies.
Conclusions: The complex pathophysiology of CRS remains a challenging field.

023 - Submission No. 695

REFRACTORY ABDOMINAL PAIN IN THE EMERGENCY DEPARTMENT. RARE CAUSES

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Case Description: The patient was a 42-year-old man with a history of arterial hypertension, smoker and underwent surgery for bilateral inguinal hernia two years ago. He came with sudden abdominal pain in the periumbilical area and right flank radiating to the back with sweating and mucocutaneous pallor. There was no fever, transit disturbance or urinary symptoms. Physical examination was unremarkable except for a soft, depressible abdomen, painful on palpation in the right flank, without peritonism, with hydro aerial sounds present. Hemogram and biochemistry, including hepatic, renal profile, and acute phase reactants, with values within normality. Normal urinary sediment. ECG in sinus rhythm without alterations. Chest and abdominal X-ray without findings and abdominal ultrasound without pathological data. Despite the prescribed analgesia, the patient continued with very intense pain, so an abdominal CT was performed, detecting cuneiform repletion defects in the right kidney, compatible with renal infarction.
Clinical Hypothesis: Hypercoagulability, thromboembolism, angiodysplasia.
Diagnostic Pathways: Thrombophilia, JAK2, PNH and autoimmunity. Echocardiography to rule out vegetations. Body CT to rule out neoplasia.
Discussion and Learning Points: Renal infarction is an underdiagnosed entity due to its nonspecific clinical manifestations. Its prevalence is 5.7 million/year with a mortality of 5-13%, and it can be of primary cause such as atherosclerosis, fibromuscular dysplasia, or renal artery dissection; or secondary to renal embolisms of cardiac origin, congenital or acquired hypercoagulability, renal tumor or thrombosis during a renal invasive procedure. Early diagnosis is important both for management (antiplatelet therapy, anticoagulation, dilatation with stent placement or fibrinolysis) and for early prevention of its main complications, which are renal failure and refractory arterial hypertension.

024 - Submission No. 1624

RENOVASCULAR HIPERTENSION. ABOUT A CASE

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Case Description: Male, 51 years old, with history of arterial hypertension and stage 3 chronic kidney disease. Referenced to Internal Medicine consultation for difficult-to-control hypertension, under 4 classes of antihypertensives (amlodipine, candesartan, bisoprolol and isosorbide dinitrate). A study of possible causes of secondary hypertension was carried out, with abdominal Computed Tomography (CT) documenting (Figure 1 and 2): "Atherosclerotic disease of the abdominal aortic wall in the emergence of the renal arteries, with apparent involvement

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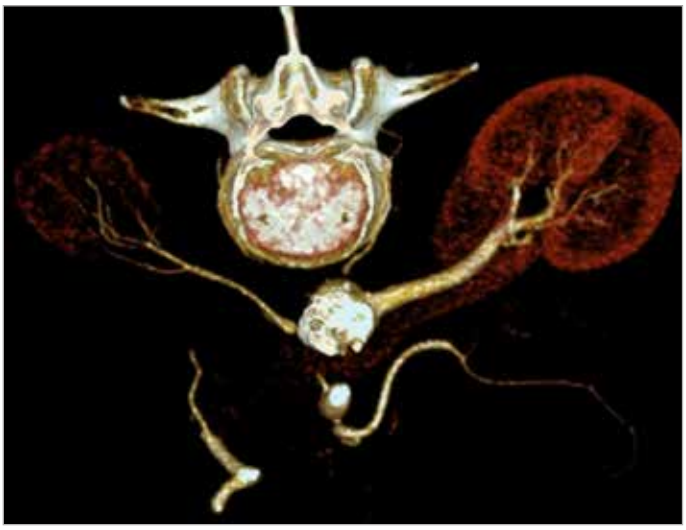
of the ostium of the right renal artery, as well as homolateral renal atrophy, assuming a renovascular etiology". The case was discussed with vascular surgeons, with indication to bypass of the right renal artery. Three months after surgery, the patient had adequate blood pressure control, only with two antihypertensive drugs.

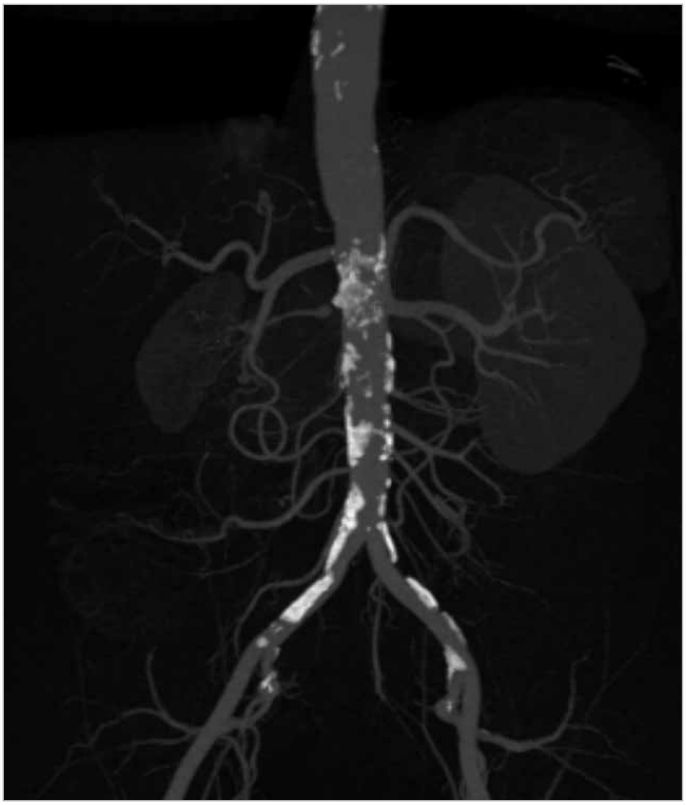
Clinical Hypothesis: Secondary hypertension.

Diagnostic Pathways: Abdominal Computed Tomography (CT).

Discussion and Learning Points: Secondary hypertension represents a minority of hypertensive patients. The authors present this clinical case for illustrating an infrequent etiology of hypertension, requiring a surgical approach.



024 Figure 1.



024 Figure 2.

025 - Submission No. 783

PROGRESSIVE RIGHT VENTRICULAR DYSFUNCTION AND EXERCISE IMPAIRMENT IN PATIENTS WITH HEART FAILURE AND DIABETES MELLITUS: INSIGHTS FROM THE T.O.S.CA. REGISTRY

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Background and Aims: Findings from the T.O.S.CA. Registry recently reported that patients with concomitant chronic heart failure (CHF) and impairment of insulin axis (either insulin resistance—IR or diabetes mellitus—T2D) display increased morbidity and mortality. However, little information is available on the relative impact of IR and T2D on cardiac structure and function, cardiopulmonary performance, and their longitudinal changes in CHF.

Methods: Patients enrolled in the T.O.S.CA. Registry performed echocardiography and cardiopulmonary exercise test at baseline and at a patient-average follow-up of 36 months. Patients were divided into three groups based on the degree of insulin impairment: euglycemic without IR (EU), euglycemic with IR (IR), and T2D.

Results: Compared with EU and IR, T2D was associated with increased filling pressures (E/e'ratio: 15.9±8.9, 12.0±6.5, and 14.5±8.1 respectively, $p<0.01$) and worse right ventricular (RV)-arterial uncoupling (RVAUC) (TAPSE/ PASP ratio 0.52±0.2, 0.6±0.3, and 0.6±0.3 in T2D, EU and IR, respectively, $p<0.05$). Likewise, impairment in peak oxygen consumption (peak VO2) in TD2 vs EU and IR patients was recorded (respectively, 15.8±3.8 ml/Kg/min, 18.4±4.3 ml/Kg/min and 16.5±4.3 ml/Kg/min, $p<0.003$). Longitudinal data demonstrated higher deterioration of RVAUC, RV dimension, and peak VO2 in the T2D group (+ 13% increase in RV dimension, − 21% decline in TAPSE/PAPS ratio and − 20% decrease in peak VO2).

Conclusions: The higher risk of death and CV hospitalizations exhibited by HF-T2D patients in the T.O.S.CA. Registry is associated with progressive RV ventricular dysfunction and exercise impairment when compared to euglycemic CHF patients, supporting the pivotal importance of hyperglycemia and right chambers in HF prognosis.

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026 - Submission No. 927

RIGHT HEART PULMONARY CIRCULATION UNIT RESPONSE TO EXERCISE IN PATIENTS WITH CONTROLLED SYSTEMIC ARTERIAL HYPERTENSION: INSIGHTS FROM THE RIGHT HEART INTERNATIONAL NETWORK (RIGHT-NET)

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Background and Aims: Systemic arterial hypertension (HTN) is the main risk factor for the development of heart failure with preserved ejection fraction (HFpEF). Assessment of the trends in PASP, E/E' and TAPSE during exercise Doppler echocardiography (EDE) in hypertensive (HTN) patients vs. healthy subjects stratified by age.

Methods: EDE was performed in 155 hypertensive patients and in 145 healthy subjects (mean age 62±12.0 vs 54±14.9 years respectively, p<0.0001). EDE was undertaken on a semi-recumbent cycle ergometer with load increasing by 25 watts every 2 min. Left ventricular (LV) and right ventricular (RV) dimensions, function and hemodynamics were evaluated.

Results: Hypertensives patients displayed a higher degree of impairment in echo-Doppler parameters of LV and RV function, and pulmonary hemodynamics both at rest and at peak exercise when compared to healthy subjects. The entire cohort was then divided into tertiles of age: at rest, no significant differences were recorded for each age group between hypertensives and normotensives except for E/E' that was higher in hypertensives; at peak exercise, hypertensives had higher PASP and E/E' but lower TAPSE as age increased, compared to normotensives. Differences in E/E' and TAPSE between the 2 groups at peak exercise were explained by the interaction between HTN and age even after adjustment for baseline values (p<0.001 for E/E', p =0.011 for TAPSE).At peak exercise, the oldest group of hypertensive patients had a mean E/E' of 13.0, suggesting a significant increase in LV diastolic pressure combined with increased PASP.

Conclusions: Age and HTN have a synergic negative effect on E/E' and TAPSE at peak exercise in hypertensive subjects.

027 - Submission No. 1675

PROTHROMBIN GENE MUTATION AS A PREDISPOSING FACTOR FOR PULMONARY THROMBOEMBOLISM: CLINICAL CASE RESPORT

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Case Description: A 19 year old woman, with no known medical history, non-smoker, on medication with combined oral contraceptive, was admitted to the emergency department for syncope, after plane travel. Upon observation, she was hypotensive, eupneic without oxygen supplementation with adequate peripheral oxygen values, and no deficits on neurological examination. Analytically with elevation of D-dimers and troponin I levels. Electrocardiogram showed a sinus tachycardia with electrical axis right deviation. A point-of-care echocardiogram was performed, which identified right ventricle overload.

Clinical Hypothesis: Given the suspicion of pulmonary thromboembolism (PTE), a chest CT angiography was performed, which identified bilateral PTE of high early mortality risk.

Diagnostic Pathways: Besides this, there was no indication for fibrinolysis, so therapeutic anticoagulation was started with enoxaparin 1mg/kg two times per day. Admitted for surveillance and study in the intensive care unit. Due to clinical stability and improvement of the right heart dysfunction on echocardiogram, the patient was transferred to the internal medicine service after 2 days. A thrombophilia study was performed, highlighting the presence of prothrombin gene mutation (heterozygosity for the Prothrombin G20210A), with the remaining study being negative.

Discussion and Learning Points: In conclusion, despite the existence of two important risk factors for PTE in this patient (combined oral contraceptive therapy and plane travel), the study of thrombophilia was found to be important for identifying the genetic predisposition to prothrombotic phenomena.

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028 - Submission No. 873

CHANGES IN QUANTITY PLANT-BASED PROTEIN INTAKE ON TYPE 2 DIABETES REMISSION IN CORONARY HEART DISEASE PATIENTS: FROM THE CORDIOPREV STUDY

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Background and Aims: Diabetes remission is a phenomenon described in the context of drastic weight loss due to bariatric surgery or low-calorie diets. Evidence suggests that increasing the intake of plant protein could reduce the risk of type 2 diabetes. We sought for association between changes in plant protein intake in the context of 2 healthy diets without weight loss nor glucose lowering medication, and diabetes remission in coronary heart disease patients from the CORDIOPREV study.
Methods: Newly diagnosed type 2 diabetes participants without glucose lowering treatment were randomized to consume a Mediterranean or a low-fat diet. Type 2 diabetes remission was assessed with a median follow-up of 60 months according to the ADA recommendation. Information on patient's dietary intake was collected using food frequency questionnaires. At first year of intervention, patients were classified according to changes in plant protein consumption into those who increased or decreased its intake, in order to perform an observational analysis on the association between protein intake and diabetes remission.
Results: Cox regression showed that patients increasing plant protein intake were more likely to remit from diabetes than those who decreased its intake (HR=1.71(1.05-2.77)). The increase in plant protein was associated with lower intake of animal protein, cholesterol, saturated fatty acids, and fat, and with higher intake of whole grains, fiber, carbohydrates, legumes, and tree nuts.
Conclusions: These results support the need to increase protein intake of vegetal origin as dietary therapy to reverse type 2 diabetes in the context of healthy diets without weight loss.

029 - Submission No. 700

CHRONIC TUBERCULOUS CONSTRICTIVE PERICARDITIS, A CAUSE OF PULMONARY ARTERIAL HYPERTENSION THAT SHOULD NOT BE IGNORED!

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Case Description: Chronic constrictive pericarditis is a rare pathology characterized by a rigid pericardium limiting myocardial compliance. Tuberculosis infection is one of the main etiologies. we report a case of constrictive pericarditis of tuberculous origin which was revealed by right heart failure signs with pulmonary hypertension. A 55-year-old patient known for type 2 diabetes, admitted to the Internal Medicine department, for the exploration of decompensated right heart failure. His clinical history began a year ago with acute. On admission, the patient was asthenic and dyspneic, NYHA stage 3. There is mucocutaneous pallor, slight edema of the lower limbs and loins, abundant transudative ascites, hepatomegaly, and frank spontaneous turgidity of the jugulars. Tuberculin IDR was negative as well as the search for BK in the sputum. Quantiferon was positive. Chest CT showed thickening of the anterior pericardial layers measuring 6 mm in thickness. Transthoracic echocardiography concluded with a 60% EF. We noted the presence of a paradoxical septal movement. Pericardium was dry. Right heart catheterization revealed the presence of mixed pre and post capillary PAH and a Dip-plateau curve appearance.
Clinical Hypothesis: chronic tuberculous constrictive pericarditis.
Diagnostic Pathways: The diagnosis of a tuberculous origin at the PCC was retained. The treatment consisted of corticosteroid therapy followed by anti-tuberculous treatment initially and then a partial pericardiectomy revealing a tense, thickened and calcified pericardium.
A clear clinical improvement was obtained after one month postoperatively.
Discussion and Learning Points: The diagnosis of a PCC can be difficult and sometimes require heavy investigations., especially MRI and right and left cardiac catheterization is required in doubtful cases.

030 - Submission No. 1025

MEDITERRANEAN DIET PRESERVES KIDNEY FUNCTION IN PATIENTS WITH TYPE 2 DIABETES AND OBESITY: FROM THE CORDIOPREV STUDY

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Background and Aims: Type 2 diabetes mellitus (T2DM) is considered an independent risk factor for chronic kidney disease (CKD). However, the specific contribution of obesity along with T2DM or not, to kidney impairment remains controversial. Our main aim was to establish a more accurate contribution of obesity to T2DM, to kidney impairment in patients with coronary heart disease (CHD), highly predisposed to renal complications, to assign the most appropriate dietary strategy to further preserve kidney function.

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Methods: CHD patients (n=1002) from the CORDIOPREV study were classified into four groups according to the presence or absence of T2DM and/or obesity as follow: Non-T2DM/non-obese, Non-T2DM/obese, T2DM/Non-Obese and T2DM/Obese. Kidney function was assessed by the determination of serum creatinine-based estimated glomerular filtration rate (eGFR) at baseline and after 5-years of dietary intervention [Mediterranean diet (35% fat, 22% MUFA, <50% carbohydrates) or a low-fat diet (28% fat, 12% MUFA, >55% carbohydrates)].

Results: Among all the groups, those T2DM/Obese patients showed the lowest eGFR values at baseline (p = 0.035). After dietary intervention, the Mediterranean diet produced a lower decline of eGFR only in those patients with concomitant T2DM and obesity, compared to a low-fat diet (p = 0.014) but not when both pathologies are considered independently.

Conclusions: Presence of obesity provided an additive effect to T2DM determining a greater impairment of kidney function in CHD patients. Long-term consumption of a Mediterranean diet rich, when compared to a low-fat diet, may preserve kidney function in this type of patients, providing a dietary strategy for the reduction of CKD complications in the context of secondary prevention of cardiovascular disease.

031 - Submission No. 1242

FOOD INSECURITY AND OBESITY: OBSERVATIONAL STUDY BASED ON VULNERABLE POPULATION FROM THE E-DUCASS STUDY

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Background and Aims: Food insecurity and unhealthy diets increase the prevalence of chronic non-transmissible diseases. We aim to assess the baseline food insecurity of the vulnerable population from the E-DUCASS study, and its relationship with obesity and metabolic syndrome.

Methods: This is a cross-sectional observational study performed in the E-DUCASS study. The E-DUCASS study is a clinical trial based on health education to improve cardiovascular health among vulnerable population (n=460). We measured sociodemographic characteristics, anthropometric parameters and analytical values obtained from capillary blood. We used the Food Insecurity Experience Scale (FIES), validated by the FAO, considering a score ≥5 as moderate-high risk of food insecurity. We used a linear and binary logistic regression adjusted for age and sex.

Results: 56% of the patients presented moderate-high food insecurity. Each point increase in the FIES was associated with higher BMI (β=0.37, SE=0.14, p<0.01) and greater waist circumference (β=0.93, SE=0.31, p<0.01). Mean BMI and waist circumference and metabolic syndrome prevalence were greater in the moderate-high food insecurity group (29.1kg/m2; 92,3cm; 31.5%) than in the low insecurity group (27kg/m^2; 86.6 cm; 21.4%). Subjects with moderate-high risk of food insecurity had 79% greater probability of obesity (OR 1.79, 95% CI 1.15-2.78. p=0.01), 99% greater risk of abdominal obesity (OR 1.99, 95% CI 1.26-3.14. p <0.01) and 70% greater probability of metabolic syndrome (OR 1.70, 95% CI 1.03-2.82. p=0.04).

Conclusions: Greater food insecurity was associated with an increased prevalence of obesity, abdominal obesity, and metabolic syndrome, likely leading to increased cardiovascular risk in vulnerable populations.

032 - Submission No. 777

ARRHYTHMIC STORM IN A MALNOURISHED PATIENT

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Case Description: A 70-year-old woman attended the emergency department for atrial fibrillation (AF) with hemodynamic instability requiring electrical cardioversion. She also presented with spells of non-sustained ventricular tachycardia (NSVT) and long QT corrected. She referred palpitations of 3 days of evolution, together with resting tremor that we found on examination. She had no arrhythmic or cardiological history. Laboratory tests showed severe hypomagnesemia and hypokalemia, along with mild hypocalcemia. She was initially admitted to the critical care unit until electrolyte disturbances improved with intravenous and oral replacement, and with subsequent disappearance of the arrhythmias. During admission he presented seizures, initially attributed to electrolyte disturbances. Subsequently, they were presumed to be secondary to a subacute stroke observed in a cranial imaging test.

Clinical Hypothesis: The ionic alterations were placed in the context of an unknown malnutrition, aggravated by malabsorption secondary to a known gastroenteropathy and the side effects of a loop diuretic that she was taking. The stroke was assumed to be embolic and secondary to AF reversed without prior anticoagulation.

Diagnostic Pathways: The association of severe cardiological and neurological symptoms with water and electrolyte disturbances is well described in the literature (Jameson et al, 2020), especially in relation to potassium, magnesium or calcium disturbances, which is what happened to our patient.

Discussion and Learning Points: We conclude the importance of screening for ionic alterations in patients with de novo arrhythmias. It is also important to screen them in patients with nutritional deficit to avoid these serious complications.

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033 - Submission No. 1421

AN INFILTRATED HEART

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Case Description: 85-year-old man who went to the ER on Dec 21 due to easy tiredness, dyspnea, and MIs edema, with a history of hypertension, dyslipidemia, COPD and BPH. He had a transthoracic echocardiogram with 18% EF and an infiltrative aspect of the ventricular walls.

Clinical Hypothesis: Heart failure Cardiac amyloidosis.

Diagnostic Pathways: Diagnosis of HF exacerbated by Infiltrative Cardiomyopathy, with discharge referred for consultation. Holter performed at 72h with LBBB and 1st Degree AVB, cardiac MRI compatible with amyloidosis infiltration and CSV scoring 3, suggested cardiac amyloidosis due to transthyretin deposition. Analysis with free light chains and normal serum and urinary kappa/lambda chains, serum immunofixation without alteration, waiting genetic study. PFR Spirometry revealing moderate obstructive ventilatory changes, with improvement after the use of S2 mimetic. Visits to the ER due to decompensated HF/COPD. Currently stable, with fatigue for medium efforts. Denies chest pain, dizziness, palpitations, or syncope. Mild bimalleolar edema. Therefore, advanced stage TTRWT amyloidosis, already with severe biventricular dysfunction, in class III HF. No need to pacemaker and no benefit of CRT at this stage, with benefits of targeted therapy. Follow-up external consult of cardiomyopathies.

Discussion and Learning Points: Although cardiac amyloidosis is an infrequent pathology, given the aging process, population, has become an increasingly relevant diagnosis. The use of current less invasive diagnostic methods increasingly allows the recognition of ATTRts amyloidosis as a cause of infiltrative cardiomyopathy in the elderly. Thus, the importance of early diagnosis of amyloidosis and initiation of targeted therapy before the development of irreversible target organ damage, with the aim of improving patient survival

034 - Submission No. 1827

HEART FAILURE AND CARDIOVASCULAR RISK FACTORS: ANALYSIS OF A SPECIALIZED UNIT

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Background and Aims: Heart Failure (HF) is a complex syndrome that affects more than 26 millions of people and it is the main cause of hospital admission. Simultaneously, cardiovascular diseases are still one of the most relevant causes of morbidity and mortality all around the world.

Methods: To try to assess the presence of cardiovascular disease and risk factors of patients with HF, a population followed up in a specialized HF unit during 3 months was analyzed.

Results: Of a total of 179 patients, 69% are male and 54% of patients are more than 60 years-old. Concerning the ejection fraction (LVEF): 70.4% of the patients have a LVEF<40%, 12.9% have a LVEF between 40% and 50% and 16.8% have a LVEF> 50%. About the cardiovascular risk factors: 77% of the patients have hypercholesterolemia, 35% have diabetes mellitus, 17% have stage 3, 4 or 5 chronic kidney disease and 39% are obese. Also, important to mention that 44% of the patients have hyperuricemia and 34% of them smoke. More than half of the patients already have established cardiovascular disease, such as ischemic heart disease and cerebral ischemic disease. All patients with hypercholesterolemia and diabetes were medicated.

Conclusions: The screening and control of the cardiovascular risk factors is essential, especially on patients with heart failure. The earlier diagnosis and treatment of cardiovascular diseases avoids its complications and increases patients' quality of life.

035 - Submission No. 1916

CARDIAC AMYLOIDOSIS, AN ENTITY NOT TO BE FORGOTTEN

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Case Description: A 90-year-old man, with hypertension, type 2 diabetes, medullary stenosis and heart failure (HF), went to the emergency room due to prostration with 1 week of evolution. He was hemodynamically stable, EKG showing new atrial fibrillation (AF), left anterior hemiblock and a nonspecific disturbance of intraventricular conduction; poor progression of R from V1 to V3; the analytical study showed acute kidney injury and a gradual serial increase (354>395>415) in myocardial necrosis markers (MNM). During the first day of hospitalization, he had no chest pain, but maintained an increase in MNM and presented a period of asymptomatic hypotension, which led to the performance of another EKG (showing maintenance of AF without signs of ischemia) and an trans-thoracic echocardiogram with "binaural dilation, moderate to severe concentric left ventricular hypertrophy (LVH) (interventricular septum 18 mm), with moderate depression of left ventricular function; mottled myocardium; mild septal dyskinesia; aortic valve with leaflets thickened by fibrosis, mild mitral insufficiency; mild dilation of the right ventricle, with a right ventricle/atrium gradient estimated at 32 mmHg; no pericardial effusion.".

Clinical Hypothesis: Amyloidosis.

Diagnostic Pathways: From the study ordered to screen for

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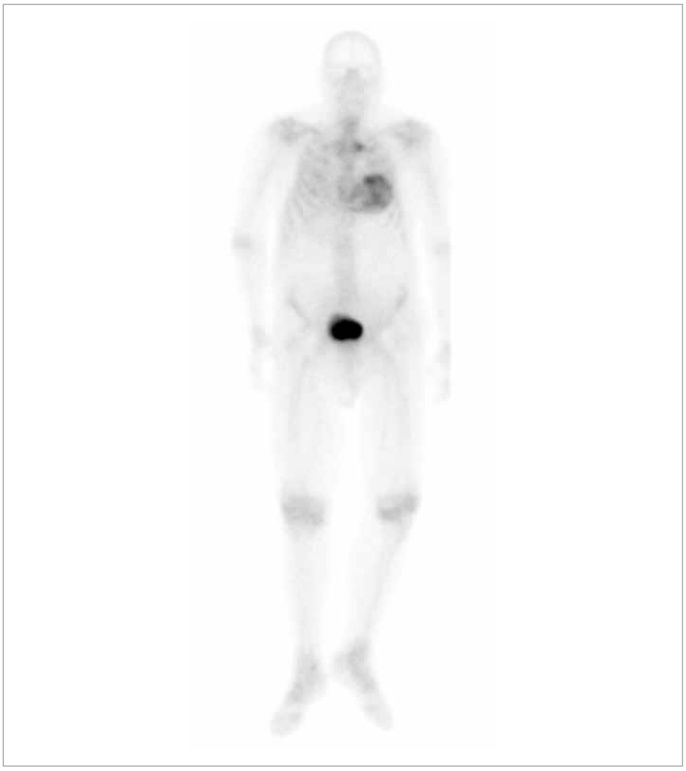
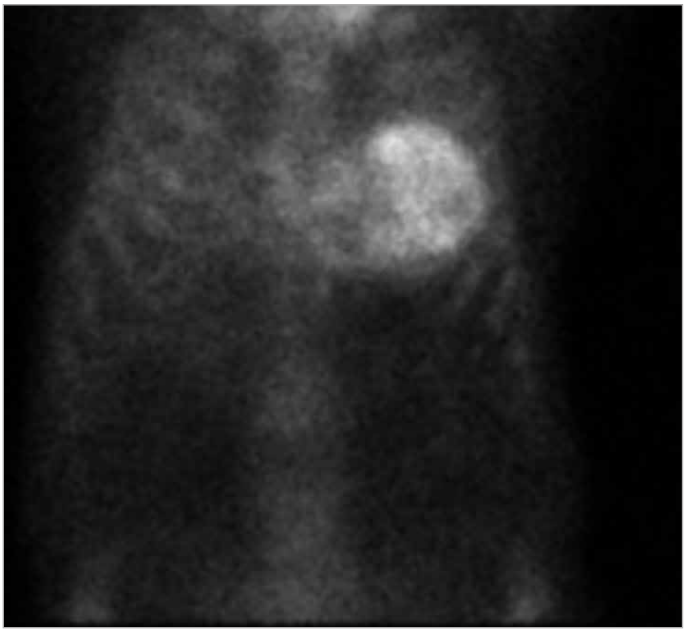
amyloidosis, the K/L light chain ratio, the protein/creatinine ratio in the urine and the immune-electrophoresis excluded monoclonal gammopathy. However, cardiac scintigraphy with DPD showed strong suspicion of cardiac amyloidosis due to transthyretin deposition (Figures 1 and 2).

Discussion and Learning Points: Transthyretin Amyloidosis, is a disease whose diagnosis requires a high degree of clinical suspicion (elderly man with spinal cord stenosis, orthostatic hypotension, EKG with conduction disturbance, LVH, mottled myocardium) and if not treated quickly evolves fatally.



035 Figure 1.



035 Figure 2.

036 - Submission No. 1508

ANTI-BOVINE CASEIN ANTIBODIES IN PATIENTS WITH HEART DISEASE

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Background and Aims: Multiple studies have found a correlation between specific diseases and food ingredients. Although, not always known, the proposed mechanism of correlation may vary from implication in basic metabolic pathways to immunologic response. Among food ingredients, casein consumption has been related with cardiovascular disorders and atherogenicity which is a causative factor for cardiovascular diseases. In the present study, the probable immunologic response to specific food ingredients, including casein, were evaluated in patients with cardiovascular disorders (CD).

Methods: 30 serum samples of patients with cardiovascular disorders and healthy individuals were tested for IgG antibodies against native or denatured egg-albumin, bovine serum albumin and native or denatured bovine casein, using ELISA plates coated with the appropriate antigens. BLASTp was used to find probable similarity with human proteins.

Results: According to the results, 6.7% of CD patients were anti-egg albumin positive vs 5.7% in general population, 6.7% were anti-BSA positive vs 0% in general population and 68.8% of CD patients were anti-casein positive vs 14.2% in general population ($p<0.001$). Interestingly, BLAST results revealed similarity of casein with several proteins closely related with heart function, thus supporting probable cross-reaction effects.

Conclusions: The high prevalence of anti-casein positive samples in patients with heart disorders points to a probable involvement of immunologic response in the pathophysiology of the disease for a part of the patients. Since, antibodies that interact with bovine casein are present, consumption of casein may have a bad impact on the disease. Good intestinal health and abstinence from casein containing products may be important for these patients.

037 - Submission No. 697

A STRANGE HEADACHE: A CASE REPORT

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AOU Sassari, Internal Medicine, Sassari, Italy

Case Description: A 32-year-old Moroccan woman was admitted to our department because of the onset of right chest pain and dyspnea with mild respiratory failure after falling due to transient loss of consciousness. She also experienced persistent headache for two days resistant to anti-inflammatory drugs. Lymph node tuberculosis with excision of left latero-cervical lymph nodes

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was present in her clinical history. The patient was taking oral contraceptive therapy (for 5 months she had changed the type of oral contraceptive).

Clinical Hypothesis: Pulmonary embolism and cerebral sinus venous thrombosis.

Diagnostic Pathways: Blood data showed modest neutrophilic leukocytosis, mild C-reactive protein and D-dimer increase (1.49 mg/dl). At admission, CT pulmonary angiogram revealed embolism of right lung lower lobe with probable pulmonary infarction. Head and cervical spinal CT was also performed, and it didn't show any abnormality. Low-weight molecular heparin was immediately administered at anticoagulant dose. Due to the persistence of headache associated with nausea and vomiting, brain MRI angiography was performed, and it showed traverse sinus, left sigmoid sinus and rectus sinus endoluminal thrombosis. Thrombophilic screening didn't reveal alterations related to congenital or acquired thrombophilia.

Discussion and Learning Points: Several observational studies showed that use of oral contraceptives was associated with increased risk (3 to 6 folds) of venous thromboembolic events. Our case confirmed that cerebral sinus venous thrombosis (CSVT) can be linked to a non-negligible case of pulmonary embolism. For this reason, CSVT must be considered when you face of a patient with pulmonary embolism.

038 - Submission No. 2155

LOW CARDIOVASCULAR DISEASE RISK IN A POPULATION OF PEOPLE LIVING WITH HIV: COMPARISON OF A DISEASE SPECIFIC PREDICTION MODEL

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Background and Aims: Antiretroviral therapy (ART) has substantially improved life expectancy of people living with HIV. Cardiovascular disease (CVD) prevalence is rising substantially among this aging population. Accurate CVD risk assessment can lead to therapeutic management decisions that will decrease CVD morbidity and mortality. The aim of the study was to compare different CVD risk prediction models in people living with HIV and to assess the effect of ART on metabolic control.

Methods: We conducted a retrospective cohort study in people with HIV seen consecutively in the outpatient HIV clinic of our hospital. We compared the Systematic Coronary Risk Evaluation-2 (SCORE-2), the Framingham Heart Score (FHS) and Data Collection on Adverse Events of Anti-HIV Drugs (D:A:D) risk prediction models using specific cut-offs (<10%,10-20% and >20%) to stratify risk to determine the degree to which patients were categorized similarly

Results: 47 people (mean age 41.8 years,70.2% men) were studied. 44.7% were active and 10.6% past smokers. 10.6% were started on treatment for dyslipidemia during follow up. Vast majority were on the low CVD risk category (95.7% with SCORE-2 and FHS, 91.4% with D:A:D) with a high percentage of agreement among the three CVD risk scores. No change in lipids was seen according to ART treatment modality.

Conclusions: In our population CVD risk remains low with a high percentage of agreement among the three CVD risk prediction models studied. There is an urgent need to better stratify CVD risk in people living with HIV including those under 40 years of age.

039 - Submission No. 1986

THE ABUSE OF INTENSE PHYSICAL EXERCISE. HEALTH OR DISEASE?

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Case Description: A 21-year-old woman, CrossFit athlete for a year, denies taking oral contraceptives. She attended due to the appearance of varicose veins and pain in the left upper limb with (left trapezius muscle), related to intense sports practice in previous days. On physical examination, it was unremarkable. Analytically, LDH 490U/L, normal electrocardiogram, and chest X-ray. Venous Doppler ultrasound showed deep vein thrombosis in the left subclavian and axillary vein, and proximal brachial branches.

Clinical Hypothesis: It was a with high suspicion of costoclavicular syndrome.

Diagnostic Pathways: Fibrinolysis and thrombectomy were performed, visualizing in phlebography complete recanalization of the axillary vein and the subclavian vein after fibrinolysis, coinciding with the costoclavicular junction where it's a decrease of caliber and complete occlusion of the vessel. The clinical diagnosis of costoclavicular syndrome (Paget-Schroetter syndrome) was reached in relation to the increase in muscle due to CrossFit. Subsequently, discharge with anticoagulation (enoxaparin 60mg/12hours) with switch to acenocoumarol for at least 6 months, review in internal medicine and thoracic surgery to assess decompressive surgical treatment or maintenance of indefinite anticoagulation.

Discussion and Learning Points: Paget-Schroetter syndrome occurs in middle-aged youth and consist of a primary thrombosis of the subclavian vein at the subclavian-axillary junction due to compression passing through the triangle formed by the anterior scalene muscle, in their dominant upper extremity, in relation to significant physical activity. It presents with pain, edema, and heaviness in the affected limb, being diagnosed with venous Doppler ultrasound. Treatment consists of anticoagulation and fibrinolysis and/or decompressive surgery with resection of the first rib, maintaining anticoagulation for 3-6 months.

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040 - Submission No. 1043

MID-TERM PROGNOSTIC IMPACT OF RESIDUAL PULMONARY CONGESTION ASSESSED BY LUNG ULTRASOUND IN PATIENTS ADMITTED FOR ACUTE HEART FAILURE

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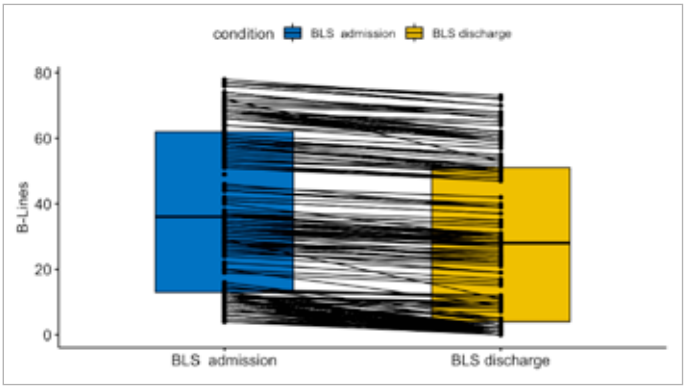
Background and Aims: Pulmonary congestion is an important finding in patients with heart failure (HF) that can be quantified by lung ultrasound (LUS). Our aim was to assess the prognostic value of B-lines at discharge to predict readmission at 12 months in patients with acute HF (AHF).

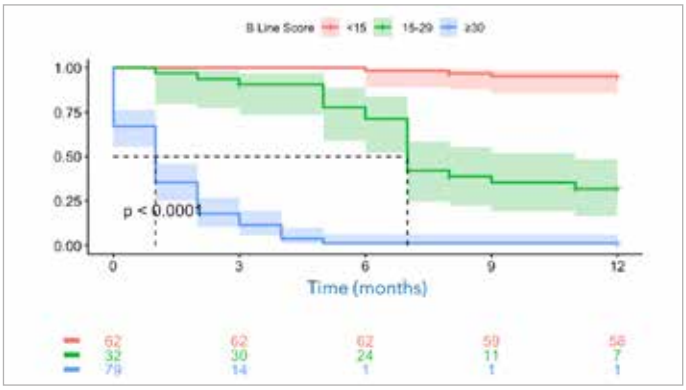
Methods: Two hundred twenty-nine AHF patients were divided into 3 groups, according to the number of LUS B-lines: B-lines < 15, 15 ≤ B-lines < 30, and B-lines ≥ 30. B-lines were evaluated at admission and before discharge. Subjects were followed-up for 12-months after discharge.

Results: Median B-lines at admission was 36.7 ± 23.7 with a statistically significant reduction before discharge (21.0 ± 13.7. p< 0.0001) [figure 1]. During follow-up, 125 (54.6%) patients were readmitted for AHF. The 12-month event-free survival was highest in patients with less B-lines (<15) and lowest in patients with more B-lines (≥30) (p<0.0001) [figure 2]. On multivariable analysis. B-lines > 15 before discharge (hazard ratio [HR] 13.21; 95 % confidence interval [CI] 2.12-82.31) was an independent predictor of events at 12 months [table 1].

Conclusions: Residual congestion at the time of discharge in AHF patients may identify those at high risk for readmission. Absence or a mild degree of B-lines identify a subgroup at extremely low risk to be readmitted for AHF.



040 Figure 1.



040 Figure 2.

Univariate			Multivariate	
HR (95% CI)		p	HR (95% CI)	p
NT-proBNP at admission	1.46 (0.84-2.54)	0.196		
NT-proBNP at discharge	9.68 (1.29-62.95)	0.022	3.67 (0.35-38.48)	0.240
B-lines at admission	1.00 (0.98-1.03)	0.358		
B-lines at discharge > 15	22.87 (5.67-92.25)	0.001	13.21 (2.12-82.31)	0.018

040 Table 1.

041 - Submission No. 1321

PHENOTYPIC CLUSTERING OF HEART FAILURE WITH PRESERVED EJECTION FRACTION: CLINICAL CHARACTERISTICS AND OUTCOMES

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Background and Aims: Heart failure with preserved ejection fraction (HFpEF) is a heterogeneous clinical syndrome in need of improved phenotypic classification. It is sought to evaluate whether clustering analysis could identify phenotypically distinct HFpEF categories.

Methods: 117 patients were prospectively studied with HFpEF and performed detailed clinical, laboratory and echocardiographic phenotyping of the studied participants. We used an agglomerative hierarchical clustering approach to define and characterize mutually exclusive groups making up a novel classification of HFpEF.

Results: Four distinguishable patient clusters representing different phenotypes are identified [figure 1A]: cluster-1 patients had the highest prevalence of ischemic heart disease, despite younger mean age and female sex; cluster-2 patients had higher prevalence of metabolic syndrome and renal disease; cluster-3 patients had higher prevalence of chronic obstructive pulmonary disease and probability of pulmonary hypertension; cluster-4 patients were older males, with poorer diastolic function and atrial fibrillation. The composite end point of all-cause mortality

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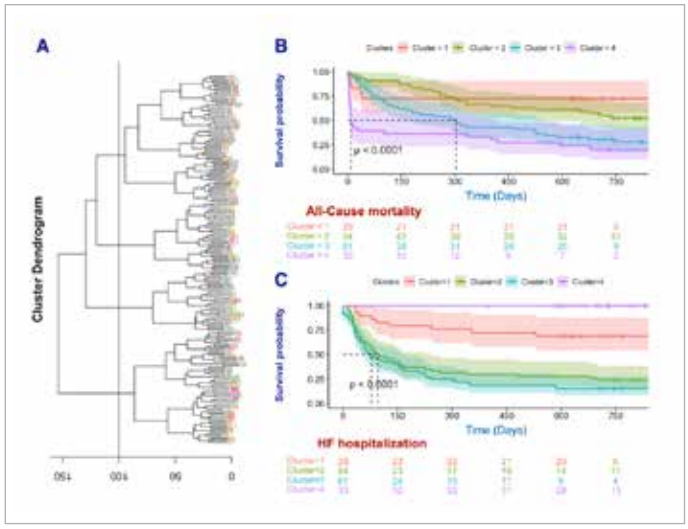
and heart failure (HF) hospitalization was significantly different between pheno-groups (log-rank p<0.0001) [figure 1B-C].

Conclusions: Cluster analysis of clinical variables identified four distinct phenotypes of chronic HF. Improved understanding of the phenotypic heterogeneity of HFpEF might facilitate the development of targeted therapies and interventions.



041 Figure 1.

042 - Submission No. 1177

SEX-BASED DIFFERENCES IN PATIENTS WITH ACUTE DECOMPENSATED HEART FAILURE ACROSS THE EJECTION FRACTION SPECTRUM IN SPAIN

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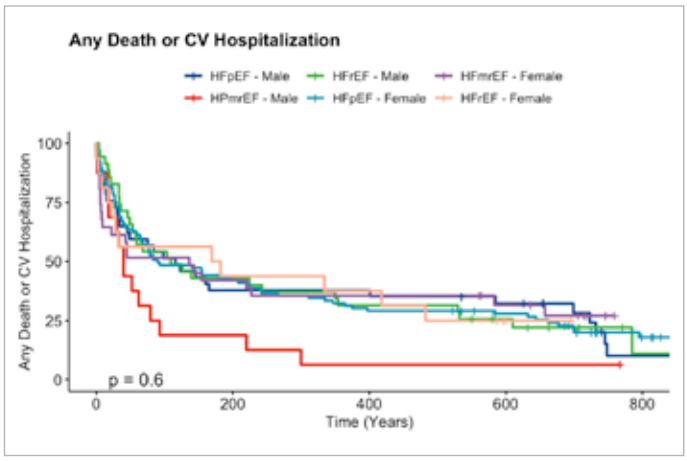
Background and Aims: The association between sex and long-term outcome in hospitalized patients for acute heart failure (HF) has not been fully studied yet in Spanish population. The aim is to analyze sex-related differences among real-life across the ejection fraction spectrum and to evaluate whether these differences might impact outcomes.

Methods: A total of 229 patients heart failure patients were examined between 2020 and 2021 [mean age 83, 61.6% females; 57.2% with HF with preserved EF [HFpEF], 20.1% with HF with mid-range EF [HFmrEF], and 22.7% with HF with reduced EF [HFrEF]). Females showed a higher prevalence of HFpEF than males.

Results: Females were younger and less symptomatic and more likely to have hypertension and kidney disease but less likely to have diabetes, ischemic heart disease and chronic obstructive pulmonary. Composite outcome (death/cardiovascular [CV] hospitalization) run similarly across sexes regardless of the ejection fraction categories [figure 1]. CV and HF hospitalization rates for HFmrEF (hazard ratio [HR]: 0.295 and HR: 0.260) were significantly lower in females [table 1].

Conclusions: Females were differently distributed within heart failure phenotypes, and they presented some different characteristics across ejection fraction categories. The observed sex-related differences highlight the need for an adequate representation of females in HF randomized controlled trials to improve generalizability.



042 Figure 1.

	Males Event Rate (%)	Females Event Rate (%)	HR (95% CI) Females vs. Males
All-cause death/CV hospitalization			
HFpEF	30 (81.1)	75 (80.6)	1.004 (0.657 – 1.535)
HFmrEF	15 (93.8)	21 (67.7)	0.557 (0.282 – 1.099)
HFrEF	28 (80.0)	13 (81.3)	1.141 (0.587 – 2.217)
CV death			
HFpEF	20 (54.1)	48 (51.6)	0.965 (0.572 - 1.625)
HFmrEF	11 (68.8)	16 (51.6)	0.740 (0.321 - 1.605)
HFrEF	19 (54.3)	10 (62.5)	1.069 (0.497 - 2.301)
CV hospitalization			
HFpEF	19 (51.4)	54 (58.1)	1.034 (0.613 - 1.744)
HFmrEF	12 (75.0)	10 (32.3)	0.295 (0.127 - 0.689) *
HFrEF	22 (62.9)	8 (50.0)	0.651 (0.289 - 1.467)
HF hospitalization			
HFpEF	18 (48.6)	50 (53.8)	1.012 (0.590 - 1.734)
HFmrEF	12 (75.0)	9 (29.0)	0.260 (0.109 - 0.622) *
HFrEF	20 (57.1)	7 (43.8)	0.620 (0.261 - 1.471)

*Significant interaction (p<0.05) in the sex ejection fraction category. HR = hazard ratio; CI = confidence interval; CV = cardiovascular.

042 Table 1.

043 - Submission No. 871

CLINICAL PROFILE OF PATIENTS TREATED WITH PCSK9 INHIBITORS IN A THIRD LEVEL HOSPITAL IN SPAIN

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Background and Aims: The elevated LDL-C is a well-established risk factor for cardiovascular diseases (CV) and represents the main cause of death worldwide. Inhibitor of proprotein convertase subtilisin/kexin type nine (iPCSK9) in Spain are a treatment option for patients with familial hypercholesterolemia or at very high CV risk who are intolerant to statins or whom LDL level is higher than 100 mg/dl. The aim of this study is to describe the demographic

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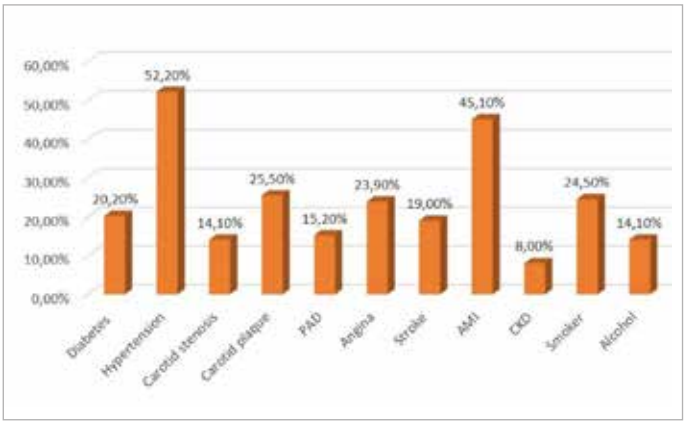
and clinical characteristics, as well as the indication for starting therapy with PCSK9 inhibitors (iPCSK9).

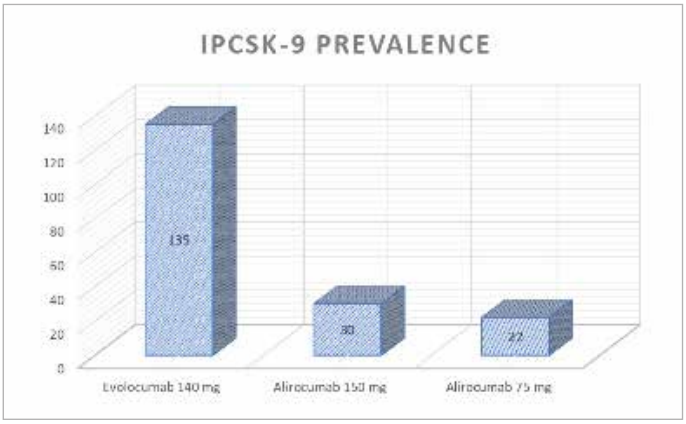
Methods: Retrospective, unicentric and descriptive study, between November 2016 to the present, of patients that have started iPCSK9 treatment in the lipid unit of Marques de Valdecilla University Hospital.

Results: We have studied 187 patients, 98 (52%) were males, where the average age has been 59±9.5 years old. Among the comorbidities included, we highlight hypertension 96 (52.2%) and diabetes mellitus 35 (20.2%). (Graphic 1). The distribution of dyslipidemia is detailed in graph 2. Regarding the indication of treatment, a 60% (112 patients) were in a secondary prevention after suffering a cardiovascular event, despite maximal tolerated dose of statins or statins intolerance. 72 diagnosticated with HeFH of whom the 35% had a genetic test. At the start of iPCSK9 treatment, mean total cholesterol was 238 (SD 69.7), LDL-C 156 (SD 60.4), HDL-C 55 (SD 17.9), and LpA 57.2 (SD 63.8).

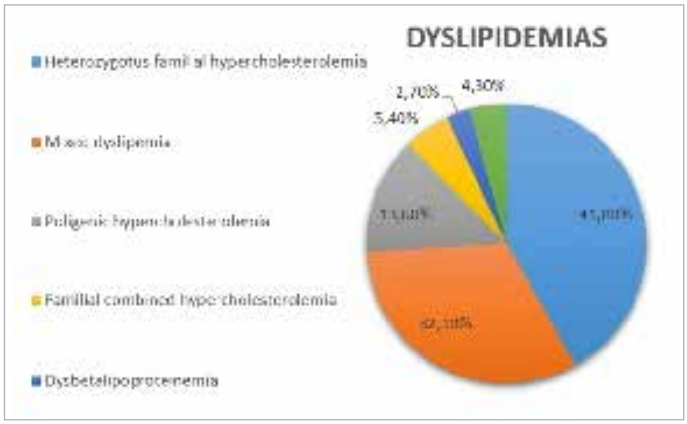
Conclusions: The profile of patients with iPCSK9 was diverse, highlighting uncontrolled cardiovascular disease and intolerance to high-intensity statins and high number of familial hypercholesterolemia, data similar to the series published (graph 3).



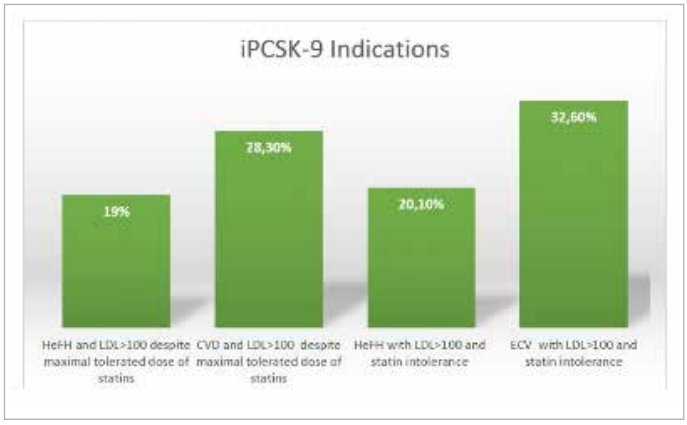
043 Graphic 1. Cardiovascular risk factor prevalence



043 Graphic 2. iPCSK-9 prevalence



043 Graphic 3. Classification of the types of dysplidemias



043 Graphic 4. iPCSK-9 indications

044 - Submission No. 218

ANALYSIS AND OPTIMIZATION OF CARDIOVASCULAR RISK IN ELDERLY HOSPITALIZED

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Background and Aims: The cardiovascular disease is the principal cause of death worldwide, mainly the coronary heart disease and the cerebrovascular accident. Our aim is to analyze the cardiovascular risk of the elderly patients (>69 years old) that admission in internal medicine and study if there is a correctly treatment optimization according to the new cardiovascular stratification risk by the SCORE-OP.

Methods: Retrospective and observational study of the patients admitted in internal medicine from Hospital Marqués de Valdecilla during March of 2021. We have revised the clinical histories, registering cardiovascular risk factors and supplementary test as blood and radiological tests.

Results: We have studied 297 patients, 154 (52%) males, where the average age had been 77±16 years old. The comorbilities prevalence and MACE at admission are shown in Table 1. The

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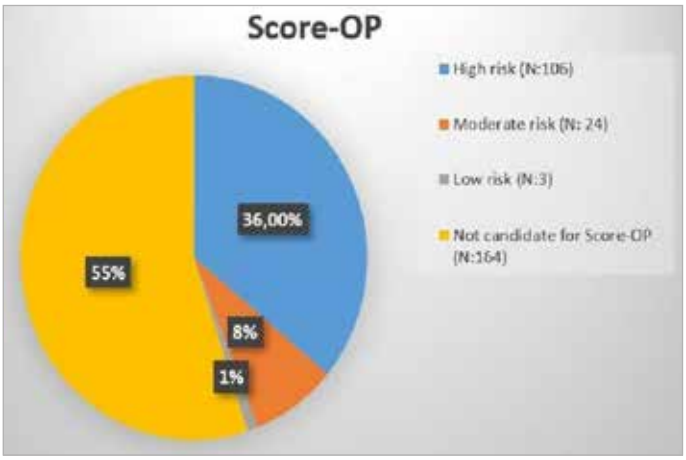
main patients admitted in internal medicine were of very high or high cardiovascular risk (N=228, 77%) by the used of the cardiovascular risk stratification of the ESC, SCORE-2 or SCORE-OP. The stratification of the cardiovascular risk in the elderly of our sample is shown in the next graphic.

Conclusions: The elderly is a very important subgroup of the admitted patients (N=133), benefiting from the use of the Score-OP. We found that 80% (N=106) of elderly were at least of high risk. Reviewing their cardiovascular treatment, only the 5% of the elderly had their treatment optimized at hospital discharged.

Table 1	HTA	dm-2	dyslipidemia	sca	eap	erc	obesity
N: 297	209 (70%)	89 (30%)	170 (57´2%)	41 (15%)	28 (9´5%)	156 (52´5%)	60 (20%)

044 Table 1.



044 Figure 1.

045 - Submission No. 219

ANALYSIS AND APPLICATION OF RADIOLOGY PARAMETERS IN THE ESTRATIFICATION OF CARDIOVASCULAR RISK

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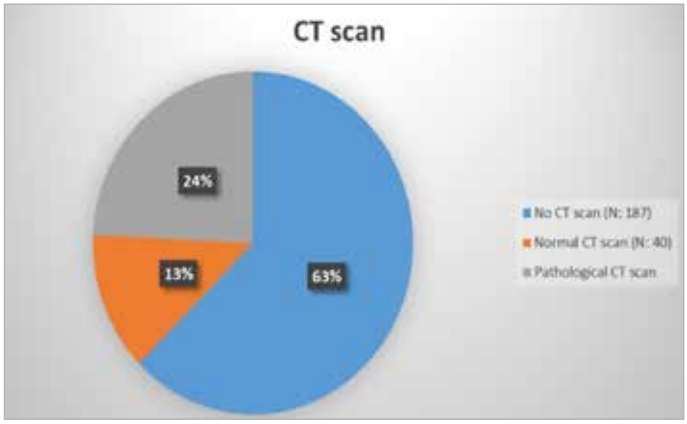
Background and Aims: The actual guidelines about the management and treatment of cardiovascular disease have defined new LDL targets according to the categories of an individual cardiovascular stratification risk. Nowadays, is frequent to perform radiological test on many patients, in which we can see aortic calcifications that define the patient as very high risk. Our aim is to analyze the impact that this could have in admitted patients.

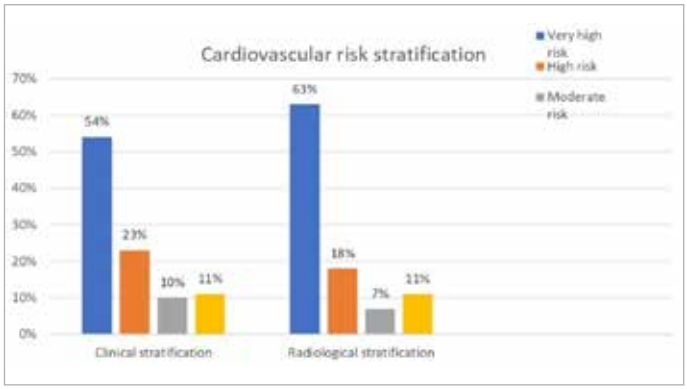
Methods: Retrospective and observational study of the patients admitted in internal medicine from Hospital Marqués de Valdecilla during March of 2021. We have revised the clinical histories and computed topographies of our sample.

Results: We have studied 297 patients, which the 37% (110 patients) had had a computed tomography before or during the hospitalization (Figure 1). We defined normal CT scan as the one that doesn´t show aortic atheromatosis, calcification on large blood vessels or aortic aneurism. The average age of patients with pathological CT scan was 84 years old. We show the differences between the clinical cardiovascular stratification vs the new radiological way (Figure 2). Those with pathological CT scan were initially classified as; 61% (N=43) as very high cardiovascular risk; 23% (N=16) as high risk; 7% (N=10) as moderate risk and 1% (N=1) as low risk.

Conclusions: We have identified 27 patients that weren´t classified as very high risk without the CT scan. That means we have stablished a 10% of patients more at very high risk versus the traditional classification with clinical parameters.



045 Figure 1.



045 Figure 2.

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046 - Submission No. 220

EVALUATION OF THE AMBULATORY BLOOD PRESSURE MONITORING IN PATIENTS WITH RETINAL VEIN OCCLUSION

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Background and Aims: The hypertension is the most prevalent cardiovascular risk factor in the developing of retinal vein occlusion (RVO). The ambulatory blood pressure monitoring (ABPM) could help in the clinical management. We aim to study the characteristics of the ABPM in these patients.

Methods: Retrospective and observational study of a cohort of 472 patients with retinal vein occlusion studied in internal medicine. We selected those patients that had an ABPM study and compared to those with ABPM follow in internal medicine without the disease.

Results: We studied 66 patients, 28 males and 38 females, with an age average of 67±13 years old. Half of the sample were patients with retinal vein occlusion event versus a group control without the event. The parameters of the ambulatory monitoring and the circadian pattern are shown in Figure 1.

Conclusions: The RVO patients have a high prevalence of hypertension. Specially during nighttime and with a less grade of nocturnal decrease, this is a classical fact that is associated with an increased cardiovascular risk. The identification of this fact can help optimize the treatment.

Figure 1	RVO N=33	Controls N=33
ABPM circadian pattern:	12 (36%)	11 (33%)
- Non dipper (<10%)	12 (36%)	17 (52%)
- Dipper (10-20%)	6 (18%)	1 (3%)
- Riser (<0%)	3 (9%)	4 (12%)
- Extreme-Dipper (> 20%)		
TAS daytime mm Hg	139±18	136±14
TAD daytime mm Hg	73±10	80±11
TAS nighttime mm Hg	130±21*	119±11*
TAD nighttime mm Hg	73±11*	65±9*
BP Variability increase	10 (34%)*	13 (39%)*
Dipping ratio %	6.0±1.,4*	12.3±6.3*

*p<0.05

046 Figure 1.

047 - Submission No. 1007

EFFICACY OF IPCSK9 TREATMENT IN A TERCIARY CARE HOSPITAL IN SPAIN

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Background and Aims: Inhibitors of proprotein convertase subtilisin/kexin type 9 (iPCSK9) are a treatment option in Spain for those patients with familial hypercholesterolemia or at very high CV risk who are intolerant to statins or LDL>100 mg/dl despite maximum statin dose tolerated. The aim of this study is to assess the effectiveness of these drugs.

Methods: Retrospective, unicentric and descriptive study, between November 2016 to the present, of patients who have started iPCSK9 treatment and are being followed up in the lipid unit of Marques de Valdecilla University Hospital.

Results: We registered 187 patients, the mean age was 59±9.5 years old, with 52% (n=98) were men. 41% (n=77) were affected by familial hypercholesterolemia (FH) and 59% (n=110) had very high uncontrolled cardiovascular risk. LDL cholesterol level was reduced by 46% in the global population (Table 1), highlighting a 19% decrease in LipoA, a 30% in Apoprotein E and 47% in Apoprotein B100. The lipid parameters of both subgroups are shown in Table 2 and Table 3. We analyzed our sample with a paired samples t-test obtaining that the decrease of Apolipoprotein B100, E and Lp A were statistically significant with a p<0,05.

Conclusions: iPCSK9 treatment was an efficient treatment in patients with very high risk and HeFH, with similar reductions in the LDL level as in the pivotal studies of alirocumab or evelocumab. Decreases of Lipoprotein A apoliporotein B100 and E could be a possible effect in patients treated with iPCSK9.

mg/dl	Basal (mean, SD)	12 months (mean, SD)
Cholesterol	242,68±68,25	155,14±64,25
Triglycerides	164,20±136,78	142,86±110,33
HDL-C	54,29±17,21	53,45±17,74
LDL-C	158,27±55,37	72,52±47,13
Apoprotein B100	124,35±38,24	65,61±32,57
Apoprotein E	49,61±12,81	34,78±12,51
Lipoprotein A	57,68±63,33	46,52±52,26
Homocystein	13,41±5,53	15,84±6,94

047 Table 1. Evolution of lipid profile in all treated patients

mg/dl	Basal (mean, SD)	12 months (mean, SD)
Cholesterol	224,96±69,14	140,43±51,16
Triglycerides	185,54±165,88	165,37±134,55
HDL-C	51,12±16,05	49,84±17,35
LDL-C	139,27±52,96	57,82±37,06
Apoprotein B100	113,30±38,85	113,30±38,85
Apoprotein E	49,32±12,17	35,04±14,92
Lipoprotein A	59,13±76,33	49,72±60,91
Homocystein	15,92±5,24	17,55±6,69

047 Table 2. Evolution of lipid profile in ECV treated patients

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mg/dl	Basal (mean, SD)	12 months (mean, SD)
Cholesterol	265,05±60,57	173,72±74,03
Triglycerides	137,61±81,94	114,82±59,35
HDL-C	58,13±17,92	57,84±17,13
LDL-C	179,15±50,59	88,67±51,80
Apoprotein B100	135,00±34,76	76,91±38,27
Apoprotein E	49,82±13,44	34,59±10,64
Lipoprotein A	56,31±48,78	43,50±42,98
Homocystein	11,71±5,11	14,68±6,94

047 Table 3. Evolution of lipid profile in HF treated patients

048 - Submission No. 1940

PATIENTS ON TREATMENT WITH PCSK9 INHIBITORS ON A THIRD LEVEL HOSPITAL: DESCRIPTIVE STUDY

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Background and Aims: Goals for LDL cholesterol proposed on the clinical guidelines published by the European Society of Cardiology for patients with very high cardiovascular risk are very low and difficult to achieve on classical cholesterol lowering therapies. Proprotein subtilisine/kexin type 9 inhibitors (iPCSK) have shown great efficacy on pivotal randomized controlled trials, although evidence of their use on daily practice is still scarce. The main aims of this work were describing the clinical profile of patients on treatment with iPCSK9 and monitoring reduction of LDL-c and their efficacy in a Spanish hospital.

Methods: We designed an observational retrospective study based on clinical records of patients who received treatment with iPCKS9 in 2020.

Results: Forty-six patients were analyzed: 34 male (74%). Mean age 62 years (SD 2.2). Treatment was prescribed for secondary prevention in 37 patients (80.4 %), 9 (19.6%) had familial hypercholesterolemia and 27 (58.7%) statin intolerance. Thirty-four patients (73.9%) were on ezetimibe and 27 (58.7%) took statins. Basal mean LDLc was 148 mg/dL. LDL-c reduction was 54.7% (-77.2 SD 30 mg/dL); p<0,001. LDL-C was lower than 55 mg/dL LDL-c in 21 patients and LDL-C reduction was >50% in 22 patients (58.9%). Recommendations by Spanish Society of Arteriosclerosis were met on 40 patients (97.6%).

Conclusions: Clinical parameters of patients in this cohort were similar to other studies. Basically, most patients were on very high cardiovascular risk and statin intolerants. Alirocumab and evolocumab have shown to effectively lower LDL-C levels, achieving LDL-C goals in more than 50% of patients.

049 - Submission No. 1805

HYPERTENSIVE DEBUT IN 19-YEAR-OLD WOMEN

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Case Description: 19-year-old female. Active smoker. No treatment except contraceptives up to 3 months ago. Oppressive frontotemporal headache and high blood pressure numbers (S>160 / D>100) of two months of evolution. No "crisis", flushing or vegetative courtship. PE: BP= 193/137 mmHg (similar in both superior members) HR= 114 bpm.

Clinical Hypothesis: Primary aldosteronism Fibromuscular dysplasia.

Diagnostic Pathways: ST: Analytics: K 2.9. ABPM: mean BP 148/99 mmHg (non-dipper). TTE: normal. Aldosterone and renin increased. 24h urine cortisol and catecholamines/metanephrines normal. Renal arteries eco-doppler: right renal artery with alteration in the morphology of the vascular resistance curve, increased velocities at the level of the middle third and union with the distal third. Marked decrease in caliber. Until now, the patient had been treated with 4 hypotensive drugs + spironolactone. Angio-CT of the renal arteries was requested with the suspected diagnosis of fibromuscular dysplasia, observing alternating stenosis and prestenotic dilatation ("string of beads") in the right renal artery. Percutaneous angioplasty is performed. At 48h adequate control of blood pressure numbers (around 120/65 mmHg). Discharge without treatment. Echo-doppler, potassium and renin/aldosterone activity normalized.

Discussion and Learning Points: Secondary hypertension is usually detected in 5-10% of hypertensive patients. It is not cost-efficient to carry out a secondary hypertension study in all patients with hypertension. We should suspect it in refractory hypertension, acute BP elevation in well-controlled patients, in <30 years, malignant/accelerated hypertension, or signs/symptoms of underlying disease. The most common causes of secondary hypertension are renal diseases (parenchymal or renovascular), primary hyperaldosteronism, hypertension induced by drugs/toxins, and OSA.

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050 - Submission No. 406

THE DIABETIC FOOT SYNDROME AND HOLTER ECG FINDINGS

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Background and Aims: Holter ECG monitoring allows us to detect cardiac arrhythmias, as well as myocardial ischemia. It is a suitable diagnostic tool for subsequent therapeutic intervention with the aim of improving the prognosis of patients also with diabetic foot syndrome.

Methods: We examined 28 patients (19 men and 9 women) with an average age of 69 years (age range 56 to 79 years) with critical limb ischemia in III. or IV. stage of classification according to Fontaine. The average duration of diabetes mellitus was 14 years. Medial calcinosis was present in 4 patients. Ambulatory ECG monitoring was performed with Marquette-Hellige devices with an average recording duration of 22.48 hours.

Results: 6 members (22%) had a normal Holter ECG recording, without arrhythmia or ischemia. 16 members (56%) had a cardiac arrhythmia, while 8 had a complex form – couplets of ventricular ectopic beats. 5 members (18%) had atrial fibrillation and 6 (22%) myocardial ischemia. 1 member had a finding of A-V blockade II. grade Mobitz type I, with an asystolic pause lasting 4.0 seconds and was indicated for permanent pacemaker implantation. Myocardial ischemia was found in 6 members of the group (22%).

Conclusions: We found that patients with diabetic foot and critical limb ischemia have frequent findings of cardiac arrhythmias, including complex forms. These findings may also contribute to the already poor cardiovascular prognosis of these patients. Their early diagnosis, including the use of Holter ECG monitoring with subsequent treatment, is a prerequisite for improving this prognosis.

051 - Submission No. 1123

SEASONAL VARIATIONS IN DEEP VENOUS THROMBOSIS

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Background and Aims: Circannual variations in incidence for venous thromboembolic disease have been demonstrated, with a peak in winter. However, several investigators have observed no seasonal variation in these diseases. The aim of our study was to investigate seasonal variation in deep venous thrombosis (DVT) of the lower limb.

Methods: This retrospective cohort study in the department of Internal Medicine at Farhat Hached University Hospital over a period of 13 years (2009-2021). All patients aged 18 or over with confirmed lower limb DVT were included. Data were collected from patient's medical records and statistical analysis was performed using SPSS-10. The threshold value of the "p" is set at 0.05.

Results: 217 DVT cases were included. The seasonal variation study showed an increase in the number of cases recorded of DVT during spring (March, n = 26; April, n = 23; and May, n = 14) and a decrease in autumn without being statistically significant. The analysis of the incidences of DVT according to sex and seasons showed a statistically significant increase in the number of DVTs in summer in men (n=34) than women (n=24) (p=0.020), moreover an increase in the number of DVT in women in spring was observed without being significant (p=0.557).No statistically significant association was found between the number of cases registered and the geographical origin, the topography of the thrombosis as well as its location and the presence or absence of contributing factors.

Conclusions: Incidence of DVT was significantly higher in men during summer. A regional study is needed to confirm our findings

052 - Submission No. 1211

IS THERE A RELATIONSHIP BETWEEN ETIOLOGY OF DEEP VENOUS THROMBOSIS AND SEASONAL VARIATION?

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Background and Aims: Several investigators have observed seasonal variation in incidence for deep venous thrombosis (DVT). The purpose of this study is to search possible link between the etiology of DVT and seasonal variation.

Methods: This retrospective cohort study in the department of Internal Medicine at Farhat Hached University Hospital over a period of 13 years (2009-2021). All patients aged 18 or over with confirmed lower limb DVT were included. Data were collected from patient's medical records and statistical analysis was performed using SPSS-10. The threshold value of the "p" is set at 0.05.

Results: 217 DVT cases were included. An association was found between the seasonal variation and the occurrence of idiopathic DVTs with an increase in their frequencies in winter (n=40) and spring (n=33) compared to autumn (n=22) and summer (n=22) (p=0.01). In addition, a statistically significant increase in DVT frequency was noted in summer in people with cancer (n=18) compared to autumn (n=7), winter (n=7) and spring (n=10)

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(p=0.017) No statistically significant association was found between seasonal variation and others etiologies of DVT.

Conclusions: The incidence of idiopathic DVT was significantly higher during winter and spring and DVT associated with cancer was higher in summer. A regional study to capture all DVT patients will need to be done to confirm our findings.

053 - Submission No. 1217

MONTHLY VARIATION AND INCIDENCE OF DEEP VENOUS THROMBOSIS

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Background and Aims: Many studies showed that the occurrence of cardiovascular and cerebrovascular events exhibits a seasonal and monthly variation. Evidence of monthly variation in the incidence of lower limb deep venous thrombosis (DVT) is more conflicting. The aim of this study is to search association between incidence of DVT and monthly variation.

Methods: This retrospective cohort study in the department of Internal Medicine at Farhat Hached University Hospital over a period of 13 years (2009-2021). All patients aged 18 or over with confirmed lower limb DVT were included. Data were collected from patient's medical records and statistical analysis was performed using SPSS-10. The threshold value of the "p" is set at 0.05.

Results: 217 DVT cases were included. The incidence of DVT showed a monthly variation with an increase incidence of DVT in March (n=26) followed by July (n=25) without being statistically significant (p=0.309). The study of the monthly variation of DVT according to age showed an increase incidence in March in patients over 65 years of age (p<0.001). The monthly incidence of DVT according to geographical origin, gender, localization, and seat of thrombosis had not concluded to statistically significant associations. An association was found between the monthly variation and the occurrence of idiopathic DVT with an increase in their incidence in the months of January (n=14), February (n=15) and March (n=16) compared to monthly average (n=8 per month) (p=0.035).

Conclusions: Incidence of idiopathic DVT is more important in January, February and March.

054 - Submission No. 1219

METEOROLOGICAL VARIABLES AND INCIDENCES OF LOWER LIMBS DEEP VENOUS THROMBOSIS

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Background and Aims: The influence of weather on deep venous thrombosis (DVT) incidence remains controversial. We aimed to characterize the temporal association between DVT and meteorological variables.

Methods: This retrospective cohort study in the department of Internal Medicine at Farhat Hached University Hospital over a period of 13 years (2009-2021). All patients aged 18 or over with confirmed lower limb DVT were included. Data were collected from patient's medical records. We compared certain meteorological data (atmospheric pressure, temperature, mean hygrometry) for days with and days without venous thrombosis and the atmospheric variations. Statistical analysis was performed using SPSS-10. The threshold value of the "p" is set at 0.05.

Results: 217 DVT cases were included. The variation of the average temperature influenced the occurrence of DVT, incidence increased at a temperature of 15°C and decreased at the two extremes (p<0.001). The study of the influence of wind speed on the occurrence of DVT showed that an increase incidence at wind speed of 24 km/h and a decrease in the cases recorded at the 2 extremes (p<0.001). An increase incidence of DVT was noted with increasing rainfall at 1mm per day (p<0.001).

Conclusions: In our study, deep vein thrombosis of the lower limb was significantly associated with certain meteorological variables. Prospective multicentric studies are needed to confirm these relationships.

055 - Submission No. 1224

THE INFLUENCE OF METEOROLOGICAL VARIABLES ON THE DEVELOPMENT OF DEEP VENOUS THROMBOSIS

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Background and Aims: Recent articles have established a significant relationship between meteorology variables and the development of vascular disease. The aim of this study is to compare the meteorological variables of the months with and without recorded cases of thrombosis

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Methods: This retrospective cohort study of 217 cases of DVT treated in the department of Internal Medicine at Farhat Hached University Hospital over a period of 13 years (2009-2021). All patients aged 18 or over with confirmed lower limb DVT were included. Data were collected from patient's medical records. We compared certain meteorological data (atmospheric pressure, temperature, mean hygrometry) for days with and days without venous thrombosis and the atmospheric variations. Statistical analysis was performed using SPSS-10. The threshold value of the "p" is set at 0.05.

Results: The comparison of meteorological variables in months with DVT versus months without DVT showed a significant increase in cloud cover in the months with DVT (19.2% versus 16.89%; p=0.032), the atmospheric pressure was statistically higher in months without DVT (1020.13 hPa versus 1018.36 hPa; p= 0.042). Furthermore, there is no significant difference between the means of the other recorded weather parameters.

Conclusions: A statistically significant inverse correlation between atmospheric pressure and the number of DVT cases was observed in our study, which is in accordance with other reports.

056 - Submission No. 1348

SUBCLAVIAN THROMBOSIS ASSOCIATED WITH NON-IMMUNE VASCULITIS

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Case Description: This is a 55-year-old female with medical history of 30 smoking pack-years, well-controlled hypertension, and carrier of bilateral breast prostheses. She was presented at the emergency department with one-month curse of left arm paresthesia. At exploration, she presented coldness in this extremity, slight weakness, and decrease blood pressure compared to the contralateral arm. Urgent chest computed tomography showed a soft thrombus in the left subclavian artery, and the presence of 17 mm adenopathies with pathological appearance.

Clinical Hypothesis: Left subclavian thrombosis, as possible paraneoplastic syndrome.

Diagnostic Pathways: Bilateral mammography and breast ultrasound was performed. It was informed as discontinuous implant cover in some quadrants, with multiple echogenic images (in ''snow storm'') of up to 3 cm, that may correspond to gel implants (siliconomas) or gel infiltration in axillary nodes. Vasculitis data were also observed in PET-CT scan, due to an intimate contact of gel-infiltrated adenopathy and siliconoma with the subclavian artery wall. The rest of the complementary studies ruled out the presence of an underlying neoplasm, as well as any hereditary or acquired thrombophilia.

Discussion and Learning Points: Upper extremity deep vein thrombosis represents up to 25% of all cases of deep vein thrombosis. Most of the cases are secondary to central venous cannulation or prothrombotic states. In our patient, the prothrombotic factor responds to a local foreign body reaction, which caused a non-immune vasculitis phenomenon.

057 - Submission No. 1821

CHARACTERISING ARTERIAL STIFFNESS AND SARCOPENIA IN THE METABOLICALLY HEALTHY OVERWEIGHT/OBESE ELDERLY POPULATION

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Background and Aims: To analyze metabolically healthy obese elderly population (MHOep) lifestyle and its relationship with arterial stiffness and age-associated sarcopenic process.

Methods: Cross-sectional analytical-descriptive study in MHOep (age ≥ 65 years) with Body Mass Index (BMI) > 27 kg/m^2 presenting < 1 of the following cardiometabolic disorders: fasting plasma glucose ≥ 100 mg/dL, blood pressure ≥135/85 mmHg (or use of antihypertensive agents), low HDL cholesterol (≤ 40 mg/dl for men, ≤50 mg/dl for women) or triglycerides ≥150 mg/dl (or use of lipid-lowering therapies), with a healthy lifestyle based on the consumption of Mediterranean diet (DietMed) and regular practice of physical activity (PA) have participated in this study. Anthropometric, clinical, nutritional and physical activity parameters were evaluated. Arterial stiffness, measured as carotid-femoral pulse wave velocity (c-fpwv) and the presence/absence of sarcopenia were analyzed using the quadriceps/sub-dermis ratio of the participants.

Results: 158 MHOe subjects (age: 72±5 years, BMI: 31.6±3.8 kg/m2) were recruited. This population showed high adherence to DietMed due to higher consumption of home-cooked food, olive oil and lean meats. In addition, they showed a significant practice of all PA intensities. This resulted in a c-fpwv of 10.1±3.1 m/s and an absence of sarcopenia as well as a quadriceps width greater than sub-dermis (3.40±0.64 cm vs. 2.17±1.00 cm, respectively) in 96.2 % of the subjects in our population.

Conclusions: A healthy lifestyle, based on DietMed consumption and regular PA practice, could explain the WHO phenotype as well as the prevention of arterial stiffness and sarcopenia in an elderly population.

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058 - Submission No. 891

RELATIONSHIP BETWEEN LUNG ULTRASONOGRAPHY AND ECHOCARDIOSCOPY IN PATIENTS WITH DECOMPENSATED HEART FAILURE

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Background and Aims: Ultrasound is acquiring an important role in the diagnosis and evaluation of cardiovascular pathology. The aim is to evaluate the relationship between pulmonary congestion measured by ultrasound by the number of B-Lines (BL) with different echocardiographic parameters.

Methods: Prospective study of patients admitted for congestive heart failure from January 2019 to December 2021, who were underwent echocardioscopy and pulmonary ultrasound at the time of admission.

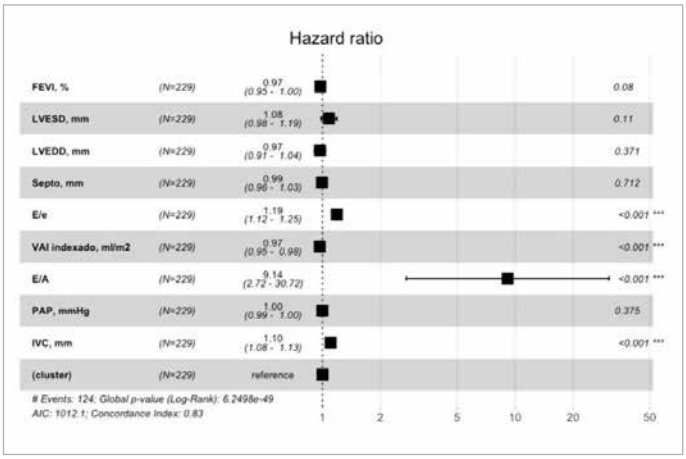
Results: A total of 229 ultrasounds were performed, stratifying them into three groups (<15 BL, 15-29 BL, and ≥30 BL) that included 67, 26 and 136 patients respectively. The inferior vena cava was measured (mm) and analyzed, showing that its diameter increased as the number of BL did (17.4±3; 19.6±1.7 y 23±1.9) corresponding to the groups <15 BL, 15-29 BL y ≥30 BL respectively (p<0.001) [Table 1]. Likewise, the volume of the index right atrium (ml/m^2) was analyzed with a statistically significant result when evaluating the Hazard Ratio (HR) (HR: 0.97; IC del 95% 0.95-0.98) (p<0.001) [Figure 1; VAI]. When stratifying by groups <15 BL, 15-29 BL and ≥30 BL) the results were 38.3±7.2, 39.8±6.5 y 42.3±6.5 respectively (p<0.001) [Table 1]. Finally, the E/A and E/e' ratios were studied, both with statistically significant results (p<0.001) for their respective HR (HR: 9.4; IC del 95% 2.72-30.72) and (HR: 1.19; IC del 95% 1.12-1.25) [Figure 1].

Conclusions: The implementation of echocardioscopy in the management of hospitalized patients with decompensated heart failure could provide a higher quality, optimized and personalized approach, with prognostic purposes.

	< 15 BL N:67	15-29 BL N:26	≥ 30 BL N:136	p
IVC (mm)	17.4 ± 3	19.6 ± 1.7	23 ± 1.9	P<0.001
RAV index ml/m^2	38.3 ± 7.2	39.8 ±6.5	42.3 ± 6.5	P<0.001
E/A	0.9 ± 0.3	1.1 ± 0.2	1.3 ± 0.2	P<0.001
E/e'	10.1 ± 6.4	11.7 ± 4.7	17.4 ± 5.2	P<0.001

Data are expressed as mean ±standard deviation IVC: inferior vena cava. LAV: Right atrial volume

058 Table 1. Relationship between the different echocardiographic parameters and the number of B-lines



058 Figure 1. Cox regression of the different echocardiographic parameters analyzed in patients with decompensated heart failure

059 - Submission No. 915

THE ASSOCIATION BETWEEN LUNG B-LINES AND PROGNOSIS AND MORTALITY IN CONGESTIVE HEART FAILURE

Virginia González Hidalgo, Antonio Gallardo Pizarro

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Background and Aims: Ultrasound is acquiring great medical relevance in different pathologies. The presence of multiple diffuse B-lines (BL) in different areas of lungs may be indicative of interstitial edema. The main aim is to analyze the relationship between the number of BL and the mortality and readmission rate in hospitalized patients with diagnosis of heart failure.

Methods: Prospective study conducted in patients admitted with diagnosis of decompensated heart failure from January 2019 to December 2021. Ultrasounds were performed at the bedside on admission.

Results: A total of 229 ultrasounds were performed, stratifying them into three groups (<15 BL, 15-29 BL, and ≥30 BL) that included 67, 26 and 136 patients respectively. When evaluating the average stay, it was observed that it was greater significantly (p<0.001) depending on the BL group to which they corresponded. The patients who presented < 15 BL had a stay of 6.2±4.7 days, those with 15-29 BL, 6.8±4.9 days, and those with ≥ 30 BL, 7.1±6 days [Table 1]. Likewise, rehospitalization was evaluated. Within the group of <15 BL the 26.9% were re-hospitalized, in the group of 15-29 BL, the 65.4% of patients, and in the group ≥ 30 BL, the 66.2% of them (p<0.001) [Table 1]. On the other hand, mortality was analyzed in these groups, presenting 28.4%, 65.4% and 66.2% respectively (p< 0.001) [Figure 1].

Conclusions: The BL have demonstrated their usefulness in evaluating re-hospitalization and mortality heart failure patients.

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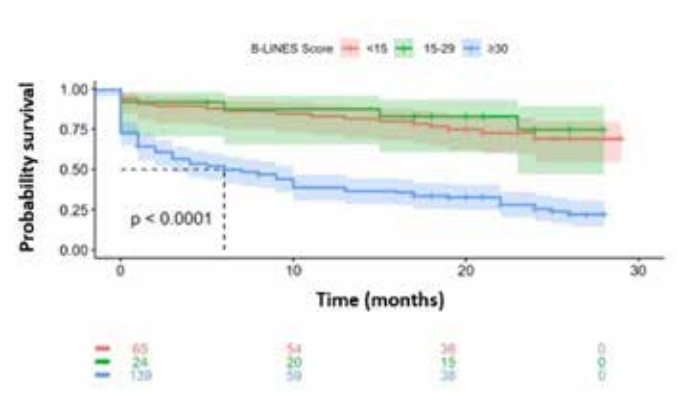
	< 15 BL N:67	15-29 BL N:26	≥ 30 BL N:136	p
Mean Stay (days)	6,2 ± 4.7	6.8 ± 4.9	7.1 ± 6	< 0.001
Rehospitalization N (%)	18 (26.9)	17 (65.4)	90 (66.2)	<0.001
Mortality N (%)	19 (28.4)	7 (26.9)	98 (72.1)	<0.001
MAGGIC score	22.7 ± 4.4	25.3 ± 5.8	25.6 ± 5.1	<0.001

Data are expressed as number (%), mean ± standard deviation or median [interquartile range]. BL: B-Lines. MAGGIC: Meta-Analysis Global in Chronic Hart Failure risk score

059 Table 1. Association between mortality, prognosis, rehospitalization and mean stay and the number of BL



059 Figure 1. Kaplan-Meier survival curves in patients with heart failure during follow-up, according to the number of B-Lines

060 - Submission No. 243

HEART FAILURE AND GENDER, DO COMORBIDITIES DIFFER? DATA FROM THE RICA REGISTRY

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Background and Aims: The aim of this study was to analyze the differences in the prevalence of different comorbidities and types of heart disease between men and women with heart failure (HF).
Methods: A prospective observational multicenter study of patients hospitalized with HF (RICA registry) was conducted. Demographic characteristics, comorbidities, comorbidities, functional and cognitive status, etiology of heart disease, NYHA functional class, left ventricular ejection fraction (LVEF) assessed by echocardiography, treatment, in-hospital evolution and one-year follow-up were collected. The sample was divided according to sex and differences were evaluated.
Results: Of 4484 patients, with a mean age of 79 years (±8.6), 2402 (53.6%) were female. Women were significantly older (80.3 vs. 77.4 years; p<0.001), had a higher prevalence of hypertension (p<0.001), obesity (p<0.001), atrial fibrillation (p<0.001) and dementia (p=0.005). However, they presented less frequently ischemic heart disease (p<0.001), peripheral arterial disease (p<0.001), COPD (p<0.001) and anemia (p<0.001). Men had more comorbidity according to the Charlson index(p<0.001) but had a better functional status (p<0.001), better cognitive status (p<0.001) and better NYHA functional grade (p=0.01). In women, hypertensive (p<0.001) and valvular (p<0.001) etiology predominated, while men presented more frequently with ischemic etiology (p<0.001). In women, there was a predominance of HF with preserved LVEF(p<0.001). About treatment, males more frequently received ACEI(p<0.001), anti-aldosterone (p<0.001), statins (p=0.003) and anti-aggregants (p<0.001) and females ARBS(p<0.001) and digoxin (p<0.001). Hospital stay was longer in men (p=0.017) as well as mortality at 1 year (p=0.001) but readmission due to HF was higher in women (p=0.045).
Conclusions: Women with HF are older, have worse functional and cognitive status, and predominantly have HF with preserved LVEF. Men have a different comorbidity profile, with a higher frequency of hypertension, obesity and atrial fibrillation.

061 - Submission No. 233

DIFFERENTIAL FEATURES OF PERICARDIAL EFFUSION WITH A REQUIREMENT OF PERCUTANEOUS DRAINAGE

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Background and Aims: Pericardial effusion (PE) is a rare syndrome whose detection has increased in recent years. The aim of this study was to analyze the differential characteristics of PE requiring percutaneous drainage.
Methods: We conducted a retrospective observational study of patients with PE diagnosed between 2014-2021. We collected sociodemographic, clinical, analytical and radiological variables, complications, treatments, mortality and survival at one year. The sample was divided according to whether percutaneous drainage (PD) was performed or not establishing differences between both.
Results: Of 247 patients with PE, 139 were male (56.3%), with a mean age of 67.6 years (SD±14). Pericardiocentesis was performed in 127 (51.4%) with no differences in age or sex, being significantly more frequent in patients admitted to cardiology (p=0.041). No significant differences in terms of clinical manifestations or time of evolution were found. Drainage was performed more frequently in iatrogenic PE (p=0.027) and post-procedural (p=0.006) and less

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frequently in idiopathic PE (p=0.006) and secondary to ischemic heart disease (p=0.046). The necessity of pericardiocentesis was associated with severe PE (p=0.001), cardiac tamponade (p<0.001), admission to intensive-care unit (p=0.001) and longer hospital stay (median days: 17 vs. 14; p=0.049). There were no significant differences in in-hospital mortality (p=0.32) or survival (p=0.39). In the multivariate analysis, admission to cardiology (p=0.004), cardiac tamponade (p<0.001) and severe effusion (p<0.001) were independently associated with drainage.

Conclusions: Half of effusions required percutaneous drainage. Performance of percutaneous drainage was independently associated with cardiology admission, cardiac tamponade and severe effusion. There were no differences in in-hospital mortality or survival at 1 year.

062 - Submission No. 1579

DOUBLE VALVE INFECTIVE ENDOCARDITIS - NATIVE AND PROSTHETIC VALVES IMPLICATION

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Case Description: We report the case of an atypical clinical presentation of a double valve endocarditis, affecting the native aortic valve and a mitral mechanical valve, with a complicated evolution.

Clinical Hypothesis: Infective endocarditis (IE) is an infectious disease with potentially fatal evolution. It mostly involves native cardiac valves, but also congenital cardiovascular lesions, prosthetic valves or other prosthetic material can be affected. The disease has a wide spectrum of clinical presentation, from specific signs, such as fever, new heart murmurs or increasing intensity of previous murmurs, splenomegaly and anemia, to fewer characteristic ones. IE usually develops on structurally damaged valves, most commonly the mitral valve.

Diagnostic Pathways: Rare presentations may include concomitant infection of two valves, especially a native and a prosthetic one. Transthoracic echocardiography (TTE) is the first line and main diagnostic tool. If negative or non-diagnostic, especially in the presence of a prosthetic heart valve or an intracardiac device, then transesophageal echocardiography (TOE) is recommended.

Discussion and Learning Points: After a complicated evolution, clinical and biological condition of the patient improved, and she was discharged in stable condition.

063 - Submission No. 2410

ANTI-INFLAMMATORY PROPERTY OF NUTRACEUTICAL AGENTS IN VENOUS CHRONIC INSUFFICIENCY PATIENTS

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Background and Aims: Chronic venous insufficiency (CVI) is characterized by morphological and functional anomalies of the venous system. It represents a risk factor for cardiovascular events. This study evaluates beneficial effect of nutraceutical Baicalin 190mg, Bromeline 50mg and Escin 30mg in patients with CVI treated with graduated compression stocking (GCS).

Methods / Intervention: A retrospective cohort study was performed on medical records of outpatient affected by CVI in Internal Medicine Unit of the University of Messina. Patients without any treatment were defined non-users, patients on nutraceutical agents were defined users. A descriptive analysis of demographic and clinical characteristic was carried out at baseline, after 30 (T1) and after 90 (T2) days. A modified Venous Clinical Severity Score (VCSS) has been calculated considering pain, skin pigmentation (SP), inflammation, vessel induration (VI).

Results / Impact: A significantly lower value of VCSS was observed in nutraceutical users compared to non-users at T2 (p=0.025). A significant improvement in SP and VI was observed in both groups at T2.A significatively greater improvement of VI was observed in users than non-users (53.3% vs 18.8%, p=0.004; respectively) and no difference was observed for SP (36.7% vs 21.9%, p=0.200; respectively). A significant improvement in pain and inflammation was observed in users at T2. In 9.4% of non-users and in 43.3% of users an improvement of pain was observed (p=0.002). In addition, an improvement in inflammation was observed only in users (33.3%).

Conclusions: The use of nutraceutical agents in combination with graduated stocking ensures a better resolution of the signs and symptoms of chronic venous insufficiency, confirming its anti-inflammatory action and showing a better efficacy than only GCS.

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064 - Submission No. 2418

THE IMPACT OF ALIROCUMAB AND EVOLOCUMAB ON LIPID PROFILE AND MAJOR CARDIOVASCULAR EVENTS IN DIABETIC PATIENTS: A META-ANALYSIS AND SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS

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Background and Aims: Patients with diabetes mellitus have an increased risk of cardiovascular (CV) events. Moreover, a higher prevalence of lipid abnormalities, which contributes to increase CV risk, has been described. Our aim is to assess the specific effects of PCSK9 inhibitors on MACE and lipid metabolism in patients with diabetes.

Methods / Intervention: We conducted a systematic review of literature according to the PRISMA statement. A total of 8 randomized control trials (RCTs) enrolling 20651 patients with diabetes were included. Mean follow-up was 51 weeks. We included RCTs which had compared the PCSK9i alirocumab and evolocumab with placebo in subjects with hypercholesterolemia and diabetes mellitus.

Results / Impact: MACE occurred in 8.7% of patients with diabetes randomized to PCSK9i vs. 11.0% of those randomized to placebo. Thus, the use of alirocumab or evolocumab reduced MACE by 18% (relative risk [RR] 0.82, 95% confidence interval [CI] 0.74-0.90). Compared to control group, the use of PCSK9 inhibitors was associated with a significant % change from baseline in HDL-C (MD5.21%; 95% CI: 3.26 to 7.17 %), LDL-C (mean difference [MD]-58.48%; 95% CI: -63.73 to -53.22%) p<0.0001), non-HDL-C (MD -48.84%; 95% CI: -54.54 to -43.14%) triglycerides (MD-14.59%; 95% CI: -19.42 to -9.76%), and total cholesterol (MD-33.76%; 95% CI: -38.71 to -28.8%). Moreover, a significant reduction of ApoB (MD-46.83%; 95% CI: -52.71 to -40.94%) and Lp(a) (MD-32.90%; 95% CI: -38.55 to -27.24%) were observed in PCSK9i group compared to placebo.

Conclusions: PCSK9 inhibitors appear to be effective in reducing the risk of MACE and in improving lipid profiles of subjects with diabetes and dyslipidemia.

065 - Submission No. 151

PLATELET INDICES AND METABOLIC SYNDROME - A RETROSPECTIVE STUDY

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Background and Aims: Metabolic syndrome (MetS) increases cardiovascular risk, mostly by promoting atherogenesis. Changes in platelet indices have been described in diabetes mellitus, atherosclerosis and other proinflammatory conditions. This study investigates the platelet indices in patients with MetS.

Methods: We studied a group of 77 patients (38 men and 39 women) who met the three laboratory criteria for the diagnosis of MetS included in the US National Cholesterol Education Programme Adult Treatment Panel III (NCEP ATP III, fasting glucose>100 mg/dL, triglycerides>150 mg/dL and HDL<40 mg/dL for men and<50mg/dL for women). The control group consisted of 63 people (31 men and 32 women) which met none of the aforementioned criteria. The data were extracted from the laboratory database of our hospital. The statistical test used for these populations was the independent samples t-test with unequal variances. The following platelet indices were studied: platelet count (PLT), mean platelet volume (MPV) and the calculated indices plateletcrit (PCT=PLT*MPV/10,000) and PLR (Platelet-Lymphocyte Ratio).

Results: The results of the statistical analysis are presented in Table 1. No significant between-group difference was observed for PLT, MPV, PCT and PLR, regarding men with and without MetS. On the other hand, PCT in the general population and in the womens group was significantly higher in patients with MetS (p value <0.05 in both groups), whereas PLT showed a marginally not statistically significant difference between the populations studied (p-value 0.080 and 0.077, respectively).

Conclusions: The study suggests that PCT could potentially be used to predict MetS in women. The role of PLT remains to be elucidated by new studies on populations with a larger number of subjects.

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Table 1

GENERAL POPULATION				
	PLT	MPV	PCT	PLR
P value	0,080	0,637	0,022	0,813
Median H	208,00	8,10	0,16	94,32
Median D	225,00	8,02	0,18	93,46
AVG H	211,77	8,09	0,16	98,93
AVG D	228,38	7,97	0,18	97,47
s H	57,31	1,66	0,04	36,89
s D	52,32	1,36	0,04	35,29
MEN				
	PLT	MPV	PCT	PLR
P value	0,429	0,780	0,193	0,567
Median H	211,00	7,51	0,16	87,20
Median D	211,50	7,80	0,17	87,63
AVG H	207,50	8,04	0,16	91,00
AVG D	219,05	7,93	0,17	95,76
s H	59,38	1,73	0,05	33,85
s D	59,57	1,44	0,04	33,88
WOMEN				
	PLT	MPV	PCT	PLR
P value	0,077	0,703	0,037	0,426
Median H	204,50	8,21	0,16	108,39
Median D	238,00	8,20	0,18	99,54
AVG H	215,78	8,14	0,17	106,36
AVG D	237,46	8,00	0,19	99,13
s H	55,95	1,61	0,03	38,57
s D	42,99	1,30	0,04	36,98
H: healthy				
D: diagnosed with Metabolic Syndrome				
AVG: Average				
s : Standard Deviation				

065 Table 1.

066 - Submission No. 876

INTER-OBSERVER VARIABILITY OF CORONARY STENOSIS CHARACTERIZED BY CORONARY ANGIOGRAPHY: A SINGLE-CENTRE RETROSPECTIVE CHART REVIEW BY STAFF CARDIOLOGISTS

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Background and Aims: Interobserver variability in coronary angiography has been observed for decades despite the significant technological development which could influence the management of patients undergoing coronary angiography. Therefore, continuous evaluation and investigation in this area are paramount to minimize this gap and optimize treatment options for patients with coronary artery diseases.

Methods: In this retrospective observational cohort, we examined the inter- and intra-rater reliability of visual interpretation of coronary arteriography. We assessed the impact of this inter-observer variability of coronary lesions on clinical decision-making with independent, blinded review of angiogram clips by three experienced interventional cardiologists including the original operator. In our primary analysis, we compared the level of interobserver agreement between different reviewers using kappa statistics i.e., interclass correlation coefficient (ICC) with 95% confidence interval (CI).

Results: A review of 200 angiograms performed at the Toronto General Hospital (TGH) showed a mean agreement between all participating observers (mean ICC) of 77.4 (i.e., an interobserver variability of 22.6%). The interobserver variability in proximal parts of the main coronary vessels was shown to be the lowest (i.e., highest agreement), while the midportion parts was the highest (i.e., lowest agreement) and the intermediate results were achieved in the distal parts.

Conclusions: This analysis re-demonstrates the variability in visual interpretation of coronary angiograms and highlights the importance of considering augmenting visual interpretation with more objective measures in cases of clinical uncertainty.

067 - Submission No. 544

THE NEW PROGNOSTIC SCORE TO PREDICT THE COMPLICATIONS IN PATIENTS WITH HIGH AND INTERMEDIATE RISK PULMONARY EMBOLISM

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Background and Aims: Pulmonary embolism (PE) is the third most frequent acute cardiovascular syndrome with a rising tendency in incidence. We aimed to investigate risk factors of PE complications in patients with high or intermediate risk and integrate them into a simple risk score model.

Methods: 150 patients with PE of high or intermediate risk were enrolled. Patients were retrospectively divided into groups of complicated (n=53) or uncomplicated PE (n=97). Study composite endpoint: obstructive shock, recurrent PE and death during 30 days.

Results: Predictors of PE complications were: age >75 years, non-smoker status, previous myocardial infarction, presence of ≥4 of VTE risk factors, arterial hypertension, chronic heart failure, type 2 diabetes mellitus (T2DM), atrial fibrillation (AF), breath rate ≥22 per minute, SpO_2 ≤90%, heart rate (HR) ≥110 bpm, systolic

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blood pressure (SBP) <100 mmHg, creatinine clearance (CrCl) <80 ml/min, BNP >750 pg/ml, positive heart-type fatty acid binding protein (hFABP). Multivariate logistic regression analysis was used to model a simple predictive risk score: presence of T2DM (2 points), AF (1.5 points), SBP <100 mmHg (3.5 points), positive hFABP (1.5 points) and CrCl <80 ml/min (1.5 points). The AUC of this model was 0.896 to predict study endpoint; the optimal cut-off score for the complications within 30 days was ≥3.5 points.

Conclusions: T2DM, AF, SBP <100 mmHg, positive hFABP and CrCl <80 ml/min were identified as the major independent predictors of complications in patients with PE and may be used in combination as the simple predictive risk score for early risk stratification.

068 - Submission No. 803

EFFICACY OF NON-INVASIVE TRANSTANEOUS ELECTRONEUROSTIMULATION IN COMPLEX TREATMENT OF ARTERIAL HYPERTENSION

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Background and Aims: To assess the efficacy, safety and duration of the effect of non-invasive transcutaneous electro-neurostimulation (TENS) in patients with arterial hypertension (AH) on the background of standard antihypertensive drug therapy (AHT).

Methods: 48 patients (35 men/13 women, mean age 52.1 years) with verified diagnosis of AH were enrolled in this randomized, sham-controlled trial. They were assigned (in ratio 2:1) to receive active treatment of TENS once per day (Group 1, 23 patients) and twice per day (group 2, 13 patients) or sham-devices (control group, 12 patients) for 14 days in addition to background recommended treatment of AHT. 24-hours blood pressure (BP) monitoring was performed before the start, in the end of treatment and 28 days after the start of course.

Results: The best effect was observed in group 2, where the maximum and average systolic and diastolic BP decreased by 8-9 mmHg. In group 1 the changes were smaller (the maximum and average systolic BP decreased by 5-6 mmHg), and in the control group they practically did not change (1-2 mmHg). At the final visit after the treatment the BP level remained the same. During the treatment period, side effects of TENS were not observed.

Conclusions: Method of non-invasive TENS may be considered as an adjunct to AHT medications in case of inability to reach target BP levels. The study is ongoing.

069 - Submission No. 2025

EFFECT OF CLINICAL AND LABORATORY PARAMETERS ON HDL PARTICLE COMPOSITION

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Background and Aims: The functional status of high-density lipoproteins (HDLs) is not dependent on the cholesterol content of particle per se but is closely related to structural and compositional characteristics. We reported the analysis of HDL lipidome in healthy population and the influence of serum lipids, age, gender and menopausal status on its composition.

Methods: Our study sample comprised 90 healthy subjects aged between 30-77 years. HDL lipidome was investigated by proton nuclear magnetic resonance (^{1}H NMR) spectroscopy.

Results: Among serum lipid parameters, triglycerides, apoAI, apoB and the ratio HDL-C/apoAI had a significant influence on HDL lipid composition. Aging was associated with significant aberrations including increase in triglycerides content, lysophosphatidylcholine, free cholesterol, and decrease in esterified cholesterol, phospholipids, and sphingomyelin that may contribute to increased cardiovascular risk. Aging was also associated with an atherogenic HDL fatty acid pattern. Gender-based analysis did not reveal significant differences in HDL lipidome apart from a significant decrease of phosphatidylcholine and phosphatidylinositol in females compared to males. Notably, the changes occurred in HDL lipidome between the two genders were more pronounced in the 30-39 years age decade and over 60 years. Postmenopausal group displayed significant pro-atherogenic changes in HDL lipidome compared to premenopausal.

Conclusions: The influence of serum lipids and intrinsic factors on HDL lipidome could help us to better understand the remodeling capacity of HDLs directly related to its functionality and antiatherogenic properties, and also in appropriate clinical research study protocol design e.g., for the definition of participants' selection criteria.

070 - Submission No. 1428

ACUTE CORONARY SYNDROME AND DIABETIC KETOACIDOSIS- A DEADLY COMBINATION

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Case Description: Diabetic ketoacidosis (DKA) is a life-threatening acute metabolic complication of diabetes mellitus. Approximately

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4% of patients with DKA are associated with acute myocardial infarction (AMI) with mortality rate rise to nearly 85%. However, there is paucity of data regarding this context. We hereby report a case of acute coronary syndrome coexisting with DKA.

Clinical Hypothesis: A 62-year-old male, diabetic and hypertensive, presented with acute onset progressive breathlessness with orthopnea, without chest pain, pedal edema or oliguria. His pulse was 118/min, regular with blood pressure of 102/70 mmHg, lung auscultation showed bibasilar fine crepitations. Investigations revealed random glucose on presentation of 512 mg/dl, blood ketones positive, high-anion gap metabolic acidosis with elevated troponins. ECG revealed sinus rhythm with a new onset LBBB. 2D-ECHO showed regional wall motion abnormality in left anterior descending artery territory. He was given a loading dose of dual antiplatelet therapy and high-dose statin.

Diagnostic Pathways: AMI and DKA have bidirectional relationship and have poor prognosis when both coexist. Management of AMI with concomitant DKA is challenging as excessive fluid therapy worsens pulmonary congestion. Kocas et al showed that hyperglycemia at admission significantly associated with failed fibrinolysis therapy. Bandyopadhyay et al showed that patients who had a concomitant diagnosis of STEMI and DKA showed higher overall mortality, acute kidney injury as well as longer ICU stay, total stay and higher cost of care.

Discussion and Learning Points: Although known but AMI is uncommon cause of DKA. Early and prompt identification is therefore important for initiating early therapy to reduce the worst outcomes.

071 - Submission No. 472

WHEN STANDING TAKES YOUR BREATH AWAY - A CLINICAL CASE OF PLATYPNEA–ORTHODEOXIA SYNDROME

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Case Description: An 85-year-old female admitted to the emergency department (ED) due to aphasia, deviation of the lip commissure, tachycardia and dyspnea. History included a right femur shaft fracture, multiple falls and cerebrovascular disease. On physical examination, she was apyretic, normocardic, normotensive, tachypneic. Lung fields were clear to auscultation, and cardiac examination showed no regurgitant murmurs/precordial impulses. Peripheral limb oedema was not noted. The neurologic examination was unremarkable. Her arterial blood sample revealed hypoxemic respiratory failure. The complementary diagnostic exams (CDE) were normal. She was admitted in the internal medicine ward for investigation.

Clinical Hypothesis: Platypnea–orthodeoxia syndrome.

Diagnostic Pathways: During her hospital stay, causes of paroxysmal dyspnea were excluded: - post-pneumectomy status and hydrothorax - lung interstitial diseases and heart failure. - chronic liver disease. - pulmonary arteriovenous malformations/fistulae. To assess the possibility of an intracardiac shunt, a transthoracic echocardiogram was requested, showing a dilatation of the ascending aorta and valvular degenerative changes without significant functional compromise. Since transesophageal echocardiogram offers a superior visualization of posterior cardiac structures, it was also performed, revealing a PFO.

Discussion and Learning Points: Percutaneous closure is the surgical treatment procedure used and the best treatment we can offer to our patients. This intervention was discussed the Cardiology Department. However, since the patient had marked frailty, motor limitation and a late diagnosis of a congenital heart disease without clinical and functional repercussions, a conservative approach was decided. As a conservative approach to the nosological entity found, it was decided to prescribe long-term oxygen therapy as well as start anticoagulation, given the patient's high thromboembolic risk.

072 - Submission No. 292

THE ROLE OF ADENOSINE AND ITS DEGRADATION ENZYMES – ADENOSINEDEAMINASE AND ADENOSINEKINASE IN PATHOGENESIS OF VASOVAGAL SYNCOPE

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Background and Aims: Adenosine is mediator regulating physiological and pathological processes in organism. It probably plays a role in pathogenesis of vasovagal syncopes (VVS), too. Adenosine, its receptors and degradation enzymes, adenosine deaminase (ADA) and adenosine kinase (ADK), are called the adenosinergic system. We aimed to evaluate serum levels of adenosine, ADA and ADK in patients with tilt-induced VVS and compare them to tlit-negative controls. Secondary aim was to compare the levels between the types of VVS and correlate them with hemodynamic parameters.

Methods: Altogether 132 individuals were involved in this study (age 39.88±15,64 years, 51 males). All patients underwent head up tilt test (HUTT) in differential diagnosis of syncope. Blood sampling was performed before and after HUTT. Baseline and stimulated serum levels of adenosine, ADA and ADK were evaluated by ELISA method.

Results: HUTT was positive in 91 patients (HUTT+), 41 individuals were negative (HUTT-). HUTT+ patients had higher baseline

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and stimulated adenosine levels, when compared to HUTT- population. The rise in adenosine was higher in HUTT+ group. On the other hand, the increase of ADA was significantly higher in HUTT- subjects. Among HUTT+ group, the highest adenosine was found during vasodepressor VVS.

Conclusions: Adenosinergic system may play role in pathogenesis of VVS. Patients with VVS have higher adenosine levels, that may be caused by attenuated degradation. Adenosine seems to be involved predominantly in vasodepressor type of VVS. Further research evaluating complex function of adenosinergic system in these patients is needed.

073 - Submission No. 2186

LIPID RATIOS AS INDICES OF INSULIN RESISTANCE IN PREDIABETIC HYPERTENSIVE PATIENTS, AFTER RAS-BLOCKADE PLUS CCB COMBINATION TREATMENT, A RANDOMIZED 12-WEEK OPEN-LABEL COMPARATIVE STUDY

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Background and Aims: Elevated TRG and decreased HDL-C levels are key metabolic disorders in states of insulin resistance, including DM. Lipid ratios such as TRG/HDL-C and TC/HDL-C have been studied as indices of insulin resistance. TyG index has been proposed as similar marker. We present comparative data of the effect of delapril/manidipine versus telmisartan/amlodipine versus valsartan/amlodipine combination treatments, in TRG/HDL-C, TC/HDL-C and TyG after a 12-week treatment, in hypertensive prediabetic patients.

Methods: Data were collected from 158 patients from the outpatient clinic for patients with lipid disorders, hypertension and diabetes of our hospital, during the period 2014-2018. A total of 53 patients was randomized in the delapril/manidipine (DEL/MANI) group 30/10 mg per day while 51 patients had been randomized in the group of telmisartan/amlodipine (TEL/AMLO) 80/5mg per day and 54 patients in the valsartan/amlodipine (VAL/AMLO) 160/5 mg per day. Baseline characteristics are presented in Table 1A.

Results: The resulting alternations in TRG/HDL-C, TC/HDL-C, TyG, after the 12-week treatment are presented on Table 1B for all treatment groups.

Conclusions: A significant difference was observed in TC/HDL-C ratio at the end of treatment in DEL/MANI group (p = 0.026) with a change of -0.02 points corresponding to a reduction rate of -5.09%. No significant difference was observed for the TEL/AMLO and VAL/AMLO group. In addition, no significant differences were found at the end of the treatment for the TRG/HDL-C, TyG index for each group individually. Comparison between treatment groups for all the above parameters did not show any significant differences after the 12-week treatment.

Characteristics/ Drug combinations	DEL/MANI	TEL/AMLO	VAL/AMLO
N (Men-Women)	53(30-23)	51(35-16)	54(33-21)
Age (Years)	58.08 ±11.73	58.04 ±13. 6	64.44 ±11.64
Smokers (%)	12 (22.6%)	13 (25.4%)	14 (25.9%)
Alcohol Consumers (%)	7 (13.2%)	16 (31.4%)	8 (14.8%)
Body Weight (Kg)	83.67±13.21	84.72± 12.87	80.83±11.80
BMI (Kg/m^2)	28.73 [27.73-30.3]	29.32 [27.37-31.65]	28.09 [26.81-29.89]

073 Table 1A. Patients' characteristics at the start of the day

Parameter	Baseline	3 months	% change (absolute value)	p-value
TRG/HDL-C ratio				
DEL/MANI	2.91 ± 2.44	2.84 ± 2.06	-2 (-0.07)	0.693
TEL/AMLO	2.33 [1.68-3.25]	2.48 [1.93-3.57]	6 (0.15)	0.390
VAL/AMLO	1.94 [1.69-3.12]	1.88 [1.63-2.78]	-3 (0.06)	0.724
TC/HDL-C ratio				
DEL/MANI	4.12 ± 1.09	3.92 ± 1.05	-5.09 (-0.2)	0.026
TEL/AMLO	4.11 ± 1.13	4.17± 1.13	1.56 (0.07)	0.568
VAL/AMLO	3.87 ± 0.87	3.79 ± 1.06	-2.15 (-0.08)	0.302
TyG index				
DEL/MANI	8.67 ± 0.57	8.68 ± 0.49	0.11 (0.01)	0.857
TEL/AMLO	8.68 ± 0.46	8.68 ± 0.38	-0.01 (0)	0.989
VAL/AMLO	8.65 ± 0.41	8.65 ± 0.42	-0.04 (0)	0.935

Table 1B results of TRG/HDL-C, TC/HDL-C, triglyceride-glucose index (TyG) alternations
Data are presented as a Mean ± Standard Deviation, Median [25th -75th .
*p < 0.05 compared to DEL/MANI treatment, **p < 0.01 compared to DEL/MANI treatment, ***p < 0.001 compared to DEL/MAN treatment
^p < 0.05 compared to TEL/AMLO therapy, ^^p < 0.01 compared to TEL/AMLO therapy, ^^^p < 0.001 compared to TEL/AMLO treatment
$p < 0.05 compared to VAL/AMLO treatment, $p < 0.01 compared to VAL/AMLO treatment , $p < 0.001 compared to VAL/AMLO treatment

073 Table 1B.

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074 - Submission No. 1822

MORBIMORTALITY OF PATIENTS WITH HEART FAILURE FOLLOWED IN A MONOGRAPHIC CONSULTATION OF A FIRST LEVEL HOSPITAL IN NORTHWEST OF SPAIN. CARDIO-MONF STUDY

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Background and Aims: The heart failure (HF) consultation of Internal Medicine of the Public Hospital of Monforte (Lugo, Spain) has been operating since 2017 by physician and nurse case manager both with part-time dedication.

Methods: We collected demographic and clinical variables, comorbidities, baseline heart disease, first-line treatments at the time of inclusion, admissions and visits to the emergency room for HF 6 months before the start of follow-up and 6 months later.

Results: 136 patients with CHF were assessed between October 2017 and March 2022 (Figure 1).The mean age was 84.7±5.3 years being predominantly men (56%), with a mean age-adjusted Charlson Index of 6.9±1.9. The most relevant comorbidities were pulmonary disease (28%), chronic kidney disease (29%) and anemia (13%). The most prevalent cardiovascular risk factor was HBP (82%). During follow-up we observed a decrease in admissions and emergency department visits for HF. Patients generated 100 admissions for CHF in the 6 months prior to follow-up vs 28 admissions for CHF in the 6 months following inclusion. Similarly, they generated 43 emergency room visits for CHF in the 6 months prior to the start of follow-up versus 19 in the 6 months after inclusion. In contrast, they generated 595 visits to consultation room and 137 to the day hospital. During these 6 months of follow-up, mortality was 11%.

Conclusions: Despite a very elderly and comorbid population, the follow-up in the HF consultation has improved pharmacological titration and reduced admissions and visits to the emergency room for CHF, maintaining an acceptable mortality rate for this type of population.

075 - Submission No. 152

A RARE CASE OF DEXTROCARDIA WITH ASSOCIATED LEFT VENTRICULAR DILATATIVE CARDIOMYOPATHY

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Case Description: A 37-year-old male presented to emergency department with sudden onset of severe right-sided chest pain radiating to his right arm at rest. On admission, he was found to be in atrial fibrillation and had raised troponin. He was commenced on acute coronary syndrome (ACS) protocol and rate control treatment. During the admission, he developed sudden onset breathlessness. ECG demonstrated ventricular tachycardia (VT). This was reverted back into AF with amiodarone infusion. He was then DC cardioverted into sinus rhythm. He has a past medical history of dextrocardia.

Clinical Hypothesis: This is a young patient presenting with chest pain with raised troponin and new AF/VT in the context of dextrocardia. Cardiomyopathy is the primary differential diagnosis. ACS should be ruled out.

Diagnostic Pathways: Echocardiogram showed dilated left ventricle with severely impairment ejection fraction (EF), with moderate mitral regurgitation. Subsequent cardiac magnetic resonance imaging (CMR) reported severely dilated left ventricle with EF 42% and associated basal-mid septal non-ischemic fibrosis. CT coronary angiogram showed no flow limiting coronary artery disease.

Discussion and Learning Points: Echocardiogram is the first line investigation for suspected underlying cardiomyopathy. CMR should be performed as the gold-standard to confirm such pathology. In this case, CMR confirmed the diagnosis of dilated cardiomyopathy with associated non-ischemic fibrosis with left predominance causing impairment. Although majorities of cases of dextrocardia are incidental and asymptomatic, this case raises the suspicion on whether dextrocardia played a role in the progressive development of intrinsic structural abnormalities leading to dilated cardiomyopathy and heart failure.

076 - Submission No. 543

MULTIPLE SYSTEMIC EMBOLISM: A DEVASTATING COMPLICATION OF INFECTIOUS ENDOCARDITIS

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Case Description: A 63-year-old man, fully independent in the activities of daily life, with no known history of intravenous drug use or recent hospitalization, presented to the emergency department

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with fever, myalgia, and arthralgia for three days. He had slightly elevated heart rate (102bpm), normal blood pressure, normal oxygen saturation levels, and was afebrile (having taken ibuprofen). Initial laboratory findings showed leukocytosis with neutrophilia and C-reactive protein 30.86 mg/dL. During hospitalization, the patient maintained high fever (40ºC), developed a systolic heart murmur, then progressed with sudden aphasia and hemiparesis, and later peripheral ischemia of the lower extremities.

Clinical Hypothesis: Septic embolism in the context of infectious endocarditis.

Diagnostic Pathways: Cultural tests showed methicillin-sensitive Staphylococcus aureus (MSSA) bacteriemia. Radiological findings included multiple ischemic foci of the brain and subarachnoid hemorrhage, multiple pulmonary emboli, and thrombosis of the celiac artery trunk with infarction of the spleen and kidneys. Echocardiogram confirmed the presence of vegetations attached to both flaps of the mitral valve. Due to active intracranial hemorrhage, emergency cardiac surgery to replace the valve was contra-indicated, so the patient was treated conservatively with antimicrobial therapy. The clinical situation worsened rapidly with multi-organ failure, and death.

Discussion and Learning Points: Septic embolism is a severe, potentially life-threatening complication of infectious endocarditis. It is characterized by its heterogeneous presentation and ability to affect various organs and systems. The diagnosis of infectious endocarditis with septic embolism is not based on any single test but rather on a combination of clinical findings and diagnostic studies, therefore a high index of suspicion is necessary for a timely diagnosis.

077 - Submission No. 1652

SPONTANEOUS CORONARY ARTERY DISSECTION (SCAD), A CAUSE OF ACUTE MYOCARDIAL INFARTION

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Case Description: Spontaneous coronary artery dissection (SCAD) is a non-traumatic/iatrogenic separation of the coronary artery wall. Is an infrequent cause of acute myocardial infarction (AMI), which is more common in younger women. There are some predisposing factors such as fibromuscular dysplasia, postpartum status and systemic inflammatory conditions. 51-year-old female, without relevant medical history or chronical medication. Admitted in the emergency room with sudden cardiac arrest (SCA) due to ventricular fibrillation. Advanced cardiac life support was performed, and mechanical ventilation was needed. Patient was transferred to an intensive care unit (ICU).

Clinical Hypothesis: Acute myocardial infarction. Structural heart disease arrhythmias.

Diagnostic Pathways: Electrocardiogram showed sinus rhythm, 73 bpm and T wave inversion in left precordial leads. Pulmonary embolism was excluded after CT pulmonary angiography was performed. Laboratory evaluation including electrolytes, glucose, calcium, complete blood count, renal and liver function tests was normal. Serum cardiac troponin levels were elevated (44000 ng/ml). Initial cardiac catheterization has not shown obstructive coronary disease. Echocardiographic evaluation showed preserved left ventricular systolic function with hypokinesia of the inferior wall. After a week in ICU, mechanical ventilation and supportive care were successfully withdrawn. Cardiac magnetic resonance was performed and showed signs of inferior infarction and microvascular obstruction. Cardiac catheterization was repeated and revealed coronary artery dissection (diagonal branch).

Discussion and Learning Points: In SCAD, life-threatening ventricular arrhythmias occur in 4 to14 percent of patients leading to cardiogenic shock and sudden cardiac arrest. After an initial SCAD there is a high rate of recurrent cardiovascular events. This case highlights the importance of early recognition of a rare and potentially life-threatening cause of AMI.

078 - Submission No. 2236

ACUTE PHARYNGITIS AND MYOCARDITIS - A CASE REPORT

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Case Description: Myocarditis is an inflammatory disease of cardiac muscle that is caused by a variety of infectious and noninfectious conditions. Among the infectious etiologies, viruses are presumed to be the most frequent pathogens. Clinical manifestations are highly variable ranging from subclinical disease to chest pain, heart failure and cardiogenic shock. 28-year-old male, without relevant medical history or chronical medication and lack of cardiovascular risk factors, was admitted to the emergency room with acute chest pain. Previously were reported symptoms such as fatigue, diarrhea, fever, sore throat and patchy tonsilar exudates four days before de the admission and was medicated with amoxicillin and clavulanate. No other symptoms were reported.

Clinical Hypothesis: Pulmonary embolism. Respiratory tract infections. Pericarditis. Takotsubo Cardiomyopathy.

Diagnostic Pathways: Electrocardiogram showed sinus rhythm and nonspecific abnormalities. Laboratory findings: hemoglobin

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15.1 g/dl; creatinine 0.8 mg/dl; potassium 5.0 mmol/L; sodium 138 mmol/L; C-reactive protein 47.6 mg/L; troponin (high-sensitivity) 7600 pg/ml; natriuretic peptide 2120 pg/ml. There were no signs of infection in the chest radiograph and pulmonary embolism was excluded after CT pulmonary angiography was performed. Echocardiographic evaluation showed preserved left ventricular systolic function (LVEF 53%). During hospitalization cardiac magnetic resonance was performed confirmed the diagnosis of myocarditis. With supportive therapy, the patient was asymptomatic, and serum cardiac troponin levels decreased.

Discussion and Learning Points: Acute myocarditis caused by viral infection involves a self-limited immune-mediated process and most patients have full clinical recovery. Although histology remains the gold standard for establishing the diagnosis of myocarditis, low-risk patients may be diagnosed based on a compatible clinical presentation and cardiac magnetic resonance.

079 - Submission No. 1475

ATRIAL MYXOMA, A RARE CAUSE OF SYNCOPE

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Case Description: Primary cardiac tumors are extremely rare compared with metastatic involvement of the heart. Myxomas are benign and represent the most common primary cardiac neoplasm. About 80 percent of them originate in the left atrium (LA) and may be symptomatic or found incidentally. 50-year-old male, with history of dyslipidemia and hypertension and medicated with statin, antihypertensive drugs. Admitted in the emergency department after a syncope, was the first episode and occurred while practicing exercise. Previously, no symptoms were reported (seizures, fever, dyspnea, orthopnea, cough, edema, constitutional symptoms, or chest pain). On admission the patient was aware, without focal neurological signs, hemodynamically stable and asymptomatic.

Clinical Hypothesis: Seizure. Cardiac arrhythmias. Metabolic disturbances. Structural heart disease.

Diagnostic Pathways: Electrocardiogram showed sinus rhythm, 56 bpm and criteria of left ventricular hypertrophy. Laboratory evaluation included electrolytes, glucose, calcium, complete blood count, renal and liver function tests and serum cardiac biomarkers, all with normal values. Echocardiography showed a mass (42x25 mm) in the LA. Left ventricular function was preserved. A transesophageal echocardiography (TEE) was performed and suggested the presence of a left atrial myxoma, without signs of obstruction to the circulation. The patient was submitted to cardiac catheterization that has not shown obstructive coronary disease. Surgical resection was performed without complications. Histologic evaluation confirmed the diagnosis of myxoma.

Discussion and Learning Points: Atrial myxoma is a rare cause of syncope. During initial evaluation, structural heart disease should be excluded, and in the presence of a mass in LA, myxoma is the most likely diagnosis. However, without histological examination, malignant tumor cannot be excluded.

080 - Submission No. 1278

TAKOTSUBO SYNDROME IN CHRONIC PULMONARY DISEASE EXACERBATION

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Case Description: Takotsubo cardiomyopathy (TC) is a syndrome characterized by transient regional systolic dysfunction, principally of the left ventricle (LV), mimicking myocardial infarction, but in the absence of obstructive coronary disease. 70-year-old male, with history of dyslipidemia, hypertension and chronic obstructive pulmonary disease, medicated with statin, antihypertensive drugs and bronchodilators. Admitted to the emergency room with acute dyspnea and chest pain. No other symptoms were reported (fever; syncope; signs of heart failure).

Clinical Hypothesis: Acute coronary syndrome. Pulmonary embolism. Myocarditis.

Diagnostic Pathways: Electrocardiogram showed sinus rhythm, 100 bpm, T wave inversion in the anterior precordial leads and QT interval prolongation. Laboratory findings: respiratory acidosis without acidemia; creatinine 1.0 mg/dl; potassium 4 mmol/L; troponin (high sensitivity) 1040 pg/ml; creatine kinase 157 U/L and natriuretic peptide 2062 pg/ml. There were no signs of infection in the exams and pulmonary embolism was excluded after CT pulmonary angiography was performed. Echocardiographic evaluation showed left ventricular systolic dysfunction (LVEF 46%) with hypokinesia of the apex. The patient was submitted to cardiac catheterization that has not shown obstructive coronary disease. During hospitalization cardiac magnetic resonance was performed and exclude myocarditis. With supportive therapy, the patient was asymptomatic and recovered LV function after 2 weeks.

Discussion and Learning Points: TC is a disorder generally managed with supportive therapy. Patients who survive the acute episode typically recover systolic ventricular function within one to four weeks. The pathogenesis is not well understood, but the triggers include infection, acute respiratory failure, psychiatric or neurologic conditions. This case highlights the importance of the differential diagnosis in patients with suspected acute coronary syndrome.

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081 - Submission No. 1074

THE KEY ROLE OF ABNORMAL FAT DISTRIBUTION AS A PREDICTION METABOLIC DISEASE

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Background and Aims: Metabolic disease is defined as the presence of two or more cardiometabolic abnormalities (including metabolic syndrome, and markers of systemic inflammation and insulin resistance). Metabolic disease has been associated with increased cardiovascular risk, and its more accurate measurement can help in quantifying this risk. A current concept of metabolic disease is that it is caused not so much by an excess of total fat, but by its abnormal distribution, for example liver fat. The fatty liver index (FLI) is an indirect, easy-to-calculate and harmless measure to estimate liver fat content. The aim of this study is to assess the association between BMI and FLI, and to study which anthropometric tool best predicts the onset of metabolic disease after a 5-year dietary intervention.

Methods: All obese cardiovascular patients from CORDIOPEV study (n=476). Anthropometric and biological variables were measured over a 5-year period. We determined the metabolic abnormalities to assess the existence of metabolic disease.

Results: We observed a good overall correlation between BMI levels and a liver fat content, estimated by FLI (r= 0.579). BMI had an AUROC of 0.53 (95% CI, 0.45-0.62) for predicting unhealthy metabolic status after 5 years. In comparison, FLI revealed an AUROC value of 0.65 (95% CI; 0.57-0.73).

Conclusions: In our study, liver fat content, as assessed by the FLI, was a better predictor of the development of metabolic disease after 5 years of dietary intervention than BMI, supporting the theory that ectopic fat distribution is a could play a key role in the pathophysiology of metabolic disease.

082 - Submission No. 1453

MICRORNA PROFILES AS BIOMARKERS OF NUTRITIONAL THERAPY TO ACHIEVE TYPE 2 DIABETES MELLITUS REMISSION IN PATIENTS WITH CORONARY HEART DISEASE: FROM THE CORDIOPREV STUDY

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Background and Aims: Type 2 diabetes mellitus (T2DM) is currently a major global public health problem. Although there is a possibility of disease remission, few biomarkers have been identified which can help us select the correct dietary patterns that promote remission. Our aim was, therefore, to study whether miRNAs could be used to select between a Mediterranean or low-fat diet to promote T2DM remission in patients with coronary heart disease.

Methods: Of the 1002 participants in the CORDIOPREV study, all those newly diagnosed with T2DM (n = 190) at baseline were included in the present study. Of these, 73 patients remitted T2DM (Responders) after a median of 60 months of intervention with a low-fat or Mediterranean diet. 110 continued with the disease (Non-Responders). Plasma levels of 56 miRNAs were determined using the OpenArray platform. Generalized linear model, ROC curves and COX regression analyses were performed.

Results: We observed that patients with low baseline plasma levels of miR-let7b-3p showed a high probability of T2DM remission after consumption of a low-fat diet. In addition, patients with high levels of miR-141-5p, miR-182 and miR-192 at baseline showed a high probability of T2DM remission after following the Mediterranean diet. Scores built using miRNAs and clinical variables showed that high levels of a low-fat diet score and a high Mediterranean diet score were associated with a high probability of T2DM remission.

Conclusions: Our results suggest that circulating miRNAs could be used as a new tool to select the most suitable diet to achieve T2DM remission in patients with coronary heart disease.

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083 - Submission No. 1458

ARTERIAL HYPERTENSION RESISTENT TO DRUG TREATMENT

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Case Description: 47-year-old woman with: sleep apnea/hypopnea syndrome (SAHS) and recently diagnosed grade 2-3 arterial hypertension (HTN), with poor control despite triple therapy at optimal doses. Echocardiography showed moderate-severe left ventricular hypertrophy (LVH) and fundus findings of grade I hypertensive retinopathy.

Clinical Hypothesis: Secondary HT due to the presence of treatment-resistant grade 2-3 hypertension with organic damage (LVH and retinopathy) and SAHS.

Diagnostic Pathways: The study was extended with renal Doppler ultrasound, which was normal, and laboratory tests, which showed elevated aldosterone and mild hypokalemia. An aldosterone/renin ratio was requested and found to be elevated, after discontinuation of drugs that interfered with the renin-angiotensin-aldosterone system, and a clinical diagnosis of primary hyperaldosteronism (PAH) was made. An abdominal CT scan was requested, showing an 8 mm right adrenal nodule compatible with adenoma, and adrenal vein sampling was performed, which confirmed adrenal adenoma as the cause of PAH. Adrenalectomy was performed, with subsequent resolution of blood tests and HTN.

Discussion and Learning Points: The most common causes of secondary hypertension are renovascular disease, PAH, SAHS and drug-or-toxin-induced hypertension. It is important to suspect it when there is resistance to treatment and target organ involvement. On this occasion it was secondary to PAH. Currently, although screening is widespread, it is still underdiagnosed and accounts for 6-18% of the causes of HTN. The classic triad consists of HTN being the main finding, hypokalemia unexplained for other reasons and metabolic alkalosis, although the latter two may only be present in less than half of patients.

084 - Submission No. 851

RELAPSING PERICARDITIS: PERIPHERAL BLOOD NEUTROPHILIA, LYMPHOPENIA AND HIGH NEUTROPHIL-TO-LYMPHOCYTE RATIO HERALD ACUTE ATTACKS, HIGH-GRADE INFLAMMATION, MULTISEROSAL INVOLVEMENT, AND PREDICT MULTIPLE RECURRENCES

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Background and Aims: To identify peripheral blood cellular correlates of active pericarditis and to verify whether peripheral blood neutrophils, lymphocytes and the neutrophil to-lymphocyte ratio (NLR) are associated with disease phenotype or prognosis.

Methods: Observational prospective study on a cohort of 63 patients with idiopathic pericarditis followed for twelve months after each pericarditis recurrence. Two distinct analyses were performed: the "index attack" analysis focused on the on the first pericarditis episode in each patient, while the "all attacks" analysis included all episodes occurred during the study.

Results: Absolute and relative neutrophilia and lymphopenia, together with high NLR, were observed during active pericarditis, as compared with disease remission, at both analyses ($p<0.001$). Neutrophils showed a positive correlation with plasma C-reactive protein (CRP) levels ($p<0.001$), while lymphocyte count showed a negative correlation. Relative neutrophil count was higher, and lymphocyte count lower in patients with pleural effusion; a higher NLR and lower absolute lymphocyte count were observed in those with peritoneal involvement. No correlations were found between peripheral blood neutrophil or lymphocyte counts and size of pericardial effusion nor with the presence of myocardial involvement. Peripheral neutrophilia, lymphopenia and NLR during acute attacks predicted the number of recurrences in the following 12 months.

Conclusions: Peripheral blood neutrophilia and lymphopenia are typical of acute idiopathic pericarditis. Acute attacks of pericarditis are associated with neutrophilia, lymphopenia, and high NLR as compared with disease remission. During acute attacks, neutrophilia, lymphopenia and NLR reflect the extent of serosal inflammation and could help to customize therapeutic management after remission has been achieved.

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085 - Submission No. 1933

IS INTERLEUKIN-6 A GOOD MARKER FOR THE RISK OF DEVELOPING PREECLAMPSIA IN PREGNANT WOMEN?

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Background and Aims: Many studies report an association of preeclampsia with pro- and anti- inflammatory markers, but link between maternal inflammation and preeclampsia is not well established. One of the most important proinflammatory cytokines is Interleukin – 6 (IL-6) expressed in placenta, which may have a crucial role in endothelial disbalance. The aim of this study is to determine the relationship between IL-6 and the risk of developing preeclampsia.

Methods: A cross-sectional study was done on 24 pregnant women with hypertensive disorders during pregnancy treated in the Vilnius University Hospital Santaros Clinics in Vilnius, Lithuania, from December 2021 to October 2022. The average age of the participants was (33.1±4.8) years. All the taken blood samples were examined for IL-6, soluble fms-like tyrosine kinase-1 (sFlt-1), placental growth factor (PlGF) and their ratio (sFlt-1/PlGF). Patients were divided into groups by preeclampsia risk factors (first pregnancy, age > 40 years, smoking before pregnancy, BMI>30 kg/m^2 before pregnancy).

Results: After adjusting IL-6 and sFlt-1/PlGF ratio results for preeclampsia risk factors were found statistically significant differences in women with first pregnancy between IL-6 and sFlt-1/PlGF ratio (p=0.017).

Conclusions: Findings shows that interleukin-6 plays an important role in the development of preeclampsia during the first pregnancy. It follows that the higher the concentration of IL-6 during the first pregnancy, the higher the risk of developing preeclampsia. However, IL-6 cannot be considered as the only preeclampsia blood marker for risk assessment, more detailed studies of other inflammatory indicators are needed.

086 - Submission No. 49

SUBMITRAL LEFT VENTRICULAR ANEURYSM IN A CAUCASIAN PATIENT

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Case Description: We report the case of a 39-year-old Caucasian woman who was hospitalized in our Institution after relapsing fever episodes, presenting with altered state of consciousness. Laboratory test findings included normocytic anemia, thrombocytopenia, neutrophilia, ESR 32 mm/h, CRP 8.84, D-dimer 285, procalcitonin 11.54. Blood cultures, drawn more than 12 hours apart, were positive for *Candida Albicans*.

Clinical Hypothesis: In the setting of a possible endocarditis, further investigations have been done.

Diagnostic Pathways: A transthoracic echocardiogram (TTE) showed thickening of mitral valve leaflets and an aneurysmatic area in correspondence of sub valvular apparatus. These findings were confirmed by a transesophageal echocardiogram (TEE), which showed an aneurysm measured 33x22 mm in correspondence to the atrio-ventricular junction with a communication with left ventricle. A cardiac MRI confirmed these morphologic alterations without evidence of infarction areas, supposing the presence of an infectious lesion. The patient was referred to the Heart Surgery of our Institution. Intraoperatively, a large aneurysm arose from submitral area. Moreover, the posterior leaflet of the mitral valve was characterized by some fissures. The aneurysm was excluded by a direct suturing, and the mitral valve was replaced with a biological valve.

Discussion and Learning Points: In our patient, the aneurysm was characterized by a low flow, who probably has promoted the occurrence of a local infection and then the formation of thrombi. Ventricular aneurysms in patients without a previous myocardial infarction are very unusual. One of the causes of submitral aneurysm can be a congenital malformation and, in our patient, mitral annulus dislocation was evident, supporting the hypothesis of a congenital malformation.

087 - Submission No. 353

CASUISTRY ON THE 1ST YEAR OF THE OPENING OF THE ARTERIAL HYPERTENSION CLINIC IN A PORTUGUESE HOSPITAL DURING THE PANDEMIC

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Background and Aims: Arterial Hypertension (HTA) is an important risk factor of vascular disease and its prevention, treatment and control play a fundamental role. The main goal of this study is the characterization of the population referred to the HTA Clinic of the Districtal Hospital of Portalegre in 2021.

Methods: This prospective observational study occurs during 2021, including all patients of the Hypertension Clinic. The information collected during the clinic was: 1st appointment or follow up, patient´s age, sex, reason for referral, comorbidities, circadian rhythm of the blood pressure (BP) and type of hypertension. All data was analyzed using descriptive and differential statistic.

Results: There were 34 appointments made (19 1st appointments (55.9%) and 15 follow-ups (44.1%)). A total of 19 patients were seen, 10 (53%) male and 9 (47%) female. The medium age: 56.6 (DP 16.13). 52.6% of patients was referred from another outpatient clinic and 31.6% from episode of hospitalization or the GP practice. The main reason for referral was uncontrolled BP (42%) and hypertensive crisis (21%).

The most prevalent comorbidities were obesity (57.9%), smoking

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(52.6%) and dyslipidemia (47.4%). During the year, 58% of the patients did ABPM with dipper 37% and non-dipper 21%. 89.5% of diagnosis was primary hypertension followed by secondary hypertension with 10.5%.

Conclusions: This study reflects about the challenge of managing HTA and the importance of referring patients to the hypertension Clinic, to obtain better control of the disease and prevent complications. The better management of patients in the future may involve the creation of referral criteria to the HTA clinic.

088 - Submission No. 907

ACUTE MYOCARDIAL INFARCTION AND MYOCARDIAL BRIDGING IN A YOUNG PATIENT – CASE REPORT

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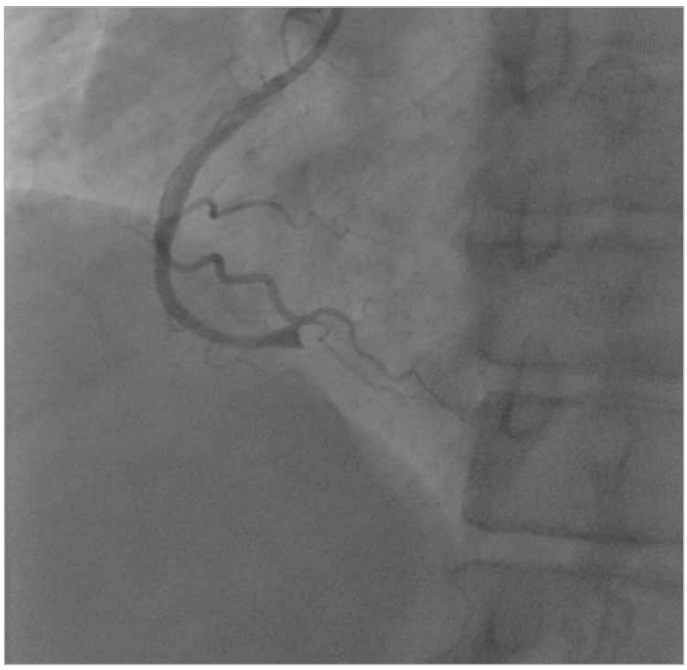
Case Description: A 40-year-old man called the emergency room for chest pain, pain in the left upper arm, with difficulty breathing and malaise, for the last three days. His vital signs were: arterial blood pressure 140/90 mmHg, heart rate 98/min, respiratory rate of 18 breaths/min and oxygen saturation 98%. Diagnostic tests included CK=641 (29-200 U/L), CK-MB=84.99 U/L (normal < 25 U/L), and hs troponin= 4987.4 ng/mL (0-34.2 ng/mL).

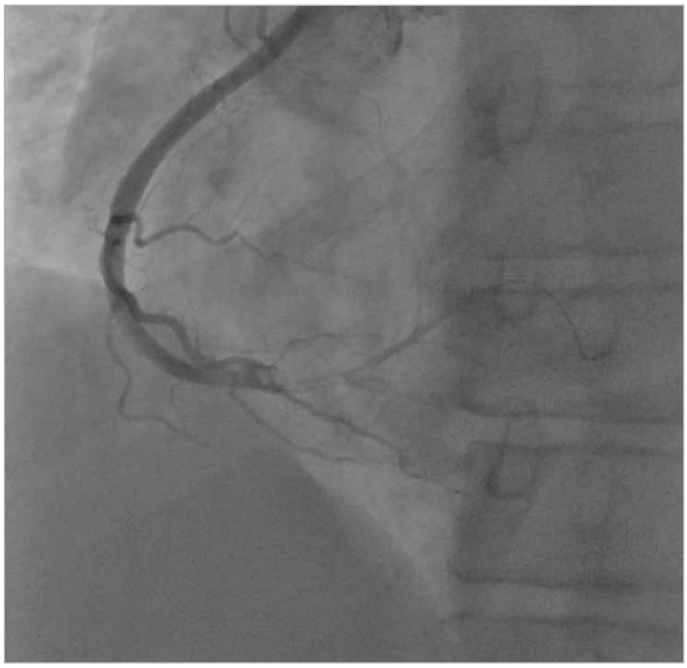
Clinical Hypothesis: In rare cases, acute myocardial infarction and myocardial bridging may occur as a distinct feature in one patient.

Diagnostic Pathways: ECG: ST-segment elevation in inferior leads. Echocardiography: normal dimensions of the left ventricle with proper systolic function and diastolic function with normal kinetics and EF 60%. Hypokinesia of the inferior wall and base of the interventricular septum. Coronarography (Figures 1-4): TRA(r). RD2. LMN: b.o. TIMI 3 LAD: mid massive muscle bridge TIMI 3 Cx: b.o. TIMI3 RCA: mid/dist 100% thrombus, TIMI 3 Intervention (G.C. JR 4.0, 6F; FloppyMS): Thromboaspiration: Eliminate catheter 6F, NoII POBA to RCA mid/dist: balloon 2.5x20 mm,12 atm, NoI. RESULT: RCA mid/dist 100% à 50% TIMI 3.

Discussion and Learning Points: Diagnosis and appropriate treatment of this pathology are important. The patient was referred to a cardiac surgery facility where coronary artery bypass ACBPx1 (LRA-PDA) was performed, as well as LAD surgical myotomy.



088 Figure 1.



088 Figure 2.

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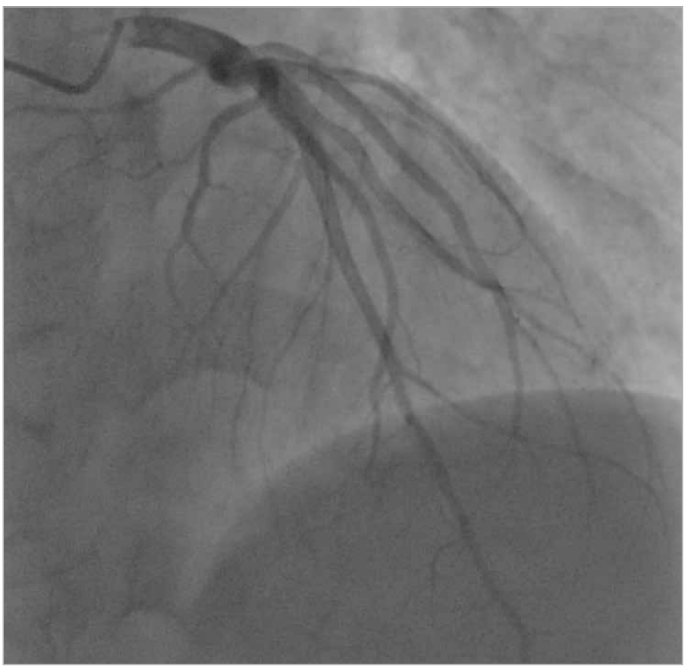

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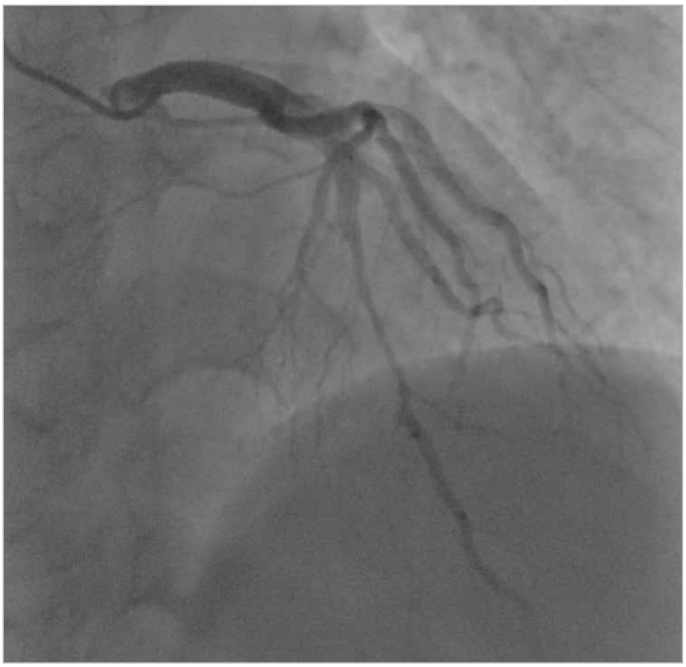

088 Figure 4.

089 - Submission No. 524

MASSIVE ASCITES AND RECURRENT PLEURAL EFFUSION OF UNKNOWN ORIGIN REQUIRING PERICARDIECTOMY

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Case Description: Massive ascites and recurrent pleural effusion of unknown origin is an uncommon condition which represent a diagnostic challenge. Patient with delayed diagnosis and treatment may have a poor prognosis. A 34-years-old male was referred to our department due to 12-months progressive abdominal distention with massive ascites and pleural effusion of unknown origin. By thorough investigations, he was diagnosed as chronic calcified constrictive pericarditis. He received pericardiectomy and had an uneventful postoperative course. He was doing well at 3-month follow-up and has returned to work. Extracardiac manifestations, such as massive ascites, recurrent pleural effusion and liver cirrhosis, were rare in patient with constrictive pericarditis. Pericardiectomy can be a radical solution for the treatment of chronic constrictive pericarditis. In order to avoid delayed diagnosis and treatment, physicians have to bear in mind this rare manifestation of chronic calcified constrictive pericarditis.

Clinical Hypothesis: Ascites is a common clinical problem, which can be a result of liver cirrhosis, neoplasm, tuberculous peritonitis, pyogenic peritonitis, congestive heart failure, nephrosis, pancreatic disorders and malignancy.

Diagnostic Pathways: Electrocardiogram, abdominal ultrasound, pathological examination of the omental biopsies. Chest CT scan and cardiac imaging by multi-slice computed tomography.

Heart catheterization (left and right, hemodynamic angiography, oximetry) which confirmed the diagnosis.

Discussion and Learning Points: Massive ascites of unknown origin as a principal manifestation of constrictive pericarditis is rare. Such a condition often leads to a delayed diagnosis and appropriate treatment. Pericardiectomy can be a radical solution for the treatment of calcified constrictive pericarditis.

090 - Submission No. 938

CHRONOBIOLOGY AND OBESITY AMONG PATIENTS WITH INDICATION FOR BARIATRIC SURGERY

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Background and Aims: Obesity is a multifactorial metabolic disease, and chrono disruption has been identified as a significant risk factor. Evening chronotype have shown predisposition to suffer chrono disruption. The aim of our study was to evaluate the pre-surgical situation of patients with severe obesity and indication for bariatric surgery and its relationship with the chronotype.

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Methods: Longitudinal descriptive study was conducted in patients (n=88) undergoing bariatric surgery. Anthropometric measurements and preoperative blood tests were obtained for each participant including lipid profile, glucose and insulin. The insulin resistance index was calculated (HOMA-IR). The chronotype was assessed using the Morningness-Eveningness questionnaire.

Results: The weight (132.9 kg versus 120.7 kg; p = 0.01) and the body mass index (48.2 kg/m^2 (±8.2) versus 44.6 kg/m^2 (±5); p = 0.01) were higher in evening chronotype participants compare to morning chronotype participants at baseline prior to surgery. Regarding biomarkers we found differences in ApoB (76.6 mg/dL evening participants vs 72.6 mg/dL morning participants; p=0.03) and in insulin resistance (7.48 evening participants vs 2.23 participants; p= 0.04). Potential confounder factors were used in our statistical analysis, such as age, sex, alcoholic habit, tobacco habit, and treatment with statins and fibrates for lipid profile and oral antidiabetics treatment and insulin for insulin resistance.

Conclusions: Evening patients undergoing to a bariatric surgery have higher cardiometabolic risk than morning patients. Further studies would be necessary to evaluate the evolution of these patients after bariatric surgery and its relationship with the chronotype.

091 - Submission No. 2173

USE OF SUBCUTANEOUS FUROSEMIDE INFUSION IN PATIENTS WITH ADVANCED HEART FAILURE

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Background and Aims: To study the efficacy and safety of outpatient use of subcutaneous furosemide infusion in patients with advanced heart failure (AHF).

Methods: Retrospective cohort study of patients from the internal medicine outpatient clinic of our hospital during the period from March 2021 to June 2022, who met the following inclusion criteria: AHF with mild decompensation (absence of acute pulmonary edema, respiratory failure, cardiogenic shock, significant hypotension, uncontrolled arrhythmia) and resistance to oral diuretics. Patients on renal replacement therapy were excluded.

Results: 32 patients were included and a total of 43 infusers were used. Mean age was 83.2, mostly women (59.4%) with AHF with preserved ejection fraction (78.2%) and mild or moderate degree of dependence (63%). There was also significant comorbidity (7.4 points on Charlson index), including mainly arterial hypertension, chronic kidney disease, dyslipidemia and atrial fibrillation.

Before treatment, most patients (84%) had NYHA grade III dyspnea and elevated serum levels of NT-proBNP. Treatment was prescribed on an individualized basis with a mean furosemide dose of 121.46 mg/day for 4.88 days, achieving a weight reduction of 4.51 kg and significant decrease in NT-proBNP (-1945.84) and Ca125 (-17.7) levels. Patients did not present significant arterial hypotension, relevant plasma ion alterations or exacerbation of renal failure. Non severe local adverse effects were identified in three patients.

Conclusions: In patients with AHF, ambulatory use of subcutaneous continuous infusion of furosemide has proved effective and safe for clinical and analytical decongestion without major adverse effects, constituting a new parenteral depletion strategy.

092 - Submission No. 1052

AN UNEXPECTED DISCOVERY

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Case Description: A 20-year-old man entered the emergency department with oppressive retrosternal pain with 3 days of evolution, without other concomitant complaints. He had a history of allergic rhinitis, without usual medication, addictions, and/or documented allergies. Firstly, an electrocardiogram was performed, which revealed a generalized ST elevation with high troponin assays (11 x 10^3). Secondly, an echocardiogram revealed severe biventricular dysfunction (LVEF 25%) and moderate pericardial effusion. Then, he underwent cardiac catheterization which did not show coronary heart disease. Due to an unfavorable evolution with hyperlactacidemia (4 mmol/L) and cardiovascular dysfunction requiring noradrenaline and dobutamine, the patient was transferred to the coronary intermediate care unit for diagnostic investigation and maintenance of care.

Clinical Hypothesis: Pericarditis.

Diagnostic Pathways: During hospitalization, a cardiac MRI was undertaken which revealed acute myocarditis. An endomyocardial biopsy identified the presence of eosinophilia. Thus, the preliminary diagnosis of eosinophilic myocarditis was assumed. An additional study identified the presence of peripheral eosinophilia (2900 uL) in the blood count as well as peripheral smear and myelogram (16% eosinophils). Other analytical studies including immunophenotyping and genetic studies were negative. Thus, the diagnosis of idiopathic hyper-eosinophilia syndrome was assumed, and systemic corticosteroid therapy was initiated with an improvement of the condition. The reassessment echocardiogram showed recovery of biventricular function (LVEF 63%) as well as reduced pericardial effusion. The patient was discharged and referred to hematology and autoimmune medicine appointment follow-ups for further guidance and surveillance.

Discussion and Learning Points: Despite the atypical etiology, it is essential to know the rarer forms in view of early diagnosis and, consequently, timely targeted therapy.

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093 - Submission No. 1544

THE MANAGEMENT OF DEEP VEIN THROMBOSIS ON AN OUTPATIENT BASIS: BETWEEN RECOMMENDATIONS AND REALITY

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Background and Aims: Suspicion of deep vein thrombosis (DVT) requires a quick diagnosis confirmation, to prevent embolic complications. Clinical probability scores enable the medical practitioner to determine the useful examinations - preliminary dosage of D-Dimers and/or venous Doppler ultrasound (vDU), and to determine whether presumptive anticoagulation is required or not. The aim of our study was to describe the care pathway in real-life setting of patients with suspected DVT.

Methods: We performed a multicenter prospective observational study of patients with suspected DVT. Patients were recruited in the emergency room or in the vDU office, until data saturation was achieved. Care pathway data were collected by questionnaires.

Results: Forty-one patients were included in the study: 30 had a Wells' score ≤2, and 11 a Wells' score ≥3. DVT was eventually confirmed for 21. Five different care pathways were identified, according to the presence and the sequence of D-Dimer dosage, anticoagulation and vDU: vDU/anticoagulation, D-Dimer/vDU/anticoagulation, D-Dimer/anticoagulation/vDU, anticoagulation/D-Dimer/vDU, anticoagulation/vDU. Mean time between the first consultation and vDU was 3.8 days. Mean time between the first consultation and anticoagulation was 0.3 day for the 14 patients who received presumptive anticoagulation, versus 6.5 days for the patients who received anticoagulation only after diagnosis confirmation (p = 0.08).

Conclusions: In our study, only care pathways which include presumptive anticoagulation enabled anticoagulation as early as recommended. However presumptive anticoagulation implies the hemorrhagic risk conferred by several days of anticoagulation (3.8 days, on average, in our study) for the patients for whom DVT will eventually be ruled out.

094 - Submission No. 1586

SWITCHING ANTICOAGULANTS: WHAT ARE THE REASONS IN REAL LIFE SETTING?

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Background and Aims: Since 2008, 2 oral anticoagulants classes are available: vitamin K antagonists (VKA) and Direct Oral Anticoagulants (DOAC). Some patients whose medical condition requires long-term anticoagulation receive one class, then the other. The aim of our study was to identify and describe the reasons for those switches.

Methods: We performed a single-center retrospective observational study, including the patients hospitalized from January 2008 to May 2019, who successively received different oral anticoagulants. These patients were identified using PHARMA® software. We collected patients' characteristics, the drugs received, the prescriber of the switch, and the reason for the switch.

Results: Among 4501 patients receiving oral anticoagulants, 395 (8.8%) had at least one switch, including 273 patients (6.1%) who had at least one switch from VKA to DOAC or conversely. Mean follow-up time was 4.16 years. Among the switchers, mean age was 79 years; 56% were women, 36% had anemia and 5% had a Glomerular Filtration Rate <30mL/min. Switches were mostly performed by cardiologists (60%). One hundred and ninety switches (41%) were from VKA to DOAC, 125 (27%) from DOAC to VKA, 86 (19%) from VKA to another VKA, and 60 (13%) from DOAC to another DOAC. Unbalanced INR and poor tolerance (including hemorrhage) represented the first causes of switch: 22% and 21% of the switches, respectively. Poor efficacy (e.g., deep vein thrombosis relapse, or atrial fibrillation-associated ischemic stroke) caused 8% of the switches.

Conclusions: Oral anticoagulant switches are not rare. Poor tolerance is a 2.5 times more frequent cause for switch than poor efficacy.

095 - Submission No. 2380

WARFARIN CONTROL: THE ART OF CARE AND ANALYSIS OF THE MULTIPLE CAUSES OF INR VARIATION

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Case Description: Illiterate 84-year-old woman, systemic arterial hypertension and diabetes for over 30 years and atrial fibrillation

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(AF) for 2 years, on polypharmacy, started follow-up in our service using warfarin double dose, despite the prescription. Through one year follow-up, administration errors were noticed, and adjustments were conducted as shown on figure 1.

Clinical Hypothesis: Difficulty in drug management was due to polypharmacy and the patient's cognitive deficiency.

Diagnostic Pathways: Due to the patient's financial deficiency and warfarin being widely available in Brazil's public health system for free, we opted to continue this medication. In all consultations it was asked about all the wrong possibilities of taking medications and food interactions, laboratory or pills of dubious quality. We did not suddenly change doses when abrupt changes appeared. Also, illustrative figures schemes and color patterns were made for the patient's better understanding.

Discussion and Learning Points: Due to polypharmacy and the patient's illiteracy, it was laborious to adjust the dose of warfarin while keeping therapeutic adherence to the other medications. Illustrated prescription schemes, patients close monitoring and simplification of the therapeutic scheme were fundamental for the success of therapeutic adherence and clinical improvement. Monitoring will continue, aware that changes in the INR may be related not only to the prescription.

Drugs: Losartan 100mg/day, Metoprolol 100mg/dia, Amlodipine 10mg/day, Hidralazina 75mg/day, Metformin 250mg/day, warfarin according INR.

Date	Dose Warfarin	INR	Possible Administration Error/ Conduct
31/Aug/2021	105mg/week	8.09	Taking double dose/ Suspended for 3 days and prescribed 17.5/week
09/Sep/2021	17.5mg/week	3.58	Warfarin previous dose reflected on exam / Maintained 17.5/week dose
04/Oct/2021	17.5mg/week	2.83	Marevan 17.5mg/week was maintained
10/Nov/2021	17.5mg/week	1.25	Maintained same dose considering food and other medications interaction
20/Nov/2021	20mg/week	4.02	Maintained same dose considering food and other medications interaction
10/Fev/2022	20mg/week	1.85	Loss of substance due to the pill breakage / Guided to take one pill every Monday, Wednesday, Friday and Sunday.
03/Mar/2022	20mg/week	2.46	Maintained Warfarin dose
06/Apr/2022	20mg/week	1.00	Diclofenac recent use / Patient now aware of anti inflammatory drug interaction / Maintain Warfarin dose
04/Jul/2022	20mg/week	1.93	Possible drug interaction / Maintained Warfarin dose
05/Sep/2022	20mg/week	1.00	Using generic pill and Unreliable lab/ Dose in another laboratory
21/Sep/2022	20mg/week	1.31	Guided to take original pill and kept the dose

095 Figure 1. Follow up with Possible Administration Errors and Conduct

096 - Submission No. 2286

RETROSPECTIVE COHORT OF THE PREVALENCE OF SYPHILIS IN AORTIC DISEASE IN A TERTIARY HOSPITAL IN BRAZIL BETWEEN 2017 - 2019

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Background and Aims: Syphilis is an infectious disease caused by *Treponema pallidum*. It may become chronic if not treated correctly and cause irreversible damage in important organs. In the first semester of 2021, 64,301 cases of acquired syphilis were notified in Brazil. The cardiovascular manifestations include aortitis, ascending aortic aneurysm, coronary ostium stenosis, aortic insufficiency, and myocarditis. These disorders had been responsible for 5-10% of all cardiovascular deaths, but syphilis workup is yet to enter the guidelines on aortic diseases. To assess the prevalence of late syphilis with aortic disease who were hospitalized in a tertiary cardiology hospital of a developing country.

Methods: Retrospective analysis of charts of adult patients who were hospitalized between 2017 and 2019 in the aortic disease ward, evaluating syphilis serological testing and patients characteristics, such as age, gender and comorbidities.

Results: Of the 231 patients, 63% were male and mean age was 57.6±11.9 years. Hypertension was present in 91%, but only 7% had diabetes. Only 47% had syphilis specific antibody serology results, and 17% of these were positive. The VDRL test was performed in 44% of patients, and 13% had it positive.

Conclusions: In our sample, there was a high number of positive serologies (17%) among those who were screened, however, this test was not performed in all patients with aortic disease. Histopathology of removed aortic tissue is considered the gold standard, however, expertise is necessary in analyzing the sample. Syphilis is still an endemic disease in many developing countries. It should be investigated in all patients with aortic disease.

097 - Submission No. 1580

PATHOLOGY ASSISTED BY AN INTERNAL MEDICINE SHARED CARE UNIT AT A CARDIOVASCULAR SURGERY FLOOR

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Background and Aims: To describe the pathology assisted by our Internal Medicine Shared Care Unit (IMSCU) at a third level hospital Cardiovascular Surgery service and its prognostic implications.

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Methods: Epidemiologic and clinic data of patients assisted between April 2022 and May 2022 by the IMSCU at the Hospital Regional de Málaga Cardiovascular surgery floor was gathered.
Results: A total of 104 patients were assisted of which 80% were admitted because of peripheric arterial disease and the rest because of valvulopathy or severe arrhythmia. Amongst the patients assisted by our unit the main follow up causes were: wet gangrene at admission 34.5%, surgical wound infection 14%, poor pain control 34%, anemia in transfusion range 4%.
A total of 43.1% patients were amputated. The average stay was 24.4±22 days with a delay in revascularization/amputation of 10.8±11.5 days. Eight deceases were registered, 6 of them because of bad evolution. A 13% of the patients were readmitted in the follow up period.
Conclusions: The high burden of comorbidity of these patients causes a delay in diagnosis and revascularization with relevant prognostic consequences: prolonged hospital stays, amputations and deceases. Therefore, the presence of an Internal Medicine Assisted Care Unit could improve the quality in management and prognosis of these patients.

098 - Submission No. 1635

CORRELATION OF CA-125 WITH BIOMARKERS OF RIGHT HEART FAILURE

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Background and Aims: Carbohydrate antigen 125 (CA-125) has been associated with congestion and mortality in heart failure, although its relationship with proBNP and factors involved in right HF has not been specifically studied. Our aim is to describe the association of CA 125 with proBNP and PSAP in a cohort of patients hospitalized with HF.
Methods: Retrospective cohort study of subjects hospitalized for acute HF in a monographic unit of the Hospital Universitario de La Princesa. Participants underwent at least one blood CA125 and proBNP measurement during hospitalization. Multivariate linear regressions were performed to explore the association of these biomarkers.
Results: A total of 37 subjects who had been admitted for decompensated HF were included, with mean age of 88.1 years (SD 6.97). 67.6% were women. Their mean PASP was 46.4 mmHg (SD 15.7), and they also had a high mean proBNP on admission (9882.3, SD 10200.8). The mean CA-125 level was 154.0 U/mL (SD 138.0) and was significantly associated with PASP (coefficient 4.42, CI95% 1.13-7.73, adjusted R2 0.20). This statistical association was maintained after adjusting for other covariates: sex, age, proBNP, creatinine and tricuspid regurgitation (adjusted p 0.03). In the case of proBNP, a statistically significant correlation was found after adjusting for sex, although of doubtful clinical relevance (coefficient 0.006, CI95% 0.001-0.010, adjusted R2 0.25). This relationship was no longer significant when adjusting for the remaining cofactors.
Conclusions: In our cohort, proBNP was not significantly associated with CA-125 levels, unlike PASP. This could indicate a more specific association of CA-125 with right heart failure.

099 - Submission No. 1593

CA-125 ASSOCIATION WITH OTHER CLINICAL VARIABLES IN ACUTE HEART FAILURE

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Background and Aims: Carbohydrate antigen 125 (CA-125) has recently been associated with mortality in heart failure (HF), although its relationship with the etiology of heart disease and other factors involved in HF has not been specifically studied. Our aim is to describe the distribution of CA 125 in a cohort of patients hospitalized with HF and its association with other clinical variables.
Methods: Retrospective cohort study of subjects hospitalized for acute HF in a monographic unit of Hospital-Universitario-de-La-Princesa, Madrid. All participants underwent at least one blood CA-125 measurement during hospitalization. Linear regressions were performed to explore its association with different variables.
Results: We included 37 individuals. Their mean age was 88.1 years (SD 6.97), 67.6% were women. The majority had high comorbidity: 91.9% presented hypertension, 46.0% diabetes and 70.3% chronic kidney disease. Anemia was present in 51.4% and 19 of the participants had been previously admitted for HF. The most frequent cause of heart disease was hypertensive (91.9%), followed by valvular (48.7%). Twenty-one (56.8%) had atrial fibrillation. Mean LVEF was 56.5%. An increase in CA-125 was observed at admission (median 132.5 U/mL) and discharge (73.0 U/mL). Their levels were higher in women (difference 103.4, 95%CI 3.98-202,9) and predicted higher diuretic requirements (coefficient 1.30, 95%CI 0.80-1.80) and higher probability of edema at discharge (125.3, 95%CI 24.5-226.2). The only biomarker significantly associated was PASP (4.43, 95%CI 1.13-7.73). There was no statistically significant association with the cause of heart disease.
Conclusions: CA-125 levels on admission seem to translate into increased clinical congestion and are related to proxy variables for right HF, such as PASP.

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100 - Submission No. 1341

EXPERIENCE IN THE DIAGNOSIS OF TTR CARDIAC AMYLOIDOSIS IN A MONOGRAPHIC HEART FAILURE UNIT

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Background and Aims: Cardiac amyloidosis is a disease characterized by the extracellular deposition of protein fibers, transthyretin produces one of the most frequent types affecting the heart. Our aim is to describe the characteristics of patients diagnosed with cardiac amyloidosis during follow-up in a monographic unit.

Methods: Retrospective descriptive study of a group of patients under follow-up in the heart failure monographic unit from 2018 to present. Patients met the criteria for suspicion due to septal thickness on echocardiography as well as at least one compatible clinical criterion.

Results: We studied 40 patients, mean age 85.4 years, 70% men. We found a high prevalence of comorbidities: hypertension (73%), dyslipidemia (53%) and diabetes (13%), CKD (53%). In 15% coronary disease, 40% atrial fibrillation. Most patients (78%) were diagnosed with heart failure, 30% previously admitted for this reason. The majority were in NYHA-class II (24%), 20% in class III. Regarding clinical "red flags": hypotension was found in 28%, carpal-tunnel-syndrome in 28%, canal stenosis 18%. Typical electrocardiographic alterations were less frequent: pseudo-infarction pattern in 11.28%, atrioventricular block 10.25% and low voltages 5.13%. Mean septal thickness was 16.4 mm, mean LVEF 52%. All patients underwent diphosphonate scintigraphy, showing grade 3 uptake. In 45% an immunofixation study was requested, finding monoclonal band in 22% (compatible with MGUS). Genetic study was requested in 50% of the patients, Val142Ile mutation was found in 1 patient.

Conclusions: Cardiac amyloidosis is still an entity in discovery. There is still a need to advance in our knowledge of the disease and implement a systematic approach in order to avoid under-diagnosis and identify candidates for the promising new treatments.

101 - Submission No. 2014

A DIFFERENT TYPE OF HEART FAILURE

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Case Description: A 53-year-old man, with no toxic habits and history of arterial hypertension, came to the emergency department for 1 month of profuse diaphoresis, dyspnea at rest, and lower limbs edema. Initial analysis showed hyponatremia and elevated ProBNP. Perihilar prominence and bilateral pleural effusion found on Chest X-ray, sinus tachycardia on ECG.

Clinical Hypothesis: Echocardioscopy was performed, identifying dilated cardiomyopathy, global left ventricular systolic dysfunction and dilated left atrium. Therapy was optimized with the addition of beta-blocker/anti-aldosterone and ARNI.

Diagnostic Pathways: An etiological study of dilated cardiomyopathy ruled out infectious, autoimmune, toxic or infiltrative causes. Ergometry and coronary angiography without ischemic data. Hormonal profile showed suppressed TSH and elevated T3, compatible with hyperthyroidism. Cortico-therapy and thioamides were started, leading to improvement of congestive symptoms and restoration of sinus rhythm. Thyroid ultrasound, I131 scintigraphy, normal pituitary MRI and thyroid autoimmunity with TSII-IgG identified autoimmune Graves' disease. After adequate treatment for heart failure and antithyroid therapy, the echocardiogram showed important contractile recovery.

Discussion and Learning Points: In our environment, ischemic heart disease is the first cause of dilated cardiomyopathy, though its differential diagnosis must include viral infections (HIV/Epstein-Barr/CMV/Chagas), endocrinopathies (hyper/hypothyroidism, pheochromocytoma) and infiltrative diseases. Cardiac dysfunction in Graves' disease affects 6-7% of patients, mainly coexisting with atrial fibrillation. Its exact pathophysiological mechanisms remain unknown, despite the described influence of T3 on different cardiovascular parameters through genomic and nuclear mechanisms, and usually resolves after euthyroidism. Reversible cardiomyopathy induced by Graves' thyrotoxicosis is a rare and underdiagnosed entity, but its identification is fundamental given its potential and rapid reversibility with adequate antithyroid therapy.

102 - Submission No. 2015

RESTRICTIVE MYOCARDIOPATHIES: DIFFERENTIAL DIAGNOSIS OF A CASE OF HEART FAILURE

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Case Description: A 76-year-old man with history of diabetes mellitus 2, permanent atrial fibrillation and stage II-III chronic renal failure, came to the emergency department for asthenia of 3 weeks, dyspnea, and palpitations. No abnormal findings on physical examination. Impaired renal function, normal myocardial enzymes, elevated proBNP as the only analytical findings to be highlighted. Cardiomegaly found on chest X-ray. Echocardioscopy was performed, identifying moderate concentric hypertrophy, possibly infiltrative, and restrictive diastolic dysfunction. No pathological findings in thoraco-abdominal CT, infectious serologies, tumoral markers nor autoimmunity.

Clinical Hypothesis: Cardiac scintigraphy defined diffuse increase of biventricular myocardial uptake, and cardiac MRI showed diffuse mesocardial gadolinium deposition, compatible with infiltrative cardiomyopathy.

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Diagnostic Pathways: Subsequent lumbar MRI showed multiple focal lesions along the spine with bone marrow infiltration, suggestive of multiple myeloma, confirmed after findings in bone marrow aspirate. Hematology started treatment with subsequent outpatient review in the Myeloma Unit.

Discussion and Learning Points: Echocardiogram's findings allowed to identify restrictive infiltrative cardiomyopathy, which opened multiple main diagnostic possibilities: i) Hemochromatosis, improbable due to absence of hepatic alterations or ferric profile. ii) Sarcoidosis, unlikely due to normal RCT and absence of thoracic/dermatological alterations. iii) Amyloidosis, main initial diagnostic suspicion based on scintigraphy features and cardiac MRI: transthyretin amyloidosis: Negative gene mutations. Secondary to autoimmune/inflammatory diseases, (unlikely given the absence of clinical nor analytical findings); or blood dyscrasias, finally confirmed by extension studies. Restrictive cardiomyopathy with diastolic dysfunction is an underdiagnosed entity in our setting that can be caused by multiple autoimmune/hematological diseases, should be considered towards an earlier diagnosis of pathologies of great clinical relevance.

103 - Submission No. 2142

TAVI IN SPANISH NONAGENARIANS. A NATION-WIDE STUDY USING BIG DATA

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Background and Aims: Nonagenarians are increasingly common in European hospitals. Aortic stenosis is a frequent pathology that causes high morbidity and mortality among the elderly. In recent years, minimally invasive techniques have been developed, such as transcatheter valve implantation (TAVI), which potentially cures the disease. The aim of this study is to determine the baseline characteristics, details of hospital admissions, and the results of TAVI in nonagenarians in Spain.

Methods: We obtained data from the Ministry of Health's database called Minimum Basic Data Set (MBDS) that included hospitalizations of nonagenarians who underwent TAVI between 2016 and 2019 in Spanish hospitals.

Results: There were 312 cases, 47.8% men. 89.7% of admissions were in cardiology and 74.7% were scheduled. The age adjusted Charlson score was 6.28 (1.3) and the mean stay 9.24 (7). The most frequent comorbidities were arterial hypertension (50%), atrial fibrillation (39.7%), chronic kidney failure (26.9%), chronic ischemic heart disease (25%), heart failure (21.7%), diabetes mellitus (16%) and COPD (7.6%). Regarding post-intervention complications, 20.8% required the placement of a pacemaker due to heart block, 10.5% transfusion of packed red blood cells due to anemia, 3.2% coronary catheterization, 2.6% ischemic stroke and 0.3% underwent dialysis. There was an in-hospital mortality of 2.9%. We performed a Kaplan-Meier curve that showed a median survival of 41.85 months (1.5).

Conclusions: TAVI is a rare procedure in the nonagenarian population. However, its use in selected individuals entails few serious complications, limited mortality, and satisfactory survival after discharge in relation to the advanced age of the operated individuals.

104 - Submission No. 486

AORTIC STENOSIS AND TAVI IN HOSPITALIZED VERY ELDERLY POPULATION. DIFFERENCES BETWEEN SEXES

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Background and Aims: The elderly population is an increasingly important challenge in our hospitals. Among the most frequent pathologies associated with age is aortic stenosis. The development of invasive treatments capable of curing aortic stenosis added to the poor vital prognosis of octogenarians raise therapeutic doubts. In addition, there are also important differences between men and women in the very elderly population. The objective of this study is to know the differences in baseline characteristics and results between men and women undergoing TAVI placement.

Methods: Data on all scheduled hospitalizations of patients over 80 years of age who underwent TAVI in Spain between 2016 and 2019 were obtained from the national administrative database know as minimum basic data set. Baseline characteristics and outcomes were compared between men and women.

Results: 2221 patients, 58% women. The mean age was 84.3 in men and women. In-hospital mortality was 2.8% in men and 2.5% in women. 84.4% of men entered cardiology, and only 88.3% of women. The Charlson index was 5.4 in men and 5.1 in women. The main associated comorbidities were arterial hypertension (51% in men and 57.8% in women, p<0.001), diabetes mellitus (23 vs 20.6%, p=0.004), dyslipidemia (35.9% vs 38. 4%, p=0.03) and chronic ischemic heart disease (34.6% vs 13.3%, p<0.001). Regarding the survival analysis, the mean survival was 24.62 (22.5-26.6) months in men and 23.4 (21.3-25.4), p=0.331 in women.

Conclusions: Differences in baseline characteristics and mortality between elderly men and women undergoing TAVI placement are small. The greater comorbidity in men stands out, especially in chronic ischemic heart disease.

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105 - Submission No. 1096

LOW GRADE ENDOTOXEMIA AND OXIDATIVE STRESS IN OFFSPRING OF PATIENTS WITH EARLY MYOCARDIAL INFARCTION

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Background and Aims: Low-grade endotoxemia could be implied in higher cardiovascular risk in offspring of patients with early myocardial infarction. We performed a cross-sectional study to investigate the role of low-grade endotoxemia, oxidative stress and platelet aggregation in this population.

Methods: 46 offspring of patients with early myocardial infarction (occurred under the age of 50 years) and 82 healthy controls were enrolled. We compared serum levels of lipopolysaccharides (LPS) and serum zonulin (marker of gut permeability) between these groups. Then we investigated the association between LPS and oxidative stress, through NOX-2 activity (sNOX2-dp levels), serum 8-iso-PGF2α-III production and platelet activation (by serum Thromboxane B2 (TXB2).

Results: Offspring of patients with early myocardial infarction had higher values of LPS (33.33±7.24 vs 16.43±9.09 pg/mL, p<0.001), zonulin (2.15±0.80 vs 1.57±0.67 ng/mL, p<0.001), sNOX-2-dp (33.83±10.37 vs 20.35±9.17 pg/ml, p<0.001), TXB2 (429.35±222.86 vs 243.01±102.71 pg/mL, p<0.001), and 8-iso-PGF2α-III (352.4± 163.58 vs 144.84±83.65 pmol/L, p<0.001). Logistic regression analysis showed that LPS (OR 1,236, CI 95% 1,079-1,416, p=0,002), TXB2 (OR 1,008, CI 95% 1,001-1,015, p=0,027), isoprostanes (OR 1,015, CI 95% 1,002-1,028, p=0,025) were associated with offspring of patients with early myocardial infarction. Bivariate analysis showed that serum LPS was significantly associated with zonulin (Rs=0.241; p=0.005), sNOX-2-dp (Rs=0.546; p<0.001), isoprostanes (Rs=0.607; p<0.001), TXB2 levels (Rs=0.368; 9 p<0.001), and age (Rs=0.228; p=0.009). The multiple linear regression analysis confirmed that NOX-2, isoprostanes, and zonulin were significantly associated to LPS.

Conclusions: Low-grade endotoxemia could activate NOX-2 and generate oxidative stress and platelet activation, resulting in higher cardiovascular risk. Further studies on dysbiosis are needed in this setting.

106 - Submission No. 350

META-ANALYSIS ADDRESSING THE IMPACT OF SODIUM-GLUCOSE CO-TRANSPORTER-2 INHIBITORS ON THE RISK FOR ATRIAL FIBRILLATION AMONG INDIVIDUALS WITH HEART FAILURE WITH PRESERVED EJECTION FRACTION

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Background and Aims: It has been recently suggested that sodium-glucose co-transporter-2 (SGLT-2) inhibitors can be beneficial in reducing heart failure (HF) hospitalizations and cardiovascular mortality among subjects with HF with preserved left ventricular ejection fraction (HFpEF). We sought to determine whether SGLT-2 inhibitors affect the risk for incident AF among subjects with HFpEF, exerting an additional cardiovascular benefit.

Methods: We searched PubMed database and clinicaltrials.gov from inception to 1st of November 2022, for randomized controlled trials (RCTs) enrolling adult subjects with HFpEF. We did not impose any filter regarding study setting, sample size, study duration or publication language. We set as primary efficacy outcome the effect of SGLT-2 inhibitors compared to control on the risk for incident AF.

Results: In total, we pooled data from 5 RCTs, 3 of which have already been published. SGLT-2 inhibitors, compared to placebo, resulted in a non-significant effect on the risk for incident AF [risk ratio (RR) = 1.19, 95% CI; 0.94 – 1.50, I2 = 0%, p = 0.14)]. Subgroup analysis by the type of utilized SGLT-2 inhibitor revealed that neither dapagliflozin (RR = 1.26, 95% CI; 0.87 – 1.84, I2 = 0%, p = 0.22) nor empagliflozin (RR = 1.14, 95% CI; 0.85 – 1.53, I2 = 0%, p = 0.37) had a significant effect on the risk for AF.

Conclusions: In conclusion, the present analysis failed to demonstrate that SGLT-2 inhibitors have a beneficial effect by decreasing the risk for incident AF among individuals with HFpEF.

107 - Submission No. 1626

PFO: WHEN THE HEART BETRAYS THE BRAIN

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Case Description: The authors describe the case of a 47-year-old male, without relevant medical history, with a sister with a TIA

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and a grandfather who suffered a myocardial infarction, both at a young age. He presented at the ER with intermittent dizziness and nausea in the last 24 hours. Neurological examination revealed a persistent non positional vertigo, a horizontal nystagmus on levoversion with impaired adduction of the right eye, diplopia, and positive Romberg test.

Clinical Hypothesis: Unilateral internuclear ophthalmoplegia is most likely due to stroke, but we could also consider an inaugural episode of demyelinating disease or a space-occupying lesion.

Diagnostic Pathways: Initial blood workup and a head CT were normal. MRI showed "a small, right paramedian, mesencephalic, posterior lesion, with restricted diffusion and no contrast uptake", strongly suggesting an ischemic stroke, not entirely excluding the possibility of a demyelinating or inflammatory lesion. After a baseline diagnostic workup, transthoracic echocardiogram suggested a patent foramen ovale (PFO), later confirmed by transesophageal echocardiography. Due to the risk of recurrence, a percutaneous closure of the PFO was successfully performed and, after several months, he recovered completely from the visual deficits. Later, his brother was also diagnosed with an interatrial communication.

Discussion and Learning Points: Although quite frequent and often asymptomatic, PFO plays a key role in the pathogenesis of a variety of clinical syndromes. We aim to raise awareness to this common heart defect and its possible association with cryptogenic stroke. Finally, although family screening isn't generally recommended, it should be considered when there is already a family history of vascular events.

108 - Submission No. 1188

CARDIOVASCULAR HEALTH AMONG VULNERABLE POPULATION FROM E-DUCASS STUDY

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Background and Aims: Cardiovascular diseases are the leading cause of mortality worldwide. The aim of this study was to assess cardiovascular health by the Life's Simple 7 and Life's Essential 8 among a vulnerable population from the E-DUCASS program (NCT05379842).

Methods: We performed a cross-sectional descriptive study from the E-DUCASS study at baseline. The E-DUCASS study is a clinical trial based on health literacy to improve cardiovascular health among a vulnerable population (n=460). Participants were randomized to 1- No-intervention, 2- Traditional advanced intervention model, and 3- E-learning advanced intervention model. Lifestyle questions, anthropometrics measures, and biomarkers such as lipid profile and fasting glucose were obtained at the study's baseline. We determine Life's Simple 7 and Life's Essential 8.

Results: Preliminary results show an overall score of 3.32 points in Life's Simple 7 and an overall score of 65.04 in Life's Essential 8. Children have 3.48 points in Life's Simple 7 while adults have 3.24 points. Children have 69.82 points in Life's Essential 8 while adults have 62.97 points. Life's Simple 7 and Life's Essential 8 show the lowest scores in the diet component. In Life's Simple 7 healthy diet component a high percentage of participants show poor health (64.3%) while in Life's Essential 8 diet component, the score is 43.7 points.

Conclusions: The cardiovascular health in apparently healthy vulnerable population was poor, especially in the diet. Not very complex and costly programs improving health literacy could improve cardiovascular health in a vulnerable population.

109 - Submission No. 696

INTEGRAL MANAGEMENT OF AN ACUTELY DECOMPENSATED CARDIOVASCULAR PATIENT

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Case Description: 68-year-old male, history of obesity, hypertension, T2D, CKD G4A3, HFpEF. Presented with worsening dyspnea, lower limb swelling and 5 kg weight gain in the previous week. Recovering from a recent respiratory viral infection. Physical exam notable for tachypnea, desaturation, jugular vein distention, rales and lower limb edema. Labs showed mild hypotonic hyponatremia, high natriuretic peptides and CA125, stable anemia and creatinine. Chest X-ray consistent with HF. EKG demonstrated de novo AF, with a CHA2DS2-VASc score of 4.

Clinical Hypothesis: Diagnosis of acute-on-chronic heart failure secondary to respiratory tract infection and de novo AF.

Diagnostic Pathways: POCUS showed bilateral pleural effusion, dilated IVC, portal vein doppler with pulsatility index 30-49% and biphasic renal venous doppler, resulting in a VeXUS score of 1. Bioelectric impedance estimated excess of 8 liters (7 extravascular + 1 intravascular). TTE showed LV hypertrophy with 16 mm septum. Cardiac gammagraphy ruled out TTR amyloidosis. Anticoagulation and loop diuretics started (requiring continuous perfusion and hypertonic saline infusion due to an initial suboptimal response), accomplishing appropriate negative balance and resolution of clinical congestion. Total weight loss of 10 kg. Diuretics tapered to a stable low oral dose. SGLT2i and GLP1 agonist prescribed to improve cardiovascular and renal outcomes, with good tolerance. He was discharged with close follow up in a cardiorenal unit.

Discussion and Learning Points: This case exemplifies the increasing array of tools for evaluation of congestion and the integral management of cardiovascular comorbidities. It showcases the use of SLGT2i and GLP1 agonists to improve cardiovascular outcomes in HF, CKD and obesity.

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110 - Submission No. 848

MICRORNAS AS TOOL FOR SELECTING NUTRITIONAL THERAPY TO PROMOTE THE REDUCTION OF CAROTID ATHEROSCLEROSIS IN PATIENTS WITH CORONARY HEART DISEASE: FROM CORDIOPREV STUDY

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Background and Aims: Cardiovascular disease is the most prevalent cause of death worldwide and its common basis is atherosclerosis. MicroRNAs (miRNAs) are involved in atherosclerosis-related processes and diet may exert a regulatory effect on miRNAs. Our aim was, therefore, to study whether miRNAs could be used to select between a Mediterranean or low-fat diet to promote the reduction of carotid atherosclerosis in patients with coronary heart disease.

Methods: Within the framework of the CORDIOPREV study (n=1002), the present study included 120 patients with the greatest decrease in intima-media thickness of both common carotid arteries (IMT-CC Decreased) (58 of them followed a low-fat diet (LFHCC) and 62 a Mediterranean diet (Med)) and 120 with the greatest increase in IMT-CC (IMT-CC Increased) after 5 years of follow-up (59 of them followed a LFHCC and 61 a Med diet). The quantification of 28 miRNA expression profiles was carried out on RNA samples obtained from peripheral blood mononuclear cells (PBMC).

Results: High baseline expression of miR-21 and miR-365 (p=0.06 and p=0.030, respectively) with the LFHCC diet and miR-150 and miR-17 (p=0.022 and 0.017, respectively) with the Mediterranean diet were associated with a decrease in IMT-CC. The expression of miR-21 after the LFHCC diet (p=0.009), and miR-150 after Med diet (p<0.001), decreased in the IMT-CC Decreased group after 5 years of intervention.

Conclusions: Our results suggest that miRNAs from PBMC could potentially be used in clinical practice as a new tool for selecting the most suitable dietary model to promote the reduction of carotid atherosclerosis in patients with coronary heart disease.

111 - Submission No. 841

FACTORS INFLUENCING THE PROGRESSION OF RENAL INSUFFICIENCY IN PATIENTS WITH RESISTANT ARTERIAL HYPERTENSION

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Background and Aims: In our previous study, we demonstrated a faster decline of renal function in patients with resistant arterial hypertension (RAH) in comparison to patients with non-resistant hypertension. This subsequent study aims to identify the individual risk factors of the progression of renal insufficiency.

Methods: 160 patients with RAH were monitored in the Hypertension Excellence Centre of the University Hospital Olomouc from 5/2007 to 12/2018. The mean duration of follow-up was 6 years. Patients were divided according to the decline of renal function into a group with faster decline and milder decline (cut-off of creatinine increase 1 μmol/year). All patients were evaluated and statistically compared for baseline demographic characteristics, co-morbidities, medication, blood pressure control, and exposure to contrast imaging (CTI, MRI, PCI, etc.).

Results: Patients with RAH with faster decline in renal function had more antihypertensive agents (5.1 vs. 4.7; P=0.008), had more mineralocorticoid receptor antagonists (MRA, 56% vs. 33.9%; P=0.011), diabetics had more frequent insulin therapy (20% vs. 3.2%; P=0.003). More patients underwent renal denervation (24% vs. 8.1%, 18 vs. 5 procedures; P=0.020), had lower magnesium values (0.8 vs. 0.85 mmol/l; P=0.001), and had lower plasma renin activity values (0.24 vs. 0.4 ng/ml/h; P=0.049).

Conclusions: Current data with the new generations of MRA tends to indicate their cardio and nephroprotective effect. In our patients, we used spironolactone and eplerenone. Whether MRA used in our study are involved in the more rapid deterioration of renal function in RAH patients is now unclear, and the subject of further prospective studies.

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112 - Submission No. 1221

PLATIPNEA ORTHODEOXIA SYNDROME AFTER SURGICAL CORRECTION OF AORTIC STENOSIS

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Case Description: A 79-year-old woman was hospitalized for worsening dyspnea. In past medical history a surgical correction of a severe aortic stenosis occurred two months prior to hospitalization. On admittance she had type 1 respiratory failure and dyspnea with a decrease in arterial blood oxygen saturation while sitting, relieved in the supine position.

Clinical Hypothesis: On the basis of these clinical manifestations, we investigated the possible causes of platypnea.

Diagnostic Pathways: A hyperoxia test was performed and it estimated a pathological cardiac shunt of about 30-35%. The Transthoracic Echocardiogram revealed an interatrial septal aneurysm with suspected to-and-fro flow, marked left atrial dilation and preserved biventricular systolic function. The bubble test confirmed the presence of patent foramen ovale (PFO) with right–left micro-bubble flow after Valsalva maneuver and in the sitting position. The right-heart catheterization showed pulmonary hypertension. Considering these results, a transcatheter closure of the PFO was performed. Post-procedure saturation testing revealed normal arterial oxygen saturation in both supine and sitting position with no need for supplemental oxygen.

Discussion and Learning Points: The physiological mechanism responsible for the right-to-left shunt induced by postural changes in patients with PFO is not fully understood. In our case, the right to left shunt could have been caused by the recent correction of the severe aortic stenosis with the subsequent modification of the intracardiac pressures.

113 - Submission No. 2072

CARDIOVASCULAR SEQUELAE OF THE COVID-19 PANDEMIC COMPARED TO PRE-PANDEMIC TRENDS IN ISRAEL

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Background and Aims: Studies of decreases in cardiovascular diagnoses and treatments (CDT) during the COVID-19 pandemic mostly reported limited outcomes or compared the COVID-19 period to a short preceding period, without considering pre-pandemic trends. This study aimed to compare CDT and associated mortality, between the COVID-19 period and the preceding 8 years.

Methods: Data on new CDT during the first year of COVID-19 (Y1, 3/2020-2/2021), the second year of COVID-19 (Y2, 3/2021-2/2022), and each of the prior 8 years (3/2012-2/2020) were extracted from the data warehouse of the largest Israeli health maintenance organization (Clalit Health Services). Linear regression models were used to assess changes in CDT, and Poisson regression models to assess changes in mortality 30-days following acute CDT.

Results: During Y1, significant declines were observed in monthly cardiovascular diagnoses: ST-elevation myocardial infarction (STEMI) (1.57 /100,000), non-STEMI (2.76/100,000), and atrial fibrillation (AF) (109/100,000); and in cardiovascular procedures: ablation (0.34/100,000), catheterization (17.25/100,000), coronary artery bypass surgery (CABG) (2.74/100,000), and pacemaker implantation (0.72/100,000). These changes contrasted with trends during 2012-2019. In Y2, STEMI diagnosis remained declined, and the declines in non-STEMI and AF diagnoses disappeared. No changes were observed during the pandemic in cerebrovascular accident incidence, antiarrhythmics medications prescribed, and 30-day mortality following CDT. The defibrillator implantation rate was stable in Y1, but substantially increased in Y2.

Conclusions: Contrasting with pre-pandemic trends, declines in several cardiovascular sequelae were observed during the pandemic. These could be related to avoidance in seeking medical assistance during the pandemic.

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114 - Submission No. 1992

A PROSPECTIVE COHORT OF 330 PATIENTS AFFECTED BY RETINAL VENOUS OCCLUSION WITH MULTIPLE CARDIOVASCULAR RISK FACTORS. DO WE NEED TO RULE OUT GENETIC THROMBOPHILIAS?

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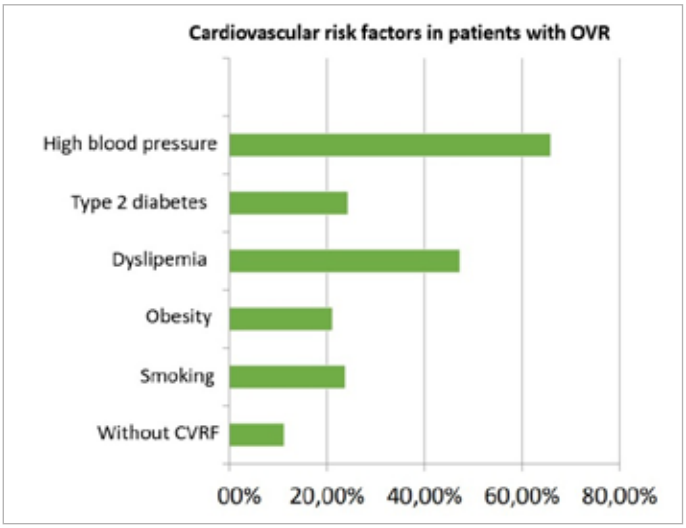
Background and Aims: To study the association between cardiovascular risk factors (CVRF) and the presence or absence of thrombophilia in patients with retinal vein occlusion (RVO).

Methods: All patients with a diagnosis of RVO from January 2012 to April 2022, were prospectively included. A study of clinical, analytical and ophthalmological variables was performed. Systematic thrombophilia study was also performed, both genetic and acquired. Statistical analysis was performed using Pearson's chi-square, Fisher's exact test and Student's test.

Results: A cohort of 330 patients with RVO were included with a mean age of 66.62 years. In our study (Figure 1), the most frequent CVRFs was hypertension (65.8%), followed by dyslipidemia (47.3%). Only 11.1% of patients did not have any CVRF. The prevalence of HT, obesity and active smoking was higher in the group of men <65 years than in the group of men >65 years ($p<0.05$). By contrast, the prevalence of HT and dyslipidemia was significantly higher in the group of oldest women than in the group of the youngest women. Only 2 patients out of 223 had Factor V Leiden mutation, 2 out 210 had the HPN clone and 3 out of 282 had the prothrombin gene mutation: all of them asymptomatic at time of RVO diagnosis. We have also analyzed acquired thrombophilia.

Conclusions: Patients with RVO present a high number of CVRF, especially young men. Based on our results, we consider that the genetic study of thrombophilia should not be performed due to the scarce detection of mutations in patients with RVO.



114 Figure 1.

115 - Submission No. 1846

EVALUATION OF MORTALITY ACCORDING TO RENAL FUNCTION IN ISCHEMIC COLITIS PATIENTS. REINA SOFÍA UNIVERSITY HOSPITAL COHORT

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Background and Aims: To evaluate the incidence of renal failure (RF) at admission and the mortality during hospitalization depending on the glomerular filtration rate (GFR) in patients admitted with a ischemic colitis (IC) diagnosis in the Internal Medicine Department of the Hospital Universitario Reina Sofía, Córdoba (HURS).

Methods: A retrospective, descriptive and cohort study including 209 patients with IC admitted to the HURS between 2009 and 2020, included in the Andalusian Registry of Intestinal Ischemia (RADIAL). GFR was calculated according to the MDRD equation and patients were divided into three groups: <30mL/min, 30-89mL/min and >90mL/min. Cox regression was used to analyze overall mortality. A sub-analysis was performed in patients with chronic renal failure (CRF).

Results: In our cohort, the population was 36.8% male and 63.2% female with a mean age of 78.9±13.9 years old. GFR at admission was 16% with >90 mL/min, 54.2% between 89-30 mL/min and 29.8% with <30 mL/min. Patients with GFR <30mL/min and GFR 30-89mL/min had higher mortality than those with GFR>90mL/min (HR 6.2; CI95% 1.49-25.8) (p=0.012) and (HR 5.83; CI 95% 1.3-24.8) (p=0.017) respectively. There was no difference in mortality in patients with a previous CRF.

Conclusions: In our study, IC patients with GFR <90 mL/min at admission have a greater mortality than those with normal GFR. Therefore, having a GFR less than 90 mL/min at admission could be a predictor of mortality in IC hospitalized patients. This is consistent with other studies in the literature in which GFR is associated with more severe forms of IC.

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116 - Submission No. 1795

JAK2 V617F-POSITIVE POLYCYTHAEMIA VERA AND RENAL ARTERY STENOSIS ARE LINKED WITH MULTIPLE PATHOPHYSIOLOGICAL MECHANISMS

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Case Description: A 77-year-old woman with solitary kidney, resistant hypertension and JAK2 V617F-positive Polycythemia vera (PV) and a 67-year-old man with uncontrolled hypertension and JAK2 V617F-positive PV were investigated for secondary causes of hypertension.

Clinical Hypothesis: The diagnosis of PV in these two patients was based on the presence of JAK2 V617F mutation as well as the findings of bone marrow aspiration and biopsy. Surprisingly, further evaluation revealed mildly elevated erythropoietin (EPO) levels. Thus, the initial consideration of PV associated resistant hypertension was vague and redefined the exploration for secondary causes of hypertension with elevated levels of EPO.

Diagnostic Pathways: MRI angiography covering both adrenal glands and renal arteries revealed in the first patient hemodynamically significant, non-atherosclerotic, renal artery stenosis in the middle arterial segment of the solitary kidney and in the second patient severe bilateral atherosclerotic lesions located at the proximal portion of renal arteries.

Discussion and Learning Points: Our cases demonstrate a clear mutual relationship between JAK2 V617F-positive PV and renovascular hypertension through multiple pathophysiological mechanisms. In the first case, it seems possible that large size vessel stenosis is attributable to intimal proliferation, smooth muscle cells hyperplasia and luminal thrombosis rather than atherosclerotic lesions. As regards the second patient, it is well-known, that JAK2 V617F-positive PV may lead to accelerating atherosclerosis through activation of STAT5 angiogenetic promoter or chronic inflammatory pathways. Therefore, JAK2 V617F-positive patients with resistant hypertension and elevated EPO levels should be timely and meticulously evaluated for RAS.

117 - Submission No. 2160

MULTIPLE RENAL INFARCTS; A RARE ENTITY THAT IMPLIES SEVERE CARDIOVASCULAR DISEASE

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Case Description: A 41-year-old man, with a history of type I diabetes mellitus (DM) and end-stage kidney disease presented with acute epigastric pain, fever, nausea and vomiting. An 88-year-old woman, with a history of type II DM and hypertension was admitted because of acute abdominal pain accompanied by fever and vomiting. A 67-year-old woman presented with fever, chest pain and severe fatigue. Her medical history comprised of recent COVID-19 infection, type II DM, AF and dermatomyositis. A 65-year-old man presented with severe left flank pain and fever. Except for a recent corneal transplantation his medical record was otherwise unremarkable

Clinical Hypothesis: Acute renal or splenic infarctions are rare entities; their coexistence even rarer. Their presentation is nonspecific, thus recognition delays. Underlying severe cardiovascular disease is usually revealed, commonly atrial fibrillation (AF), valvular heart disease or hypercoagulable states.

Diagnostic Pathways: Extensive laboratory and imaging studies were performed in all patients to unmask the culprit behind the renal infarctions. Common characteristics were the prominent leukocytosis, the increase in lactic dehydrogenase and the C - reactive protein. Urinalysis revealed pyuria and microscopic hematuria in all cases. Contrast enhanced abdominal computed tomography revealed wedge-shaped areas of hypoattenuation. Of note, in two patients there were concomitant splenic infarcts.

Discussion and Learning Points: Renal infarcts constitute a rare entity that requires a high degree of suspicion. The ambiguous clinical image along with cardiovascular co-morbidities should always guide clinicians. Their presence is not enough to endanger the kidney function, but they indicate severe cardiovascular disease that is detrimental to the long-term outcome.

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118 - Submission No. 1111

RISK OF MYOCARDIAL INFARCTION AND ISCHEMIC STROKE IN INDIVIDUALS WITH FIRST-DIAGNOSED PAROXYSMAL VS. NON-PAROXYSMAL ATRIAL FIBRILLATION

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Background and Aims: There is conflicting evidence on whether the type of atrial fibrillation (AF) is associated with risk of cardiovascular events, including acute myocardial infarction (MI) and ischemic stroke. Recent studies investigating the type of AF and risk of MI have reported conflicting results. The aim of the present study was to investigate whether the risk of MI and ischemic stroke differs between individuals with first-diagnosed paroxysmal vs. non-paroxysmal AF.

Methods: Anonymized electronic medical records from the TriNetX federated research network were used. Individuals with a new diagnosis of paroxysmal AF were 1:1 propensity score-matched with individuals with non-paroxysmal AF, defined as persistent or chronic AF, who had no evidence of other types of AF in their records. All patients were followed for 3 years for the outcomes of MI and ischemic stroke. Cox proportional hazard models were used to calculate hazard ratios (HR) with 95% confidence intervals (CIs).

Results: In the propensity-matched cohort, among 24,856 well-matched AF individuals (mean age 73.3±11.5; 10,277 (41.3%) female), 429 (1.7%) were diagnosed with acute MI and 811 (3.3%) with ischemic stroke during the 3-year follow-up. Individuals with paroxysmal AF had significantly higher risk of acute MI (HR: 1.71, 95%CI: 1.45-2.02) compared to those with non-paroxysmal AF. No significant association was observed between type of AF and risk of ischemic stroke (HR: 1.09, 95%CI: 0.95-1.25).

Conclusions: Patients with first-diagnosed paroxysmal AF had higher risk of acute MI compared to individuals with non-paroxysmal AF, while there was no significant association between type of AF and risk of ischemic stroke.

119 - Submission No. 1126

DIRECT ORAL ANTICOAGULANTS REDUCE THE RISK OF DEMENTIA IN PATIENTS WITH ATRIAL FIBRILLATION

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Background and Aims: Atrial fibrillation (AF) is associated with increased risk of dementia. Whether direct oral anticoagulation (DOAC) reduce this risk compared to vitamin-K antagonist (VKA) is unclear. The aim of this study was to assess the risk of new all-cause dementia and vascular dementia in AF patients, treated with either DOAC or VKAs.

Methods: Anonymized electronic medical records from the TriNetX federated research network were used. AF patients treated with DOACs within 1 month of AF diagnosis, were 1:1 propensity score-matched with those treated with a VKA. Patients were followed up to 10 years for all-cause dementia and vascular dementia. Logistic regression and Cox proportional hazard models were used to calculate odds ratios (OR) and hazard ratios (HR), respectively with 95% confidence intervals (CIs).

Results: In the propensity-matched cohort, among 321,282 patients [mean (SD) age 69.7 (±13.5) years; 138,593 (43.1%) female], 15,050 (4.7%) were diagnosed with all-cause dementia. All-cause dementia was diagnosed in 6,337 (3.9%) patients among those treated with DOACs and 8,713 (5.4%) among the VKA-treated (OR:0.72, 95%CI:0.69-0.74). Vascular dementia was diagnosed in 1,188 (0.7%) patients among those treated with DOACs and 1,766 (1.1%) among the VKA-treated (OR:0.67, 95%CI:0.62-0.72). DOACs were independently associated with lower risk of all-cause dementia and vascular dementia compared to VKA (HR:0.85, 95%CI:0.82-0.88 and HR:0.82, 95%CI:0.76-0.88, respectively).

Conclusions: This propensity-score matched analysis showed that among AF patients, treatment with a DOACs was associated with lower risk of all-cause dementia and vascular dementia compared to VKA treatment. This finding requires confirmation in ongoing randomized controlled trials.

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120 - Submission No. 2430

ANGIOGENIC FACTORS AND ENDOVASCULAR REVASCULARIZATION OF LOWER LIMB ARTERIES IN PATIENTS WITH DIABETIC FOOT SYNDROME

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Background and Aims: Percutaneous transluminal angioplasty (PTA) is one of the treatment forms for diabetic foot syndrome (DFS). However, PTA does not always result in complete ulcer healing. The pathogenic mechanism of this phenomenon is still not fully understood, but neo-angiogenesis disturbances in tissue repair may play an essential role. In our study, we aimed to assess pro- and anti-angiogenic factors changes after PTA in DFS patients.

Methods: The study included 41 subjects (age 67.3±8.8; 83% male) with DFS, qualified for PTA. Five pro- and two anti-angiogenic factors concentrations were measured in the serum using enzyme-linked immunosorbent assay kits (before PTA and during follow-up period). Clinical condition and hemodynamical parameters were assessed before PTA, 1 day, 30 and 90 days after the procedure.

Results: During 3-month observation, 9 (22%) subjects achieved complete ulcer healing. The levels of pro-angiogenic factors decreased one day after PTA compared to the levels before the intervention. Among patients with healed ulcerations, compared to patients without healing, pro-angiogenic placental growth factor (PlGF) concentration was significantly higher, and the level of anti-angiogenic pigment epithelium-derived factor (PEDF) was significantly lower during the follow-up period.

Conclusions: Technically successful angioplasty does not always result in ulcer healing. The results show that increased concentrations of PlGF and decreased PEDF levels may be connected with improved wound healing in patients with DFS after PTA.

121 - Submission No. 934

DYSREGULATION OF THE SPLICING MACHINERY PREDICT THE REMISSION OF TYPE 2 DIABETES: FROM CORDIOPREV RANDOMIZED CONTROLLED TRIAL

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Background and Aims: Alternative splicing is a coordinated post-transcriptional process which results in multiple functionally protein isoforms encode by a single gene. Because type 2 diabetes mellitus (T2DM) is associated with aberrant splicing, we aimed whether the dysregulation in the expression of splicing machinery elements could predict T2DM remission in patients with coronary heart disease.

Methods: All patients with a newly diagnosed T2DM at baseline (n = 190) were included. Subjects were classified as Responders, patients who reverted from T2DM during the 5 years of dietary intervention without the use of diabetes medication; or non-Responders, who did not achieve diabetes remission at the end of the follow-up period. Gene expression of splicing machinery components was determined at baseline.

Results: We identified a dysregulation in the expression of splicing factors and protein isoforms, being MBL1, RBM5, HNRNP G/RBMX, CD44 and NT5E able to discriminate between responders and non-Responders. We evaluated the diagnostic ability of clinical variables (AUC = 0.67), insulin resistance and beta cell function indexes (AUC = 0.76) and the addition of these splicing machinery components showed an AUC of 0.80. Cox regression analysis using a T2DM remission score including splicing machinery components showed that high-score patients have a higher probability of T2DM remission ($HR_{low\ versus\ high}$, 2.63).

Conclusions: We have identified a set of splicing machinery components that contribute to the prediction of T2DM remission in patients with coronary heart disease.

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122 - Submission No. 1252

HEALTH LITERACY AND HEALTHY STRATEGIES IN VULNERABLE POPULATION. E-DUCASS PROGRAM

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Background and Aims: Health literacy allows people to obtain, process and understand basic information about health and to make appropriate decisions. The aim of this study was to assess the degree of health literacy in a vulnerable population from the E-DUCASS program (NCT05379842).

Methods: We carried out a descriptive cross-sectional study including participants from the E-DUCASS program. The E-DUCASS program is a clinical trial that included 460 vulnerable participants. The participants were randomized into three groups: no intervention, advanced traditional intervention, and advanced e-learning intervention. We assessed the degree of health literacy using the Short Assessment of Health Literacy for Spanish-speaking Adults (SAHLSA-50), a 50-ítems health-related list designed and validated to assess reading capacity and understanding of medical-related items. Adequate health literacy was defined higher than 37 points in SAHLSA-50 score.

Results: The mean of SAHLSA score was 28.8 points. A 23% of participants showed an adequate health literacy level (SAHLSA score 37+), while a 77% of participants did not have an adequate health literacy level. We found higher percentage of not adequate health literacy level among adults (≥18 years) 80.4% compared to children (<18 years) 67.7%.

Conclusions: Health literacy was majority not adequate in a vulnerable population from the E-DUCASS program, and it was worst among adults. Health literacy can be a barrier and risk factor for having a healthy lifestyle. Health programs among vulnerable population with low health literacy could improve their lifestyle, cardiovascular health and food insecurity.

123 - Submission No. 134

WARFARIN VERSUS NOVEL ANTICOAGULANTS IN PATIENTS WITH ARTIFICIAL HEART VALVES—META-ANALYSIS

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Background and Aims: The effectiveness of NOACs in patients with artificial (bioprosthetic and mechanical) heart valves is not known.

Methods: PubMed, CINHAL, and Clinicaltrials.gov were searched through May 2022 using keywords for studies comparing clinical outcomes of adults (>18 years) with artificial heart valves that received warfarin vs. NOACs.

Results: Eight studies (4-RCT, 4- retrospective cohort, n = 183167, 38% female) met the criteria for study inclusion. Mechanical and bioprosthetic valves were represented in 14.7% and 85.3% of patients respectively. There was no statistically significant difference between NOACs and warfarin for all bleeding, all-cause mortality, TIA, systemic embolism, and all-stroke outcomes. Overall warfarin led to 22% more major bleeding (OR = 1.22, 95% CI = [1.05, 1.41], p = 0.01) and more ischemic stroke (OR = 1.72, 95% CI = [1.1, 2.68], p = 0.02) compared to NOACs. Amongst patients with bioprosthetic heart valves, warfarin led to 33% more major bleeding compared to NOACs (OR = 1.33, 95% CI = [1.06, 1.66]). NOACs led to 65% more major bleeding compared to warfarin among those with mechanical heart valves (OR = 0.35, 95% CI = [0.18, 0.67]).

Conclusions: NOACs reduced the risk of ischemic stroke and major bleeding in patients with bioprosthetic heart valves, but not in patients with mechanical heart valves compared to warfarin. Compared with warfarin, NOACs reduced the risk of ischemic stroke and major bleeding in patients with artificial heart valves. There were no statistically significant differences between the two for the outcomes of all bleeding, all-cause mortality, systemic embolism, TIA, and all-strokes.

124 - Submission No. 2208

SEVERE ATHEROSCLEROSIS AND ITS HEMODYNAMIC REPERCUSSIONS

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Case Description: 76-year-old male with arterial hypertension, dyslipidemia and peripheral artery disease. During hospitalization, an oscillating blood pressure profile was achieved, with a blood pressure difference in systolic blood pressure (SBP) >20mmHg between upper and lower limbs being documented, with the lower limbs being higher than that of the upper limbs. Additionally, he had a >10mmHg difference in SBP between the lower limbs.

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Clinical Hypothesis: The hypothesis were atherosclerosis plaque, stenosis and dissection.

Diagnostic Pathways: From the study carried out a computed tomography angiography was performed which revealed "moderate to severe atherosclerotic disease of the abdominal aorta, image suggestive of marked atheroma and stenosis, small dissection in the right common iliac artery", thus justifying the variation in the blood pressure profile.

Discussion and Learning Points: This case draws attention for the importance of controlling vascular risk factors, due to their important systemic influence and the possibility of hemodynamic compromise.

125 - Submission No. 1227

PREVENTION OF SUDDEN CARDIAC DEATH BEYOND DEVICES - IMPORTANCE OF ARNI - CLINICAL CASE

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Case Description: Male, 82 years, mRankin3, DM 2, hypertension and dyslipidemia, hospitalized for decompensated heart failure (HF) and respiratory infection, NYHA III. Complementary examination showed reduced ejection Fraction (EF) of ischemic etiology. After decongestion and titration of prognostic-modifying therapy, the patient was referred to HF. Revascularization strategy was discussed in Heart Team - patient refused any intervention (surgery, device). At consultation, maintained a NYHA II-III, with titration of medical therapy, namely Angiotensin receptor neprilysin inhibition (ARNI), with subsequent need for suspension due to persistent hyperkalemia. No potassium binder available/ approved in the hospital. About 4 months after suspension of ARNI, the patient died suddenly.

Clinical Hypothesis: Besides ICD, pharmacological therapy also contributes to the reduction of sudden cardiac death (SCD). In this way, the suspension excludes the patient from its protection, increasing the probability of MSC.

Diagnostic Pathways: EKG Sinus rhythm, 86bpm, LVH. Ecocardiography: "Global LV hypokinesia with severe depression with a mean EF of 20%." Etiological study, with Cardiac MRI revealing EF 42%, Inferolateral and inferior transmural infarction scar with late and non-reversible enhancement, lateral and anterior apical subendocardial partially reversible defect, and coronarography showing 3-vessel coronary disease.

Discussion and Learning Points: The evolution in HF allowed a reduction in sudden cardiac death events, with the contribution of pharmacological strategies and Devices. However, this outcome is still prevalent, affecting 30-50% of patients with HF and reduced EF. ARNI, through neurohumoral and sympathetic modulation, reduces death due to HF progression, as well as sudden cardiac death. In addition to the devices, the pharmacological prevention of SCD with ARNI is effectively proven.

126 - Submission No. 1609

COVID-19- ATTACKS THE HEART

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Case Description: At the end of 2019, a novel coronavirus rapidly spread throughout the world, resulting in a global pandemic. The virus was designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and the coronavirus disease 2019 (COVID-19), which spectrum in adults ranges from asymptomatic infection to severe pneumonia with acute respiratory distress syndrome (ARDS) and multiorgan dysfunction. We present the clinical cases of 3 young patients (2 males and 1 female) who have recently recovered from COVID-19, sometime later complicated by acute myocarditis. Two males aged 25 years, without pathologies, who sought medical help due to diarrhea, abdominal pain, fever and general deterioration, without respiratory complaints. In both cases, ileo-colitis was diagnosed, treatment was prescribed with a progressive deterioration and dyspnea. The echocardiogram revealed a systolic dysfunction of the left ventricle in the first case with the need for artificial lung ventilation, in the second case, the use of high- flow oxygen. The third case was a 20-year-old woman with history of familial dilated cardiomyopathy with heart transplant, COVID-19 infection with cure criteria, with asthenia and intolerance to exertion since diagnosis of COVID-19. On the week prior to admission, had aggravation of dyspnea, echocardiogram detected severe biventricular dysfunction.

Clinical Hypothesis: COVID-19 respiratory disease. Heart failure. Myocarditis. Gastroenteritis.

Diagnostic Pathways: Blood test, ECG, X-Ray, echocardiogram, computed tomography.

Discussion and Learning Points: These cases show that the criteria for a cure for COVID-19 are not yet a reason for calm, that various types of life-threatening complications (to be identified) occur sometime later.

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127 - Submission No. 1634

ACUTE HEART FAILURE AT YOUNG AGE IN A TRANSPLANT PATIENT AS A COMPLICATION OF COVID-19, WHAT NOW?

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Case Description: Heart failure (HF) is a common clinical syndrome, in which symptoms result from a structural or functional heart disorder that impairs the ventricle's ability to fill or eject blood. HF can be caused by diseases of the myocardium, pericardium, endocardium, heart valves, vessels or by metabolic disorders. We present the case of a 20-year-old female patient, with personal history of type 2 diabetes, dyslipidemia, overweight, familial dilated cardiomyopathy with heart transplant in 2015, coronary heart disease/graft vasculopathy, depressive syndrome, COVID-19 infection with cure criteria. Usually medicated with acetylsalicylic acid, clopidogrel, omeprazole, enalapril, atorvastatin, calcium carbonate, mycophenolate mofetil, prednisolone, sirolimus, ferrous sulfate and insulin. The patient had a recent infection with COVID-19 and since then referred to asthenia and intolerance to exertion. On the week prior to admission, had aggravation of dyspnea on minimal exertion, orthopnea and paroxysmal nocturnal dyspnea. Patient denied fever, peripheral edema, chest pain, palpitations, or syncope. Analytically was detected leukocytosis, nonspecific elevation of C-reactive protein and B-type natriuretic peptide. Pulmonary thromboembolism was excluded. Echocardiogram showed severe biventricular dysfunction. As indicated by the assistant cardiologist, started diuretic treatment and the regimen of immunosuppression.

Clinical Hypothesis: COVID-19 respiratory disease. Heart failure. Myocardial infarction. Myocarditis.

Diagnostic Pathways: Blood test, ECG, X-Ray, echocardiogram, computed tomography.

Discussion and Learning Points: This case shows that, despite of the young age, patients with established pathologies have an increased risk of complications sometime after being infected with COVID-19, that's why they should be under closer supervision to identify complications at the early stage and implement adequate prophylaxis and treatment.

128 - Submission No. 1266

TAKOTSUBO CARDIOMYOPATHY OR EMBOLIC AMI, WHAT TO DO?

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Case Description: Stress cardiomyopathy (also called apical ballooning syndrome, Takotsubo cardiomyopathy, broken heart syndrome) is a syndrome characterized by transient regional systolic dysfunction, mainly of the left ventricle (LV), mimicking myocardial infarction but in the absence of angiographic evidence of obstructive coronary disease. We present the case of a male patient 69 years old, with a history of arterial hypertension, diabetes mellitus, dyslipidemia, acute myocardial infarction (AMI) with ST-segment elevation, slow atrial fibrillation requiring pacemaker implantation, obesity, former smoker. Usually medicated with apixaban, ramipril, atorvastatin and metformin. Admitted to the emergency department because of a tight chest pain with dorsal irradiation that woke up the patient. Pain described was similar to the one of the previous infarctions. Electrocardiogram showed an atrial fibrillation rhythm with 1mm ST-segment elevation in leads V5 and V6, analytically with elevation of necrosis markers and B-type natriuretic peptide. Was medicated with morphine and acetylsalicylic acid, underwent cardiac catheterization that did not discovered lesions suggestive of AMI. Cardiac nuclear magnetic resonance was later performed, findings were in favor of Takotsubo cardiomyopathy. The patient had a favorable evolution.

Clinical Hypothesis: Stress cardiomyopathy. Acute myocardial infarction (AMI). Anxiety disorder.

Diagnostic Pathways: Blood test, ECG, echocardiogram, cardiac nuclear magnetic resonance.

Discussion and Learning Points: This clinical case demonstrates the importance of etiological investigation of the pathology presented in the emergency department to provide the best follow-up and treatment for the patient.

129 - Submission No. 432

A GIANT CORONARY ANEURYSM IN STEMI PATIENT

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Case Description: The 48-year-old patient presented to our institution because of severe retrosternal chest pain. The family members informed that he was a heavy user of cocaine. Anterior STEMI was evident, so the patient was referred to the catheterization laboratory team. During coronary angiography, a giant aneurysm of the distal part of the left main coronary artery (LM) and the proximal part of the left anterior descending (LAD)

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was evident. The LAD was totally occluded, despite numerous attempts, we didn't succeed in regaining blood flow, so the patient was recommended for urgent surgical revascularization. After coronary bypass grafting was performed, left internal thoracic artery anastomosed to the left anterior descending.

Clinical Hypothesis: Coronary artery aneurysms (CAA) are a rare finding. Atherosclerosis is the most frequent cause. Other etiologies include congenital disease, infectious disease, Kawasaki disease, inflammatory arterial diseases, connective tissue disorders, hereditary collagen defects, fungal infection, trauma and cocaine abuse.

Diagnostic Pathways: STEMI was evident on ECG, on echocardiography we evidenced a very low ejection fraction (EF=25%). He underwent coronary angiography when we evidenced ectasia of circumflex artery and right coronary artery, a giant aneurysm of the distal part of the left main coronary artery and the proximal part of the left anterior descending and an occlusion of the ostial segment of the LAD.

Discussion and Learning Points: CAA is a very rare finding, they are incidental findings. Anticoagulation has been the basic treatment to prevent the formation of thrombi, while the surgical treatment is resection or ligation of the aneurysm and revascularization with bypass.

130 - Submission No. 1092

DIAGNOSING PULMONARY HYPERTENSION ASSOCIATED WITH HUMAN IMMUNODEFICIENCY VIRUS IN THE RURAL AREA

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Case Description: This is a case of a 29-year-old-male, admitted with fatigue, exertional dyspnea, and chest discomfort for one year. He has been diagnosed with Human Immunodeficiency Virus/HIV and regularly consuming antiretroviral (zidovudine, lamivudine, nevirapine) for two years. Physical examination revealed cachectic, tachycardia, tachypnea, distended jugular veins, coarse crackles at basal right lung, left parasternal heave, holosystolic murmur at tricuspid area, and accentuated of second heart sound. Chest radiograph showed pneumonia dan cardiomegaly. Electrocardiography (ECG) showed right-axis deviation with right atrium enlargement and right ventricle hypertrophy. Two dimension-echocardiography revealed poor right ventricle systolic function with dilated right atrium and right ventricle along with severe tricuspid regurgitation, suggestive of pulmonary hypertension. He was managed as HIV related pulmonary hypertension (PAH) with pneumonia. Ceftazidime, sildenafil, digoxin, warfarin, and oxygen were administered. His antiretroviral medication was continued. Symptoms were improved and he was discharged one week later.

Clinical Hypothesis: Diagnosing pulmonary hypertension usually need a right heart catheterization.

Diagnostic Pathways: The diagnosis were supported by typical physical finding, chest radiograph, ECG and confirmed by echocardiography result.

Discussion and Learning Points: HIV-PAH is a complication of HIV infection. Viral infection and host factors are likely playing important roles in this event. The definitive diagnostic tool for diagnosing pulmonary hypertension is right heart catheterization. However, it's not available in rural setting as in our hospital. Despite the limitation, the transthoracic echocardiography was utilized instead. In the absence of endothelin receptor antagonists, sildenafil (phosphodiesterase inhibitor) was utilized to improve hemodynamic in this patient. This pragmatical approach were proved to be beneficial in limited resources area.

131 - Submission No. 1076

DOES SACUBITRIL/VALSARTAN MODIFIES NT-PROBNP VALUES OF OUR PATIENTS?

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Background and Aims: It has been reported that sacubitril/valsartan reduces hospitalizations for heart failure and mortality. The aim of the study was to evaluate if the evolution of the patients in our sample was similar to those included in the PARADIGM-HF study, regarding analytical improvement in NT-proBNP value.

Methods: The patients in our basic heart failure unit receiving treatment with sacubitril/valsartan from January 2017 to February 2019 were analyzed. The laboratory parameters prior to the administration of the drug were collected, as well as the two subsequent laboratory tests (one month and three months later). The data were subjected to a hypothesis test, the null hypothesis being that there were no differences in the values of NT-proBNP before and after the drug.

Results: Of a total of 115 patients, the mean age was 72.6 years. The mean and standard deviation by subgroups were: NT-proBNP before treatment= 3486.6 pg/ml (5628) After one month NT-proBNP = 2818 pg/ml (5197) After three months NT-proBNP-post2= 2454.6 pg/ml (4761). A statistically significant difference was obtained between previous NT-proBNP and NT-proBNP after one month of treatment with sacubitril/valsartan ($p<0.001$).

Conclusions: Patients treated with sacubitril/valsartan experience a significant reduction in serum NT-proBNP levels. The results of the PARADIGM-HF trial are reproducible in our target population despite being patients with a mean age of almost 10 years older than those included in the trial.

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132 - Submission No. 499

DOES SACUBITRIL/VALSARTAN IMPROVES NYHA FUNCTIONAL CLASS?

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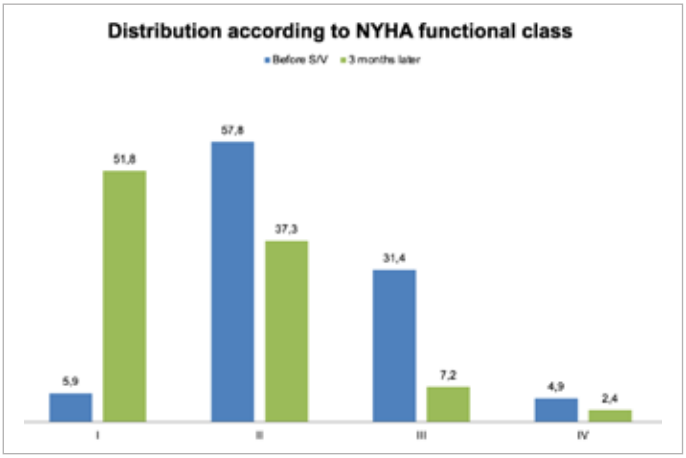
Background and Aims: It has been reported that sacubitril/valsartan reduce hospitalizations for heart failure and mortality, but in the first years of its use, data in real clinical practice about symptomatic and functional improvement were limited. The objective of this study was to evaluate the variation in the New York Heart Association (NYHA) functional class in patients who were in treatment with sacubitril/valsartan.

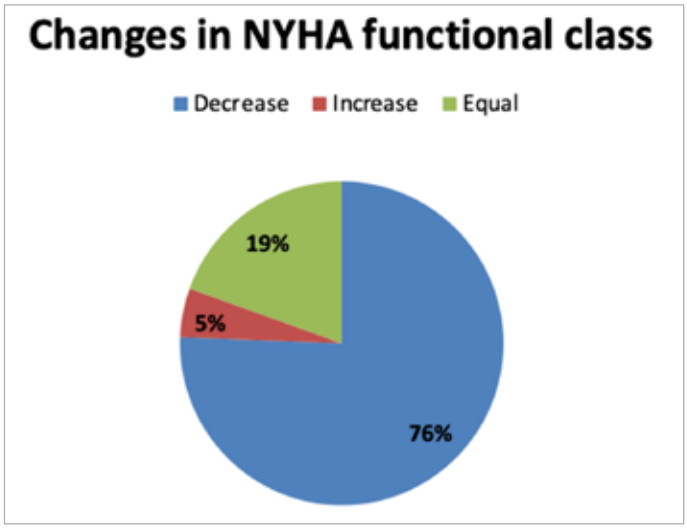
Methods: Observational study. Patients with chronic heart failure (CHF) with reduced ejection function in treatment with sacubitril/valsartan follow-up by the Cardiology Heart Failure Unit from January 2017 to February 2019 were selected. Information regarding the NYHA class before taking the drug and three months later was collected. Hypothesis testing was performed, in which the null hypothesis was that there were no differences in functional class after taking the drug, and the alternative was that there were differences. For data analysis student t-test for paired samples we were performed. All tests were performed using IBM SPSS Statistics.

Results: Of a total of 115 patients, 33 were excluded because the posterior functional class was not recorded. The mean age was 72.6 years. A significant difference ($p<0.01$) in functional class reduction was obtained with sacubitril/valsartan. Results can be seen in Image 1 and 2.

Conclusions: Patients in treatment with sacubitril/valsartan have a significant improvement in NYHA functional class. This implies that they can recovery quality of life, and probably also in echocardiographic parameters such as left ventricular ejection fraction, but more studies are needed in real clinical practice.



132 Figure 1.



132 Figure 2.

133 - Submission No. 1264

EXTENSIVE THROMBOSIS: WHEN THE IMPROBABLE BECOMES POSSIBLE

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Case Description: We present the case of a 40-year-old male with no toxic habits or personal history of interest, who attended the emergency department with clinical symptoms compatible with urinary sepsis together with oedema of the lower limbs and impaction, for which empirical antibiotic therapy was started with parenteral piperacillin-tazobactam and a clinical ultrasound scan of the lower limbs showed bilateral deep vein thrombosis with extension to the greater iliac veins.

Clinical Hypothesis: Given these findings, he was admitted to Internal Medicine and anticoagulation with low molecular weight heparin was started.

Diagnostic Pathways: During his admission, an echocardiogram and magnetic resonance imaging of the lumbosacral spine were performed in order to look for possible infectious foci, both of which were normal except for a prostate mass that was biopsied, with the result of a low-risk prostatic adenocarcinoma.

On the other hand, in order to identify the cause of the thrombosis, a genetic study was requested, which was positive for mutation of the prothrombin gene G20210A heterozygous genotype.

After a favorable clinical and analytical evolution, the patient was discharged from hospital.

Discussion and Learning Points: The most frequent causes for developing extensive venous thrombosis may be hereditary or acquired factors.

On the one hand, he was a carrier of the prothrombin gene mutation, the second most frequent cause of a hereditary hypercoagulable state and estimated to multiply the risk of venous thromboembolism x3-4 and, on the other hand, he had a

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malignant neoplasm (prostate adenocarcinoma) with an incidence of VTE in these patients of 15%.

134 - Submission No. 2028

CORONARY HEART DISEASE RECURRENCE, DEPRESSION AND OXIDATIVE STRESS MARKERS

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Background and Aims: Multiple researches confirm coronary heart disease (CHD) and depression (D) are highly comorbid, D is associated with increased risk of CHD and vice versa, D is a strong predictor of CHD outcome. This interaction may be explained by oxidative stress (OS). Research aim - to investigate the relationships between OS biomarkers, D and recurrent stable CHD (RecCHD).

Methods: A retrospective case-control study, comparing patients with primary stable CHD (PrCHD) with patients with RecCHD, determining OS markers MDA and GPx levels in blood and D severity (structured interview, Geriatric Depression Scale).

Results: 174 patients – 49.4% with PrCHD, 50.6% with RecCHD. MDA: 83.9% had high level, level was slightly higher in PrCHD group without D. GPx: 72.4% had normal level, 17.8% - high and 9.8% - low. D: 44.3% - had mild and 6.9% - severe. Patients with both high GPx and D had 10.6 times higher chances of RecCHD than with normal GPx, without D.

Conclusions: Elevated GPx level was more common among patients with RecCHD, also in D patients with RecCHD. Majority of patients had high level of MDA with higher rates in patients with PrCHD. More than a half of patients were experiencing mild or severe D with higher rates among patients with RecCHD. Patients with high GPx and D have higher chances of RecCHD. Increased MDA level is a risk factor for stable CHD in general, but it does not link to D severity and RecCHD. Hence antioxidant enzyme GPx is more significant marker of risk of D and RecCHD.

135 - Submission No. 720

HYPERLEPTINEMIA IS A RISK FACTOR AT THE DEVELOPMENT OF ENDOTHELIAL DYSFUNCTION IN HYPERTENSIVE PATIENTS

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Background and Aims: Leptin can stimulate systemic inflammation, elevate oxidative stress, and increase vascular smooth muscle hypertrophy and play an active role in atherosclerosis. Endothelial dysfunction is associated with increased mortality in patients on hypertension. The present study aimed to determine the relationship between serum leptin level and endothelial dysfunction in patients with hypertension.

Methods: The present cross-sectional, single-center study included 100 hypertension patients. A commercial enzyme immunoassay kit was used to measure leptin levels. The endothelial function and vascular reactivity index (VRI) were measured using digital thermal monitoring (DTM) test (VENDYS). In this study, VRI < 1.0 was used as the poor vascular reactivity, 1.0 ≤ VRI < 2.0 was used as the intermediate vascular reactivity, and VRI ≥ 2.0 was used as the good vascular reactivity.

Results: Ten hypertensive patients (10%) were categorized as poor vascular reactivity (VRI < 1.0), 46 (46%) were categorized as intermediate vascular reactivity (1.0 ≤ VRI < 2.0), and 44 (44%) had good vascular reactivity. Older age ($p = 0.015$) and higher serum leptin level ($p = 0.001$) was associated with poor vascular reactivity. Advanced age ($r = -0.217$, $p = 0.030$) and serum level of leptin ($r = -0.312$, $p = 0.002$) was negatively associated with VRI values in hypertensive patients. After multivariable forward stepwise linear regression analysis noted that serum leptin level ($\beta = -0.312$, $p = 0.002$) was significantly and independently associated with VRI values in hypertensive patients.

Conclusions: Serum leptin levels were negative associated with VRI and associated with endothelial dysfunction in patients with hypertension.

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AS03. CEREBROVASCULAR AND NEUROLOGIC DISEASES

136 - Submission No. 741

HHV-6 ENCEPHALITIS, A CHALLENGING ENTITY

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Case Description: We present a 25-year-old healthy woman who attended the Emergency Department with a chief complaint of severe oppressive holocraneal headache of a week of evolution as well as paresthesia engaging the right side. Physical examination did not reveal any neurological deficits. Soon after, she debuted with sensitive aphasia and fever. Blood tests revealed leukocytosis and elevation of acute-phase reactants. Cranial CT, MRI and angiography demonstrated no relevant alterations. She underwent a spinal tap, obtaining clear liquid with an exit pressure of 36 cmH_2O. Further tests showed pleocytosis and hyper-proteinorrhachia with normo-glycorrachia. CSF Film-Array unveiled positivity for HHV-6, starting treatment with ganciclovir. Electroencephalogram was indicative of moderate-severe diffuse encephalopathy.

Clinical Hypothesis: Given the present medical history, several diagnoses were considered including HHV-6 encephalitis, inherited chromosomally integrated HHV-6, paraneoplastic neurological syndromes and autoimmune encephalitis.

Diagnostic Pathways: A thorough anamnesis and autoimmunity tests discarded autoimmune encephalitis. The negativity of onco-neurological antibodies and the absence of evidence of neoplasia made the diagnosis of paraneoplastic neurological syndrome unlikely. Detection of HHV6 IgG in serum serologies, positivity of serum PCR and clinical improvement with ganciclovir supported our main suspicion.

Discussion and Learning Points: Even though encephalitis HHV-6 is our main hypothesis, we cannot dismiss completely others mentioned previously, since a positive PCR result of CSF does not confirm the diagnosis. Inherited chromosomally integrated HHV-6 can explain high levels of viral DNA in blood and tissues in the absence of reactivation. Consequently, this limits the use of qualitative PCR to discriminate between latent and active infection. VHH-6 serology also faces several well-known limitations.

137 - Submission No. 1496

STROKE IN YOUNG ADULTS: ONLY ONE ETIOLOGY?

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Case Description: A 47-year-old female presented to the emergency department with dysarthria, right facial numbness and decreased muscle strength in the right upper limb, with more than 5 hours of evolution. On physical examination, presented right facial paralysis with hypoesthesia of the lower floor of the right hemiface, right upper limb dysmetria and mild dysarthria; blood pressure was 200/100mmHg.

Clinical Hypothesis: The clinical hypothesis was acute stroke.

Diagnostic Pathways: -Cranioencephalic computed tomography: no alterations suggestive of recent vascular injury. -Cranioencephalic magnetic resonance imaging: "Left parasagittal Rolandic relatively focal cortical gliotic lesions, as well as more extensive, right parietal and left occipital cortico-subcortical lesions, these with signs of hemorrhagic cortical necrosis, probable sequelae of ischemic lesions in the border territory. Hypersignal foci are also defined in throughout the supratentorial white matter, nonspecific, with a distribution compatible with ischemia due to small vessel disease." - Thrombophilia study: lupus anticoagulant 1 (<1.20), confirmatory anticoagulant lupus silica clotting 1.17 (<1.20). After three months, lupus anticoagulant 1.64 (<1.20), anticoagulant lupus silica clotting 1.08 (<1.20), supporting antiphospholipid syndrome (APS). -Ambulatory blood pressure monitoring confirmed systolic arterial hypertension.

Discussion and Learning Points: APS is an autoimmune syndrome characterized by arterial or venous thrombosis with persistent laboratory evidence of phospholipid autoantibody. In the study of the etiology of stroke at young age, it is essential to determine the etiology as well as additional risk factors. Despite APS, the contribution of arterial hypertension cannot be excluded. The overlap of the 2 pathologies in this clinical case is highlighted.

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138 - Submission No. 1504

SUSTAINED HYPONATREMIA IN A PATIENT WITH SUBARACHNOID HEMORRHAGE

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Case Description: A 71-year-old man presented to the emergency department (ED) after a traumatic brain injury. Cranioencephalic computed tomography documented: "right occipital epicranial hematoma, acute blood content located along the anterior interhemispheric fissure and the left anterior frontal subarachnoid space, where a focus of anterior frontal parenchymal contusion may coexist." No changes in laboratory tests, being discharged from the ED after 24 hours of surveillance. After three weeks, readmitted due to lipothymia. Laboratory tests revealed severe hyponatremia of 111mmol/L, serum osmolality of 223.30 mOsm/Kg, increased sodium urinary concentration and urinary osmolality. Syndrome of inappropriate antidiuretic hormone secretion (SIADH) was assumed. After one week, was discharged with sodium of 122mmol/L. One week after, was found prostrate with conjugated gaze deviation to the right, dysarthria, and urinary sphincter incontinence, being forwarded to the ED.

Clinical Hypothesis: The clinical hypothesis was hyponatremia, acute stroke, and convulsive crisis.

Diagnostic Pathways: Intracerebral hemorrhage was excluded. Hyponatremia of 115 mmol/L stood out. Due to no improvement, sustained hypovolemia, and due to subarachnoid hemorrhage (SAH), the hypothesis of cerebral salt wasting syndrome (CSWS) was considered and corrected with bolus of hypertonic saline and fludrocortisone, with improvement in natremia values. No records of neurological complications.

Discussion and Learning Points: Differential diagnosis in the etiology of hyponatremia remains challenging and the CSWS is a poorly understood entity. Although less common, it is the evidence of volume depletion, associated with elevated urinary sodium, in a patient with intracranial disorder, which suggests that CSWS may be present rather than SIADH.

139 - Submission No. 1514

IDIOPATHIC INTRACRANIAL HYPERTENSION - AN ENTITY WE MUST NOT FORGET

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Case Description: A 46-year-old female went to the emergency department with a 2-week course of frontal headache, progressively worsening, of an oppressive type, radiating to the temporal and occipital region. Pain improved when the patient lay down and worsened with exertion. Associated diplopia with 2 days of evolution. Other symptoms such as fever, changes in strength or sensitivity, vertigo were denied.

Clinical Hypothesis: The clinical hypothesis was acute stroke, cerebral venous thrombosis, space-occupying lesion.

Diagnostic Pathways: Cranioencephalic (CE) computed tomography (CT) was normal. Fundoscopy showed bilateral papilledema. Subsequently, a lumbar puncture was performed with a clear "rock crystal" cerebrospinal fluid (CSF) and opening pressure greater than 35 cmH_2O. CSF analysis revealed: 26 mg/dL proteins, glucose 58 mg/dL and total cell count 1/uL. Acetazolamide was started, besides anti-inflammatory drugs. CE magnetic resonance imaging (MRI) was performed, which showed signs of intracranial hypertension. Due to papilledema, neurological examination without relevant changes, no evidence of structural lesions on MRI, normal values of CSF and high opening pressure, hypothesis of idiopathic intracranial hypertension (IIH) was considered. Reevaluation with clinical improvement and less bilateral papillary edema.

Discussion and Learning Points: The differential diagnosis of headache is still challenging. IIH is defined by signs and symptoms related to increased intracranial pressure, unaltered CSF, and no other cause of intracranial injury. Although IIH is a diagnosis of exclusion, it should be considered in young women of childbearing age.

140 - Submission No. 1877

SUDDEN ONSET PARAPLEGIA

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Case Description: A 66-year-old female ex-smoker, obese, with hypertension and dyslipidemia, was referred to the emergency department for sudden loss of strength in her lower limbs while taking a walk. On examination she presented flaccid paraplegia with loss of strength and sensibility in the lower extremities, with partial improvement after hours of observation. It was performed a magnetic resonance imaging (MRI) to rule out compressive myelopathy. In the images we could watch a dorsal scoliosis and disc protrusion L1-L2.

Clinical Hypothesis: She began rehabilitation. Ten days later, she felt fever, dysuria and abdominal pain. We suspected septic symptoms of urinary origin, so a computed axial tomography (CT) was performed. We observed a contrast extravasation in the right posterosuperior bladder wall due to extraperitoneal bladder perforation.

Diagnostic Pathways: There were performed a radical cystectomy with bilateral ureterostomy, hysterectomy and double adnexectomy. The postoperative course was torpid with poor perfusion and absence of femoral pulses. We could appreciate absence of contrast in the distal abdominal aorta, bifurcation and common iliac arteries, with re-permeabilization at the level of the external iliac arteries (filiform), renal, hepatic and spleen infarcts. The diagnosis of Leriche syndrome and visceral infarction was considered. Finally, the patient died without specific treatment.

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Discussion and Learning Points: Spinal cord infarction may be the cause of sudden paraplegia. The MRI can be diagnostic but in 14% of the cases of spinal cord infarction cases it will have a normal MRI image.

141 - Submission No. 1543

PROGRESSIVE WEAKNESS OF LOWER LIMBS AND HEART FAILURE. SOMETHING DOESN'T MATCH

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Case Description: A 64-year-old woman, ex-smoker, with no other history of interest or known drug allergies, presented with paucisymptomatic SARS-CoV-2 infection three weeks ago, after which she started with edema, weakness, and severe pain in the lower limbs without loss of sensation, progressive dyspnea up to moderate exertion, orthopnea and paroxysmal nocturnal dyspnea, and was diagnosed with debut heart failure. Dyspnea, peripheral oedema, and laboratory parameters improved with intravenous diuretic treatment, but the weakness and pain in the lower limbs worsened to the point of making it impossible to stand upright. The patient added that the weakness started one week before the symptoms attributable to heart failure, along with catarrhal symptoms of SARS-CoV-2 infection. Neurological examination revealed distal lower limb weakness and abolition of patellar reflexes, with no sensory disturbance.

Clinical Hypothesis: Ascending motor polyneuropathy.

Diagnostic Pathways: Lumbar MRI ruled out myelo-radicular involvement and an electroneurogram showed severe subacute partial denervation of the lower limb musculature secondary to degeneration of the nerve terminals of the neuromuscular plates, and the patient was diagnosed with acute motor axonal neuropathy (AMAN).

Discussion and Learning Points: Acute motor axonal neuropathy is a pathology included in the spectrum of Guillain-Barré syndrome (GBS). It is usually caused by a previous infection and may progress to respiratory muscle weakness and death from acute respiratory failure if appropriate measures are not instituted. Cases of para and post-infectious GBS associated with SARS-CoV-2 have been reported, being similar to classical GBS in terms of clinical presentation, electrodiagnostic evaluation and response to treatment, so clinical suspicion is essential to prevent progression.

142 - Submission No. 1894

POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME IN A PATIENT WITH HEREDITARY METABOLIC DISEASE AND RHABDOMYOLYSIS AND ACUTE KIDNEY FAILURE AFTER SARS-COV-2 INFECTION

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Case Description: A 35 years-old patient with hereditary carnitine palmitoyltransferase II deficiency (myopathic type) and COVID-19 with mild lung involvement was hospitalized due to rhabdomyolysis (CPK 115.000U/L) and acute kidney failure (creatinine 2mg/dl). On the sixth day of hospitalization patient described episodes with blurry vision and progressively decrease of his vision. New onset of fever was attributed to hospital acquired infection which was accompanied by clinical deterioration with symptoms such as headache, confusion, seizures, aggravation of his visual acidity, nystagmus together with sweating, paleness and disorders of eye movements.

Clinical Hypothesis: These clinical symptoms were suggestive of posterior reversible encephalopathy syndrome (PRES).

Diagnostic Pathways: Lumbar puncture was unrevealed for infection. A brain CT scan showed no abnormalities, and a comprehensive eye examination was not suggestive of primary eye damage. Whole blood count and biochemistry tests were unrevealed too. After ruling out major diseases, our patient had undergone brain MRI with results suggestive of PRES: multiple areas of vasogenic oedema in both cerebral hemispheres (abnormal signal intensity), without diffusion restriction.

Discussion and Learning Points: Treatment included advanced antibiotic treatment due to hospital acquired infection, levetiracetam, supporting treatment for his underline metabolic disease and carefully adjustment of his blood pressure. Progressively, there was improvement and finally patient was discharged without central nervous system related symptoms. In conclusion, PRES is related to hospitalized patients with underlying acute illness (infections, kidney failure or immunosuppression). However, it is completely reversible with favorable outcome after prompt diagnosis.

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143 - Submission No. 1584

PRES IN THE CONTEXT OF HYPERTENSIVE CRISIS

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Case Description: Male patient, 74 years, hypertensive, diabetic and obese, medicated with metformin and atorvastatin. Brought to the emergency department by headache, mental confusion, decreased muscle strength in the right hemibody with unknown evolution time. Physical and neurological examination revealed somnolence, dysarthria, disorientation in time and space, right hemiparesis in the context of a hypertensive crisis without associated fever.

Clinical Hypothesis: Stroke, intracerebral hemorrhage, space-occupying lesions of the brain, post critical status (Todd's palsy), severe hypoglycemia.

Diagnostic Pathways: Due to the suspicion of intracranial pathology, a cranioencephalic computed tomography scan was performed with a study of the angiography, which revealed areas of bilateral temporo-occipital vasogenic edema, with greater extension on the left hemisphere, without associated expansive lesions, without signs of hemorrhagic or ischemic foci. CT angiography admitted the possibility of posterior reversible encephalopathy syndrome. Hospitalization of patient was decided for neurological surveillance and repetition of the imaging exam. The patient evolved well and at the end of 24 hours was asymptomatic, without changes in the neurological examination, which reinforces the diagnostic hypothesis of PRES.

Discussion and Learning Points: PRES is a unique entity with characteristic clinical and neuroradiological findings. This syndrome is associated with a variety of conditions, including hypertensive encephalopathy, eclampsia, porphyria, hypomagnesemia, sepsis and the use of immunosuppressive drugs. In conclusion, our patient presented PRES related to a hypertensive crisis, but early diagnosis and blood pressure control allowed his complete recovery.

144 - Submission No. 1716

A RAPID PROGRESSION TO VEGETATIVE STATE: RESISTANT HSV-1 ENCEPHALITIS V/S POST-HERPETIC AUTOIMMUNE ENCEPHALITIS

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Case Description: 77-year-old female with previous history of Alzheimer's disease, partially independent of activities of daily living until 48hrs before admission, when she presented acute disorientation with progression to non-verbal state. On physical examination tachycardia, fever (40°C) and GCS 11/15. No focal neurological deficit or meningeal signs.

Clinical Hypothesis: Central nervous system infectious process.

Diagnostic Pathways: Initial labs remarkable for neutrophilic leukocytosis and elevated ESR and CRP. Head CT without acute changes. Empiric therapy directed to common causes of CNS infection including viral etiology started. Despite therapy, progression to new-onset seizures and neurological deterioration was noted and patient was emergently intubated. CSF analysis showed pleocytosis with monocytic predominance, elevated protein, hypo-glycorrhachia. Fluid culture negative. Brain MRI findings correlated with HSV encephalitis and EEG revealed constant bursts of sharp waves and sharp theta on the left fronto-central-parietal areas. CSF PCR test positive for HSV-1. Despite Acyclovir therapy, follow up LP demonstrated marked increment of pleocytosis, and protein levels compared to previous evaluation. Patient's clinical course resulted in a persistent vegetative state. Differential diagnosis included resistant HSV-1 infection and autoimmune encephalitis. Patient's family refuse further testing or intervention for assessment.

Discussion and Learning Points: The rapid progression and long-term sequelae of HSV-1 encephalitis makes it a challenging disease that clinicians must recognize, since prompt treatment is crucial for improving outcomes. Intravenous acyclovir has been shown to decrease morbidity/mortality rates by halting viral replication and CNS damage. Acyclovir-resistance and/or post-herpetic autoimmune encephalitis are part of possible clinical courses even with prompt therapeutic intervention. Wide range of outcomes including persistent vegetative state has been reported.

145 - Submission No. 716

CATASTROPHIC BLEEDING EVENT IN A PATIENT ON UNFRACTIONED HEPARIN HYPOCOAGULATION

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Case Description: A 76-year-old male, with previous history of dyslipidemia and gastric cancer. Admitted for low-risk acute pulmonary embolism (PE), without clarified etiology, initially hypo-coagulated with low molecular weight heparin (LMWH). Due to the appearance of a hematoma at the level of the right thigh, confirmed through imaging, a switch to unfractionated heparin (UFH) was made. After two days of this therapeutic change, the patient had a sudden worsening of consciousness and respiratory arrest.

Clinical Hypothesis: Hemorrhagic stroke. Ischemic stroke. Epilepsy.

Diagnostic Pathways: Analytical study with increased activated partial thromboplastin time. Computed axial tomography of the brain showing massive cerebellar hemorrhage with compression at the level of the brainstem.

Discussion and Learning Points: Hemorrhagic events in hypo-coagulated patients with unfractionated heparin are highly prevalent and this is another example. Once again, this case raises the open discussion of the benefit versus risk of hypo-coagulation.

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146 - Submission No. 1659

HORNER SYNDROME: DIFFERENT APPROACHES IN A CASE SERIES

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Case Description: The authors report a case series including one second order and two third-order Horner Syndromes. We describe the case of a 73-year-old female with a recently diagnosed breast ductal invasive carcinoma presenting with pain and oedema in the right arm, also objectified Horner Syndrome triad and superior vena cava syndrome. Study revealed axillary nodal metastasis with axillo-subclavian vein thrombosis. We also report the case of a 55-year-old male with an acute intense headache and ipsilateral ptosis and miosis, CT angiography showed internal right carotid sub-occlusive stenosis secondary to carotid dissection. The last case concerns a 66-year-old male with homolateral headache with ipsilateral facial and cervical pain, also with ptosis and miosis. After an inconclusive initial workup, further investigation with cervical and thorax CT revealed a suspicious spiculated node in the lung´s right lower lobe and excluded expansive lesions possible causing compression in the supraclavicular fossae. Also submitted to MRI that displayed carotid dissection since its origin and absent flow.

Clinical Hypothesis: Oculo-sympathetic paresis is a neurologic syndrome produced by a lesion anywhere along the three-neuron sympathetic chain that originates in the hypothalamus and classically presents with ipsilateral anisocoria, anhidrosis and ptosis.

Diagnostic Pathways: Associated neurological symptoms and signs might be present and help in identifying high-yield sites of investigation therefore leading diagnostic pathway.

Discussion and Learning Points: We aim to emphasize that while many cases have no identified etiology even after extensive investigation, causes can range from benign to serious and the possibility of a life-threatening condition dictates a methodologic approach to diagnostic evaluation usually requiring MRI.

147 - Submission No. 236

SINGLE NUCLEOTIDE POLYMORPHISMS IN PATIENTS WITH ACUTE ISCHEMIC STROKE: A PROSPECTIVE STUDY OF THE RELATIONSHIP BETWEEN GENETIC, ACUTE PHASE CYTOKINE LEVELS AND STROKE PROGNOSIS

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Background and Aims: The genetic basis of ischemic stroke probably consists of several predisposing risk factors, such as genes involved in inflammation and thrombotic pathways. On this basis, our study aimed to evaluate the role of SNPs (single nucleotide polymorphisms) of some pro-inflammatory/anti-inflammatory and coagulation/fibrinolytic genes and the serum levels of some markers of thrombo-inflammatory activation in the acute phase and the prognosis of in patients with acute ischemic stroke at a two years follow-up.

Methods: The study sample consisted of 421 adult patients hospitalized in 4 Italian enrollment centers between 2009 and 2019, diagnosed with acute ischemic stroke, and 198 control subjects. Patients underwent follow-up visits every six months for three years after discharge. Death, stroke recurrence and other vascular event rates were evaluated. We conducted a molecular analysis of pro/anti-inflammatory and pro/anti-thrombotic gene polymorphisms and assessed serum levels of acute phase cytokine.

Results: We reported higher levels of IL-6, IL-1b, and TNF-alfa in subjects with IS compared to controls; CEI showed higher serum levels of IL-6, IL-1b and TNF-alfa than LAAS and SVD. We observed a significant relationship between death and stroke recurrence and serum levels at the admission of TNF-alfa, IL-6 and IL-1 beta and the CC. We reported a better prognosis in subjects with PTGS2-rs689466 CT and CC alleles rs 5275 and a worse prognosis in subjects with MMP-9-rs3918242 CT alleles.

Conclusions: Our findings showing a relationship between pro-inflammatory/anti-inflammatory and thrombotic/fibrinolytic genes SNPs and ischemic stroke and its prognosis may contribute to delineating a possible stroke risk profile in subjects with cerebrovascular risk factors.

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148 - Submission No. 1311

COHORT OF HOSPITALIZATION IN THE STROKE UNIT FROM JAN 2021 TO OCT 2022 DIVIDED BY AGE

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Background and Aims: Stroke is characterized by the existence of neurological deficit associated with cerebral ischemia or hemorrhage, being a diagnostic challenge in young adults.

Methods: Retrospective cohort study of patients admitted to Stroke Unit from 1/01/2021 to 31/10/2022, stratified into ≤55 years and >55 years. Type of stroke, gender, autonomy at admission and discharge, risk factors (RF) and mortality rate were characterized. Descriptive and differential statistics were performed based on the service's database, using Excel.

Results: The total sample size was 300 patients, 27 (9%) in the ≤55Y, and 273 (91%) >55Y. In ≤55Y, Men were prevalent (66.7%) vs similar numbers M (49.8%) >55Y. There were significant differences in the etiology of stroke, with a higher hemorrhagic stroke (18.5%|15.8%) and TIA (14.8%|4.4%), and a lower prevalence of LACI (25.9%|30.4%) and TACI (3.7%|13.2%) in youths. In the ≤55Y, the mean mRankin at admission was 3.1 (SD 1.70) and at discharge 2.0 (SD 1.36); while in the >55 A group at admission, the mean was 1.40 (SD 1.44) and at discharge 3.2 (SD 1.84). The main risk factors were hypertension (55.1%|66%) and dyslipidemia (33.3%|33.3%). In the ≤55Y smoking (33.3%|3.0%) » excess weight (25.9%|11.0%) » T2DM (18.5 %|19.7%) » alcoholism (14.8%|3.3%) » previous stroke/TIA (11.1%|11.7%) » atrial fibrillation (3.7%|14.3%). Fibrinolysis and/or thrombectomy occurred in 5 (18.5%) ≤55Y and 38 (12.7%) > 55 A. The mortality rate was null in ≤55Y and 10% in >55Y.

Conclusions: Strokes in young adults are uncommon but have a large economic impact, leaving victims disabled in working age. The prevalence of modifiable RF is different, and its aggressive treatment is essential to reduce morbidity and mortality.

149 - Submission No. 1409

ANTICOAGULATED, ANTIAGGREGATED AND WITH PROTHROMBOTIC DISORDER, IT WAS JUST MISSING SUBDURAL HEMATOMA

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Case Description: An 86-year-old self-employed man with a history of Polycythemia Vera, hypertension and chronic AF, hypo-coagulated with dabigatran, presented to the ER for syncope with CE trauma.

Clinical Hypothesis: Subdural hematoma. Hemorrhagic stroke.

Diagnostic Pathways: CE Tomography: HSD right hemispherical, fronto-temporo-parietal subacute, about 22 mm thick, causing obliteration of regional cortical sulci and ventricular collapse right lateral with a left deviation of the median structures of about 11 mm. He was sent to Neurosurgery, where he underwent drainage of the right HSD on the 4th day of hospitalization, without complications, without sequelae neurological deficits. Reassessed 10 days later, with a new CT demonstrating "reduction of the subacute subdural hematoma of the right hemispheric, identifying predominantly collection right fronto-temporo-parietal hypodense with about 9 mm, determining reduced permeability of regional cortical sulci and slight molding of the ventricle right lateral, with incipient left deviation of the median structures."

Discussion and Learning Points: This case highlights the importance of the underlying pathologies, being an anticoagulated, anti-aggregated patient with a prothrombotic disorder, which with the aging of the population has become an increasingly common reality. This affects the outcome, as many elderly people do not value EB trauma, and may not even refer to them if not specifically asked, which leads to higher morbidity and mortality.

150 - Submission No. 1203

EVALUATION OF THE LEVEL OF IGG ANTIBODYIES AGAINST ASCARIS LUMBRICOIDES IN SERUM OF PATIENTS WITH DEMENTIA AND MENTAL DISORDERS

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Background and Aims: Parasitic infections, such as toxoplasmosis, have been related with dementia and mental disorders. Previous studies of our team have correlated AD with Ascaris Lumbricoides (AL), as 30% of patients with severe Alzheimer's disease (AD)

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were positive to IgG antibodies against AL antigens (AAIC 2022), although Ascariasis is considered as a neglected disease in developed countries. Parasitic infections may alter intestinal and blood brain barrier permeability, triggering harmful processes in the brain, even if they do not insert themselves in it. In the present study, IgG antibodies against AL antigens were detected in serum of 73 patients with psychiatric disorders and healthy individuals. Non-AD type dementia, bipolar disorder, depression, psychosis and schizophrenia were among the psychiatric disorders of patients.

Methods: ELISA plates coated with AL antigens were used for the ani-ascaris IgG antibody determination. BLASTp was used to identify the similarity between AL proteins and human proteins with probable relation with the diseases.

Results: According to the results, 13% of patients with mental disorders were positive to AL IgG antibodies vs 4.3% in general population($p<0.00001$). In contrast to the significant percentage of positive samples in AD, no positive samples were detected in patients with no AD dementia.

Conclusions: The results indicated a correlation of Ascaris lumbricoides infection with psychiatric disorders such as bipolar disorder, depression, psychosis and schizophrenia but not non-AD dementia which was not as strong as the previously detected correlation with severe AD. Similarity with human proteins may support cross-reaction effect. However, ascariasis may contribute by affecting permeability enabling other molecules to act.

151 - Submission No. 1060

ANTIBODIES AGAINST EGG-ALBUMIN, BOVINE SERUM ALBUMIN AND CASEIN IN PATIENTS WITH PSYCHIATRIC DISORDERS

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Background and Aims: Multiple studies have found a correlation between psychiatric disorders and food. Casein is the antigen related with most disorders while, recent studies of our team revealed increased anti-egg albumin antibodies in patients with severe Alzheimer's disease. The aim of this study was the detection of antibodies against denatured and native egg-albumin, bovine serum albumin (BSA) and casein in serum of patients with psychiatric disorders (PD).

Methods: 85 serum samples of patients with PD and healthy individuals were tested using ELISA plates coated with the appropriate antigens.

Results: According to the results, 31.8% of PD patients were anti-egg albumin positive vs 5.7% in general population ($p=0.028$, chi square test), 14% were anti-BSA positive vs 0% in general population and 56.8% of PD patients were anti-casein positive vs 14.2% in general population ($p=0.001$). The greater increase in anti-egg albumin antibodies was observed in dipolar disorder (42%, $p=0.012$), in anti-BSA (40%) was observed in schizophrenia and depression and in anti-casein was observed in dipolar disorder (70%, $p=0.009$), followed by psychosis (75%, $p=0.004$), schizophrenia (60%, $p=0.013$) and depression (60%, $p=0.012$). The percentage of patients positive to at least one of these antibodies varied between 80% and 100%. Low, not statistically significant percentage of positive samples was found in patients with dementia. Most patients were positive against native molecules. Antigen similarity with human proteins may support cross-reaction effects.

Conclusions: Egg-albumin and BSA in addition to casein seem to correlate with several mental disorders, pointing to the importance of good intestinal function and the role of specific food consumption in these patients.

152 - Submission No. 1226

REVERSIBLE CEREBRAL VASOCONSTRICTION SYNDROME

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Case Description: A 46-year-old woman presents with sudden onset, stabbing, occipital headache with nausea and photophobia. Constants were normal, she had no meningeal signs, and neurological examinations were normal. She often consumed smoked heroin, had been diagnosed with depression and received treatment with sertraline and lormetazepam.

Clinical Hypothesis: Differential diagnoses of thunderclap headaches include aneurysmal subarachnoid hemorrhage, amyloid angiopathy, intracranial arterial dissection, pituitary apoplexy, cerebral venous thrombosis, and migraine.

Diagnostic Pathways: A brain CT scan showed no abnormalities. Blood tests were normal. Cerebrospinal fluid demonstrated a slight increase in proteins, with the rest of parameters within normal limits. CT of cerebral arteries and brain MRI revealed hyperintensity in parasagittal frontal grooves and interhemispheric fissure, with no enhancement after contrast administration, and segmental vasoconstriction of the left anterior cerebral artery. Cerebral arteriography observed multi-segmental vasospasm in the anterior, middle, and posterior cerebral artery territories. The autoimmunity study was negative. The evolution was satisfactory without neurological sequelae. CT evaluation of cerebral arteries performed 3 months later demonstrated resolution of the described alterations.

Discussion and Learning Points: RCVS is the most common cause of thunderclap headache in patients without subarachnoid hemorrhage. It mainly affects women between 20-50 years. In half of patients, a triggering factor (exertion, Valsalva...) or an associated condition (drug use, postpartum period, cervical artery dissection

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or catecholamine-secreting tumors) can be identified. It usually presents a monophasic course and is self-limited. The image shows multiple narrowing of medium/large caliber arteries bilaterally and diffusely. It has no specific treatment. The prognosis is good, and the presence of permanent neurological deficits is rare.

153 - Submission No. 1335

AMYLOID ANGIOPATHY PRESENTED AS AMYLOID SPELLS

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Case Description: An 83-year-old patient, with paroxysmal atrial fibrillation (AF) on edoxaban, and cognitive impairment with one year of evolution, presented to the emergency department (ED) with paresthesia of the right upper limb and homolateral hemiface and aphasia, lasting for 30 minutes. The same symptoms had occurred a week before. At the ED, he had normal vital signs and no neurologic focal deficits, without any other symptoms.
Clinical Hypothesis: Transient focal neurologic episodes.
Diagnostic Pathways: Head computed tomography didn't show acute ischemic or hemorrhagic lesions. Blood tests, particularly the ionogram and coagulation, were normal. Since symptoms persisted, a brain magnetic resonance (MRI) was performed, evidencing left predominant lobar hemorrhage as well as chronic cerebral microbleeds in the occipitotemporal right lobes. Cortical superficial siderosis was also seen at the frontal and parietal lobes and there was multifocal white matter hyperintensity on T2/FLAIR. Hence, the diagnostic of cerebral amyloid angiopathy (CAA) was probable, according to Boston Criteria Version 2.0 for CAA. Considering the risks/benefits of anticoagulation, he was discharged on edoxaban to prevent ischemic stroke due to AF and referred to a cardiology appointment to evaluate the possibility of left atrial appendage closure.
Discussion and Learning Points: CAA is a cerebrovascular disorder characterized by the deposition of amyloid-β-peptide within the leptomeningeal and cortical cerebral vasculature. The resulting vascular fragility frequently manifests as lobar intracerebral hemorrhage in elderly patients, but also as incident microbleeds or hemosiderosis on brain MRI and as transient neurological symptoms called amyloid spells. The management of AF in patients with CAA is uncertain, so anticoagulation should be weighted individually.

154 - Submission No. 407

EMBOLIC STROKE OF UNDETERMINED SOURCE AND THE ROLE OF SUBCLINICAL ATRIAL FIBRILLATION

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Case Description: A 73-year-old patient presented to the emergency department (ED) with left side gait imbalance and aphasia with undetermined time of evolution. At the ED, the vital signs were normal, and he punctuated 3 at the national institutes of health stroke scale (2 for limb ataxia and 1 for mild aphasia). Head computed tomography excluded acute ischemic or hemorrhagic lesions.
Clinical Hypothesis: Ischemic stroke/transient ischemic attack.
Diagnostic Pathways: The patient performed a brain magnetic resonance which showed a recent ischemic lesion at the territory of the left anterior cerebral artery. Duplex ultrasonography and transcranial doppler ultrasonography were performed, showing no significant atherosclerotic stenosis or artery dissection. 12-lead-electrocardiogram and subsequent 48h cardiac telemetry showed sinus rhythm and no atrio-ventricular or ventricular arrhythmias. Heart ultrasound showed normal 4-chamber dimensions and excluded septum anomalies, thrombus and left ventricular dysfunction. Hence, the criteria for embolic stroke of undetermined source (ESUS) were met and a subcutaneous insertable cardiac monitor (ICM) was placed. After 6 weeks, the ICM was revised and showed periods of AF. The patient stopped aspirin and was started on oral anticoagulation.
Discussion and Learning Points: Ischemic stroke is often associated with disability and high risk of recurrence, so its etiology should be carefully investigated. However, ESUS represents 25% of the cases. Clinicians should be aware that, in ESUS patients older than 55years, longer cardiac rhythm monitoring preferably with ICM should be performed since the detection of AF might influence the therapeutic options.

155 - Submission No. 1194

TEXT MINING AND SGLT2 INHIBITORS: OF CARDIO-RENALS TO BRAIN-CARDIO-RENALS PROTECTORS

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Background and Aims: Diabetes increases the risk of cardiovascular diseases and cognitive impairment. Sodium-glucose cotransporter-2 inhibitors (SGLT2i) are newer hypoglycemic agents with many pleiotropic effects. We discuss their neuroprotective potential.
Methods: Exploratory qualitative research was carried out through the PubMed database and the descending hierarchical classification (DHC) described by Reinert.

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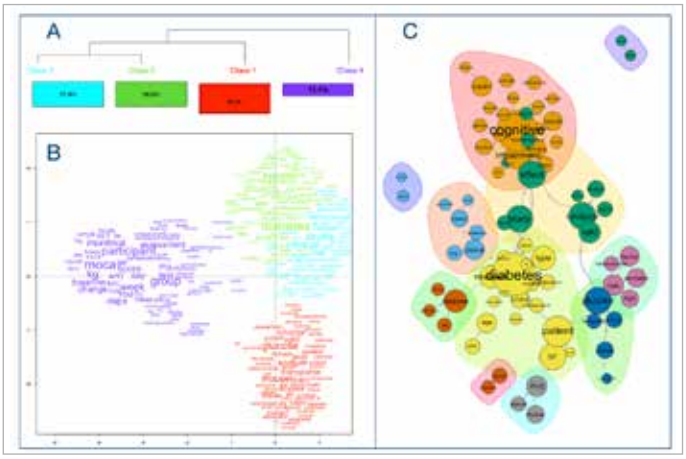
Results: Bibliographic resources consist of 57 documents (27 [47.3%] articles and 29 [50.9%] reviews). The corpus of the resultant dendrogram was divided into two sub corpora (figure 1A). In the first one, class 1 includes 783 elementary context units (ECUs) [32.4%]. Classes 2 represents 643 ECUs [26.6%] and classes 3, 663 ECUs [27.4%]. In the second sub corpus, class 4 includes 324 ECUs [13.4%]. From the factorial representation (figure 1B), the relationship existing in both factorial axes can be observed. The similarity analysis (figure 1C) shows the relationships between the various forms of the corpus: diabetes is associated with microvascular dysfunction, stroke and dementia. SGLT2i ameliorates cognitive dysfunction in type 2 diabetes mellitus (T2DM), reducing oxidative stress, neuroinflammation and improving neuronal plasticity and brain mitochondrial functions.

Conclusions: The use of text mining in qualitative data processing permitted identifying how diabetes implies a higher risk of dementia. Long-term clinical trials are necessary to fully evaluate SGLT2i therapeutic potential.



155 Figure 1.

156 - Submission No. 2084

ACINETIC MUTISM, A DIAGNOSTIC CHALLENGE FOR THE INTERNIST

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Case Description: 83-year-old woman with a personal history of hypertension, type 2 diabetes mellitus and stage IV chronic kidney disease, who was admitted for syncope. General and neurological examination were normal. Urgent cranial TC (without contrast) revealed chronic vascular pathology and basic laboratory tests were unremarkable.

Clinical Hypothesis: The morning after admission, the patient wakes up with a score of 7 points on the GCS. In the anamnesis, her relative refers that she had presented up to three episodes similar last year.

Diagnostic Pathways: A cranial TC was repeated (no changes). Furthermore, arterial and analytical blood gases (complete blood count, coagulation, renal and hepatic profile, ions, PCR, procalcitonin, thyroid hormones, folic acid, B12, antinuclear antibodies, blood and urine cultures), were normal. Empirical antibiotic and antiviral treatment were started in addition to antiepileptic drugs. The LCR study was unremarkable; the EEG ruling out non-convulsive status epilepticus; the skull RM revealed "acute ischemic involvement of semioval centers". A Doppler-echography study of the supra-aortic trunks was normal, transthoracic echocardiography observed atrial fibrillation, and cranial RM angiography had the result: bilateral frontal ischemic stroke of embolic etiology with agenesis of the A1. Finally, the diagnosis of MA secondary to it was established.

Discussion and Learning Points: The MA makes the person incapable of initiating voluntary verbal or motor responses, despite having preserved sensorimotor and vigilance functions. One of the etiologies is the affectation of the bilateral frontal region, with vascular etiology being the most frequent. It is a rare entity, that obliges to carry out the differential diagnosis between other pathologies with a low level of consciousness.

157 - Submission No. 2022

LUMBAR PAIN, HYPOESTHESIA AND REPETITION UVEITIS. THE IMPORTANCE OF DIFFERENTIAL DIAGNOSIS

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Case Description: A 46-year-old male patient with no vascular risk factors, with a history of episodes of repeated uveitis, vitreous detachment in the left eye, and peripheral tear bilateral retinal, with a family history of psoriatic arthritis. Studied in multiple occasions, for generalized pain, with initial diagnosis of psoriatic arthritis.

Clinical Hypothesis: At the anamnesis, the patient reported constant low back pain, headache and long-standing oro-genital canker sores with several episodes per year. Associated hypoesthesia and decreased of migratory strength, accentuated in lower limbs. Physical examination showed no lesions skin or signs of arthritis, with normal neurological/cardiopulmonary examination.

Diagnostic Pathways: It was done analytical with blood count, biochemistry, acute phase reactants, normal proteinogram and immunoglobulins, and negative serology. Rheumatoid factor, anti-cyclic citrullinated peptide, antinuclear, anti-phospholipids and HLAB27 negative. Lumbosacral RM with normal sacroiliacs, and cranial RM with hyperintense lesions, compatible with inflammatory-demyelinating disease. Lumbar puncture was performed with absence of bands oligoclonal, without hyper-proteinorrhachia, with presence of 2 leukocytes, 50%

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polymorphonuclear, 50% mononuclear. Given the symptoms and radiological findings described, a differential diagnosis was made of inflammatory-demyelinating disease, meeting criteria of Behcet's disease (EB) with multiorgan involvement (recurrent oral thrush, polyarthralgia with an episode of arthritis, bilateral recurrent uveitis and general symptoms). Treatment was started with very good evolution.

Discussion and Learning Points: EB is a multisystem vasculitis, with neurological involvement in 5-10% of the cases. The most common affected location is the ponto-bulbar region (40%). The distribution of lesions, together with systemic clinic, helps us differentiate it from other vasculitis and other diseases inflammatory-demyelinating drugs, such as multiple sclerosis.

158 - Submission No. 1621

VARICELLA-ZOSTER VIRUS VASCULOPATHY: AN UNDERDIAGNOSED CAUSE OF STROKE

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Case Description: A 83-year-old male with a past medical history of hypertension, heart failure and coronary disease was admitted in the emergency department with aphasia and left hemiparesis, with no other focal neurologic abnormalities. On physical examination, he was hypertensive (204/93 mmHg), apyretic and a unilateral erythematous vesicular eruption along T1 dermatome, compatible with shingles, was identified. Analytically he had C-reactive protein elevation (67 mg/L). Cranial computed tomography (CT) scan ruled out acute ischemia, intracranial hemorrhage, and space-occupying lesions. CT angiography revealed critical stenosis of the right M1 segment, with regular filling downstream.

Clinical Hypothesis: The diagnosis of ischemic stroke due to hypoperfusion syndrome by severe stenosis of M1 segment or Varicella-Zoster virus (VZV) vasculopathy were considered. He started medical treatment with aspirin, clopidogrel and rosuvastatin.

Diagnostic Pathways: Laboratory testing ruled out other infections and thrombophilia screening was negative. Repeated CT scan overlapped the previous one. ECG and Holter showed no abnormalities. Cerebrovascular ultrasonography revealed slightly carotid atherosclerosis and cranial magnetic resonance exhibited chronic microangiopathy. Lumbar puncture was performed showing pleocytosis with predominance of mononuclear cells. Polymerase chain reaction testing of spinal fluid confirmed VZV infection. The patient was started on intravenous acyclovir, with improvement of symptoms.

Discussion and Learning Points: This case highlights the clinical presentation, diagnosis and management of VZV vasculopathy presenting as ischemic stroke. Although simultaneous zoster exanthema may not be present, the authors emphasize the importance of a complete clinical history and physical examination which could contribute to a prompt treatment, improving patient outcomes.

159 - Submission No. 1018

PROGRESSIVE MUSCLE WEAKNESS. BEYOND THE NEUROLOGICAL ORIGIN

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Case Description: 74-year-old male consulted for one week of progressive weakness of the four extremities with gait impairment, mild low back pain and tendency to constipation. He denied fever, recent infections or other accompanying symptoms. Physical neurological examination showed proximal predominant flaccid tetra-paresis with cervical weakness 3/5. No sensory deficit. Areflexia.

Clinical Hypothesis: The principal hypothesis was a Guillain-Barre syndrome with proximal involvement as atypical presentation, so another hypothesis was a myopathy, less likely a myopathy secondary to statins since he had been taking them for several years.

Diagnostic Pathways: Blood tests showed severe hypokalemia and increased creatinkinase. Lumbar puncture showed increased proteins. Neurophysiological study reported results consistent with moderate-severe Guillain-Barré syndrome. Regarding his hypokalemia, diuretics were suspended, and the study was extended, showing a metabolic alkalosis. Although this could be cause by his chronic treatment with thiazides; renin-angiotensin was requested: Aldosterone 56.3 ng/dL and Renin 2.3 pg/mL, considering the aldosterone/renin ratio of 24.48 as suspicious of primary hyperaldosteronism.

Discussion and Learning Points: The final diagnoses were Guillain-Barré syndrome, severe hypokalemia as a possible cause of primary hyperaldosteronism exacerbated by diuretics, rhabdomyolysis secondary to hypokalemia. Hypokalemia can cause weakness that usually begins in the lower extremities and progresses to the trunk and upper extremities, and may worsen to the point of paralysis, cramps and rhabdomyolysis. A possible diagnostic drawback is that the release of potassium from cells with rhabdomyolysis can mask the severity of hypokalemia and even elevate blood values.

We can conclude that the same clinical presentation can be triggered by two different pathologies, often becoming a diagnostic challenge.

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160 - Submission No. 1097

POOR HYPERTENSION MANAGEMENT AND INTRACEREBRAL HEMORRHAGE: HAS COVID-19 AFFECTED THIS RELATIONSHIP?

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Background and Aims: COVID-19 pandemic dramatically affected public health due to, among others, challenges for patients with chronic medical problems in accessing healthcare. It is known that intracerebral hemorrhage, which is primarily attributed to hypertension, accounts for 14-19 incidents/100,000 people. Our study aims at the registration of patients aged >70 years admitted with intracerebral hemorrhage to our department in a period of 7 months before and during the pandemic.

Methods: We analyzed the demographic characteristics, comorbidities and number/categories of antihypertensive drugs before admission and at exit of 30 inpatients (1933 total admissions) from 01/01/2019-31/07/2019 (group A) and 01/01/2022-31/07/2022 (group B).

Results: Notable differences in group B: 1-Higher prevalence of intracerebral hemorrhage (1.9% vs 1.2%). 2-More dominant findings in CT scans for hypertensive intracerebral hemorrhage (30% vs 10%). 3-Increased incidence of hypertension by 2-fold (80% vs 40%). 4-90% exited with at least one antihypertensive drug of an extra category. No such change concerned group A. The mean hospitalization interval was eleven days, which was quite sufficient to observe the blood pressure, after the acute phase of the intracerebral hemorrhage. 5-Almost 4-fold increase in deaths (38% vs 11%).

Conclusions: Group B showed higher prevalence of hypertensive intracerebral hemorrhage, with increase in mortality rate. The vast majority ended up with at least one more antihypertensive agent at exit. The pandemic deeply affected the management of chronic issues (hypertension) and led to major catastrophic events (intracerebral hemorrhage).

161 - Submission No. 241

EVERYTHING IS POST-COVID? PICA LOOP WITH IX AND X CRANIAL NERVE INVOLVEMENT. ABOUT A CASE

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Case Description: We present the case of a 75-year-old woman with a history of coronavirus pneumonia (COVID-19) in March 2022. After the infection recovery, the patient reported symptoms consisting of progressive dyspnea on moderate exertion and progressive dysphagia for solids and liquids. The physical examination was unremarkable, including neurological examination revealed normal confrontational campimetry, oculomotor movements without limitations, cranial nerves V and VII, adequate elevation of the soft palate and preserved pharyngeal reflex.

Clinical Hypothesis: A computerized tomography (CT) scan was performed, which highlighted residual interstitial parenchymal involvement after bronchopneumonia due to COVID-19, an anodyne transthoracic echocardiogram, a video-fluoroscopic swallow study (VFSS) that showed left pharyngeal hypomotility. The study was completed with spirometry showing a severe affectation of the Maximum Inspiratory Pressure (MIP) of 18 cmH_2O and Maximum Expiratory Pressure (MEP) of 23 cmH_2O. All this supported involvement of the lower cranial nerves, so a cranial magnetic resonance imaging (MRI) was requested.

Diagnostic Pathways: The MRI showed a prominent left posterior inferior cerebellar artery (PICA) was observed, with an imprinted loop on the course of cranial nerves IX and X, whom he displaced.

Discussion and Learning Points: The PICA usually arises as a branch of the vertebral artery, at the anterolateral margin of the medulla oblongata, near the exit of the lower cranial nerves. Its compression due to microvascular involvement can produce symptoms such as glossopharyngeal neuralgia, hemifacial spasms or atypical clinical conditions such as that of our patient. A careful clinical history and a detailed physical examination are essential for its diagnosis.

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162 - Submission No. 352

CARDIOVASCULAR RISK FACTORS RELATED TO CEREBROVASCULAR DEATH

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Background and Aims: Cerebrovascular disease is one of the leading causes of morbidity and mortality in adults worldwide. It shares modifiable and non-modifiable risk factors with cardiovascular disease. Primary prevention in this type of pathology is essential. The objective of our study was to determine the prevalence of vascular risk factors in a tertiary hospital and compare the results with known data (Ictus-Care, Ictus Discharges).

Methods: A retrospective cohort study was employed. Medical records containing complete information and confirmed diagnosis using imaging techniques were included. The data was entered into SPSS version 26.0 for analysis.

Results: A total of 755 patients were included, 74.9% were ischemic stroke patients. At least one vascular risk factor was present in 90% of patients (97% in previous series, p >0.05). When compared with previous studies, we found a lower prevalence of hypertension (75.4% vs 84.8%, p<0.0047). No differences were found with previous series for dyslipidemia (50.3% vs. 61.8%), overweight (42.3% vs. 42.9%), diabetes (40.6% vs. 35.6%), smoking (21.8% vs. 25%), and diabetes (40.6% vs. 35.6%).

Conclusions: Stroke is a highly prevalent disease. It is necessary to promote healthy lifestyles and implement secondary prevention programs that will lead to the adequate control of vascular risk factors. The collaboration of the internist and the neurologist is fundamental in this scenario.

163 - Submission No. 351

COMPARISON OF ISCHEMIC AND HEMORRAGIC STROKE: A RETROSPECTIVE COHORT STUDY IN A HOSPITAL IN SEVILLE

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Background and Aims: Hemorrhagic and ischemic strokes vary according to clinical presentations, outcome, and risk factors. The objective of our study was to determine the differences between those types of strokes in a hospital in Seville.

Methods: A retrospective cohort study of 656 stroke patients was conducted. The obtained data was checked, cleaned, and entered into SPSS 26.0. Study participants were described using frequency, proportion, and summary measures. Binary and multivariable logistic regressions were done to identify factors associated with the dependent variables. Results with a p value of <0.05 were considered statistically significant.

Results: A total of 656 stroke patients were studied. 38.98% of women suffers from ischemic stroke and 37.55% from hemorrhagic strokes. Hypertension was the main cardiovascular risk factor in both types of strokes (77.41% in ischemic and 69.15% in hemorrhagic). The prevalence of other cardiovascular risk factors and pathologies between ischemic and hemorrhagic strokes, was distributed as follows: diabetes (43.17% vs 26.1% p<0.05), dyslipidemia (54.46% vs 34.45%, p<0.05); overweight (43.39% vs 42.31%,p>>0.05); SAHS (7.65% vs 15.89%, p<0.01); CKD (9.10% vs 6.54%, p<0.05); active smoking (23.13% vs.15.89%, p<0.05); ex-smokers (24.59% vs 30.84%, p>0.05); heart disease (27.69% vs 19.63%,p<0,05). The logistic regression showed that the differences found in OR for the variables were significant.

Conclusions: Our study shows that risk factors are different for ischemic and hemorrhagic strokes. Most of the cardiovascular risk factors (diabetes, dyslipidemia, smoking…) were more frequent in ischemic strokes. Only hypertension shows a greater prevalence in both strokes.

164 - Submission No. 2059

A 27-YEAR-OLD PATIENT WITH COMA DUE TO BICKERSTAFF BRAINSTEM ENCEPHALITIS

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Case Description: A 27-year-old male was admitted to our intensive care unit (ICU) with a several-day-history of fatigue, sleep disturbance and upper and lower extremities numbness. He gradually deteriorated and was intubated due to coma. Clinical examination revealed left-eye Horner's syndrome, bilateral intra-nuclear ophthalmoplegia and absent deep-tendon reflexes bilaterally. CT brain scan was normal, COVID-19 test, CSF and toxicology workup were negative. Empirical treatment for a central nervous system (CNS) infection was initiated with acyclovir, vancomycin and ceftriaxone.

Clinical Hypothesis: Differential diagnosis included either infectious or autoimmune meningoencephalitis.

Diagnostic Pathways: A repeat lumbar puncture was performed and analyses for West Nile disease, toxoplasma, CMV, EBV, as well as multi-PCR for several pathogens(H. influenza, Neisseria, Listeria, Pneumococcus, CMV, HSV-1, HSV-2, HHV-6, Enterovirus, Parechovirus, Cryptococcus) were performed that were all negative. Subsequently, a thorough immunological workup was performed that included, anti-ganglioside, anti-GQ1 and anti-MAG antibody test (results came back negative after several days). Based on neurological examination (involvement of both the central and peripheral nervous system), and negative laboratory results a Bickerstaff brainstem encephalitis (BBE) diagnosis was made and plasmapheresis with dexamethasone was started. After three plasmapheresis sessions, the patient had rapidly improved, he had regained consciousness and was weaned-off the ventilator. He was discharged to the neurological ward having mild

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choreiform movements, pseudobulbar affect and left abducens nerve palsy. He continued to improve and was discharged home one week later being asymptomatic.

Discussion and Learning Points: BBE is a rare neurological disease with main features ophthalmoplegia and disturbance of consciousness. Once infectious/toxic causes are ruled-out, immune-mediated disorders need to be considered and appropriate treatment needs to be promptly commenced.

165 - Submission No. 536

LINGUAL DYSKINESIA AS A SYMPTON GUIDE TO A COMPLEX DIAGNOSIS

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Case Description: We present a 69-year-old woman with no previous history of interest. She referred progressive gait instability and dizziness in the last 2 years. Moreover, in the last month she described dysarthria and mixed dysphagia that was attributed to a recent dental replacement. The patient also complained about micturition urgency, postural hypotension, insomnia, and intolerance to cold. In the neurological examination stood out understandable dysarthria, limitation in supraversion of the gaze, involuntary arrhythmic tongue contractions compatible with undulating tongue. In addition, bradykinesia and mild bilateral rigidity was stated. Rest tremor in the right hand, hyperreflexia and right Babinsky. Unstable gait and impossible tandem as well as poor right brachiation. The rest was normal.

Clinical Hypothesis: Orolingual dyskinesia was our guiding symptom to guide the diagnosis. Since traumatic and genetic causes were unlikely, our suspicion was all along a neurodegenerative disease and less likely a metabolic cause.

Diagnostic Pathways: Hemogram, biochemistry, Lúes, copper, ceruloplasmin, immunoglobulins, autoimmunity and anti-Long5 antibodies negative. Cranial MRI with vascular-ischemic lesions without other findings, normal electromyogram and DAT SCAN which marked bilateral striatal hypo-captation plus left and putaminal predominance.

Discussion and Learning Points: Undulating tongue is an uncommon type of orolingual dystonia. It is essential to make a differential diagnosis of possible causative diseases. In the presumptive diagnosis, it was highly relevant the case notes, an accurate physical examination and the tests, highlighting the DAT-SCAN. With all the investigation results and based on the criteria of Gilman et al of 2008, the patient met probable clinical criteria, additional suggestive symptoms and some features that supported a diagnosis of probable Multiple System Atrophy with data of cerebellar and parkinsonian involvement.

166 - Submission No. 754

THE MISSING PUZZLE PIECE: AN UNUSUAL CASE OF LIMBIC ENCEPHALOPATHY

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Case Description: An 82-year-old woman presented in the emergency department (ED) for generalized seizures, disorientation and anterograde amnesia. The family reported acute mental state deterioration in the last month. Physical examination was unremarkable. Biochemical assessment revealed only a severe hyponatremia, easily corrected in the ED. The electroencephalogram didn't show substantial alterations while brain MRI highlighted bilateral pons and hippocampus hyper-density, suggestive for limbic encephalopathy. A cerebrospinal fluid (CSF) analysis was within normal limits. Furthermore, chest and abdomen computed tomography failed to identify a source of a suspected paraneoplastic encephalopathy.

Clinical Hypothesis: After the exclusion of a possible infectious and paraneoplastic encephalopathy, suspecting a limbic encephalitis, we decided to start a 3-day course of 500 mg daily IV methylprednisolone. Nevertheless, for the following weeks, her mental state remained substantially unchanged. Meanwhile, the antibodies on the CSF sample resulted negative. She was, therefore, discharged at home, with scheduled neurologic follow up in ambulatory setting.

Diagnostic Pathways: Three months later, she returned to the ED for a persistent worsening cognitive state, confusion and sphincteric incontinence. A new MRI showed a significant increase of the right hippocampal lesion extended in the para-hippocampal and temporo-mesial region, suggestive for high grade glial lesion with bi-hemispherical, supra e infratentorial infiltration. Considering the diagnosis and the prognosis, a surgical approach was ruled out.

Discussion and Learning Points: In conclusion, sometimes a missing puzzle piece, even a seemingly small one, can prevents us from seeing the bigger picture, or rather distinguish two similar ones. Sometimes, like in our case, that piece is just time.

167 - Submission No. 566

A RARE CAUSE OF HORNER SYNDROME

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Case Description: A 36-year-old male, who presented symptoms of palpebral ptosis, miosis, enophthalmos and ipsilateral anhidrosis of 8 months of evolution in the right eye. As the only personal

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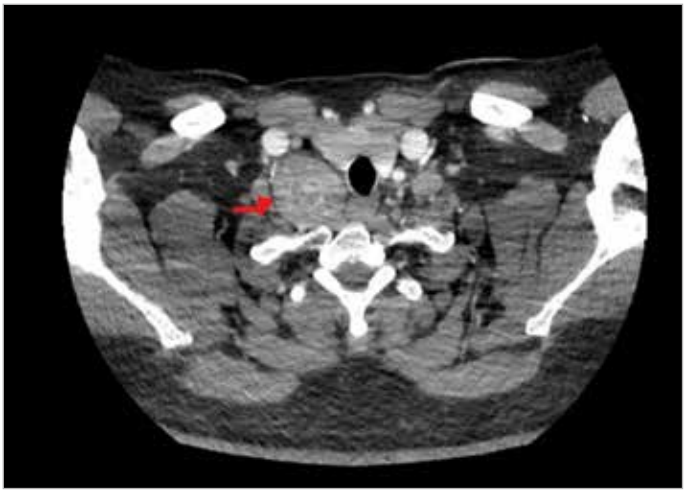
history of interest, ex-smoker for 2 months. A CT scan of the neck and chest is performed in which a 43x42 mm lesion (Image 1, red arrow). is visualized, located in the right cervical sympathetic chain, which impresses as a probable Schwannoma of the cervical sympathetic chain.

Clinical Hypothesis: Horner's syndrome due to Schwannoma of the cervical sympathetic chain.

Diagnostic Pathways: An analysis was requested in which no alterations were found, and a chest X-ray and a CT scan of the skull were normal. The eye fundus was also normal. Subsequently, a CT scan of the neck and chest was requested in which the previously mentioned injury was observed.

Discussion and Learning Points: Horner syndrome occurs as a result of injury at any level of the oculo-sympathetic pathway. It is characterized by ipsilateral miosis, ptosis, and anhidrosis. Its causes can be central (Wallenberg syndrome, tumors, demyelinating lesions...) or peripheral (Pancoast tumor, aortic or carotid dissection, cavernous sinus lesions, brachial plexus lesions...). Schwannoma is a benign tumor. Most of them occur sporadically and isolated in patients of any age and are usually discovered accidentally when performing an imaging test for another reason, since they do not usually cause symptoms. Localization in the cervical sympathetic chain is extremely rare (less than 60 cases reported in the literature), and usually presents as an asymptomatic neck mass. The initial presentation as Horner's syndrome is uncommon.



167 Figure 1.

168 - Submission No. 901

UNCOMMON DOES NOT MEAN IMPOSSIBLE

Aitana Nebot[1], Mar Gómez Martí[1], Hector Mínguez[2], Victoria Lobo[1], Sofia Nicolle Russo[1], Miriam Ripoll[1], David Rodrigo Domínguez[3], Veronica Boschin[1]

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Case Description: 62-year-old male, hypertensive, diabetic and ex-smoker. He presented with 1 month of unsteadiness type dizziness, which began after a sudden episode of vomiting, with progressive worsening of gait and appearance in the last week of binocular diplopia, truncal ataxia that prevents walking, dysmetria and dysarthria that were confirmed in the examination.

Clinical Hypothesis: He was admitted to the hospital for acute cerebellar syndrome study. A CT and CT angiography of the supra-aortic trunks, as well as brain MRI were performed without lesions. Other tests included lumbar puncture, copper, zinc and vitamin levels and encephalitis screening with negative results. A thoraco-abdominal-pelvic CT scan was requested which showed a left parahilar nodule suspicious of malignancy.

Diagnostic Pathways: Given the suspicion of paraneoplastic syndrome, a biopsy of the hilar lesion was performed by EBUS. Empirical treatment with EV Ig and corticosteroids was started, in addition to rehabilitation, achieving assisted ambulation with a walker and reduction of diplopia and dysarthria. Staging showed stage IIB microcytic lung carcinoma, so treatment was started with radiotherapy and sequential chemotherapy.

Discussion and Learning Points: Paraneoplastic cerebellar degeneration (PCD) can be associated with any cancer, but more frequently with lung cancer, lymphoma and gynecological cancers. The pathogenesis is mediated by both antibodies and cytotoxic T cells leading to degeneration of mainly Purkinje cells. Treatment is that of the underlying tumor, although immunomodulation with Ig, corticosteroids or even cyclophosphamide may show some improvement. Paraneoplastic syndromes can appear early, so their suspicion is an opportunity for early diagnosis and treatment of the primary tumor.

169 - Submission No. 796

NEUROMYELITIS OPTICA - A CASE OF CLINICALLY ISOLATED SYNDROME

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Case Description: This is a case of a 55 years-old, Caucasian woman, with history of headache for 30 years and herniated discs; with diplopia; headache; imbalance and hypoesthesia of

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her left side. Emergency service performed a cranial tomography; laboratory study (autoimmunity; serology; virology); blood cultures. Ophthalmologist's suspicion was a paresis of the left external rectum muscle probably in a context of neurodegenerative disease or a bulge lesion. The patient was hospitalized to continue the etiological study.

Clinical Hypothesis: Paresis of the left external rectum muscle versus Neuromyelitis optica; neurodegenerative disease (multiple sclerosis; clinically isolated syndrome); ischemic stroke; infectious brain disease.

Diagnostic Pathways: Cranial tomography (angiography); laboratory study (including autoimmunity; serology; virology); blood and urine cultures; lumbar puncture (LP): cytological study; biochemistry; albumin quotient; protein; glucose; IgG oligoclonal bands; intrathecal IgG (fraction); anti - neuromyelitis optica antibodies; cerebral and spine MRI.

Discussion and Learning Points: MRI with several demyelinating lesions maybe MS; but IgG oligoclonal bands; intrathecal IgG fraction values not meet MS criteria. Corticosteroid therapy was effective. Diagnosed with Neuromyelitis optica and with clinically isolated syndrome (CIS). Patient with high probability of developing MS. CIS is a term that describes a first clinical episode with features suggestive of multiple sclerosis (MS). It usually occurs in young adults and affects optic nerves, the brainstem, or the spinal cord. It's very important which diagnostic tests are necessary to make a correct diagnosis.

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170 - Submission No. 2192

POSTERIOR COMMUNICATING ARTERY ANEURYSM: CASE REPORT

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Case Description: 36-year-old man with a history of cured hepatitis C, consumption of alcohol and cocaine, sought the emergency room after two generalized tonic-clonic seizure with loss of bladder control. Refers headache and profuse sweating prior to the crisis. In a first evaluation extra hospital to highlight glycemia 42mg/dL. In CT-CE subarachnoid hemorrhage of the basal cisterns with a small focus of temporo-mesial contusion and acute left subdural hematoma, with slight midline deviation. CT-CE angiography shows a ruptured left posterior communicating artery aneurysm. During the stay in the emergency room and after one hypertensive peak, a new generalized clinical tonic crisis with anisocoria, right hemiplegia and worsening of the state of consciousness occurs, resulting in the need for orotracheal intubation to protect the airway. Radiologically there's a worsening of the subdural hematoma and midline shift. Embolization and drainage of the subdural hematoma were performed.

Clinical Hypothesis: - Generalized tonic clonic crisis in the context of hypoglycemia - Epilepsy - Space occupying lesion - Brain hemorrhage - Central nervous system infection - Alcoholic abstinence - Metabolic disorders – Trauma.

Diagnostic Pathways: The diagnosis was made by imaging: CT-CE and CT-CE angiography.

Discussion and Learning Points: This case describes an atypical presentation of aneurysmal rupture with unusual symptoms, reinforcing the importance of anamnesis of patients with seizures.

171 - Submission No. 2130

A PERFECT STORM

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Case Description: A woman with 57 years old, and a pharmaceutical company employee, with diabetes mellitus and a major depressive disorder on medication came to the emergency department with a three-month story of progressive fatigue, occasional vomiting and diarrhea, periods of confusion and delusional speech. To the physical examination, it was noted that the patient had sinusal tachycardia, and presented strabismus, gait ataxia, confusion and also auditory and visual hallucinations. Tendon reflexes were normal.

Clinical Hypothesis: Wernicke-Korsakoff; Bickerstaff brainstem encephalitis; bipolar disorder; fronto-temporal dementia; delirium.

Diagnostic Pathways: In the laboratory tests, the patient presented leukocytosis, lactic acidosis, other elevation of inflammatory markers, high cytocholestasis markers with normal ammonia, kidney function was normal, vitamin B9 and B12 were decreased. Antiganglioside antibodies were negative. A head CT scan and a lumbar puncture were performed and were normal. Electromyography gave no sign of polyneuropathy. Afterwards, a psychiatric examination denoted a hyperactive confusional syndrome, in a possible context of a bipolar affective disorder. An MRI found slight atrophy of the mammillary bodies, with an hyperintensity signal around the third ventricle.

Discussion and Learning Points: Depression is a major risk factor for alcohol abuse, and it's more common among women to hide their drinking habits. This case brings us to an example of Wernicke-Korsakoff, a complication of heavy alcoholism in a woman with no other physiological evidence of alcohol abuse. Here specifically, the medical team thinks that the malabsorption from the diarrhea and vomits exacerbated the clinical case.

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172 - Submission No. 1724

INSULAR STROKE AS A CAUSE OF APATHY

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Case Description: We report a 59-year-old Caucasian male with a history of hypertension, dyslipidemia and smoking (16 pack-year). The patient presented to the Emergency Department (ED) with a 5-day history of apathy, phonemic paraphasia, executive and attention difficulties performing his job as an economist. Physical examination was notable for flat right nasolabial fold, phonemic paraphasia and apathy.

Clinical Hypothesis: The description of neuropsychiatric disturbances associated with motor deficit (flat nasolabial fold) and aphasia make imperative to rule out an acute cerebrovascular event.

Diagnostic Pathways: Accordingly, a computed tomography angiography of the brain and neck was performed, which showed an ischemic lesion restricted to the left anterior insular cortex. The patient was admitted and was started on secondary stroke prevention with acetylsalicylic acid and atorvastatin. Post-acute ischemic lesions of the left fronto-opercular and anterior insular cortex were evident at the brain magnetic resonance imaging. Carotid ultrasonography showed no alterations. Electrocardiogram and 24-hour Holter monitoring showed normal sinus rhythm. A transesophageal echocardiogram was requested to rule out the presence of embolic sources, which still has not been performed. The etiology of this stroke is cryptogenic.

Discussion and Learning Points: Small strokes limited to the insula are a rare event. Due to their heterogenous presentation and rarity, they are often unrecognized, contributing to a poorer prognosis. According to the literature, an insular stroke should be suspected when language, vestibular-like, somatosensory, speech disturbances are present in the same patient.

173 - Submission No. 2258

POSTERIOR CEREBRAL ARTERY STROKE - MISSED DIAGNOSIS

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Case Description: We report a 59-year-old Caucasian male with a history of hypertension, dyslipidemia, type 2 diabetes mellitus, class III obesity, obstructive sleep apnea syndrome, silicosis. The patient presented to the Emergency Department (ED) with a 5-hour history of sudden onset left headache that got worse in time, sensation of difficulty orienting to stimuli in a specific area of space, and a 15-minute history of horizontal diplopia and ataxia. Physical examination was notable for right homonymous hemianopsia. After computed tomography of the brain (head CT scan) was performed, with no evidence of lesions, the patient was discharged and prescribed betahistine. The symptoms persisted, and the patient returned to the ER the next day.

Clinical Hypothesis: The description of headache associated with ataxia and visual field disturbances make it imperative to rule out the most emergent diagnosis- acute cerebrovascular event.

Diagnostic Pathways: Accordingly, a head CT scan was performed, which showed a left occipito-temporal ischemic stroke, in the territory of the posterior cerebral artery (PCA). The patient was transferred to a hospital with a Stroke Unit and was started on secondary stroke prevention with acetylsalicylic acid and atorvastatin. Magnetic Resonance Imaging disclosed left PCA infarct involving the occipito-temporal region. Carotid ultrasonography, electrocardiogram, 24-hour Holter monitoring were performed and an atherothrombotic infarction was the hypothesized etiology.

Discussion and Learning Points: Neurologic symptoms and perimetric examination changes should prompt a diagnosis of an acute neurologic event, regardless of the neuroimaging findings on admission. Better identification tools in the ER are needed to improve diagnosis of PCA strokes.

174 - Submission No. 1540

CASE REPORT - A CASE OF HIGH BLOOD PRESSURE

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Case Description: A 46-year-old male, obese and a smoker, with a history of recent decrease in visual acuity, followed up by Ophthalmology and Neurology. In an MRI: advanced microangiopathy, especially in the pons and posterior fossa and signs of supra and infratentorial micro-bleeding of probable hypertensive origin. With no prior diagnosis of arterial hypertension, his primary care physician detected a BP of 218/136 mmHg and referred him to the Emergency Room. The physical and neurological examination was unremarkable.

Clinical Hypothesis: A hypertensive emergency was suspected over possible secondary hypertension.

Diagnostic Pathways: Blood and urine tests only showed creatinine of 1.55 mg/dl, hematuria, and proteinuria. Nonspecific changes in EKG, transthoracic echocardiogram, and chest X-ray. Abdominopelvic CT and renal echo Doppler were normal. The fundus examination showed grade IV hypertensive retinopathy. A renal biopsy revealed alterations secondary to malignant arterial hypertension. After blood pressure control, a new MRI showed a favorable evolution of the previous involvement in relation to posterior reversible encephalopathy syndrome (PRES).

Discussion and Learning Points: PRES syndrome is a neurological condition characterized by variable symptoms such as visual disturbances, headache, seizures. The

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pathophysiology is not completely defined, but it is mostly related to hypertension and endothelial injury. Diagnosis is especially based on MRI, where changes in the white matter suggestive of edema are usually observed, especially in the parieto-occipital region. The patient's treatment is usually that of the underlying cause. The general prognosis is usually favorable. We must always remember that apparently common cases may hide infrequent alterations.

175 - Submission No. 481

SLEEP QUALITY AND AUTONOMIC DYSFUNCTION IN PARKINSON'S DISEASE

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Background and Aims: Parkinson's disease (PD) is a neurodegenerative disorder characterized by motor and non-motor symptoms, the latter related to autonomic dysfunction and sleep disorders, in particular REM sleep behavior disorder (RBD). Clinical observations suggest that dysautonomia can worsen RBD and vice versa. The aim of our study is to determine whether the presence of RBD correlates to worse dysautonomia and whether sleep quality affects autonomic dysfunction in PD patients.

Methods: We enrolled 15 PD patients from the Policlinico Hospital's Neurology Unit (Milan). To evaluate the cardiovascular autonomic control at rest, ECG was recorded for 10 minutes in supine position and HRV analysis was performed through spectral and symbolic analysis. Sleep quality was evaluated using a wireless monitoring patch. Finally, questionnaires for the subjective evaluation of sleep quality (PSQI, ESS, PDSS) and autonomic symptoms (COMPASS-31) were administrated.

Results: The correlation analysis between sleep quality and HRV in all patients revealed that sleep impairment is related to sympathetic predominance. Similarly, low sleep efficiency and higher wakefulness (WASO) were associated with higher sympathetic modulation and reduced parasympathetic modulation. We also found that PD patients with RBD had higher autonomic symptoms and worse sleep quality than those without RBD, despite no significant difference in HRV indexes.

Conclusions: Our data showed that an altered sleep quality significantly associates with a cardiovascular sympathetic predominance in PD patients. Moreover, the presence of RBD predicts a worse autonomic dysfunction. The link between sleep quality, dysautonomia and PD could be related to the neurodegeneration of areas responsible for both sleep and autonomic regulation.

176 - Submission No. 1014

CEREBRAL MICROVASCULAR COMPLICATIONS OF SYSTEMIC DISEASES: ISCHEMIC OCULOMOTOR NEUROPATHY

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Case Description: A 72-year-old female with personal history of hypertension, type 2 diabetes mellitus, dyslipidemia, pacemaker for paroxysmal atrial flutter and trigeminal neuralgia treated with carbamazepine. She presented with a history of fall accompanied by general malaise and vomiting. She denied traumatic brain injury or loss of consciousness. Analytically with hypochloremic hyponatremia with sodium 122 and chloride 78 mmol/L. She underwent chest and cranioencephalic tomography with no relevant changes.

Clinical Hypothesis: An evaluation by Neurology was requested after the onset of diplopia, which considered it to be compatible with paresis of the VI left pair of microvascular etiology – Ischemic Oculomotor Neuropathy – with indication for maintenance of antiaggregation and statin. The hyponatremia was assumed to be secondary to carbamazepine, which was at a supra-therapeutic dose, and was replaced by oxcarbazepine.

Diagnostic Pathways: CT-CE was repeated, where small areas of circumscribed hypodensity were observed in bilateral lenticulo-radial topography, related to recent ischemic lesions. Better characterization by magnetic resonance imaging could not be perform because she had an incompatible pacemaker. At this time, she presented an alteration in the symmetry of movement, with a tendency to tilt to the right, but corrected when stimulated and with no change in muscle strength. At the time of discharge with sodium of 131 mmol/L, the diplopia complaint was slightly improved, but still needed third-party help in gait.

Discussion and Learning Points: This case shows the importance of controlling and screening for microvascular cerebrovascular complications of systemic vascular diseases such as hypertension or diabetes, which may present in a frustrating way, but with important sequelae in patients' autonomy.

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177 - Submission No. 1686

AN UNCOMMON CAUSE OF STROKE

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Case Description: We report a case of a 49-year-old female patient, with no relevant background, who was admitted at the emergency department with altered mental state, last seen well 12 hours ago. During observation, the patient only verbalized incomprehensible sounds, presented right hemiparesis and homonymous hemianopsia, did not follow simple orders or collaborated in coordination tests, comprehending a NIH stroke scale of 18.

Clinical Hypothesis: Ischemic stroke.

Diagnostic Pathways: The computed tomography showed areas of acute ischemia in the perforating and distal territory of the left middle cerebral artery, configuring an ASPECT score 5. The angiographic study confirmed occlusion of the left internal carotid artery in the low cervical segment that extended to the ipsilateral middle cerebral artery. Given the time of evolution, results of the computed tomography and after multidisciplinary discussion, it was assumed that the patient does not meet the criteria for thrombolysis or thrombectomy. During the etiological study, the search for genetic factors predisposing to thrombosis revealed that the patient was carrier of mutation MTHFR677C>T in heterozygosity and mutation PAI-1 4G in homozygosity. The search for other more common risk factors was negative. The patient started anticoagulant therapy and was discharged to a rehabilitation unit.

Discussion and Learning Points: Stroke represents a major health problem with high mortality and morbidity. The association between the presence of allelic variants MTHFR677C>T or PAI-1 4G/5G and the occurrence of thrombotic episodes is not fully understood and none of these variants is considered a major risk factor for thrombotic pathology, so screening strategies or therapeutic approaches are not yet defined.

178 - Submission No. 819

C-REACTIVE PROTEIN PREDICTS EARLY CARDIAC COMPLICATIONS OR DEATH IN PATIENTS WITH ACUTE ISCHEMIC STROKE: A PROPENSITY-MATCHED ANALYSIS OF A GLOBAL FEDERATED HEALTH NETWORK

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Background and Aims: Early cardiac complications within the first 30 days after an ischemic stroke increases cardiovascular morbidity and mortality, increasingly recognized as the Stroke-Heart Syndrome. The role of inflammation, as reflected by C-Reactive Protein (CRP) levels in predicting early cardiac complications among stroke patients is unclear.

Methods: Electronic medical records from TriNetX, were used for this retrospective analysis. Patients with ischemic stroke and CRP, measured within 24 hours, were categorized into three groups according CRP value: i) <1mg/L, ii) 1-3 mg/L and iii) >3mg/L. The primary outcome was the composite of cardiac complications or death at 30 days from the index event. Cox-regression analyses were used to produce hazard ratios (HRs) and 95% CI following propensity score matching.

Results: Of the 99,597 patients enrolled, 51% were female and the mean age was 67±17 years. After propensity score matching, a new cardiac complication or death within 30 days occurred in 5,887 (38.7%) patients with CRP>3 mg/L, in 4,772 (31.1%) patients with CRP 1-3 mg/l and in 4,512 (29.7%) patients with CRP<1 mg/L. Cox-regression analyses showed patients with CRP levels of 1-3mg/L and >3mg/L had higher risk of the composite outcome (HR:1.06,95%CI:1.00-1.13; HR: 1.37, 95%CI: 1.32-1.43, respectively), death (HR: 1.32, 95%CI: 1.14-1.53; HR: 3.07, 95%CI: 2.71-3.49, respectively), HF (HR:1.06, 95%CI: 1.00-1.13; HR: 1.38, 95%CI: 1.30-1.47, respectively), and AF (HR: 1.07, 95% CI: 1.01-1.13; HR: 1.27, 95%CI: 1.21-1.34, respectively) compared to those with CRP <1 mg/L.

Conclusions: CRP levels within the first 24 hours of an ischemic stroke predict 30-day cardiac complications or death, suggesting a possible biomarker for stroke-heart syndrome.

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179 - Submission No. 2316

NEUROPSYCHIATRIC SYMPTOMS ASSOCIATED WITH FAHR'S DISEASE: CASE REPORT

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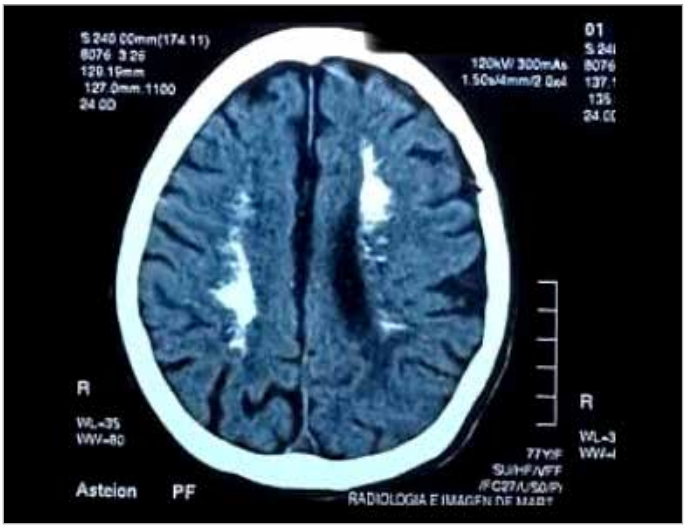
Case Description: We present the case of a 87-year-old female patient with no chronic degenerative history. Which began suffering 6 months prior to admission, with episodes of psychomotor agitation, personality disorders, drowsiness, going to medical evaluation on multiple occasions, receiving only multivitamin management. In April 2022, he presented myoclonic movements in the right thoracic limb without receiving management and subsequently presented generalized tonic-clonic seizures on multiple occasions.

Clinical Hypothesis: On physical exam, he is sleepy, oriented; cranial nerves without alteration, bradypsychia, bradykinesia, REMS++, muscle strength 5/5 Daniels, with presence of cogwheel sign in the thoracic extremities, rest of the neurological examination without alteration. A mental mini-test is performed with 12/30 points indicating cognitive impairment.

Diagnostic Pathways: Simple skull CT showing mild generalized cortical atrophy, bilateral calcifications on the basal ganglia, white matter of the frontal region, semioval centers and cerebellar region. Biochemically complete blood count, TGP, TGO, bilirubin, uric acid lipid profile, in normal parameters. 25-hydroxy vitamin D is requested with report 15.3. Parathormone levels 36.50, CaC 9.2 Albumin 2.7 P 2.5, all within normal parameters, during hospital stay without a new event of convulsive crisis, with improvement in alertness, and concluding as etiology of manifestations familial idiopathic calcification of the basal ganglia or disease of Fahr.

Discussion and Learning Points: Fahr's disease is a rare and underdiagnosed disease that has no cure, so its interdisciplinary and comprehensive detection and management is the best way to deal with the disease and avoid polypharmacy in older patients, which is the age with the highest incidence.



179 Figure 1.

181 - Submission No. 166

ISCHEMIC STROKE: A CLUE TO MELANOMA

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Case Description: A 53-year-old male, Caucasian, with no relevant personal or family history and no usual medication, presented to the ER with sudden onset of dyspnea, dysarthria, and left hemiparesis, but with normal blood pressure. While examining the patient, a pigmented, vegetative lesion was identified, measuring approximately 9.5×5.5 cm in the right dorsal region.

Clinical Hypothesis: Considering not only the symptoms that the patient presented but also the pigmented, vegetative lesion that was identified in his right dorsal region, the most likely clinical hypothesis was: a paraneoplastic ischemic stroke caused by a skin tumor (most likely a melanoma).

Diagnostic Pathways: To confirm the clinical hypothesis, the patient underwent several diagnostic tests. On CE-CT, an ischemic stroke of the right MCA was detected, so fibrinolysis was performed. Analytically, the patient presented with anemia, thrombocytopenia and elevation of CRP and D-dimers. After hospital admission, a biopsy of the tumor was performed and a melanoma with local lympho-vascular invasion was identified. A staging CT also showed visceral and lymph node metastatic involvement.

Discussion and Learning Points: Numerous types of cancer have been shown to be associated with either ischemic or hemorrhagic stroke. Cancer may mediate stroke pathophysiology either directly or via coagulation disorders that establish a state of hypercoagulation. Given that stroke can be an important clue to cancer, it demands an accurate etiological diagnosis to correctly treat and manage these patients.

182 - Submission No. 1398

ELEVATED CSF TAU/P-TAU RATIO FOUND IN A PATIENT WITH WERNICKE ENCEPHALOPATHY: A CASE REPORT

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Case Description: A 55-year-old patient with a history of DVT of the lower right limb after orthopedic surgery and alcohol abuse is admitted due to three-day onset of progressive confusion, apathy and diminished spontaneous speech.

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Clinical Hypothesis: The initial diagnostic approach to the patient's symptoms was that of alcohol withdrawal syndrome and was treated accordingly with administration of benzodiazepines and intravenous multivitamin preparation. The patient deteriorated rapidly after the second day of hospitalization, he had visual hallucinations, vertical and horizontal nystagmus, diminished deep tendon reflexes and inability to stand on his own. Due to the increased probability of Wernicke encephalopathy as the diagnosis, the dosage of B-complex vitamins was increased.

Diagnostic Pathways: A lumbar puncture was performed to rule out CNS infection, autoimmune encephalitis, and Miller-Fisher syndrome. Moreover, a brain MRI scan was ordered, which showed cerebral atrophy. The results from the CSF samples that were sent for laboratory analysis were all negative, except for those tested for proteins Tau and p-Tau (Tau=1044 pg/mL, p-Tau=25 pg/mL, Tau/p-Tau=42).The results were not indicative for Creutzfeldt-Jacob disease, although it was included in the differential diagnosis.

Discussion and Learning Points: Total CSF tau protein has been found to be indicative of neuronal degeneration in acute Wernicke encephalopathy, but not in long-term alcohol induced organic brain disorders. It should be taking into account while estimating the results of CSF analysis in patients with alcohol abuse.

183 - Submission No. 1907

ISCHEMIC STROKE RISK FACTORS DURING GREEK ECONOMIC CRISIS IN PATIENTS WITH DIABETES

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Background and Aims: We aimed to assess the impact of Greece's economic crisis on the prevention of cerebrovascular ischemic events in patients with diabetes.

Methods: Retrospective analysis of patients with diabetes and ischemic stroke (IS) admitted during the years 1995-2018. Using 2008 as the transitional year IS patients were dichotomized according to their admission date in two subgroups: the "before economic crisis" subgroup and the "after economic crisis" subgroup. Demographic characteristics, medical history, and clinical outcome were recorded.

Results: Patients with diabetes and IS admitted after the economic crisis outbreak (200 patients, 111 women/89 men, 75±9.1years) compared to those hospitalized before the financial crisis (190 patients, 97 women/93 men, 75±8.9years) were more frequent tobacco smokers (p=0.04) with heavy alcohol consumption (p=0.03). Diabetic patients after the economic crisis had a higher incidence of a previous stroke (p<0.001), atrial-fibrillation (p=0.001), hypertension (p=0.03), dyslipidemia (p<0.001), uncontrolled diabetes (p=0.04), chronic obstructive pulmonary disease (COPD, p<0.001) and non-alcoholic fatty liver disease (NAFLD, p=0.002). There were no differences regarding age, gender and prevalence of renal failure. Duration of hospitalization was longer after the economic crisis outbreak (11 days vs. 8 days, p=0.002) and impairment/disability/death were more frequent as clinical outcomes (p=0.002). Impairment/disability was significantly associated with COPD (OR 1.57, 95%CI 1.36-1.91), NAFLD (OR 1.58, 95%CI 1.33-2.05), dyslipidemia (OR 1.33, 95%CI 1.17-1.64) and LDL-cholesterol levels (OR 1.98, 95%CI 1.92-2.08). Death was significantly associated with hypertension (OR 1.21, 95%CI 1.01-1.94) and NAFLD (OR 4.11, 95%CI 1.90-6.77).

Conclusions: Our study supports that Greek financial crisis has significantly affected the prevention and clinical outcome of cerebrovascular events in the diabetic citizens of Athens.

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AS04. COVID-19

184 - Submission No. 1071

HEMOGLOBIN DECREASE IN COVID-19 HOSPITALIZED PATIENTS

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Background and Aims: Hospital-acquired anemia has been well documented in the literature. However, the dynamics of hemoglobin decrease during hospitalization has not yet been reported in detail.

Methods: In this single-center, retrospective study, we collected data from all patients hospitalized with COVID-19 infection in the internal medicine division between 01/03/2020 and 03/05/2020. Hemoglobin levels during hospitalization were recorded and the dynamic change of hemoglobin was evaluated.

Results: 3983 patients and 18272 hemoglobin values were included in the analysis. The mean and median length of stay was 7.91 and 4 days, respectively. The median values of hemoglobin decrease after 5,10,15, 20 and 30 days were 0.8 (0-1.6 interquartile range (IQR)), 1.5 (0.46-2.61), 2.2, (0.7-3.42), 2.8 (1.4-4.35) and 2.9 (1.58-5.72) mg/dl, respectively. Of note, the slope of hemoglobin decline was linear during the first 20 days of admission, with a median value of approximately 0.15 mg/dl/day (0.05-0.23 IQR) and reaching a plateau thereafter. The higher the initial hemoglobin value, the greater the hemoglobin decreased, both in relative and absolute values.

Conclusions: The amount of hemoglobin decrease in hospitalized patients due to COVID-19 infection has shown to be approximately 0.15 mg/dl/day in the first twenty days of hospitalization reaching a plateau thereafter. This description of hemoglobin dynamics in a homogenous population can guide clinicians in their routine assessment of hospitalized patients.

185 - Submission No. 377

CHARACTERISTICS AND CLINICAL OUTCOMES OF PATIENTS WITH COVID-19 SUBSEQUENT INFECTION DURING THE OMICRON VARIANT PREDOMINANCE

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Background and Aims: Protection from infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) B.1.1.529 (Omicron) variant is conferred following vaccination or infection. Data regarding the clinical characteristics and outcomes of patients subsequently infected during the Omicron variant predominance are lacking.

Methods: In this retrospective cohort study, we reviewed nationwide data from all members of Clalit Health Services who were ≤16 years old to assess subsequent infection outcomes with Omicron variant between December 2021 and July 2022. We used a Cox proportional-hazards regression model with time-dependent covariates to estimate the risk factors associated with subsequent infection. Additionally, we compared primary infection with a pre-Omicron variant (second infection) to two infections during the Omicron variant predominance (Omicron reinfection).

Results: In our cohort, 1,213,867 (40.7%) had one SARS-CoV-2 infection, and of them 93,704 (7.7%) had a subsequent infection during the Omicron variant predominance. The adjusted hazard ratio for hospitalization with subsequent infection was 7.1 (95% confidence interval [CI], 5.6-8.9) and 2.9 (95% CI, 2.4-3.4) for age ≥80 and immunosuppression, respectively. Adjusted hazard ratio for Omicron reinfection and hospitalization were 0.1 (95% CI, 0.1-0.1) and 1.7 (95% CI, 1.4 to 2.1) as compared to the second infection after pre-Omicron.

Conclusions: Subsequent infection with SARS-CoV-2 was common during the Omicron variant predominance, and the main risk factors for hospitalization are older age and immunosuppression. Primary infection with an Omicron variant is protective against

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reinfection with Omicron, but those reinfected with the Omicron variant were at a higher risk for hospitalization than those with a second infection.

186 - Submission No. 1939

FACTORS ASSOCIATED WITH ADVERSE OUTCOMES IN COVID-19 WITH DIABETES MELLITUS

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Background and Aims: Diabetes mellitus (DM) represents a risk factor for severe COVID-19 disease. We aimed to explore potential factors associated with poor outcomes in patients with DM presenting with COVID-19.

Methods: This was a prospective cohort study of patients with DM that were admitted for COVID-19 to 10 different hospitals around Greece between February-June 2021. Epidemiologic characteristics and outcomes, including acute kidney injury (AKI), acute cardiac injury (ACI), acute liver injury (ALI), acute respiratory distress syndrome (ARDS) and in-hospital death were recorded, and associations explored.

Results: In total, 383 patients were included in this study. Median age was 70 years, 53% were male and 93% presented with type 2 DM. Median hospitalization length was 10 days. ICU admission was required in 16% of cases, while 17.8% of patients died. Univariate analysis revealed that previous use of dipeptidyl peptidase 4 inhibitors (DPP4) ± metformin was associated with AKI (p=0.016) and thromboembolic events (p=0.045) but also with non-progression to ARDS (p=0.004) and in-hospital survival (p=0.03). Multivariate analysis adjusted for co-founders showed that, treatment with DPP4 is an independent predictor of ARDS [OR=0.428 (95% CI: 0.213-0.860), p=0.017]. Dementia was independently associated with in-hospital death, while chronic kidney disease, dementia, and HbA1c on admission were related to AKI. History of cardiovascular disease or heart failure was associated with ACI (p<0.001).

Conclusions: DM patients suffering from COVID-19 are at high risk of adverse outcomes following COVID-19 infection, mainly driven by existing co-morbidities. Further research into the pathophysiologic effect, underlying impact of antidiabetic medication on COVID-19 is warranted, for safe conclusions to be drawn.

187 - Submission No. 2378

CHARACTERISTICS OF LIVER DAMAGE IN PATIENTS INFECTED WITH SARS-COV-2

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Background and Aims: A lot of hospitalized patients with COVID-19 developed liver damage and were more likely to have a complicated clinical course. The pathogenesis of enzymes elevations includes a direct effect of virus on hepatic cells, cytokine or immune- mediated liver damage, hypoxia, drug hepatotoxicity systemic inflammation. Our research aim is to establish the correlation between severity of SARS-CoV-2 infection and liver damage.

Methods: This research is an observational, retrospective study performed in the Medical Clinic II of the Emergency Clinical Hospital "Saint Andrew the Apostle", Constanța, within January 1 and December 31, 2021 Were enrolled 255 patients diagnosed with COVID-19, divided into 2 groups of patients : -the first- patients diagnosed with a positive COVID-19 and liver damage in the absence of pre-existing liver disease -the second- patients with COVID-19, of reference.

Results: 14% of patients with COVID-19 associate liver damage. 58.82% were males being a risk factor. The average age is 63 years. The most representative group is represented by the 81-90 years old group (37.3%), due to comorbidities. Patients with predominantly mixed pattern (AST/ALT and alkaline phosphatase elevation, had worse outcomes than those with hepatocellular phenotype (isolated AST and/or ALT elevation).

Conclusions: Our study confirms the importance of monitoring liver enzymes in patients hospitalized with COVID-19.

Male gender, old age, smoke, and other comorbidities are the most important risk factors for the severity of COVID-19 disease and liver damage. Seriously, ill patients have significantly elevated AST and D-dimer values, and they associate a severe prognostic.

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188 - Submission No. 72

IMPACT OF THE COVID-19 PANDEMIC ON ONCOLOGIC DIAGNOSIS AND FIRST-TIME ACCESS TO A MEDICAL ONCOLOGY DEPARTMENT IN SPAIN

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Background and Aims: SARS-CoV-2 pandemic has led to diagnostic and therapeutic delays in cancer cases. We aim to study the potential repercussions of this pandemic on newly diagnosed colorectal, breast and lung cancer patients.

Methods: We performed an observational and analytical study in patients referred to the oncology department at Hospital General of Segovia (Spain). Included from the year before and following the beginning of the pandemic (March 15, 2019). SPSS-v27.0 software was used to explore potential effects associated with the pandemic among different types of cancer.

Results: We included 884 patients newly diagnosed cancer (228 pre-COVID-19 and 178 on the COVID-19 cohort). Found in the COVID-19 group a 19.1% reduction of new cancer cases, lower age at diagnosis (median 63 vs. 68) and a decreased incidence in males (73 vs. 117). There was no difference in tumor staging. A statistically significant reduction greater than 50% of new diagnoses of colorectal cancer was found during the pandemic period (50 vs. 114, p<0.0005), with no difference detected in the frequency of breast or lung cancer.

Conclusions: One effect caused by the pandemic was the reduction of new diagnoses and referrals to the oncology department. This was mainly observed in colorectal cancer, males and elderly, possibly related to higher mortality of eldest population and less access to the healthcare system during the COVID-19 crisis.

189 - Submission No. 2340

IMPACT OF HEART FAILURE ON THE COURSE OF COVID-19 ACCORDING TO THE "ACTIV SARS-COV-2" REGISTRY

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Background and Aims: Cardiovascular disease is known to negatively impact morbidity, severity, and mortality in SARS-CoV-2 infection. We studied the role of heart failure (HF) during the acute period of COVID-19.

Methods: «ACTIV SARS-CoV-2» registry (ClinicalTrials.gov: NCT04492384) was established to evaluate the course of COVID-19 in the Eurasian region and covered 7 countries. We analyzed data of 5808 patients: 4751 hospitalized and 1057 outpatients (Table 1).

Results: 16.3% of patients had HF before COVID-19: functional class (FC) I-II in 10.6% and FC III-IV in 5.7%. The patients with HF required hospitalization more frequently. HF increased the likelihood of death in the hospital. Combination of HF with other chronic diseases significantly increased the probability of death (Table 2).

Conclusions: HF is associated with an increased hospitalization rate in the acute phase of COVID-19 and significantly increases the risk of unfavorable outcomes in hospitalized patients. This should be considered when planning prevention and complex treatment of COVID-19 in patients with HF.

	Hospitalized (n=4751)	Outpatients (n=1057)	P
HF,%	19.1	3.8	<0.01
HF I–II FC,%	12.2	3.4	<0.01
HF III-IV FC,%	6.8	0.4	<0.01
66-84 year old (n=256)	2 (0,8%)	36 (14,06)	219

189 Table 1. Impact of HF on the need for hospitalization

	Survivors (n=4390)	Deceased (n=361)	P	OR (95% CI)
HF,%	14.50	44.00	<0.01	4.614 (3.633-5.859)
HF I–II FC,%	9.90	21.20	<0.01	2.446 (1.831-3.267)
HF III-IV FC,%	4.50	22.50	<0.01	6.124 (4.538-8.266)
HF+Hypertension,%	15.82	42.68	<0.01	3.963 (3.022–5.197)
HF+Hypertension+IHD,%	10.74	32.93	<0.01	4.082 (3.054–5.455)
HF+Hypertension+IHD+obesity,%	3.98	13.82	<0.01	3.869 (2.578–5.806)
HF+Hypertension+IHD+DM,%	3.55	13.41	<0.01	4.215 (2.784–6.382)
HF+Hypertension+IHD+MI,%	3.65	10.16	<0.01	2.990 (1.896–4.716)

189 Table 2. Impact of HF on the outcome of acute COVID-19 in hospitalized patients.

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190 - Submission No. 311

THE IMPACT OF CARBOHYDRATE METABOLISM DISORDERS ON THE EARLY AND LONG-TERM CLINICAL OUTCOMES OF PATIENTS WITH COVID-19 ACCORDING TO THE AKTIV REGISTRY

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Background and Aims: Studies show that carbohydrate metabolism disorders (CMD) have an impact on the course of a new coronavirus infection, increasing the number of hospitalizations and mortality. To investigate the association between CMD in COVID-19 patients and course of infection, mortality.

Methods: A retrospective analysis of data from the combined multicenter non-interventional real-world AKTIV and AKTIV 2 registries was performed. The sub-analysis from AKTIV included 6396 patients and 2968 patients from ACTIV 2. The patients were divided into 3 groups: Group 1 - patients with intact carbohydrate metabolism, n=6606; Group 2 - patients with newly diagnosed hyperglycemia (NDH), n=1073; Group 3 - patients with a history of type 2 diabetes mellitus (DM2), n=1611.

Results: More severe lung involvement on computed tomography (CT3 and CT4), C-reactive protein levels ≥ 50 mg/l, and SpO2 values ≤ 90% were found to be more common in both CMD groups ($p<0.001$ for each comparison) . Glucocorticoids were prescribed in more cases in group 2 than in other groups ($p<0.001$). The mortality rate of patients with hyperglycemia of any origin was 10.6%, which was significantly higher compared to patients without hyperglycemia (3.9%). The probability of lethal outcome increased 2.48-fold (95% confidence interval (CI): 2.05–3.00) in the group of patients with DM2 and 2.04-fold (95%CI: 1.64–2.55) in the group of patients with NDH. At the same time, the probability of a lethal outcome decreased 2.94-fold (95%CI: 0.28–0.40) in patients without CMD.

Conclusions: CMD aggravate the course of COVID-19 and increase mortality, especially in the DM2 group.

191 - Submission No. 2426

THE ROLE OF CARDIOVASCULAR DISEASES IN THE POST-COVID PERIOD ACCORDING TO THE "ACTIV SARS-COV-2" REGISTRY

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Background and Aims: Cardiovascular disease (CVD) is known to negatively affect health and mortality rates in the post-COVID period. Moreover, the likelihood of CVD onset has been shown to increase after COVID-19.

Methods: «ACTIV SARS-CoV-2» registry (ClinicalTrials.gov: NCT04492384) was established to evaluate the course of COVID-19 in the Eurasian region and covered 7 countries. We used data from telephone surveys of 2185 patients at 3 months and 1208 patients at 6 months after recovery.

Results: 638 patients sought unscheduled medical care within 3 months after recovery from COVID-19 and 361 patients within 6 months. The most common reasons included decompensation of CVDs (Table 1), such as hypertension (40.2% and 37.1%, respectively), chronic IHD (10.3% and 9.7%) and HF (3.1% and 1.3%). The mortality rate was 1.9% in the first 3 months of follow-up and 0.2% in the subsequent 3 months. Pre-existing CVD was associated with an increased risk of poor outcome in the first 3 months.

New diseases was reported in 5.6% and 6.4% of patients at 3 and 6 months, respectively: hypertension in 2.3% and 3%; IHD in 0.5% and 1.4%, and HF in 0.04% and 0.1% from all patients with new diseases.

Conclusions: Pre-existing CVD may increase the risk of cardiovascular decompensation or death in the post-COVID period. Moreover, the analysis showed that COVID-19 is a risk factor for onset of several CVDs in the first 3 months after recovery.

	Survivors (n=2144)	Deceased (n=41)	P	OR (95% CI)
Hypertension,%	47,16	82,93	0,000	5,442 (2,402-12,330)
IHD,%	10,41	24,39	0,004	2,777 (1,343-5,742)
HF,%	7,99	31,71	0,000	5,343 (2,717-10,508)

191 Table 1.

192 - Submission No. 208

IMPACT OF OBESITY AND OVERWEIGHT ON THE COURSE AND OUTCOMES OF COVID-19

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Background and Aims: There is ample evidence in the literature of the negative impact that excess weight has on the development and progression of respiratory conditions. Considering the ongoing SARS-CoV-2 pandemic, it is important to determine the impact of overweight and obesity on the course and outcomes of the COVID-19.

Methods: ACTIV and ACTIV 2 are multicenter non-interventional real-world registries (ClinicalTrials.gov: NCT04492384). The ACTIV registry includes non-overlapping outpatient and inpatient arms. ACTIV 2 enrolls only hospitalized patients. 6396 subjects from ACTIV and 2968 subjects from ACTIV 2 were included in this

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study. All subjects were divided into 3 groups: non-overweight (n=2139), overweight (n=2931) and obese (n=2666).

Results: Higher body mass index (BMI) in hospitalized patients was associated with "cytokine storm" (28.7 kg/m² vs 27.5 kg/m²; p<0.001), C-reactive protein level above 100 mg/l (28.7 kg/m² vs 27.7 kg/m²; p<0.001), need for targeted therapy (29.7 kg/m² vs 27.7 kg/m²; p<0.001), and acute kidney injury (29.6 kg/m² vs 27.8 kg/m²; p=0.018). Obesity increased the likelihood of myocarditis (OR=1.84; 95% CI: 1.13–3.0; p=0,013) and the need for anti-cytokine therapy (OR=1.7; 95% CI: 1.3–2.3; p<0,001). Moreover, obesity was associated with an elevated risk of death during inpatient treatment for COVID-19: OR = 1.04 (95% CI: 0.80-1.40) for grade 1, OR=1.38 (95% CI: 0.98-1.90) for grade 2, OR=1.78 (95% CI: 1.13-2.70) for grade 3.

Conclusions: Obesity and/or overweight is a significant risk factor for the severe course of acute COVID-19 period in hospitalized patients. The higher the BMI, the greater the risk for adverse outcomes in the novel coronavirus infection.

193 - Submission No. 734

IMPACT OF OBESITY ON THE PERSISTENCE OF COVID-19 SYMPTOMS AND THE RISK OF DEVELOPING NEW DISEASES IN THE POST-COVID PERIOD

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Background and Aims: Obesity is a key risk factor for the severe course and adverse outcomes of COVID-19. One of the current most pressing concerns voiced by the WHO is the separate study of the post-covid period. Aim - to investigate the effect of obesity on the risks of persistence of complaints and the onset of new chronic disease in the post-infection period at 3 and 6 months after infection.

Methods: ACTIV (NCT04492384) and ACTIV 2 (NCT04709120) – international multicenter, non-interventional registries of real clinical practice. The ACTIV registry included 6396 patients. ACTIVE 2 – 2968. A total of 7736 patients were included in the analysis. All subjects were divided into two groups: non-obesity – 5070 (65.5%) and obesity – 2666 (35.5%). Analysis of the post-covid period was based on telephone interviews with patients at 3 and 6 months after recuperation.

Results: In the post-covid period, obesity was associated with longer persistence or recurrence of new complaints of weakness, breathlessness, raised blood pressure, palpitations, and swelling with OR=1.69; 95% CI:1.41-2.02 at 3 months and OR=1.40; 95% CI:1.15-1.70 at 6 months after recuperation (p<0.001). Obese patients were more likely to develop new chronic diseases at 6 months after recovery from SARS-CoV-2 infection: arterial hypertension, diabetes, coronary heart disease, atrial fibrillation, bronchial asthma, chronic kidney disease (36.7% vs 26.39% of patients without new diseases, p<0.001).

Conclusions: The results showed that obesity was not only an adverse factor in the hospital course of COVID-19, but could also directly influence the persistence of symptoms and the risk of new disease.

194 - Submission No. 425

LUNG ULTRASOUND AS A METHOD OF DETECTING PNEUMOTHORAX IN A COVID-19 INTENSIVE CARE UNIT

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Background and Aims: Patients with COVID-19 hospitalized in Intensive Care Units due to respiratory failure are supported with positive pressure mechanical ventilation. Due to reduced pulmonary compliance, they are often supported with high pressures and complications such as pneumothorax are often. The diagnosis of pneumothorax must be made early as it often turns into a tension pneumothorax due to positive pressure ventilation. The purpose of this study is to highlight lung ultrasound as a method of diagnosing pneumothorax.

Methods: A retrospective study was made of the patients who were hospitalized in the ICU COVID-19 of the General Hospital of Ioannina 'Hatzikosta' from November 2021 to May 2022. Their characteristics, the cases in which pneumothorax was observed as well as the method of confirming its diagnosis were recorded.

Results: 29 patients were included in the study, of which 23 were men and 6 were women. Their age ranged from 43 to 89 years with a mean age of 69.7 years. A total of 7 cases of pneumothorax were recorded in which the clinical suspicion was confirmed by performing a lung ultrasound. This was followed by a chest X-ray which confirmed the lung ultrasound findings in all cases.

Conclusions: In our study, lung ultrasound had 100% sensitivity in detecting pneumothorax. Lung ultrasound can be performed by the patient's bed, quickly and without the delay usually observed for performing X-ray, especially under the strict protocols followed in the COVID-19 ICU.

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195 - Submission No. 478

ENCEPHALITIS IN A PATIENT WITH COVID-19

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Case Description: A 49-year-old female patient presented to the Emergency Department due to severe confusion and agitation. The test for COVID-19 was positive. He immediately underwent a brain CT scan which showed no cerebral hemorrhage or space-occupying lesion. Lumbar puncture was performed in which several erythrocytes, 3 cells, low glucose (66 mg/dl) and elevated albumin (70 mg/dl) were found. Due to a reduced level of consciousness, the patient was intubated and transferred to the COVID-19 Intensive Care Unit.

Clinical Hypothesis: Due to the clinical picture as well as the results of the laboratory tests, the possible diagnosis was encephalitis of possibly viral etiology.

Diagnostic Pathways: The patient was treated with dexamethasone, remdesivir, acyclovir and ceftriaxone. A brain MRI/MRV was performed which showed no abnormal findings as well as a lumbar puncture again. The test for detection of possible pathogens by PCR in the CSF was negative, as was the test for autoantibodies. The patient, after completing the treatment for herpetic encephalopathy without showing improvement, was treated with immunoglobulin G (IgG) – 5-day regimen, as possible autoimmune encephalitis. The patient was gradually weaned from mechanical ventilation and showed a gradual improvement in her clinical picture.

Discussion and Learning Points: The clinical picture of this specific patient was finally attributed to autoimmune encephalitis after a COVID-19 infection. The diagnosis of this specific disease is extremely difficult as SARS-CoV-2 is usually not detected in the CSF. At the same time, there are difficulties in the daily management of these patients due to the strict protocols to prevent the spread of the disease.

196 - Submission No. 375

COMPARISON OF LIVER FUNCTION TEST- AND INFLAMMATION-BASED PROGNOSTIC SCORES FOR CORONAVIRUS DISEASE 2019: A SINGLE CENTER STUDY

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Background and Aims: Although several liver- and inflammation-based scores to predict the clinical course of patients with COVID-19 have been evaluated, no direct comparison regarding their predictive ability has been performed.

Methods: 1038 patients (608 males, age 63.5±17 years) hospitalized with documented COVID-19 infection to the non-ICU ward, were included retrospectively. Clinical and laboratory characteristics on admission including evaluation of Fibrosis-4 (FIB-4) score and C-Reactive Protein (CRP) to albumin ratio (CAR) were recorded.

Results: One hundred and twenty-four patients (11.9%) died during hospitalization after 8 (3-72) days. In multivariate analysis, FIB-4 (HR:1.11, 95%C.I. 1.034-1.19, p=0.004), was independently associated with mortality, with very good discriminative ability (AUC: 0.76). The patients with FIB-4 >2.67 (n=377), compared to those with ≤2.67 (n=661), had worse survival (log rank 32.6, p<0.001). Twenty-four (6.8%) of 352 patients with possible non-alcoholic fatty liver disease (NAFLD) (defined as Hepatic Steatosis Index >36) died during hospitalization. In multivariate analysis, CAR was an independent risk factor a) for mortality (HR:1.014, 95%C.I. 1.002-1.025, p=0.021), b) the need for high-flow nasal cannula and/or intubation (HR:1.016, 95%C.I. 1.004-1.027, p=0.007) and c) development of acute kidney injury (HR:1.017, 95%C.I. 1.006-1.028, p=0.002). In addition, the patients with possible NAFLD and CAR>12 (n=154), compared to those with CAR≤12 (n=198), had worse survival (log rank 5.1, p=0.024).

Conclusions: FIB-4 was an independent factor for mortality with better performance compared to other liver function test- and inflammation-based scores in patients with COVID-19, while CAR was the only score independently associated with the clinical course in COVID-19 patients with possible NAFLD.

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197 - Submission No. 451

CYTOKINE PATTERNS IN COVID-19 PATIENTS: WHICH CYTOKINES PREDICT MORTALITY AND WHICH PROTECT AGAINST?

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Background and Aims: People infected with SARS-CoV-2 may develop COVID-19 in a wide range of clinical severity. Pulmonary fibrosis is characterized by several grades of chronic inflammation and collagen deposition in the interalveolar space. SARS-CoV-2 infection has been demonstrated to cause lung fibrosis without a currently elucidated mechanism. Some studies emphasize the role of proinflammatory cytokines. This research studies the correlation of the released cytokines with mortality or lung injury in COVID-19 patients.

Methods: Electronic medical record data from 40 patients diagnosed with COVID-19 in the COVID-19 Department, Galilee Medical Center, Nahariya, Israel, were collected. Epidemiological, clinical, laboratory, and imaging variables were analyzed. The cytokine levels were measured upon admission and discharge. A correlation between cytokine levels and severity and mortality or lung involvement was undertaken.

Results: IFN-gamma and IL-10 are the most powerful risk factors for mortality in the COVID-19 patient groups in a multivariate analysis. However, in a univariate analysis, TGF-β, CXCL-10, IFN gamma, and IL-7 affected mortality in COVID-19 patients. MMP-7 was significantly correlated with a cytokine storm and a high 4-C (severity) score in COVID-19 patients. MMP-7, TGF-β, IL-10, IL-7, TNF-α, and IL-6 were correlated with high lung involvement in COVID-19 patients. Serum concentrations of IGF-1 were significantly increased upon discharge, but MMP-7 was decreased.

Conclusions: Proinflammatory cytokines predict clinical severity and mortality in COVID-19 patients. High concentrations of TGF-β, CXCL-10, IL-10, IL-6, and TNF-α are correlated to severity. However, certain cytokines have protective effects. High levels of INF-γ, IL-7, MMP-7, and IGF-1 have protection probabilities against lung injury and severity.

198 - Submission No. 633

THE ASSOCIATION OF VITAMIN D RECEPTOR POLYMORPHISMS AND COVID-19 SEVERITY

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Background and Aims: Association studies of vitamin D receptor (VDR) polymorphisms and COVID-19 severity have produced inconsistent results in different populations. Herein, we examined VDR polymorphisms in a Greek cohort and we searched for associations between VDR polymorphisms and severity of COVID-19.

Methods: Subjects with confirmed severe COVID-19 (n=86; age 60.5 ± 12.5 years), infected subjects with no or mild symptoms (n=51; age 56.51 ± 16.6 years), and non-COVID-19 individuals (n=72; age 56.0 ± 11.4 years). We genotyped 209 individuals for the FokI (rs10735810), ApaI (rs7975232), TaqI (rs731236) and BsmI (rs1544410), single nucleotide polymorphisms by polymerase chain reaction and restriction fragment length polymorphism analysis.

Results: Univariate analysis showed that only TaqI frequencies were associated with COVID-19 severity; controls or those with no/mild COVID-19 presented more commonly genetic variant TC vs. TT/CC (p=0.011; OR 2.092, 95% CI 1.186 to 3.690). In addition, COVID-19 severity was associated with lymphocytes number (p<0001; OR 0.998, 95% CI 0.998 - 0.999), CRP (p<0001; OR 1.24, 95% CI 1.014 - 1.34), and LDH (p<0001 OR 1.012, 95% CI 1.008 - 1.016). Multivariate analysis, after adjustment for age and gender, demonstrated that COVID-19 severity was associated independently and significantly with TaqI TC vs. TT/CC frequencies (OR 2.550, 95% CI 1.061 - 6.129, p=0.036), lymphocytes number (OR 0.999, 95% CI 0.998 - 0.999, p<0001), CRP (OR 1.011, 95% CI 1.001 - 1.021, p=0.026), and LDH (OR 1.007, 95% CI 1.003 - 1.012, p=0.002).

Conclusions: Genetic variant TC vs TT/CC of TaqI may protect from severe COVID-19.

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199 - Submission No. 658

COVID-19 PATIENT PRESENTING WITH DELIRIUM AND MEMORY DEFICITS

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Case Description: A 74-year-old man presented with acute onset delirium, memory, and cognitive deficits. Testing positive for COVID-19 antigen, he was admitted to our department. On admission he was afebrile, hemodynamically stable, without respiratory distress, disoriented in time and space (Mini mental state examination 5/30). Brain CT scan was unremarkable.

Clinical Hypothesis: Differential diagnosis included acute ischemic stroke and encephalitis.

Diagnostic Pathways: Patient was started on aspirin for ischemic stroke and acyclovir for herpetic encephalitis. Initial lumbar puncture revealed no cells, normal glucose, elevated protein. Repeat CT excluded stroke and aspirin was discontinued. Autoantibodies for paraneoplastic and autoimmune limbic encephalitis (NMDR, Hu, CaSPR2, LGI1) were negative, while CSF oligoclonal bands were identical to serum. The patient deteriorated further, developing paraphasic and aphasic speech deficits. Syndromic encephalitis PCR testing revealed HHV6 infection. A repeat lumbar puncture and whole blood PCR verified the result. He was switched to ganciclovir. Patient improved only slightly and was discharged to a rehabilitation facility. Electroencephalogram performed as an outpatient was unremarkable.

Discussion and Learning Points: HHV6 infection in immunocompetent hosts presents as a self-limiting flu-like illness. In immunocompromised and especially in neonates and stem cell transplant recipients it can present as encephalitis with considerable morbidity and mortality. There are several reports in current literature of HHV6 and SARS-CoV-2 co-infection. It is possible that the immunosuppression conferred by COVID-19 itself is a risk factor. HHV6 is embedded in human genome in 1% of the population and PCR findings need to be verified in whole blood.

200 - Submission No. 660

SAFETY AND EFFECTIVENESS OF THE MONOCLONAL ANTIBODY COMBINATION CASIRIVIMAB/IMDEVIMAB FOR SEVERE COVID-19 PREVENTION: SINGLE-CENTER EXPERIENCE

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Background and Aims: During December 2021 the monoclonal antibody (MAb) combination of casirivimab/imdevimab became available in Greece for use to prevent disease progression in COVID-19 patients. In this study we aim to describe a single center experience with the use of these antibodies.

Methods: We prospectively recorded demographic and medical history data from 96 consecutive patients. Adverse events were catalogued, and patients were reassessed to evaluate efficacy.

Results: Mean age was 56.1±17.8 years, 62.5% (60/96) were male and 3.1% (3/96) foreigners. Median BMI was 26.4kg/cm2 [23.7-29.7]. Eleven (11.5%) were active smokers, while median Charlson comorbidity index was 4 [2-5]. The most frequent comorbidities were: hypertension (49%), coronary heart disease (15.6%), heart failure (5.2%), diabetes mellitus (20.8%), renal disease (32.3%, 23 transplant, 8 on hemodialysis), COPD/asthma (7.3%), liver disease (3.1%, 2 transplant, 1 cirrhosis), autoimmune disease (15.6%), active malignancy (17.7%, 14 hematological, 4 solid organ). Overall, 44.8% (43/96) were immunocompromised. 81.3% were vaccinated for SARS-CoV-2, while 63% and 54.2% were vaccinated for influenza and pneumococcus respectively. Median duration of symptoms until MAbs were administered was 3 [3-4] days. Five (5.2%) patients were hospitalized, and 2 of those died. Nine (9.4%) patients had adverse effects (some multiple): 4 fever, 2 rash, 1 dizziness, 1 difficulty standing, 1 extravasation, 1 allergic reaction and 1 chest pain that resulted in terminating drug administration.

Conclusions: Monoclonal antibodies against SARS-CoV-2 in our mainly immunocompromised patients was effective and safe. This real-world experience is useful in the advent of new variants and as new MAbs become available.

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201 - Submission No. 2200

THE FIRST YEAR OF RESPIRATORY URGENCY IN A PORTUGUESE DISTRICT HOSPITAL

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Background and Aims: COVID-19 has been assumed as a pandemic on March 11, 2020. The authors pretend to:(1) Analyze the characteristics of patients admitted to the Respiratory Emergency (RE); (2) Reflect on the response given by a district hospital.

Methods: Observational and retrospective study with a descriptive analysis of the population seen in RE. From March 18 2020 until March 18 2021. Data collection was carried out by consulting the electronic clinical file. Statistical analysis was performed using Microsoft Excel 10® and SPSS V29® programs.

Results: During this period, 4843 patients were admitted to the RE, with 4365 RT-PCR tests for SARS-CoV-2 (90.2%). Positivity was observed in 1197 patients (24.72%). The mean age was 56 years, with a predominance of females (n=2682; 55.4%). There was a peak in influx during November 2020 and January 2021. Patients with a positive test were mostly identified as less urgent (56.1%). Most patients developed mild disease (n=786, 65.7%). Of the 60.1% of patients had risk factors, namely, hypertension. COVID-19 patients were more frequent with cough (n=522). Chest CT was performed in 46.1% of the patients, although the degree of pulmonary involvement by the disease was not classified. Most patients were discharged home (n=818, 68.3%).

Conclusions: The greatest influx of patients in this study occurred in one of the peaks that occurred since the pandemic. Patients with a positive test were mainly identified as less urgent. However, most patients developed mild disease, which can be explained by most patients presenting risk factors for evolution to severe disease. The period analyzed was a great uncertainty where there were still no available vaccines and where the national health services were tested.

202 - Submission No. 558

COVID-19 IN THE VERY ELDERLY: A FOLLOW-UP STUDY

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Background and Aims: Early observational studies have shown an increased risk for hospitalization and mortality in the elderly affected by COVID-19, few studies specifically regarded the very elderly (aged >80 years). Our follow-up study aims to determine the mortality rate at one year after hospital discharge in the very elderly.

Methods: Follow-up was carried out between March and April 2022 through telephone calls. These aimed to distinguish patients who had survived from patients who had died. In the latter case we determined how close the event was to the hospital discharge.

Results: Amongst the 315 discharged patients, 93 were discharged home, 209 to a post-acute setting, nine to a nursing home and four patients to a rehabilitation facility. At one year, 126 patients (40%) were lost to follow-up. Of the remaining 186 patients, 74 (males 44.6%) had died. The mean age was significantly higher in the patients who had died compared to those who had survived (87.2 vs 84.9 years; p<0.0009). The mean survival was of 90.1 days; no statistically significant difference was found between the two genders as was the case for the length of hospitalization. The duration of the follow-up telephone calls was recorded with no statistically significant difference between the two groups.

Conclusions: No similar follow-up has been found in literature, despite this there are many limitations to our study: amongst these, no information regarding comorbidities was acquired and a huge number of patients were lost at follow-up.

203 - Submission No. 626

A PULMONARY-RENAL SYNDROME SUSPECT FOR IG-A MEDIATED ANTI-GLOMERULAR BASEMENT MEMBRANE AFTER COVID-19 VACCINATION/INFECTION: A CASE REPORT

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Case Description: We report the case of a 58-year-old man presenting with anuria who had received vaccine for COVID-19 two weeks before, tested positive for COVID-19 the day of admission but negative two days later. In consideration of a significant increase of serum creatinine value (35 mg/dL), hemodialysis was immediately started. He also needed several blood transfusions because of severe anemia, without hemoptysis. The patient developed a serious respiratory failure requiring

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high flow nasal cannula oxygen therapy, with chest CT scan revealing pulmonary emphysema, ground glass opacity and small consolidation areas.

Clinical Hypothesis: Anti-glomerular basement membrane disease is a rare small vessel vasculitis affecting kidneys and lungs, mediated by IgG autoantibodies (rarely IgA[1]), directed against type IV collagen. An association with COVID-19 has been recently speculated[2].

Diagnostic Pathways: Serologic tests for autoimmunity (ANA, ENA, ANCA) were negative, while immunoglobulin dosage showed an IgA increased value. Western blot for anti-GBM tested negative, as regularly occurs in IgA mediated disease1. Immunofluorescence performed on monkey esophagus however revealed a strong positivity for IgA directed against the epithelium basal layer. Unfortunately, kidney biopsy could not be performed because of high bleeding risk, preventing a definitive diagnosis.

Discussion and Learning Points: As the clinical condition worsened, high dosage steroid therapy was started with an impressive improvement of the respiratory failure, allowing oxygen therapy discontinuation. On the other hand, renal function didn't improve at all.

References:

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[2]Prendecki M, Anti-glomerular basement membrane disease during the COVID-19 pandemic. Kidney Int. 2020

204 - Submission No. 940

COVID-19 PRESENTING AS CEREBRAL VENOUS THROMBOSIS AND PULMONARY EMBOLISM: CASE REPORT

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Case Description: 27-year-old woman with an irrelevant familial history and a personal history of oral estrogen contraception and an incomplete anti-SARS-CoV-2 vaccination, presented with a five-day history of moderate to high intensity occipital headache associated with nausea, vomiting, photophobia, right-sided blurred vision, hypoacusis, weakness and paresthesia. Physical examination showed right-sided dysmetria on finger-to-nose test and hemiparesis, neck stiffness and gait ataxia. Laboratory evaluation revealed D-dimer 1500 ng/mL. Cranial CT venography demonstrated occlusion of both superior sagittal sinus and right transverse sinus. Cranial CT angiography was unremarkable. Chest CT angiography showed bilateral lobar pulmonary embolism. The patient was admitted for etiological investigation while anticoagulation treatment with enoxaparin 1 mg/kg q12h was initiated. She was later discharged under apixaban. The RT-PCR SARS-CoV-2 test was positive.

Clinical Hypothesis: COVID-19 associated cerebral venous thrombosis and pulmonary embolism.

Diagnostic Pathways: In order to exclude other major thrombotic factors, she was tested for antiphospholipid syndrome (lupus anticoagulant, anti-cardiolipin IgM and IgG and anti-β2-glycoprotein-I IgM and IgG) and hereditary thrombophilia (factor V Leiden, prothrombin G20210A mutation, deficiency of protein C and S, antithrombin III deficiency). No alterations were identified.

Discussion and Learning Points: COVID-19 has been proven to be a major risk factor for venous thromboembolism due to several hematologic and endothelial derangements, leading to a hypercoagulable state. Despite deep venous thrombosis and pulmonary embolism have been well documented, cerebral venous thrombosis presents as a less frequent COVID-19 induced complication. It may also be the initial presenting symptom of the disease. This illustrates the importance of a high suspicion among patients with SARS-CoV-2 infection and neurological syndromes.

205 - Submission No. 508

OUTCOMES AMONG HOSPITALIZED ACUTE PULMONARY EMBOLISM PATIENTS WITH HEART FAILURE AND CONCOMITANT CORONAVIRUS DISEASE 2019 (COVID-19) INFECTION: A NATIONWIDE ANALYSIS

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Background and Aims: There are limited data exploring the impact of COVID-19 infection among heart failure patients hospitalized for acute pulmonary embolism. We aim to investigate the outcomes of concomitant COVID-19 infection among heart failure patients admitted for acute pulmonary embolism.

Methods: We conducted a retrospective cohort study utilizing the National Inpatient Sample 2020 database of the United States of America. Multivariate logistic regression analysis was used to adjust for potential patient and hospital level confounders. A p value of <0.05 was set as the threshold for statistical significance.

Results: A total of 161,470 admissions for acute PE were identified in 2020, of which, 19.25% (n=31,085) had heart failure. Of the total sample, 30,395 met our inclusion criteria. Overall, the inpatient mortality rate is 5.17% (n= 1570/30395), of which 11.49% (n=180/1570) had COVID-19 infection. Using a stepwise regression model that adjusted for patient and hospital level confounders, compared to those without COVID-19 infection, those with concomitant COVID-19 had higher likelihood of in-hospital mortality (odds ratio [OR] 2.02; 95% confidence interval [CI], 1.13-4.83) as well as utilization of systemic thrombolysis (odds ratio [OR] 4.36; 95% confidence interval [CI], 2.05-9.28). However, they had similar percutaneous pulmonary artery

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thrombectomy rates (odds ratio [OR] 2.07; 95% confidence interval [CI], 0.77-5.61), hospital length of stay (p value 0.13) and total hospitalization charges (p value 0.08).

Conclusions: Attention should be focused on the prevention of acute PE, especially among heart failure patients with concomitant COVID-19 infection given their risk for poor outcomes including increased risk for in-hospital mortality.

206 - Submission No. 1753

AGENTS RESPONSIBLE FOR COMMUNITY-ACQUIRED BACTERIAL PNEUMONIAS: HAVE THEY CHANGED AFTER THE PANDEMIC?

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Background and Aims: To perform a descriptive analysis of the microbiological agents isolated in patients admitted for suspected community-acquired pneumonia (CAP) in the year before (2018) and after (2022) the SARS-CoV-2 pandemic.

Methods: Retrospective observational study of patients admitted to the Internal Medicine Department of the Hospital Universitario de Navarra (HUN) during February 2018 and that same month in 2022.

Results: In our sample of 127 patients (73 CAPs in 2018; 54 in 2022), a mean age (75.6 in 2018; 77.9 in 2022) and sex distribution (47.9% female in 2018 and 51.8% in 2022) was similar in both study times.

In 2018, out of 27 sputum culture requests, 14 (51.85%) were positive: *H. Influenzae* (5), *Rothia Mucilaginosa* (2), *S. Aureus*. 33 (45.20%) urine antigen were tested, 33.33% being positive: *Legionella pneumophila* (1) and *S. Pneumoniae* (10). Out of 37 (50.68%) blood culture requests, 8.1% were positive for *S. aureus* (1) and *S. pneumoniae* (2). In 2022, out of 17 sputum culture requests,5 (29.41%) were positive: *S. pneumoniae* (2), *Pseudomonas* (1), *Klebsiella* (1), *E. coli* (1). 19 (35.18%) urine antigens were tested, with 31.57% positivity: *L. pneumophila* (2) and *S. pneumoniae* (4). Out of 36 (66.66%) blood culture requests, 1 was positive for *S. pneumoniae*.

Conclusions: SARS-CoV-2 infection and/or the preventive measures implemented during the COVID-19 pandemic may have had an influence on the interruption of person-to-person transmission of CAP in our hospital (such as the disappearance of *H. influenzae* and influenza, but with persistence of pneumococcus as a major agent of importance in all cultures).

207 - Submission No. 1362

GLYCEMIC DYSREGULATION IN NON-DIABETIC PATIENTS HOSPITALIZED FOR COVID-19: ASSOCIATION WITH DISEASE SEVERITY AND OUTCOMES-THE UNIVERSITY HOSPITAL OF IOANNINA COVID-19 REGISTRY (CLINICALTRIALS.GOV: NCT05534074)

Dimitrios Biros, Angelos Liontos, Alexandros Papathanasiou, Nikolaos Kolios, Christiana Pappa, Cornelia Veliani, Eleni Pargana, Maria Nasiou, Rafail Matzaras, Christina Parisi, Styliani Kiosse, Dimitra Ntousiou, Eirini Christaki, Haralampos Milionis

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Background and Aims: It is well known by now that COVID-19 is a multifaceted disease. Glycemic dysregulation has been associated with SARS-CoV-2 infection and COVID-19. The aim of this study was to identify possible associations of glycemic dysregulation with COVID-19 severity and outcomes.

Methods: Data of 979 non-diabetic patients hospitalized for COVID-19 during 03/2020-07/2022, in the Infectious Diseases Unit of University Hospital of Ioannina, were analyzed. Glycemic dysregulation was defined as plasma fasting glucose>180 mg/dL. The analysis was performed using logistic regression on IBM SPSS 26.

Results: The patients' mean age was 62.2 years, mean FPG on admission was 122 mg/dL and 56.3% were male. Glycemic dysregulation on admission was associated with greater probability of CRP>100 mg/L (OR=1.85, p<0.001), Neutrophils/Lymphocytes ratio>3.1 (OR=1.96, p=0.001), hospitalization >7 days (OR=2.73, p<0.001) and death (OR=1.99, p=0.005). Also, the need for insulin supplementation during hospitalization was associated with higher probability of CRP>100 mg/L (OR=1.79, p=0.014) and hospitalization>7 days (OR=1.56, p=0.052).

Conclusions: Glycemic dysregulation was associated with higher levels of inflammatory markers and worse outcomes. Similar results were observed regarding the need for insulin administration in non-diabetic patients.

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208 - Submission No. 1452

EFFECT OF HYPONATREMIA ON COVID-19 CLINICAL COURSE AND OUTCOMES-THE UNIVERSITY HOSPITAL OF IOANNINA COVID-19 REGISTRY (CLINICALTRIALS.GOV: NCT05534074)

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Background and Aims: Hyponatremia is a frequent electrolyte disorder in respiratory infections. The association between COVID-19 and hyponatremia has been investigated since the beginning of the pandemic. The aim of this study was to assess the effect of hyponatremia on COVID-19 disease outcomes and the association of hyponatremia with laboratory parameters.

Methods: Data of 1259 patients hospitalized in the Infectious Diseases Unit of University Hospital of Ioannina, during 03/2020-07/2022, were analyzed. Hyponatremia was defined as Na<135 mEq/L. The analysis was performed on IBM SPSS 26 using logistic regression. The odds ratios are adjusted for age and sex.

Results: The patients' mean age was 64.4 years and 57.3% were male. Hyponatremia was observed in 276 patients on admission and 476 during hospitalization. Patients with hyponatremia on admission or during hospitalization exerted a greater probability of hospitalization >7 days (OR=1.33, p=0.054 and OR=2.91, p<0.001). CRP levels >100 mg/L, Neutrophils/Lymphocytes ratio>3.1 and PO2/FiO2 ratio<200 on admission increased the incidence of hyponatremia during hospitalization (OR=1.51, p=0.002 - OR=1.34, p=0.026 - OR=1.34, p=0.028).

Conclusions: Hyponatremia seems to increase the length of hospital stay of COVID-19 patients. Finally, the onset of hyponatremia during hospitalization is heavily determined by the levels of inflammatory markers on admission.

209 - Submission No. 1492

EFFECT OF HYPOCALCEMIA ON COVID-19 CLINICAL COURSE AND OUTCOMES-THE UNIVERSITY HOSPITAL OF IOANNINA COVID-19 REGISTRY (CLINICALTRIALS.GOV: NCT05534074)

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Background and Aims: Hypocalcemia has been recognized as a potential risk factor for worse outcomes in COVID-19 patients. The aim of this study was to investigate the possible associations of hypocalcemia with inflammatory markers and outcomes during hospitalization for COVID-19.

Methods: Data of 1259 patients hospitalized in the Infectious Diseases Unit of University Hospital of Ioannina, during 03/2020-07/2022, were analyzed. Hypocalcemia was defined as Ca2+<8.2 mg/dL. The analysis was performed on IBM SPSS 26 using logistic regression. The odds ratios are adjusted for age and sex.

Results: The patients' mean age was 64.4 years and 57.3% were male. Hypocalcemia was observed in 71 patients on admission and 162 patients during hospitalization. The presence of hypocalcemia on admission increased the probability of intubation and death during hospitalization (OR=2.50, p=0.027 and OR=3.06, p<0.001). Hypocalcemia during hospitalization was associated with higher incidence of hospitalization>7 days, intubation and death (OR=2.70, p<0.001 - OR=2.32, p=0.006 - OR=3.94, p<0.001). On the other hand, IL-6 levels>24 pg/mL and PO2/FiO2 ratio<200 increased the incidence of hypocalcemia during hospitalization (OR=1.52, p=0.049 and OR=1.59, p=0.012).

Conclusions: Hypocalcemia constitutes a significant risk factor for worse prognosis in hospitalized COVID-19 patients and it seems that there is an association between the onset of hypocalcemia and disease severity markers.

210 - Submission No. 1399

COVID-19 AND DIABETES MELLITUS: EFFECT OF LABORATORY PARAMETERS ON SEVERITY AND OUTCOME-THE UNIVERSITY HOSPITAL OF IOANNINA COVID-19 REGISTRY (CLINICALTRIALS.GOV: NCT05534074)

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Background and Aims: It has been shown that COVID-19 disease severity is associated with comorbidities, such as diabetes mellitus (DM). The aim of this study was to identify possible associations between laboratory parameters and disease severity and outcomes in diabetic patients hospitalized for COVID-19.

Methods: Data from 278 diabetic patients hospitalized for COVID-19 in the Infectious Diseases Unit of University Hospital of Ioannina, during 03/2020-07/2022, were analyzed. Disease severity markers were defined as Neutrophil-Lymphocyte Ratio (NLR)>3.1, CPR>100 mg/L, procalcitonin>0.5 ng/mL, IL-6>24 ng/mL and CT Burden of Disease (extent of pulmonary disease in CT)>50%. The outcomes of the study were defined as length of stay (LoS)>7 days, intubation and death during hospitalization.

Results: The patients' mean age was 72.10 years, the mean BMI was 29.8 kg/m2 and 60.4% were male. The results are summarized in Table 1.

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Conclusions: Both inflammatory and imaging markers were highly associated with the outcomes of LoS and death during hospitalization.

	LoS		Intubation		Death	
	OR	p-value	OR	p-value	OR	p-value
NLR>3.1	1.17	0.566	2.83	0.179	3.53	0.015
CRP>100	2.88	0.002	2.25	0.141	2.35	0.034
PCT>0.5	2.48	0.027	2.36	0.191	1.21	0.680
IL-6>24	2.70	0.003	2.64	0.243	3.93	0.011
CTBoD>50%	3.52	0.001	20.32	0.005	4.43	0.001

210 Table 1. Logistic regression results adjusted for age and sex

211 - Submission No. 1547

PROTRACTED COVID-19 PNEUMONIA AFTER RITUXIMAB THERAPY: A CASE OF RELAPSING PNEUMONIA 1 MONTH AFTER RITUXIMAB REINTRODUCTION

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Case Description: A 41-year-old woman with systemic lupus erythematosus (SLE) had a previous 3-months hospital stay due to protracted COVID-19 pneumonia after rituximab treatment. She was discharged in February 2021 without rituximab. She maintained follow-up in her original SLE doctor, restarting rituximab in April 2022, after completing the COVID-19 vaccination schedule. In May 2022, she tested SARS-CoV-2 positive and was hospitalized due to COVID-19 pneumonia with type 1 respiratory insufficiency, and at least 50% of affected lung.
Clinical Hypothesis: We believe this is a case of SARS-CoV-2 pneumonia which shows that, after a serious COVID-19 pneumonia related with anti-CD20 therapy, it may never be safe to reintroduce it in the pandemic era.
Diagnostic Pathways: Infection by other microorganisms was excluded. After 1 month, she still had multiple ground glass areas and was discharged under oxygen therapy.
Discussion and Learning Points: Rituximab depletes B-cells in a few days and its effect can last more than a year. Some cases describe severe COVID-19 pneumonia days after the first dose. This is a SLE patient, who had a severe protracted COVID-19 pneumonia after rituximab in 2020. Rituximab was stopped for more than a year, and one month after reintroducing it, she developed a similar clinical condition, even with a complete COVID-19 vaccination schedule. We consider that rituximab had a definitive impact on the SARS-CoV-2 infection outcome, as well as in the infection relapse. Rituximab reintroduction after protracted COVID-19 must be well considered. To the best of our knowledge, this is the first case of relapsing COVID-19 pneumonia after rituximab reintroduction ever described.

212 - Submission No. 1582

RECURRENT GROUND GLASS AFTER COVID-19 INFECTION FOLLOWING RITUXIMAB TREATMENT – WHAT WE (DON'T) KNOW

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Case Description: A 51-year-old with non-Hodgkin's lymphoma was under rituximab between September 2019-September 2021. She had COVID-19 pneumonia in January 2021, under remdesivir and dexamethasone, evolving like organizing pneumonia, being discharged with weaning prednisolone. The day after prednisolone ended, she had hypoxemic respiratory failure and new ground glass areas in different locations.
Clinical Hypothesis: We hypothesized protracted COVID-19 pneumonia following rituximab, instead of organizing pneumonia.
Diagnostic Pathways: A bronchoscopy was performed, being RT-PCR-SARS-CoV-2 on bronchoalveolar lavage (BAL) positive. She had no SARS-CoV-2 antibodies nor B-lymphocytes. Due to excellent response to corticosteroids, she was discharged with slow weaning prednisolone. With prednisolone weaning, she had symptoms, positive nasopharyngeal RT-PCR-SARS-CoV-2 and worst ground glass without respiratory failure. In May 2022 she had negative nasopharyngeal RT-PCR-SARS-CoV-2, but new ground glass areas and still no antibodies nor B-lymphocytes. A bronchoscopy was performed and RT-PCR-SARS-CoV-2 on BAL was positive, but the culture negative.
Discussion and Learning Points: Rituximab has long-term effects, like our patient who, after more than a year without it, maintains positive PCR on BAL and no antibodies nor B-lymphocytes. Some patients had positive PCR only in low respiratory tract because of diminished viral clearance there. The challenge is to understand if prednisolone will help to treat ground glass or if it delays the definitive cure. Our patient improved under prednisolone, and worsened when it was weaned, so we question if corticosteroids will help stop the immunologic response. We expect that, when B-cell depletion resolves, the persistent SARS-CoV-2 and ground glass disappear. This case illustrates what we still don't know about these complex interactions.

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213 - Submission No. 1265

IMPACT OF ANTI-CD20 MONOCLONAL ANTIBODIES IN THE EVOLUTION OF COVID-19

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Background and Aims: Humoral immunosuppression state due to anti-CD20 treatment can play a crucial role in the evolution and vaccination response of SARS-CoV-2 infected patients. The aim of this study was to describe COVID-19 presentation and complications in patients under anti-CD20 antibodies. Also, to describe in this group the impact of vaccination against COVID-19.
Methods: Retrospective observational study including all patients in our center under anti-CD20 treatment administered from September 1 2019 to September 9 2021, followed up until March 31 2022.
Results: One hundred eighty-four patients received anti-CD20 antibodies (n=153 rituximab; n=30 ocrelizumab; n=1 both). Sixty-nine were under other immunosuppressive treatments (37.5%). One hundred sixty-six were vaccinated against SARS-CoV-2 with at least three doses (78.2%). Forty-eight patients (26.1%; IC 95%: 20.3%-38.9%) were diagnosed with COVID-19. Clinical presentation was cough (n=26; 61.9%), fever (n=23; 54.8%), fatigue (n=18; 42.9%) and dyspnea (n=16; 38.1%). Twenty-five required hospitalization (52%), twenty-one developed sever COVID-19 (43.8%) and five died (9,6%). Persistent COVID-19 with prolonged viral clearance was found in six patients (11.8%). One hundred twenty-three of the vaccinated patients were never infected (82.6%), ($p < 0,001$). Infection was more severe in unvaccinated patients ($p = 0.165$). Twenty-six vaccinated patients had COVID-19, previous immune response (positive IgG S1) was found only in seven patients and six of them developed a non-severe course.
Conclusions: Patients with COVID-19 under treatment with anti-CD20 treatment had a high rate of severe infection, hospitalization and mortality. Prolonged viral clearance was often found. Despite low immunogenic response, vaccination was still useful to prevent infection, presenting a milder course.

214 - Submission No. 178

SAFETY AND EFFICACY OF INTERLEUKIN-1 ANTAGONISTS IN HOSPITALIZED PATIENTS WITH COVID-19: AN UPDATED SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Background and Aims: Coronavirus disease-2019 (COVID-19) remains a global public health problem. Interleukin-1 (IL-1) appears to be crucial in the cytokine storm mediating major complications of the disease. We sought to perform an updated meta-analysis of randomized controlled trials (RCTs), assessing the safety and efficacy of IL-1 blockers in hospitalized patients with COVID-19.
Methods: We searched PubMed, Cochrane Library, clinicaltrials.gov, European Union (EU) Clinical Trials Register and medrxiv.gov databases from inception to 1st April 2022 for RCTs enrolling hospitalized adult subjects with COVID-19, assigned either to an IL-1 antagonist (either anakinra or canakinumab) or control (placebo or active comparator). PROSPERO Registration number: CRD42022324746.
Results: We pooled data from 7 trials in a total of 2120 enrolled subjects. IL-1 blockage did not confer any significant benefit on COVID-19 related mortality [risk ratio (RR) = 0.93, 95% CI; 0.70 – 1.22, $I^2 = 28\%$, $p = 0.22$], on risk for invasive mechanical ventilation (RR = 1.05, 95% CI; 0.77 – 1.42, $I^2 = 41\%$, $p = 0.13$) and on risk for non-invasive mechanical ventilation (RR = 1.03, 95% CI; 0.65 – 1.62, $I^2 = 0\%$, $p = 0.9$). No subgroup difference between anakinra and canakinumab was shown. Neither anakinra nor canakinumab were associated with a significant increase in the risk for serious adverse events.
Conclusions: We failed to document any treatment benefit with IL-1 blockers in hospitalized patients with COVID-19, as added to standard of care, despite being a safe treatment option.

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215 - Submission No. 960

EFFECTIVENESS OF THE SINOVAC CORONAVAC VACCINE AMONG VACCINATED HEALTHCARE WORKERS AGAINST COVID-19 DISEASE – SYSTEMATIC REVIEW AND META-ANALYSIS

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Background and Aims: In the Philippines, CoronaVac is among the first vaccines given to health care workers in the hopes of preventing symptomatic and severe COVID-19 disease. This systematic review and meta-analysis is done to evaluate its current evidence in the health care worker population.

Methods: After rigorous and systematic searching, screening, full text reviewing and appraisal of 515 studies, a total of nine studies were analyzed - four with efficacy outcomes and five with safety outcomes.

Results: Pooled odds ratio (OR) against symptomatic disease is 0.43 [95%CI (0.30; 0.60)] with moderate heterogeneity ($I2 = 70\%$, $\tau2 = 0.0753$, $p = 0.06$), while pooled OR against severe disease or hospitalization is 0.42 [95%CI (0.13; 1.33)] with minimal heterogeneity ($I2 = 34\%$, $\tau2 = 0.3604$, $p = 0.22$). Pooled prevalence of mild adverse events is 0.40 [95%CI 0.23; 0.58], with significant heterogeneity ($I2 = 98\%$, $\tau2 = 0.7464$, $p < 0.01$). No severe events were noted to be associated with the vaccine among these studies.

Conclusions: These findings point towards definite efficacy of CoronaVac in the health care worker population against symptomatic and severe COVID-19 disease, although with uncertain or imprecise magnitude. The vaccine appears to have generally mild side effect; no severe adverse events are reported.

216 - Submission No. 1170

CASE REPORT: A UNIQUE PRESENTATION OF SPONTANEOUS PNEUMOMEDIASTINUM (SP) AND ILEITIS WITH MULTISYSTEM INFLAMMATORY SYNDROME (MISC) FOLLOWING ACUTE COVID -19 INFECTION

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Case Description: A 16-year-old male patient, visited the emergency room reporting diarrhea, diffuse abdominal pain, fever and a maculopapular rash on both ankles. He mentioned a recent COVID-19 infection.

Clinical Hypothesis: Initially, the differential diagnosis included Crohn's disease or viral gastroenteritis.

Diagnostic Pathways: A CT scan was performed, which showed the presence of SP and ileitis. Multiple stool and blood cultures were negative. A second CT scan was performed, which showed elimination of SP, so the patient was subjected to colonoscopy, gastroscopy and enteroscopy. The biopsies showed ileitis. In the following days the patient presented fever and leukopenia with neutropenia, with an increase in serum ferritin levels. A myelogram showed evidence of strong reaction to underlying disease, with a small degree of hemo-phagocytosis. The marrow immunophenotype showed reactive marrow findings and the peripheral blood immunophenotype showed lymphopenia and cellular immunity deficiency in combination with markers of inflammation (CD64). The hemophagocytic syndrome index T8 CD38/DR was not elevated. A blood sample was tested for interleukins, which were found to be high. He received treatment with methylprednisolone, γ-globulin and filgrastim. He was also treated with anakinra, meropenem and vancomycin. An EKG and echocardiogram were performed, without any abnormal findings. The patient responded to the administered treatment, with complete blood count test improvement and gradual remission of fever. Due to the clinical presentation and the patient's response to treatment the diagnosis of MISC following acute COVID-19 infection was established.

Discussion and Learning Points: In conclusion, clinical presentation of SP in COVID-19 infection should alert physicians to monitor patients for MISC.

217 - Submission No. 2368

RELATIONSHIP BETWEEN METABOLIC SYNDROME COMPONENTS AND COVID-19 DISEASE SEVERITY IN HOSPITALIZED PATIENTS: A PILOT STUDY

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Background and Aims: Preliminary data suggest that patients with comorbidities are more susceptible to severe COVID-19 infection. However, data regarding the presence of metabolic syndrome (MetS) in patients with COVID-19 are scarce. In the present study, we aim to investigate the association between MetS components and disease severity in hospitalized COVID19 patients.

Methods/Intervention: We conducted a prospective observational study of 90 hospitalized patients with COVID-19 pneumonia at a tertiary hospital. The study population consisted of inpatients who tested positive by the reverse transcription polymerase chain reaction (RT-PCR) for SARS-CoV-2. Patients with critical COVID-19 disease on admission were excluded. Adult Treatment Panel III of the National Cholesterol Education Program (NCEP-ATP III) criteria were used to define MetS. Laboratory analysis and thorax CT were performed on admission.

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Results / Impact: 90 patients, 60 moderate and 30 severe COVID-19 patients, included in the study. The percentage of MetS cases was higher among severe COVID-19 patients (p=0.018). Of the MetS criteria fasting blood glucose (p=0.004), triglycerides (p=0.007) were significantly higher in patients with severe COVID-19 disease with no statistical significance found in waist circumference (WC) (p=0.348), systolic blood pressure (p=0.429), and HDL-C levels (p=0.263) between two groups. Body mass index (BMI) values were similar in both severe and moderate cases (p=0.854). In logistic regression analysis, serum triglycerides (p=0.024), HDL-C (p=0.006), and WC (p=0.004) were found as independent prognostic factor for severe COVID-19 infection.

Conclusions: Severe COVID-19 patients have higher rates of MetS. Serum triglycerides, HDL-C, and WC have an impact on disease severity in COVID-19.

218 - Submission No. 293

RELATIVE VACCINE EFFECTIVENESS OF THE THIRD DOSE OF CORONAVAC OR BNT162B2 FOLLOWING A TWO-DOSE CORONAVAC REGIMEN: A PROSPECTIVE OBSERVATIONAL COHORT STUDY

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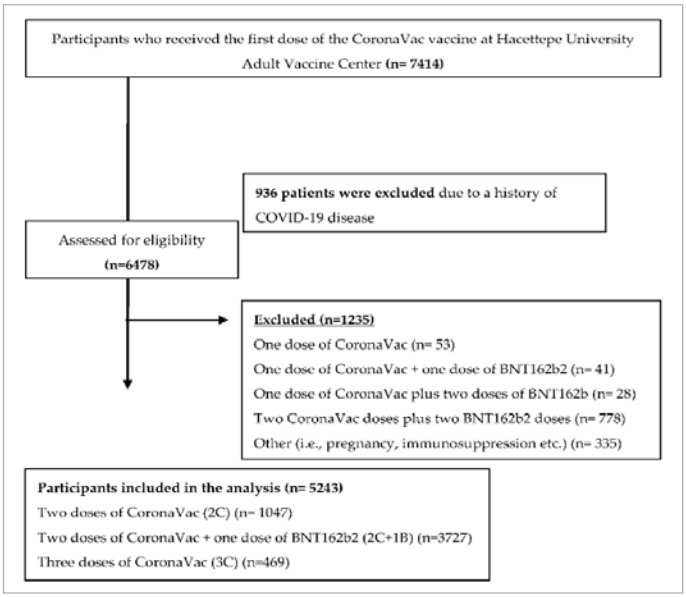
Background and Aims: Coronavirus disease 2019 (COVID-19) continues to pose a threat to public health with the potential for the emergence of new variants. Vaccines are the milestones to control and slow down the damage of the pandemic. As of January 2021, a two-dose regimen with CoronaVac was authorized in Turkey. Due to the waning seroprevalence rate of SARS-CoV-2 over time, BNT162b2 or CoronaVac has been administered as the third dose following a two-dose CoronaVac regimen as a national vaccination policy.

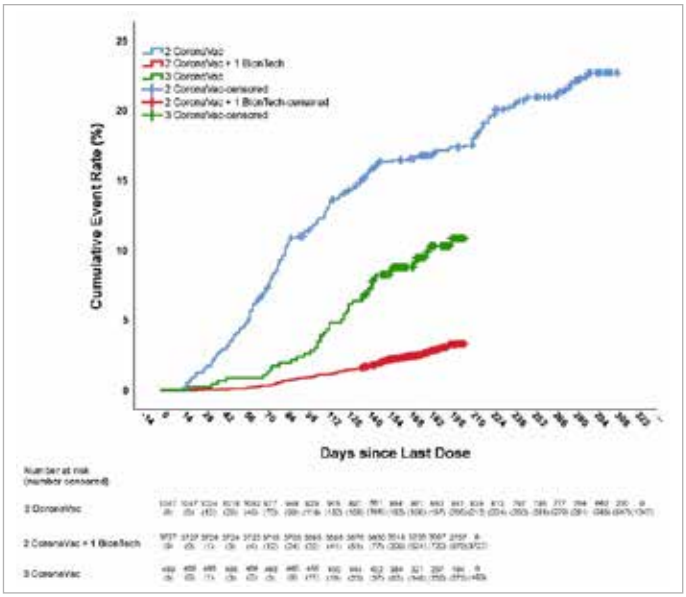
Methods: As of 14 January 2021, 5243 volunteers who received two doses of the CoronaVac vaccine at Hacettepe University Adult Vaccine Center were followed prospectively to provide estimates of the effectiveness of the CoronaVac vaccine in preventing COVID-19 and related hospitalizations, admission to the intensive care unit (ICU), and death.

Results: In our study, relative vaccine effectiveness (VEff) for the third dose of the CoronaVac was 58.24% and 87.27% for BNT162b2 in preventing symptomatic COVID-19 cases. There were no hospitalizations, intensive care unit admissions, or deaths in third-dose booster groups with either BNT162b2 or CoronaVac, yielding 100% effectiveness.

Conclusions: We found that cumulative incidences of COVID-19-related events were significantly lower in the participants with third doses as a booster dose with CoronaVac or BNT162b2 vaccine than in participants with two CoronaVac doses. Third doses of BNT162b2 or CoronaVac provide significant further protection against severe COVID-19 and should be prioritized as an effective strategy; the world requires every dosage of any safe and effective SARS-CoV-2 vaccine available for booster doses to reduce hospitalization and death.



218 Figure 1.



218 Figure 2.

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219 - Submission No. 1386

COVID-19 PATIENTS IN AN INTERMEDIATE CARE UNIT: WHO ARE THEY?

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Background and Aims: Since its recognition, SARS-CoV-2 infection has shown a wide spectrum of clinical severity – from asymptomatic infection to severe illness needing ICU admission. Intermediate Care Units represent a pivotal role managing these patients after their stay in the ICU, acting as step-down units. It's important to characterize this sub-population for better management of severe post-COVID-19 patients at the time of step-down. We purpose to analyze the main characteristics of COVID-19 patients admitted to an intermediate care unit of a tertiary care hospital center between June 2020 and February 2022

Methods: Retrospective analysis of intermediate care unit's database (Microsoft database®) in the period described.

Results: During the period described, 34 severe COVID-19 patients were admitted on a step-down basis, after virological cure, 6% (N=35) of admissions (N=365); 25 men (74%) and 9 women (26%), with a mean age of 59.4 years. Main comorbidities were chronic kidney disease (88%), type 2 diabetes (74%) and essential hypertension (29%). Only 4 (12%) were immunosuppressed and 2 (6%) had structural lung disease. Only 8 (24%) were vaccinated against SARS-CoV-2. Principal admission reason was respiratory care, 21% required high-flow nasal oxygen therapy and 34 were tracheostomized. Bacteria over-infection or nosocomial infection were major contributors to prolonged unit stays (along with tracheostomy management), there were identified in 32 admissions (91%). Mortality rate was 3%.

Conclusions: The sample, however small, mirrors some of the main comorbidities identified on the literature in the severe post-COVID-19 patients: hypertension, type 2 diabetes and chronic kidney disease. It, also, support the proposal of male higher prevalence of severe COVID-19.

220 - Submission No. 299

REAL WORLD EXPERIENCE WITH MOLNUPIRAVIR DURING THE PERIOD OF SARS COV 2 OMICRON VARIANT DOMINANCE

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Background and Aims: The real-world effectiveness of molnupiravir (MOL) during the dominance of Omicron SARS-CoV-2 lineage is urgently needed since the available data relate to the period of circulation of other viral variants. Therefore, this study assessed the efficacy of MOL in patients hospitalized for COVID-19 in a real-world clinical practice during the wave of Omicron infections.

Methods: Among 11,822 patients hospitalized after 1 March 2020 and included in the SARSTer national database, 590 were treated between 1 January and 30 April 2022, a period of dominance of the Omicron SARS-CoV-2 variant. MOL was administered to 203 patients, whereas 387 did not receive any antiviral regimen. Both groups were similar in terms of sex, BMI and age allowing for direct comparisons.

Results: Patients who did not receive antiviral therapy significantly more often required the use of dexamethasone and baricitinib. Treatment with MOL resulted in a statistically significant reduction in mortality during the 28-day follow-up (9.9 vs. 16.3%), which was particularly evident in the population of patients over 80 years of age treated in the first 5 days of the disease (14.6 vs. 35.2%). MOL therapy did not affect the frequency of the need for mechanical ventilation, but patients treated with MOL required oxygen supplementation less frequently than those without antivirals (31.7 vs. 49.2%). The time of hospitalization did not differ between groups.

Conclusions: The use of molnupiravir in patients hospitalized for COVID-19 during the dominance of the Omicron variant reduced mortality. This effect is particularly evident in patients over 80 years of age.

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221 - Submission No. 574

VACCINATION COVERAGE AGAINST COVID-19: PAST AND PRESENT

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Background and Aims: In the beginning of the COVID-19 pandemic, the vaccination rate in Spain was very high, with the best results during the outburst. The objective is to measure the vaccination coverage in vulnerable patients.

Methods: An observatory study was conducted in our hospital. The immunization campaign against COVID-19 and Influenza began in September 2022. The inclusion criteria were being admitted during October 2022 and being in charge of a medical physician.

Results: 101 inpatients were included, with the following characteristics: median age 82 years-old (range between 26 and 97 years-old), 56 were men and 45 were women, and 16 passed away during admission. Internal Medicine was the specialty with most inpatients (65%). During 2020 and 2021, the vaccination rate against COVID-19 reached the 97% of the inpatients. However, in 2022 the rate declined to 35%. The inpatients that had previously rejected vaccination (4) also turned it down against COVID-19 and Influenza in 2022. The coverage for Influenza was 40%; regarding to the 60 non-vaccinated patients, the reasons were: no indication in 29, a previous admission in 2, a firm refusal in 5 and lost the vaccination date for 24.

Conclusions: In the present year the vaccination coverage against COVID-19 and influenza was decreasing when it was compared with previous campaigns, even in patients without refusal to them. It is necessary to improve the strategies and to avoid future backsliding of vaccination rates.

222 - Submission No. 194

DIFFERENCES IN CLINICAL FEATURES AND MORTALITY IN PATIENTS HOSPITALIZED WITH COVID-19

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Background and Aims: To analyze changes in the clinical characteristics and prognosis of COVID-19 among of the hospitalized population during different waves of pandemic before the impact of vaccination.

Methods: All hospitalized COVID-19 patients were included in a retrospective study from the beginning of the pandemic to January 2021. The population was divided into two groups: first wave from March to May 2020, and second wave from August 2020 to January 2021. Survival time analyses were performed.

Results: A total of 539 COVID-19 patients were admitted in this study. In the first wave, individuals were older, more care-dependent, and with a higher comorbidity. Hydroxychloroquine, corticosteroids, and antivirals were the most used drugs during the first wave. In contrast, during the second wave, corticosteroids and immunomodulators were the most used. The number of deaths was significantly higher during the first wave (30% vs. 20%, p=0.038). However, overall mortality in the intensive care unit was increasing from 33% to 66% between waves.

Overall, the variables associated with the greatest increase in mortality were age over 75 years, a higher comorbidity, a higher flow oxygen therapy, and higher levels of C-reactive protein and procalcitonin. On the other hand, the use of corticosteroids and immunomodulators had a positive influence on patient survival.

Conclusions: Throughout the COVID-19 pandemic, the characteristics of the population were changed. Mortality declined significantly in conventional hospitalization, but it was higher when patients required invasive mechanical ventilation. Corticosteroids and immunomodulators have been associated to a higher survival.

223 - Submission No. 144

ANAKINRA IN HOSPITALIZED PATIENTS WITH COVID-19

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Background and Aims: Several immunomodulatory drugs have been considered in the treatment of COVID-19. Anakinra has been proposed as a potential therapeutic in severe cases. The aims of this study were to describe baseline characteristics and to evaluate clinical end-points of admitted patients with COVID-19 pneumonia who received Anakinra treatment.

Methods: All patients who were admitted to an internal medicine unit in a tertiary healthcare centers in Seville (southern Spain) because of moderate-to-severe COVID-19 during the first year of pandemic and were using Anakinra therapy during the hospitalization were included in this retrospective cohort study. Anakinra was administrated subcutaneously at a standard dose of 200 mg twice on the first day, followed by 100 mg twice daily. All individuals were censored at discharge from the hospital or on the date of death if this occurred first. Rates of death in conventional and intensive care hospitalization were compared. Statistical analyses were performed using IBM SPSS software.

Results: During the period of study, 212 patients were treated with anakinra. Of them, 60% were males and age was 72 (58-79) years. All the patients were treated with corticosteroids. In terms of clinical events, 24 (11%) and 44 (21%) patients required IMV and died.

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However, depending on the need for intubation, death occurred in 28 (15%) of individuals who did not need intubation versus 16 (67%) subjects who required invasive ventilation (p<0.001).

Conclusions: Anakinra is an effective and well tolerated therapy among hospitalized individuals with severe COVID-19. It would be used as soon as possible in these patients.

224 - Submission No. 1448

ANALISIS OF RESPIRATORY INFECTION SEVERITY DUE TO DELTA AND OMICRON VARIANTS IN COVID-19 PATIENTS. ARE THERE ANY DIFFERENCES BETWEEN THEM?

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Background and Aims: Delta variant showed bigger pathogenic potential and transmissibility compared with the others. In November 2021, delta was superseded by Omicron. We aimed to investigate whether Omicron respiratory disease is more severe.

Methods: Patients admitted during the sixth wave of COVID-19. Inclusion parameters were positive PCR SARS-CoV-2 test and respiratory infection (or pneumonia). Variant screening were Allplex variants I and II kits, followed by RT-PCR on the CFX96 system. Delta defined by L452T mutation. Omicron defined by mutations N501Y, del69-70, and K417N. Samples from a subgroup requiring ICU admission were sequenced to confirm the variants.

Results: 95 patients were included, 48.4% affected by delta and 51.6% by Omicron (Figure 1). Mean age 67 and 70 years respectively. 93.5% delta pneumonias and 91.8% (p=0.760) in Omicron. Only 52.0% with delta were fully vaccinated while 85.7% in Omicron. Omicron patients had comorbidities, 76.1% vs 93.9% p=0.014 OR=4.819. 53.8% of delta cases were severe while 37.2% in Omicron. The delta cases needing critical care admission were higher, 30.4% vs 12.2% p=0.030 OR=0.319. Tocilizumab was mainly used with delta 32.6% vs 10.2% p=0.007 OR=0.235. Mortality by day 90 in delta cases were higher 52.1% vs. 34.7%, p=0.180.

Conclusions: Even though Omicron seems to be a variant having less severe cases in relation to the amount of infected people, the high rate of pneumonias in patients with comorbidities, independently of their vaccination stage, forces us to make a closer follow up of these patients. Vaccination could be a confounding factor to determine if Omicron cases are milder than delta.

Parameters	Total n= 95 (%)	Delta n= 46 (%)	Omicron n=49 (%)	P value	OR	CI 95%
Age	68	67	70			
Sex	49 (51,6)	18 (39,1)	31 (63,3)	P=0,019	2,679	1,169-6,140
Pneumonias	88 (92,6)	43 (93,5)	45 (91,8)	P=0,760		
Complete Vac	56 (70,0)	20 (52,0)	36 (85,7)	P=0.001	5,440	1,846-15,799
Booster Dose	28 (39,4)	6 (21,4)	22 (51,2)	P=0.012	3,841	1,301-11,343
Comorbidities	81 (85,3)	35 (76,1)	46 (93,9)	P=0.014	4,819	1,249-18,592
Cardiovascular desease	33 (34,7)	12 (26,1)	21 (42,9)	P=0.086	2,125	0,892-5,061

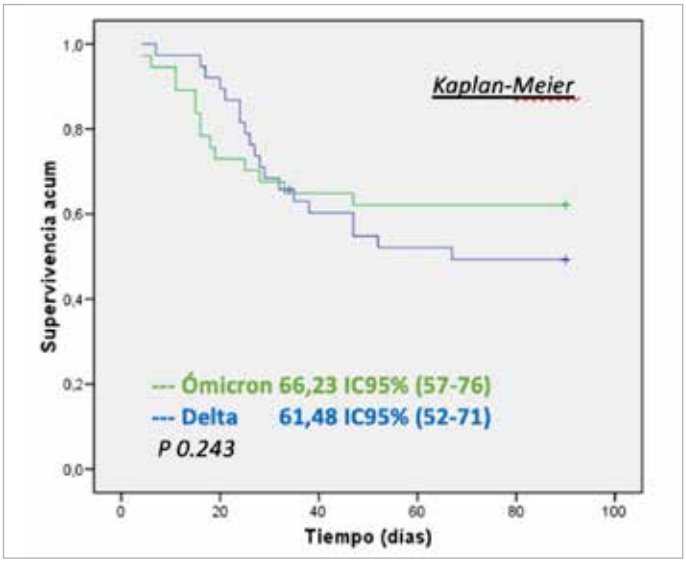
224 Figure 1.

Parameters	Total n= 95 (%)	Delta n= 46 (%)	Omicron n=49 (%)	P value	OR	CI 95%
Pneumonias	88 (92,6)	43 (93,5)	45 (91,8)	P=0,760		
PaFi<300	56 (59,6)	26 (56,5)	30 (62,5)	P=0,555		
WHO scale >3	37 (45,1)	21 (53,8)	16 (37,2)	P=0,131		
ICU admission	20 (21,1)	14 (30,4)	6 (12,2)	P=0.030	0,319	0,110-0,921
Mechanical ventilation	31 (32,6)	19 (41,3)	12 (24,5)	P=0,081	0,461	0,192-1,107
COVID therapy	87 (91,6)	43 (93,5)	44 (89,8)	P=0,518		
Dexametasone	38 (40)	16 (34,8)	22 (44,9)			
Metilprednisolone	49 (51,6)	27 (58,7)	22 (44,9)			
Baricitinib	35(36,8)	18 (39,1)	17 (34,7)	P=0,654		
Remdesivir	20 (21,1)	7 (15,2)	13 (26,5)	P=0,176		
Tocilizumab	20 (21,1)	15 (32,6)	5 (10,2)	P=0.007	0,235	0.077-0.714
Mortalidad	40 (42,1)	23 (50,0)	17 (34,7)	P=0,131		

224 Figure 2.

Laboratory testing	Total	Delta	Omicron	P value
Linfocites	930 (605-1245)	856 (592-1087)	984,5 (632-1437)	0,33
GOT	29 (21-48)	42 (26-63)	25 (19-34)	< 0,00
GPT	23 (14-43)	32 (20-59)	18 (12-25)	<0,00
LDH	293 (244-434)	316 (264-467)	266 (229-371)	0,017
Ferritine	456 (268-1005)	632 (362-1224)	319 (174-946)	0,058
D dimer	847 (584-1814)	701 (512-1844)	920 (639-1783)	0,294
RPC	109 (59-177)	100 (59-138)	126 (59-205)	0,597

224 Figure 3.



224 Figure 4.

225 - Submission No. 2018

PROLONGED SARS-COV 2? THE IMPORTANCE OF ANAMNESIS

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Case Description: A 47-year-old woman follow-up in Allergology for maculopapular skin lesions on the trunk, months of evolution, and worsening after oral corticosteroids. Additionally, reviewed in Ophthalmology for episode of uveitis. Furthermore, generalized asthenia and polyarthralgia.

Clinical Hypothesis: Referred to Internal Medicine for persistence of symptoms from positivity in SARS-CoV-2 months

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behind. Examination highlights frontal alopecia, non-pruritic maculopapules on the trunk and oral thrush. Previously, she had developed painless genital canker sores after sexual intercourse risky, self-limited without treatment.

Diagnostic Pathways: Analytical control is requested, highlighting elevation of VSG and PCR with other normal parameters (blood count, biochemistry, coagulation, immunoglobulins, complement, rheumatoid factor, ANAs, HLAB27, total proteins, albumin, HIV serology, CMV, Epstein Barr virus and Toxoplasma Gondi). Screening for syphilis was positive, confirmed with reagin antibody. Initial diagnosis of secondary syphilis is established and treatment. In review of Ophthalmology is also diagnosed with syphilitic uveitis so that it is decided to enter. TC (no findings) and lumbar puncture are performed. In the LCR is consumption of glucose (48mg/dL) hyper-proteinorrhachia (68.20 mg/dL) with few leukocytes of predominance mononuclear (45 leu/µL) and positive syphilis reaginic antibody (VDRL type). These results indicate the presence of asymptomatic neurosyphilis and treatment with penicillin 24 mU iv per day is prescribed, presenting clinical improvement.

Discussion and Learning Points: Neurosyphilis Asymptomatic can cause CNS involvement throughout the course of the disease. It is mainly characterized by the presence of VDRL in LCR. If left untreated, you will end up presenting demonstrations clinics at 10 years in 20% of cases, such as meningeal or meningovascular syphilis, among others.

226 - Submission No. 2328

COMBINATION IMMUNOTHERAPIES AND PERSONALIZED MANAGEMENT OF COVID-19: RESULTS FROM A LARGE COHORT OF CONSECUTIVE PATIENTS

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Background and Aims: Infection by SARS-CoV-2 may result in severe respiratory failure development (SRF). In hospitalized-patients, timely interruption of the inflammatory process with combination immunotherapies is critical. We aimed to investigate the hypothesis of multidimensional management of these patients.

Methods: A treatment algorithm based on ferritin was applied in 1510 patients (57.8% males; median age 63-years; moderate disease, n=526; severe, n=984). Patients with ferritin <500 ng/mL received anakinra 2-4mg/kg/day ± corticosteroids (n=783) while those with ≥500ng/mL anakinra 5-8 mg/kg/day ± corticosteroids ± γ-globulins (n=727). In case of no improvement, a single dose of tocilizumab (8 mg/kg; maximum 800 mg) was administered with the potential of additional second and/or third pulse. Treatment-endpoints were the rate of SRF necessitating intubation and mortality. The proposed algorithm was also validated in a matched-group of hospitalized-patients treated with standard-of-care during the same period.

Results: Intubation and mortality rates were 5.9% and 6.6%. Independent baseline risk factors were the older age, low baseline pO2/FiO2, decrease lymphocytes, increased LDH and treatment with corticosteroids before admission. Comparators had significantly higher intubation (HR=7.4; 95%CI: 4.1-13.4; p<0.001) and death rates (HR=4.5, 95%CI: 2.1-9.4, p<0.001). Significant adverse events were rare, including severe secondary infections in only 27/1510 of patients (1.8%).

Conclusions: Early administration of personalized combinations of immunomodulatory agents which block critical inflammatory pathways of IL-1 and IL-6, seem to result in improved outcome of hospitalized-patients with COVID-19. This immediate (the sooner the better) precision medicine schedule proved very effective in avoiding full-blown acute respiratory distress syndrome and improving survival.

227 - Submission No. 381

SERUM CALPROTECTIN: A BIOMARKER OF COVID-19 SEVERITY AND OUTCOME

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Background and Aims: Calprotectin reflects neutrophil activation and is increased in various inflammatory conditions. We studied the association of serum calprotectin levels and severity/outcome of COVID-19.

Methods: Calprotectin serum levels were measured in 736 consecutive patients (58.2% males; median age 63-years; moderate disease, n=292; severe, n=444, intubated and/or died, n=50). All patients were treated with combined immunotherapies (anakinra ± corticosteroids ± intravenous immunoglobulin ± tocilizumab) based on initial ferritin levels and according to our

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local treatment algorithm. The endpoint was the composite event of intubation due to severe respiratory failure (SRF)/COVID-19-related mortality.

Results: Median (interquartile range) calprotectin levels were significantly higher in patients with severe disease [7 (8.2) µg/mL vs. 6.1 (8.1) µg/mL, p=0.015]. Among lymphocytes, ferritin, and C-reactive protein, only calprotectin (HR=1.436, 95%CI: 1.001-2.060, p<0.05) and lymphocyte levels (HR=0.449, 95%CI: 0.250-0.807, p=0.007) at admission were independent risk factors for intubation/death. The area under the curve (AUC, 95%CI) of calprotectin for prediction of intubation/death was 0.619 (0.531-0.708) with an optimal cut-off at 13 µg/ml (sensitivity: 44%, specificity: 79%, positive and negative predictive value: 13% and 95%, respectively). For patients who eventually intubated or died, paired comparisons from baseline to middle of hospitalization and subsequently to intubation/death showed significant increase of calprotectin (p=0.009 and p<0.001, respectively). ROC curves revealed that alteration of calprotectin had the higher predictive ability for intubation or death [AUC (95%CI): 0.803 (0.664-0.943); p<0.001].

Conclusions: Calprotectin levels on admission and its dynamic changes during follow-up may reflect disease severity and predict the development of SRF and mortality.

228 - Submission No. 689

CALL-6 : A NEW SCORE TO PREDICT SEVERE COVID-19 PNEUMONIA

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Background and Aims: To predict severe SARS-CoV-2 pneumonia using initial IL-6 at Emergency Department (ED).

Methods: Prospective and observational study of adults with confirmed COVID-19 infection admitted on ED. We collected epidemiological, clinical and laboratory data until they were discharged or died. IL-6 on peripheral blood was collected before immunosuppressive therapy was started. Severity was assessed on the basis of World Health Organization's (WHO) international 10-level ordinal scale (WHOs) and also according to 4 respiratory status, based on peripheral blood-oxygen-saturation (SpO2)/fraction of inspired-oxygen (FiO2) ratio:SpFi. SpFi-group1 >452, SpFi2: 315-452; SpFi3 236-315, SpFi4<236 (respiratory distress). In previous studies in our cohort, we identified statistical correlation between high LDH and lymphopenia with worse respiratory prognosis, so we chose CALL-score as prognosis score model. ED IL-6>40pg/ml was also correlated with progression to severe pneumonia, so we created a new score adding IL-6 to CALL-Score, resulting in 4 stages (A-D): If IL-6>40 pg/ml, we raised 1 stage on CALL-score (for example: CALL-B+IL-6>40=CALL-6:C). Finally, we compared CALL-score to CALL-6 in our cohort.

Results: 58 patients were included: 38 (65%) were male, 39 (51.7%) Caucasian, 38 (68.5%) >65 years old. 44 (75.8%) patients were classified as SpFi-low (SpFi1-2) at ED. During follow-up,10 SpFi-Low progressed to SpFi3 (22.7%) and 17 (38.6%) to SpFI4. Comparing scores by C-index in ED SpFi-Low patients, CALL-6 improved prediction to severe pneumonia (Table1). In our cohort, 9/44 patients were classified as CALL-6-D, of whom 8/9 (88.9%) patients progressed to SpFi4 and 9/9 to WHO>6. On the other hand, 6/44 patients were classified as CALL-6-A:1/5 (20%) progressed to WHO>6 and 0 patients to SpFi4.

Conclusions: CALL-6, a new and easy score based on ED IL-6 levels, could improve our capacity to identify respiratory progression on SARS-CoV-2 pneumonia.

CALL score : comorbidity, age, lymphocytes, LDH		
A (4-6 points)	Low Risk	<10% progression
B (7-9 points)	Intermedium Risk	10-40% progression
C (10-13 points)	High Ris	>50% progression

228 Figure 1.

Patient State	Descriptor	Score
Uninfected	Uninfected; no viral RNA detected	0
Ambulatory mild disease	Asymptomatic; viral RNA detected	1
	Symptomatic; independent	2
	Symptomatic; assistance needed	3
Hospitalised, moderate disease	Hospitalised; no oxygen therapy*	4
	Hospitalised; oxygen by mask or nasal prongs	5
Hospitalised, severe diseases	Hospitalised; oxygen by NIV or high flow	6
	Intubation and mechanical ventilation, pO_2/FiO_2 <150 or SpO_2/FiO_2 <200	7
	Mechanical ventilation pO_2/FiO_2 <150 (SpO_2/FiO_2 <200) or vasopressors	8
	Mechanical ventilation pO_2/FiO_2 <150 and vasopressors, dialysis, or ECMO	9
Dead	Dead	10

228 Figure 2.

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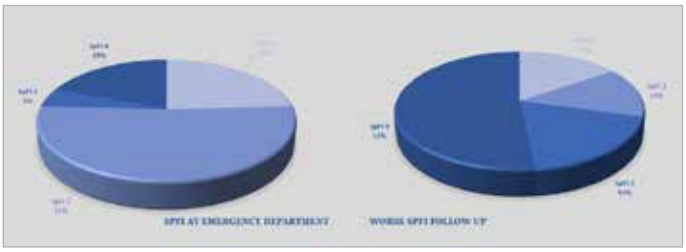
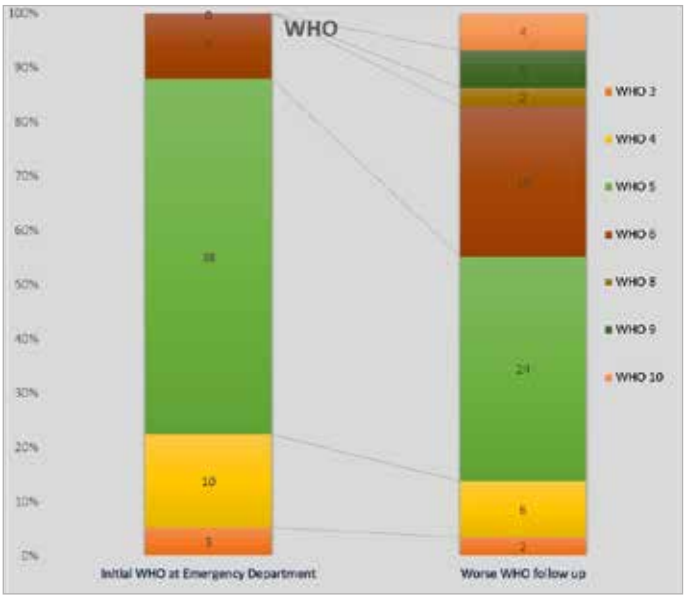
Sex	Male	38 (65.5%)
	Female	20 (34.5%)
Age	<50	18 (31%)
	50-65	22 (37.9%)
	65-80	8 (13.8%)
	>80	10 (17.2%)
Ethnic group	Caucasian	30 (51.7%)
	North Africa	5 (8.6%)
	Hispanic	7 (12.1%)
	Southeast Asia/islands	5 (8.6%)
	Central Asia	5 (8.6%)
	Unknown	6 (10.3%)
Treatment	Dexamethasone	50 (86.2%)
	Tocilizumab	12 (20.7%)
	Remdesivir	3 (5.2%)
	Enoxaparin	55 (94.8%)
	Vitamin D	19 (32.8%)
	Clinical Trial	11 (19%)
	Ceftriaxone	21 (36.2%)
SARS-CoV-2 Vaccine	Vaccinated	24 (41.4%)

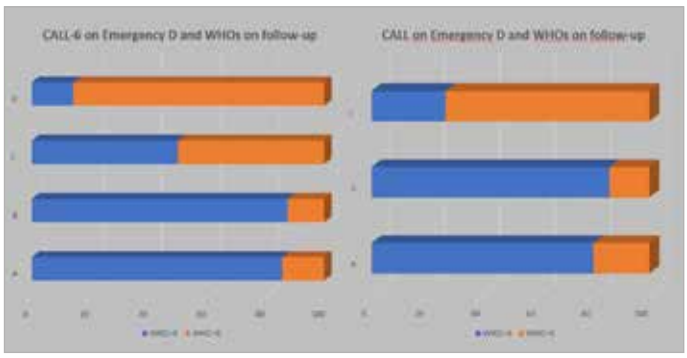
228 Figure 3.



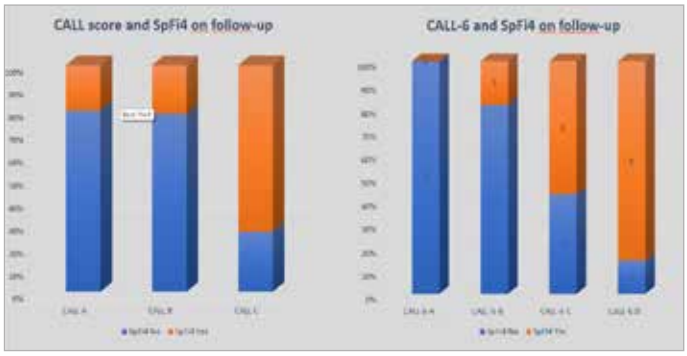
228 Figure 4.



228 Figure 5.



228 Figure 6.



228 Figure 7.

Table 1: Concordance Index (C-index)		
SpFi Low (SpFi I-II) on ED	**CALL – 6**	**CALL**
SpFi low to SpFi High	0.819	0.739
SpFi low to SpFi4	0.836	0.753
SpFi Low to WHO≥6	0.805	0.786

228 Figure 8.

229 - Submission No. 1820

CLINICAL OUTCOMES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS HOSPITALISED WITH COVID-19 IN SPAIN: DATA FROM THE COVID-19 REGISTRY

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Background and Aims: To compare the clinical outcomes of patients hospitalized for COVID-19 with and without systemic lupus erythematosus (SLE).

Methods: Observational, retrospective, nationwide, multicenter study analyzing patients hospitalized with confirmed COVID-19 in 150 Spanish hospitals (SEMI-COVID-19 Registry) from 1 March 2020 to 31 March 2021. The independent variable of interest was the presence of SLE as a personal pathological history. Outcomes assessed were: mortality, ICU admission, readmission, need for mechanical ventilation and complications during hospitalization

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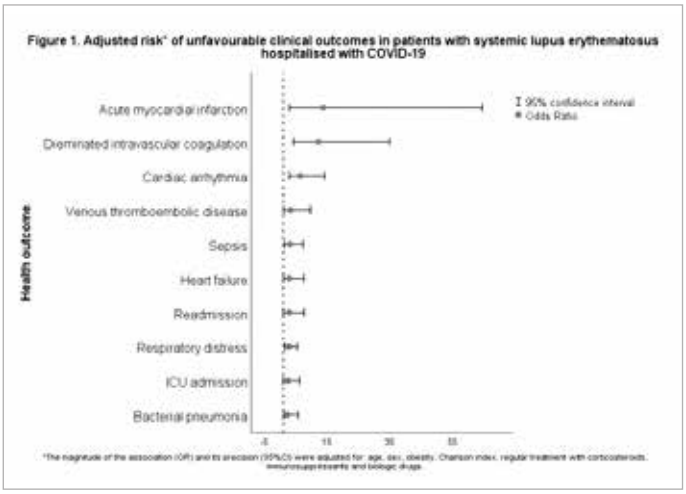
such as: acute myocardial infarction, sepsis, shock, bacterial pneumonia, respiratory distress, cardiac arrhythmia, stroke, venous thromboembolic disease, multi-organ dysfunction, disseminated intravascular coagulation, acute renal failure and heart failure. The magnitude of the association between SLE and clinical outcomes was adjusted by binary logistic regression models according to: age, sex, obesity, Charlson index, regular treatment with corticosteroids, immunosuppressants and biologic drugs.

Results: Of 20,970 patients included, only 38 subjects (0.001%) were previously diagnosed with SLE. The mean age of these subjects was 63±13.3 years, predominantly female (n=31; 81.6%) and of Caucasian ethnicity (n=30; 79.8%). Figure 1 depicts those unfavorable health outcomes in which SLE patients were at increased risk. In all other clinical outcomes assessed, no significant differences were found between patients with and without SLE.

Conclusions: Patients hospitalized for COVID-19 with SLE are at increased risk of developing unfavorable clinical outcomes. Early identification of this group of hospitalized patients could help to implement therapeutic strategies aimed at preventing and effectively treating complications to which they are more prone, thus decreasing the risk of ICU admission and hospital readmission.



229 Figure 1.

230 - Submission No. 1836

CHARACTERISATION OF THE INFLAMMATORY PROCESS AND MITOCHONDRIAL DYNAMICS IN ELDERLY PATIENTS IN RELATION TO SARS-COV-2 INFECTION

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Background and Aims: To understand the relationship of SARS-CoV-2 disease with inflammatory response and the mitochondrial machinery, we aim to: 1) Study the inflammatory process in blood, and 2) Analyze the main proteins involved in mitochondrial fusion.

Methods: Changes in inflammatory biomarkers and mitochondrial dynamics were evaluated in three groups of elderly patients (>65 years): 1) elderly subject without comorbidities and no history of SARS-CoV-2 infection (healthy), 2) elderly subject with comorbidities and acute SARS-CoV-2 infection (acute COVID), and 3) elderly subject with comorbidities and a history of SARS-Cov-2 infection (Post COVID). Serum concentrations of inflammatory cytokines (TNF-alpha, IL-6, IL-2 and IL-8) were analyzed by enzyme-linked immunosorbent assay (ELISA) techniques. For the study of mitochondrial dynamics, OPA1 and Mfn2 proteins were detected by western blotting.

Results: Our sample is composed by 114 participants with a homogeneous distribution by sex (52.6% male and 47.4% female). Table 1 shows the population demographic and anthropometric characteristics. Significant changes in inflammatory biomarkers were observed between healthy and acutely infected subjects for TNF-alpha, IL-6 and IL-8. No significant changes were observed for IL-2. Three months after infection, the values for these cytokines are restored (Figure 1A). Mitochondrial proteins OPA1 and Mfn2 shows a decrease in both proteins during infection and that, three months later, OPA1 values are reestablished while Mfn2 values remain low (Figure 1B).

Conclusions: SARS-CoV-2 infection causes an increase in proinflammatory cytokines and changes in mitochondrial dynamics. A better understanding of these relationship may contribute to the development of new diagnostic and/or therapeutic strategies against this virus.

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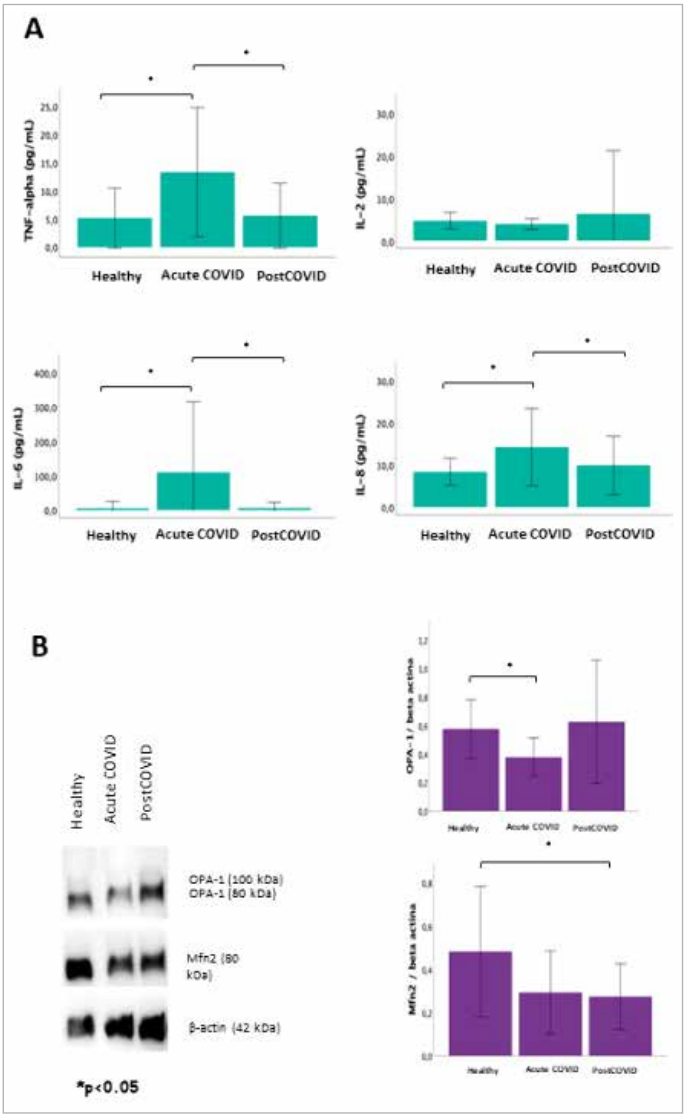
Results are expressed as mean ± standard deviation.

Variables	Healthy	Acute COVID	PostCOVID
Age (years) [CI]	71.6±5.2 [69.9-73.3]	74.2±9.5 [70.8-77.5]	76.1±5.5 [74.2-77.8]
Sex male n (%)	20 (50)	18 (52.9)	22 (55)
Barthel Index [CI]	98.7±6.5 [96.7-100]	93.9±16.3 [88.2-99.6]	88.1±22.7 [80.8-95.4]
Charlson Index [CI]	3.0±0.6 [2.8-3.2]	4.2±1.7 [3.5-4.8]	4.9±2.0 [4.2-5.6]
Weight (Kg) [CI]	83.5±10.0 [59.1-101.0]	78.8±12.7 [59.0-100.0]	71.3±9.3 [51.4-88.0]
BMI (Kg/m²) [CI]	32.8±3.6 [25.1-40.9]	29.4±4.1 [22.5-36.7]	28.5±3.7 [21.3-34.0]
WC (cm) [CI]	106.5±1.4 [103.7-109.2]	105.2±5.6 [87.2-123-2]	96.3±1.5 [93.2-99.4]
WHR [CI]	0.96±0.01 [0.93-0.99]	1.01±0.08 [0.7-1.2]	0.94±0.01 [0.01-0.97]
SBP [mmHg] [CI]	138±4 [132-145]	129±4 [121-137]	139±3 [133-145]
DBP [mmHg] [CI]	83±11[60-111]	72±9 [59-94]	78±14 [46-106]

BMI: body mass index; DBP: diastolic blood pressure; SBP: systolic blood pressure; WC: waist circumference; WHR: waist-to-hip ratio.

230 Table 1. Demographic and anthropometric characteristics of the 3 populations



230 Figure 1. Analysis of infiammatory biomarkers (A) and mitochondrial fusion proteins OPA1 and Mfn2 (B) in the study populations (*); p<0.05

231 - Submission No. 572

OVERVIEW OF POST-ACUTE SEQUALAE OF COVID-19 CLINIC VISITS IN THE UNITED STATES

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Background and Aims: Individuals infected with COVID-19 can experience long-term effects with an incidence of >30% in those who were hospitalized (CDC, 2022). Long COVID or post-acute sequalae of COVID-19 (PASC) describes the persistent symptoms experienced after recovery from SARS-CoV-2 infection. CDC established a new ICD-10-CM code U09.9 for "Post COVID-19 condition, unspecified" in the US as of October'21.

Methods: We identified patients in outpatient clinics with PASC (ICD-10: U09.9) between Oct'21-Feb'22 in the US Premier Healthcare Database. Patient characteristics and reported symptoms were examined.

Results: 20,906 patients with PASC diagnosis (27% primary, 73% secondary diagnosis) were identified from 800 clinics across the US. The number of patients with PASC diagnosis code was relatively constant (~3200) in the first three months then increased in 2022. Overall, median age was 52 years (IQR: 39–63), 77% white, 39% male. Patient characteristics remained stable over time (Table1). Key symptoms documented were dyspnea (31%), cough (20%), malaise/fatigue (14%), and pain in throat and chest (14%). "Brain fog" was not reported (Table 2). Overall, patients were seen by internal medicine (29%), emergency medicine (28%), nurse practitioner (9%) and pulmonologists (7%). Of patients with PASC as secondary diagnosis (n=12,543), the top primary diagnoses were dyspnea (15%), cough (10%) and pain in throat/chest (7%).

Conclusions: To better understand the natural history of PASC, it is imperative that affected patients can be identified and characterized. However, it is not yet known how the U09.9 diagnosis code is being applied nor its association with PASC-related clinical syndromes. Further validation of the utility of this diagnosis code is needed.

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		Oct 2021	Nov 2021	Dec 2021	Jan 2022	Feb 2022	Overall
# of Patients		n=3267	n=3157	n=3372	n=5616	n=5480	n=20906
# of Clinics		n=694	n=639	n=812	n=989	n=876	n=909
Age (years)	Median [IQR]	52 [40 : 63]	52 [40 : 64]	52.5 [40 : 64]	53.0 [37 : 62]	52 [40 : 64]	52.3 [39 : 63]
Age Group	<45	44%	43%	44%	50%	44%	45%
	50-64	30%	30%	33%	30%	32%	32%
	65+	25%	27%	24%	21%	24%	23%
Race	White	77%	77%	79%	73%	79%	77%
	Black	13%	11%	11%	14%	11%	12%
	Other	10%	12%	10%	12%	10%	11%
Gender	Male	40%	41%	42%	38%	37%	39%
Ethnicity	Hispanic	13%	13%	10%	14%	12%	12%
Primary Payor	Medicare	25%	26%	26%	22%	27%	25%
	Commercial	47%	47%	45%	47%	46%	46%
	Medicaid	16%	16%	18%	19%	17%	18%
	Other Payor	10%	11%	11%	11%	9%	10%
Documented Comorbidities (>5%)	Hypertension	20%	18%	18%	17%	19%	18%
	Obesity	9%	8%	8%	8%	8%	8%
	Diabetes without chronic complications	8%	7%	9%	7%	7%	7%
	Chronic pulmonary disease	12%	12%	12%	11%	13%	12%

231 Table 1. Characteristics of patients with a documented PASC diagnosis, Oct 2021 - Feb 2022

Documented symptoms, n (%)	Patients with a documented PASC diagnosis n=20906
Dyspnea	31%
Cough	20%
Malaise and fatigue	14%
Pain in throat and chest	14%
Pneumonia	6%
Anxiety	6%
Headache	4%
Dizziness and giddiness	3%
Nausea and Vomiting	3%
Pain	3%
Palpitations	3%
Depression	3%
Fever	2%
Hypoxemia	2%
Acute pharyngitis	1%
Wheezing	1%
Insomnia	1%
Attention and concentration deficit (Brain fog)	0%

231 Table 2. Documented symptoms among patients with PASC-related outpatient visits, Oct 2021-Feb 2022

232 - Submission No. 359

EMERGING VARIANTS AND EVOLVING COVID-19 HOSPITAL ADMISSIONS IN THE US: INSIGHTS FROM ONE MILLION PATIENTS OVER TWO YEARS

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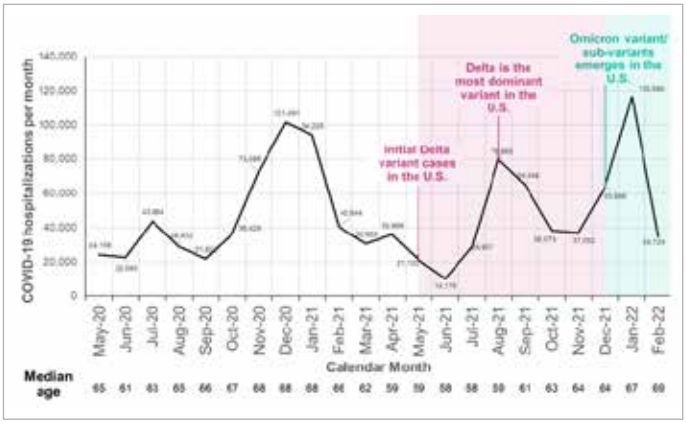
Background and Aims: The COVID-19 pandemic continues to evolve with emergence of new variants. Using a nationwide cohort of COVID-19 hospitalizations, we describe demographics, severity, and mortality over 22 months.

Methods: Patient characteristics, all-cause inpatient mortality, and severity (baseline oxygenation (day 1 or 2), maximum oxygenation during hospitalization, intensive care unit (ICU) use) were assessed in adult COVID-19 hospitalizations in the US Premier Healthcare Database during circulating variants of concern: pre-Delta (May'20-Apr'21), Delta (May'21-Nov'21) and Omicron (Dec '21-Feb'22).

Results: There were 1,048,879 COVID-19 admissions in 910 hospitals. Median age was lowest during the Delta variant period (Fig 1). ICU use was highest during pre-Delta period, followed by the Delta period and the lowest during the Omicron period (Fig 2). During the Delta period, maximum oxygenation of invasive mechanical ventilation/ extracorporeal membrane oxygenation as well as high-flow oxygen/non-invasive ventilation or low-flow oxygen was the highest as compared to other time periods (Fig 3). Mortality increased with age (ranges: 65+, 19%-29%; 50-64, 8%-16%; <50, 3%-8%) with highest mortality rates in the Delta period for all age groups (Fig 2).

Conclusions: During various phases of the pandemic, types of patients hospitalized for COVID-19 varied in demographics and severity. When the delta variant was dominant, patients were relatively younger with more severe infection and highest mortality rates. Upon emergence of the Omicron variant, COVID-19 hospitalizations evolved with older patients, yet less severe oxygenation requirements and ICU use. Mortality for all age groups remained stable in the pre-Delta and Omicron periods, with an increase during the Delta variant period.



232 Figure 1. Number of COVID-19 hospitalizations per month (US Premier Healthcare Database, May 2020 - Feb 2022)

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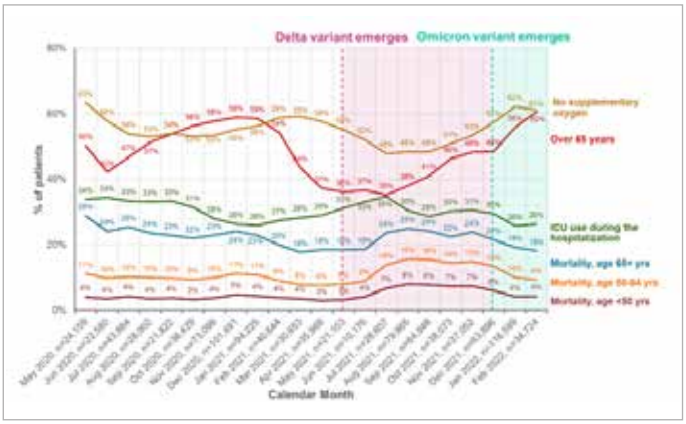
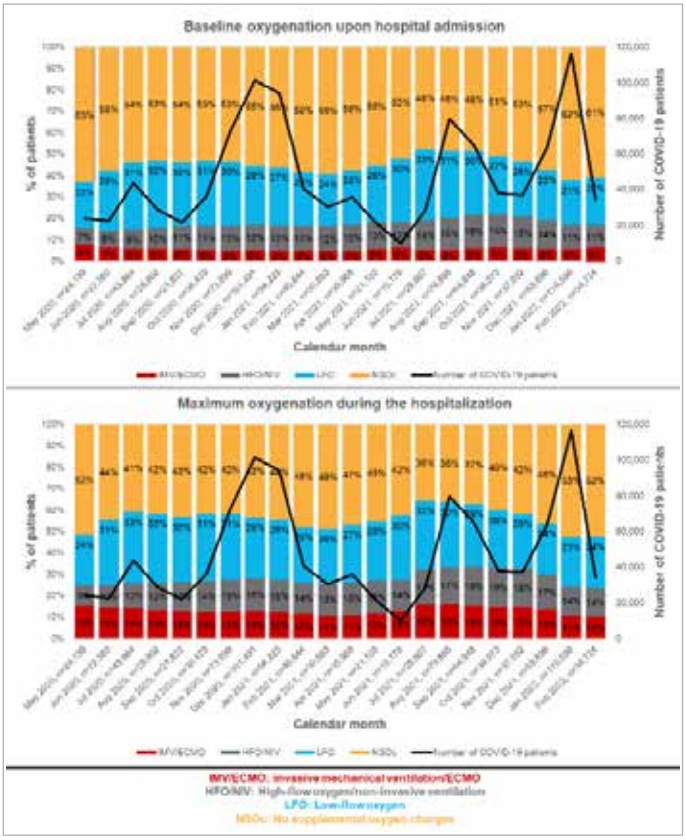


232 Figure 2. Characteristics of patients hospitalized for COVID-19 (US Premier Healthcare Database, May 2020 - Feb 2022)



232 Figure 3. Baseline and Maximum oxygenation requirement among patients hospitalized for COVID-19 (US Premier Healthcare Database, May 2020 - Feb 2022)

233 - Submission No. 1796

EFFECT OF DYSLIPEMIA ON MORTALITY IN COVID-19 PNEUMONIA

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Background and Aims: To analyze the effect of dyslipidemia on mortality in COVID-19 pneumonia.

Methods: Retrospective observational cohort study on the effect of a history of dyslipidemia on mortality according to the ordinal scale of the WHO on day 28 from admission, in 1134 patients admitted to the Príncipe de Asturias University Hospital from March to September 2020, with SARS-CoV-2 pneumonia and SpO2<94% baseline. It has been approved by the CEIC of the hospital. Binary logistic regression analysis has been performed and it has been adjusted with propensity index matching.

Results: Of the 1,134 patients, 62.2% were male, median age 68 (AIC 55 to 78) years, with comorbidities (54.0% hypertensive, 24.1% diabetic, 17.7% heart disease, 22.9% chronic lung disease and 23.0% onco-hematology), median initial SpO_2/FiO_2 429 (AIC 332 to 452), median initial CRP 78.1 (AIC 33.4 to 138) mg/L, 6.8% were treated with remdesivir, the 34.1% with corticosteroids and 6.6% admitted to the ICU. 487 (42.9%) have dyslipidemia and 647 (57.1%) patients do not. 150 (30.8%) died with dyslipidemia and 130 (20.1%) without dyslipidemia (OR 1.77; 95% CI 1.35 to 2.32; p<0.001). The analysis adjusted for the confounding variables age, sex, immigrant, hypertension, diabetes mellitus, heart disease, atrial fibrillation, lung disease, chronic kidney disease, immunosuppression, neoplasia, neurological disease, home oxygen, lymphocytes, creatinine, respiratory support, clinical worsening, treatment with steroids and interferon, dyslipidemia has no effect on mortality (OR 0.76; 95% CI 0.57 to 1.00; p=0.052).

Conclusions: In this observational study, dyslipidemia has no effect on mortality in SARS-CoV-2 pneumonia.

234 - Submission No. 577

POTENTIAL ROLE OF LACTOFERRIN AND HEPARIN IN COVID-19

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Background and Aims: The research aim was to prove the potential role of lactoferrin (LF) and heparin in coronavirus disease 2019 (COVID-19). Moreover, we discuss and underline the mechanisms involved in this possible association.

Methods: PubMed and Scopus databases were used to conduct the literature search.

Results: Studies have widely proven the principal activity of LF, in the inflammatory process, as an anti-inflammatory and immunomodulatory glycoprotein. Evidence shows that LF has essential antibacterial and antiviral effects against human and animal pathogens. LF improve the host's anti-inflammatory response by directly binding to the pathogen particles, blocking their cellular receptors, or stabilizing immune factors. LF prevents the entry of DNA and RNA viruses, which commonly utilize

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heparan sulfate proteoglycans (HSPGs) on cell membrane hosts to accelerate their internalization. Actually, in order to limit the related coagulation dysregulation, a prophylactic antithrombotic therapy with low molecular weight heparins or unfractionated heparin has been utilized as shown in some studies. Due to probable drug interactions, heparin has been proposed over direct oral anticoagulants. Additionally, it was observed that glycosaminoglycans such as heparin could explicate an important antiviral role in COVID-19 infection potentially based on the ability to interfere with some receptors used by coronaviruses such as HSPGs.

Conclusions: Heparin and LF could reduce viral entry by preventing the attachment of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) due to competitive binding to HSPGs. Clinical studies are necessary to specify LF and heparin mechanisms of action and the therapeutical dose in patients with COVID-19.

235 - Submission No. 2024

PERSISTENT COVID IN IMMUNOCOMPROMISED PATIENT WITH COMPLETE REMISSION OF RELAPSED DIFFUSE LARGE B-CELL LYMPHOMA (DLBCL): A CASE STUDY

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Case Description: A 86-year-old male patient was diagnosed in 2018 with DLBCL which was treated with R-CHOP. In 2021 he received polatuzumab-vedotin (anti-CD79b) plus bendamustine and rituximab (anti-CD20) for relapsed DLBCL, with a complete metabolic response in PET-CT. He received four doses of COVID-19 vaccination. In May 2022 he was admitted after one week of fever and weakness without respiratory complains. Chest radiograph showed bilateral infiltrates, A nasopharyngeal swab was positive to SARS-CoV-2 by RT-PCR. Serological testing did not detect antibodies against the virus. He was treated with 2 units of convalescent plasma and a short course of corticosteroids. Two months later he was readmitted due to fever and cough, chest radiograph showed worsening bilateral infiltrates, nasopharyngeal swab was persistently positive for SARS-CoV-2.

Clinical Hypothesis: Persistent Replication of SARS-CoV-2 and a flare of COVID-19 in immunocompromised host.

Diagnostic Pathways: Bronchoscopy was performed, BAL was positive for SARS-CoV-2 by PCR-RT and negative for other respiratory pathogens. PET-CT showed pulmonary infiltrates consistent with COVID-19 disease with no evidence of lymphoma recurrence. He received high dose of dexamethasone, remdesivir and hyperimmune plasma. The patient improved and was discharged. A month later, a follow up CT scan showed significant improvement of infiltrates.

Discussion and Learning Points: Anti-CD20 and Anti-CD79b drugs deplete malignant and normal B Cells. Consequently, the impaired humoral immunity may lead to relapsed and persistent COVID-19 disease. Despite the vast amount of information available on COVID-19, information in the immunocompromised patients is still lacking.

236 - Submission No. 728

COVID-19 RELATED COAGULATION-FIBRINOLYSIS ABNORMALITIES

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Background and Aims: Activated coagulation-fibrinolysis system play a crucial rule in the pathogenesis of the COVID-19. It emerges that the SARS-CoV-2 related coagulation abnormalities depends on endothelial-related anticoagulant system and fibrinolysis. To test this postulate, we performed an extensive study on coagulation-fibrinolysis systems and quality-quantity features of the extracellular vescicles (EVs) in plasma of patients with varying severity of the COVID-19.

Methods: Thirty-six symptomatic patients with COVD-19 (positive PCR) were enrolled in the study. Participants were grouped into three categories according to their disease severity (12 in each, excluded critically ill), as suggested by the WHO. We studied the procoagulant factors, protein C complex, plasminogen and alpha2-antiplasmin and the plasma contents of EVs coagulation-profiles pertinent endothelial and endothelial functions.

Results: Coagulation factors, VII, V and VIII, vWF, and fibrinogen were comparable in all three groups. Protein S was significantly increased in the moderate group, without significant change in the protein C activity. Alpha2-antiplasmin, was significantly affected by the severity of the disease (ANOVA, F:4.2, P=0.02). EVs study showed that endothelial biomarker is increased (e.g., CD144 VE-Cadherin 7.93±1.6% in healthy vs 14.14±2.5% in severe group). Soluble EPCR and thrombomodulin were increased mostly in moderated disease. Platelets fragments are increased but with no change in their activity.

Conclusions: The present study demonstrates that SARS-CoV2-induced coagulation-fibrinolysis activation results in determination of disease severity. The balance between plasmin (pro-inflammation) scavenger and the anti-coagulation process (activated protein C, anti-inflammation) seems to peak in moderate COVID-19. This suggests that maximal treatment should be invested during the mild-moderate disease phase.

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237 - Submission No. 1481

COVID-19: THE EXPERIENCE OF TWO HOSPITALS IN DIFFERENT REGIONS IN GREECE

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Background and Aims: Since 2019, COVID-19 pandemic is a major problem worldwide, crashing health systems. Hospitals with different operation status admitted patients with severe COVID-19. Our aim was to describe characteristics and outcomes in hospitalized COVID-19 patients, in a tertiary and secondary hospital in Athens and Crete.

Methods: From July 2021-April 2022, 1065 patients with median age 68 years were analyzed. Baseline demographics, clinical characteristics and outcomes were recorded. Descriptive statistics and multivariate logistic regression analysis were implemented.

Results: In our cohort, 54% of patients were males, 43% vaccinated, and 5% required mechanical ventilation. Mortality was 10%, equal in delta and Omicron variants. Vaccinated patients were older (76 vs. 60 years, $p<0.001$) and had better laboratory and imaging findings (CT with >50% opacities: 27% vs. 39%, $p<0.001$) than those unvaccinated. Additionally, 71% of those who needed non-invasive/mechanical ventilation (NIV/MIV) were unvaccinated ($p<0.001$). In multivariate analysis, older age, males, metabolic syndrome, severe pneumonia in CT and unvaccinated status were statistically significant independent risk factors for the need of NIV/MIV (adjusted odds ratios >1, $p<0.05$). No major differences in mortality and need for NIV/MIV were reported between the two hospitals.

Conclusions: Our results are in accordance with international data; vaccinated patients have better clinical outcomes. Notably, no difference was observed in crude mortality between Delta and Omicron patients, as seen in literature, with the latter being significantly older, with comorbidities, indicating that hospitalized patients with severe pneumonia are at high risk, regardless the variant. Gradual acquisition of experience and tireless effort of personnel compensate for the differences in operation status of hospitals.

238 - Submission No. 1216

MULTIORGAN FAILURE IN THE SETTING OF RECENT MILD COVID-19 INFECTION. A CASE OF MULTISYSTEM INFLAMMATORY SYNDROME (MIS)

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Case Description: A previously healthy, 21-year-old man was admitted because of five days history of fever, abdominal pain and loose stools, accompanied by dyspnea. Physical examination revealed hypoxemia, hypotension, cervical lymphadenopathy, conjunctivitis, and an abdominal salmon-like rash.

Laboratory results revealed elevated inflammatory markers, urea, creatinine, aminotransferases and troponin, along with thrombocytopenia. Due to the presence of fluid-refractory shock, the patient was started on noradrenaline infusion and was admitted to the ICU. Medical history was insignificant apart from a mild SARS-CoV-2 infection four weeks prior to admission. PCR for SARS-CoV-2 was negative. Echocardiogram showed a reduced ejection fraction with diffuse left ventricular wall hypokinesis. A thoraco-abdominal computed tomography showed bilateral pulmonary infiltrates, without other significant findings.

Clinical Hypothesis: Multiorgan failure resulting from Multi-System Inflammatory Syndrome of the children.

Diagnostic Pathways: Blood, urine and stool cultures were performed and the patient was started on empiric antibiotics. Inadequate clinical response, rapid deterioration, and absence of an infectious agent, led to considering Multisystem Inflammatory Syndrome of the adults (MIS-A) a most likely scenario. Therefore, the patient was started on intravenous methylprednisolone and immunoglobulin, which resulted in spectacular improvement with complete symptom remission and restoration of respiratory, heart and kidney function within 5 days.

Discussion and Learning Points: The potentially fatal outcome of this relatively rare syndrome makes its rapid diagnosis and treatment an imperative. Most patients are young (adults can be afflicted too) and have recently experienced a mild SARS-CoV-2 infection. Timely intervention often leads to swift improvement.

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239 - Submission No. 344

LONG-TERM EFFECT ON HEALTH-RELATED QUALITY OF LIFE IN HOSPITALIZED COVID-19 PATIENTS COMPARED TO NON-HOSPITALIZED COVID-19 PATIENTS, AS DETECTED WITH THE SF36V2 AND PCFSS QUESTIONNAIRES

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Background and Aims: Internationally, health-related quality of life (HRQL) has been shown to deteriorate in patients with COVID-19, for various time intervals after infection. Our aim is to evaluate the HRQL in Greek patients with severe COVID-19, 6 months after hospitalization and to compare it to that of non-hospitalized COVID-19 patients.

Methods: Participants were enrolled between 09/2021 and 04/2022. 37 formerly hospitalized patients from the COVID-19 Unit of the 2nd Department of Internal Medicine were included, along with 51 non-hospitalized patients. Participants completed a Short Form 36 version 2 (SF36v2) questionnaire regarding HRQL before and 6 months after infection, as well as a Post-COVID-19 Functional Status Scale (PCFSS), assessing their current functioning status. The SF36v2 parameters were calculated for these 2 time points. SPSS software was used for the statistical analysis.

Results: Deterioration in most parameters of SF36v2 was evident for hospitalized patients ($p<0.05$). They also exhibited worse results compared to those with mild COVID-19 ($p<0.05$), 6 months after infection. This was particularly true for women, as well as ages between 41 and 60. Similarly, the PCFSS values correlated positively with age and negatively with disease severity. Moreover, results of the 2 questionnaires tended to negatively correlate between them.

Conclusions: Hospitalization due to COVID19 impacts HRQL 6 months after discharge. Physical and mental/psychological damage is lasting, and women prove to be the more vulnerable sex. Traditional tools, such as the SF36v2, appear to work well in detecting post-COVID19 symptomatology, while the recently introduced, and much shorter, PCFSS exhibits relevant results.

240 - Submission No. 1013

ASSOCIATIONS OF SERUM SODIUM CONCENTRATION DISORDERS WITH IN-HOSPITAL MORTALITY AMONG COVID-19 ADULT PATIENTS HOSPITALIZED IN THE UNIVERSITY HOSPITAL, LITHUANIA

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Background and Aims: Serum sodium disorders are common electrolyte disturbances detected in clinical practice and are associated with increased morbidity and mortality. The objective of the study was to evaluate sodium concentration associations in predicting in-hospital mortality in hospitalized COVID-19 patients.

Methods: COVID-19 positive adults hospitalized in Vilnius University Hospital Santaros Klinikos, Lithuania, and tested for serum sodium on admission were included in this retrospective cohort study between March 2020 and May 2021. Depersonalized data were retrieved from electronic medical records. Participants were divided into three groups according to serum sodium levels on admission: normal sodium concentration ($135 \leq sodium \leq 150$ mmol/l), hyponatremia ($sodium < 135$ mmol/l), hypernatremia ($sodium > 150$ mmol/l). Cox proportional hazards regression model was created to evaluate serum sodium concentration effect on in-hospital mortality within 30 days after hospitalization.

Results: Among 2743 participants, 84.8% of them had normal sodium concentration, 13.6% had hyponatremia, 1.5% - hypernatremia. Patients with hyponatremia and hypernatremia were older compared to those with normal sodium level (65 vs 59 years, $p<0.001$ and 70.5 vs 59 years, $p=0.001$, respectively) and more frequent had comorbidities compared to normal sodium level group (62.0% vs 45.8%, $p<0.001$ and 62.5% vs 45.8%, $p=0.035$, respectively). Overall, 321 (11.7%) patients died within 30 days after admission. The hazard ratio for in-hospital mortality in patients with hyponatremia – 1.43 (95%CI 1.11–1.86, $p=0.007$), in hypernatremia group – 2.60 (95%CI 1.48–4.56, $p=0.001$) compared to normal sodium level group.

Conclusions: Sodium imbalance in COVID-19 patients increase the hazard ratio for in-hospital mortality. Hypernatremia is associated with higher risk of mortality than hyponatremia among hospitalized COVID-19 patients.

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241 - Submission No. 995

THE PREDICTIVE VALUE OF ELEVATED CARDIAC TROPONIN I FOR IN-HOSPITAL MORTALITY AND MAJOR CARDIOVASCULAR ADVERSE EVENTS AMONG COVID-19 PATIENTS HOSPITALIZED IN THE UNIVERSITY HOSPITAL, LITHUANIA

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Background and Aims: COVID-19 infection is associated with myocardial injury leading to severe disease course and death. The objective of the study was to evaluate the role of cardiac troponin I (cTnI) in predicting in-hospital mortality and major adverse cardiovascular events (MACE) in hospitalized COVID-19 patients.
Methods: COVID-19 positive adults hospitalized in Vilnius University Hospital Santaros Klinikos, Lithuania, and tested for cTnI on hospitalization day with no end stage chronic kidney disease were included in this retrospective cohort study between March 2020 and May 2021. Depersonalized data were retrieved from electronic medical records. Participants were divided into three groups according to cTnI levels on admission: cTnI<19 ng/l group, 19<=cTnI<100 ng/l group, and cTnI≥100 ng/l group. MACE was defined as the composite of total death, pulmonary embolism, myocardial infarction, and stroke. Cox proportional hazards regression was performed to evaluate cTnI effect on in-hospital mortality and MACE within 30 days after admission.
Results: Among 2044 participants, 68.3% of them had cTnI<19 ng/l, 21.2% – 19<=cTnI<100 ng/l, 10.4% had cTnI≥100 ng/l. Pulmonary embolism developed for 2.6%, myocardial infarction – for 2.2%, stroke – for 1.5%. Overall, 11.0% of patients died. The hazard ratio (HR) for in-hospital mortality of patients with cTnI≥100 ng/l was 2.77 (95%CI 1.88-4.07, p<0.001) and with 19<=cTnI<100 ng/l – 2.63 (95%CI 1.88-3.69; p<0.001), HR for MACE in patients with cTnI≥100 ng/l was 4.07(95%CI 3.00-5.52, p<0.001) and with 19<=cTnI<100 ng/l – 2.59 (95%CI 1.95-3.45, p<0.001) compared with normal cTnI group.
Conclusions: CTnI elevation is a common finding among hospitalized COVID-19 patients that is associated with higher risk of mortality and MACE.

242 - Submission No. 2133

PROGNOSTIC MODELS FOR ASDMISSION IN ICU AND/OR MORTALITY OF COVID-19 PATIENTS

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Background and Aims: Various prognostic models have been proposed for predicting critical illness (ICU, mortality) in COVID-19 patients. Purpose of our study was to estimate the utility of validated scores for patients presenting to ED.
Methods: 4C Mortality Score, COVID-GRAM Critical Illness Risk Score and CURB-65 score were used. Sensitivity and specificity, positive and negative predictive values and ROC curves were assessed. Primary endpoints were ICU admission and/or mortality.
Results: Sample population included 2,401 patients (1,219 females, 1,182 males, mean age 53.19 years). There were 1,119 patients (46.6%, 599 males, 520 females) admitted to the hospital whereas 149 (13.3%, 84 male, 65 female, mean age 66.2±12 years) were transferred to ICU. 186 patients died (16.6%) of whom 83 in ICU (55.7%). Concerning ICU admission, 4C and COVID-GRAM had high sensitivity (91% and 97% respectively) and negative predictive value (92% and 95.5% respectively) whereas CURB-65 had higher specificity (98%) and positive predictive value (89%) but very low sensitivity (25.5%) and negative predictive value (64%). ROC curves were 0.87, 0.85 and 0.6 respectively. With regard to mortality, all scores had relatively low sensitivity (58.6%, 50% and 25% respectively) and positive predictive value (52.7%, 60% and 81% respectively). On the other hand, all scores had high specificity (95.6%, 100% and 99.5% respectively) and negative predictive value (96.5%, 92% and 94% respectively). ROC curves were 0.9, 0.87 and 0.88 respectively.
Conclusions: As far as it concerns mortality, all scores had high specificity but low sensitivity and similar ROC curves. 4C score seems more advantageous in predicting ICU admission.

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243 - Submission No. 738

PROGNOSTIC FACTORS FOR HOSPITAL ADMISSION IN COVID-19 PATIENTS PRESENTING TO THE EMERGENCY DEPARTMENT

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Background and Aims: COVID-19 pandemic affected the lives of all people worldwide and tested the durability of all health systems. A respectable proportion of patients presenting to ED were admitted to the hospital. Purpose of our study was to examine possible prognostic factors for hospitalization.

Methods: All COVID-19 patients (positive PCR-test) above 18 years of age presenting to ED from 8/2020 to 11/2021 included in this study. The following data were considered in multivariate analysis: anthropometric data, number and kind of co-morbidities, vaccination status, level of consciousness, findings of clinical examination and radiological/laboratory investigation during ED visit.

Results: Sample population included 2,401 patients (1,219 females, 1,182 males, mean age 53.19 years). Of these, 2,052 patients were non-vaccinated, 141 partially and 208 fully vaccinated. There were 1,119 patients (46.6%) admitted to the hospital. Multivariate analysis shows that the odds of admission is increased 5% per each year of age (OR:1.05, 95% CI:1.04-1.07, p<0.0001), 14% per each chronic disease (OR: 1.14, 95% CI: 1.03-1.3, p=0.014), 24 times for obese patients (OR: 24, 95% CI: 15-38, p<0.0001), 60% for presence of fever (OR: 1.6, 95% CI: 1.1-2.4, p=0.016), 33 times because of decreased consciousness (OR: 33.5, 95% CI: 7-165, p<0.0001), 12 times for lung findings on physical examination (OR: 12, 95% CI: 9-15, p<0.0001), 2 times for CRP>0.5mg/dL (OR: 2.06, 95% CI: 1.3–3.2, p=0.001), 17 times for LDH>500U/L (OR: 17, 95% CI: 7.7-36, p<0.0001) and 39 times because of abnormal ECG (OR: 39, 95% CI: 8-191, p<0.0001).

Conclusions: Many factors can aggravate patients' condition and necessitate hospitalization. All of these should be taken into account when examining patients in the ED.

244 - Submission No. 747

COVID-19 PATIENTS AND INTENSIVE CARE UNIT: NEGATIVE PROGNOSTIC FACTORS FOR ADMISSION

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Background and Aims: COVID-19 pandemic led to dramatic increase of patients admitted due to respiratory insufficiency. Purpose of our study was to examine possible negative prognostic factors for admission in ICU.

Methods: All COVID-19 patients (positive PCR-test) above 18 years of age presenting to the ED from 8/2020 to 11/2021 included in this study. The following data were considered in multivariate analysis: anthropometric data, number and kind of co-morbidities, vaccination status, level of consciousness, findings of clinical examination and radiological/laboratory investigation during ED visit.

Results: Sample population included 2,401 patients (1,219 females, 1,182 males, mean age 53.19 years). There were 1,119 patients (46.6%) admitted to the hospital. Of these, 149 (13.3%, 84 male, 65 female, mean age 66.2±12 years) admitted to ICU. Transfer to ICU was done after 5 days (IQR: 2-9) of ward admission while median time of ICU hospitalization was 14 days (IQR: 8-22). Multivariate Cox analysis shows that ICU admission risk is inversely related to age (HR: 0.9, 95% CI: 0.97-0.99, p=0.01) while there is no gender difference. Admission risk was higher for patients with COPD (HR: 1.9, 95% CI: 1.3-2.7, p=0.001) and/or hypertension (HR: 1.8, 95% CI: 1.2-2.5, p=0.002), for each unit increase of O2 flow rate upon ED arrival (HR:1.2, 95% CI:1.19–1.3, p<0.0001). LDH between 225-500 and LDH >500 increase the risk 2.8 (HR: 2.8, 95% CI: 1.4–5.9, p=0.005) and 4 times respectively (HR: 4, 95% CI: 1.9–8.7, p<0.0001).

Conclusions: Progression of age, necessity for higher O2 flow rate upon ED arrival, co-morbidities and higher LDH levels are significantly associated with patients' clinical deterioration and transfer to ICU.

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245 - Submission No. 748

PREDICTORS OF IN-HOSPITAL MORTALITY IN COVID-19 PATIENTS PRESENTING TO THE EMERGENCY DEPARTMENT

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Background and Aims: COVID-19 pandemic significantly increased patients' hospital admissions and mortality mainly due to respiratory complications. Purpose of our study was to examine possible predictors of mortality.

Methods: All COVID-19 patients (positive PCR-test) above 18 years of age presenting to the ED from August 2020 to November 2021 included in this study. The following data were considered in multivariate analysis: anthropometric data, number and kind of co-morbidities, vaccination status, level of consciousness, findings of clinical examination and radiological/laboratory investigation during ED visit.

Results: Sample population included 2,401 patients (1,219 females, 1,182 males, mean age 53.19 years). Of these, 2,052 patients were non-vaccinated, 141 partially and 208 fully vaccinated. There were 1,119 patients (46.6%, 599 males, 520 females) admitted to the hospital of whom 186 died (16.6%, 80 males, 106 females). Mortality in ICU admitted patients was 55.7% (83 of 149 patients). Multivariate analysis shows that mortality risk increases approximately 3% per each year of age progression (HR: 1.03, 95% CI: 1.02-1.05, p<0.0001). Low albumin (HR: 0.6, 95% CI: 0.4-0.8, p<0.0001) and high LDH levels, especially above 500 (HR: 2.7, 95% CI: 1.5-4.7, p<0.0001) increase mortality risk. Moreover, mortality risk is increased two-fold because of decreased level of consciousness (HR: 2.1, 95% CI: 1.4-3.1, p<0.0001) and 15% for each unit increase of O_2 flow rate upon ED arrival (HR: 1.15, 95% CI: 1.1–1.2, p<0.0001).

Conclusions: Mortality of patients admitted for COVID-19 is significantly related to progression of age, decreased level of consciousness, low albumin and high LDH levels as well as to increased oxygen needs upon ED arrival.

246 - Submission No. 67

CARDIOVASCULAR EVENTS IN THE LONG-TERM PERIOD AFTER COVID-19

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Background and Aims: Assessment of the cardiovascular events (CVE) and their association with COVID-19 among young and middle-aged patients.

Methods: The prospective study included 658 patients (83.2%, F), aged 25 to 59 years, who underwent preventive medical examination. The main group [COVID-19] included 416 (63.2%) patients aged 40 (33; 47) years, the comparison group [NO COVID-19] - 242 (36.8%) patients aged 41 (33; 47) years. The groups were comparable in age (p=0.324), and gender (p=0.083). Coronary heart disease, hypertension, and diabetes mellitus were registered. The follow-up period from the moment of COVID-19 recovery to the outcomes was 1-7 [3 (2-4)] months.

Results: The initial cardiovascular risk (CVR) in patients aged 25-44 years was 1.1±0.4 points (relative risk scale), aged 45-59 years - 2.5±2.5% (SCORE). CVE developed in 23.3% people of the main, in 16.5% - in the comparison group, p=0.050. New cases of hypertension were detected in 8.6%, coronary heart disease - in 5.5%, diabetes mellitus - in 6.3% patients of the main group; in 11.9%, 3.7%, and 3.7% patients in the comparison group, respectively. Correlation of any CVE with smoking (p<0.001, r=0.20), high CVR (p<0.001, r=0.45), COVID-19 (p<0.001, r=0.25) was established. Smoking (p<0.001, OR 3.1, 95% CI 1.9-5.1), high CVR (p=0.001, OR 42.7, 95% CI 12.6-144.6), and COVID-19 (p=0.010, OR 1.7, 95% CI 1.1-2.7) were the factors associated with the development of CVE.

Conclusions: CVE as a result of COVID-19 were observed in every fourth patients. The identification of the CVR, even in the absence of chronic diseases, is important for the prevention diseases programs.

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247 - Submission No. 1813

EFFICACY OF L-ORNITHINE – L-ASPARTATE IN PATIENTS WITH POST – COVID SYNDROME: RESULTS OF A MULTICENTER OBSERVATIONAL STUDY

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Background and Aims: Hyperammonemia in post-COVID syndrome is not well studied. The aim of the study was to access the influence of hyperammonemia in patients with post-COVID syndrome and the possibility of its correction.

Methods: Eighty-three patients (mean age 51.71 ± 12.82) with post-COVID syndrome, attention and memory impairment, chronic fatigue, hyperammonemia, 2-fold increase of alanine transaminase (ALT) and aspartate transaminase (AST) levels were included into multicenter, prospective observational study. L-ornithine–L-aspartate (LOLA) was given (3 g 3 times per day orally) for 4 weeks to correct hyperammonemia. Patients were accessed by the number connection test (NCT), fatigue evaluation test, measurement of ammonia and ALT, AST levels at baseline, after 2 and 4 weeks.

Results: At week 4 the ammonia level was significantly decreased in 81 patients (97.6%). Time (sec) to complete the NCT was 49.4±15.9 vs 64.7±24.9 at baseline ($p<0.001$). The mean score in fatigue evaluation test was 46.3±10.0 vs 64.7±19.2 at baseline ($p<0.001$). ALT and AST levels were 47.8±38.2 units/l vs 95.8±68.99 units/l at baseline and 40.10±35.97 units/l vs 78.51±90.90 units/l at baseline respectively ($p<0.001$).

Conclusions: Hyperammonemia is a significant contributor that may cause covert and overt hepatic encephalopathy in post-COVID patients. This study showed that the inclusion of LOLA in a dose of 3 g 3 times a day for 4 weeks was associated with significant improvement in the objective and subjective outcomes in patients with post-COVID syndrome.

248 - Submission No. 1118

HOW FAR DOES OUR THERAPEUTIC ARSENAL GO IN PATIENTS WITH DECOMPENSATED HEART FAILURE AND COVID-19?

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Case Description: A 70-year-old man, former smoker, with a personal history of chronic ischemic heart disease and successive angioplasties with stent implantation in different procedures (2007, 2008, 2010), multiple admissions for decompensated heart failure with depressed ejection fraction (LVEF 35%), electrically cardioverted atrial fibrillation in 2018, ICD implantation in primary prevention. Vaccinated against SARS-CoV-2. He was transferred due to dyspnea and cough. Recent contact with COVID-19. Eupneic at rest with basal SatO2 up to 88%. On auscultation, moist bibasilar crackles and pitting pretibial edema.

Clinical Hypothesis: Decompensated heart failure and COVID-19.

Diagnostic Pathways: Treatment was started with dexamethasone 6mg, remdesivir, and diuretic treatment. Despite these, at 48 hours there was a rebound in CRP and an increase in NT-proBNP (11023.1 pg/mL), with persistent edema and need for oxygen. We started levosimendan in continuous infusion of 0.1 micrograms/kg/min/24h. Striking progressive clinical improvement was evidenced, achieving withdrawal of oxygen at 72 hours and decrease in edema, discharged after 10 days. Outpatient treatment protocol with levosimendan was scheduled with clinical/ultrasound reevaluation.

Discussion and Learning Points: There is hardly any literature related to its use and COVID-19. Its cardioprotective effects are due to the fact that it causes coronary vasodilation, reduces preload and afterload, and activates mitochondrial K+ ATP channels. Its inotropic, coronary, antiplatelet, antiapoptotic, and anti-inflammatory effects increase cardiac output and decrease ventricular filling pressure, pulmonary and systemic vascular resistance. This was the reason why we decided to use levosimendan, after not obtaining a complete response with the usual measures, the patient's evolution being satisfactory and demonstrating that its use is safe in COVID-19.

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249 - Submission No. 539

REACTIVE INFECTIOUS MUCOCUTANEOUS ERUPTION (RIME) SECONDARY TO SARS-COV-2

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Case Description: A 28-year-old male with no medical history presents with pain and ulcerations in the oral cavity and penis together with bilateral red eye. No fever or other symptoms. Ten days before he had been diagnosed with SARS-CoV-2 pauci-symptomatic infection. He did not take any medication. On examination, he had necrotic erosions without vesicles on the lips, hard palate and glans penis. He was evaluated by Ophthalmology due to ocular symptoms, and bilateral episcleritis was diagnosed. He had no skin lesions or adenopathies.

Clinical Hypothesis: Laboratory tests showed elevated CRP and ESR with normal blood count, renal function, ions, liver enzymes and coagulation. Infectious serology and autoimmunity were negative.

Diagnostic Pathways: After ruling out infectious origin, treatment with systemic corticosteroid was started. In 3-4 days, he presented clinical improvement with complete resolution of the lesions in 2 weeks.

Discussion and Learning Points: The term RIME describes cases of exanthema and post-infectious mucositis, previously called mycoplasma-induced mucositis, MIRM. However, numerous cases not associated with Mycoplasma have been described, such as this case secondary to SARS-CoV-2. RIME is distinct from Stevens-Johnson syndrome/toxic epidermal necrolysis and erythema multiforme, has predominantly mucosal involvement and the course is usually milder. Latency times between the onset of symptoms of COVID-19 infection and mucosal eruptions vary from 4 days to 12 weeks. It has an excellent prognosis, although the recurrence rate is up to 8%. Corticosteroids are the mainstay of treatment, although their role is not yet well defined.

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250 - Submission No. 2081

A RETROSPECTIVE COMPARATIVE STUDY OF BILIRUBIN AND AMYLASE LEVELS AMONG COVID-19 AND NON – COVID-19 ICU PATIENTS

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Background and Aims: COVID-19 infection appears to affect many, apart from the respiratory, systems. Nevertheless, there are few data on the hepatic and pancreatic involvement of COVID-19 in critically ill patients. The aim of our study was to compare the prevalence of hyperamylasemia and hyper-billirubinemia in COVID-19 and non-COVID-19 critically ill patients.

Methods: We performed a retrospective single-center study including all consecutively COVID-19 critically ill mechanically ventilated patients admitted from 03/2020 to 11/2021 to our ICU and all consecutively critically ill mechanically ventilated patients from 08/2020 to 01/2021 and from 03/2021 to 08/2021 admitted to our non-COVID-19 ICU. Patients' demographics, comorbidity including Charlson Comorbidity Index (CCI), outcome, as well as admission and maximum total bilirubin (TBIL) and amylase (AMS) blood values were recorded. Two patient groups, i.e., COVID-19 and non-COVID-19 patients were compared in terms of hepatic and pancreatic involvement.

Results: The study included 333 patients (183 COVID-19, 150 non–COVID-19), of an average age 66.3±14.36 years-old. Between the two patient groups there was no difference in age or sex. COVID-19 patients had a lower CCI score (84% had a score of <5 compared to 68.8%, p=0.004). COVID-19 patients had a higher median maximum TBIL (2 (0.5-60) mg/dl vs 1 (0.4-0.7) mg/dl, p=0.001), and a higher prevalence of TBIL>2mg/dl (44.8% vs 30%, p=0.003). There was no difference in either admission or maximum amylase values among the two groups.

Conclusions: COVID-19 critically ill patients develop more often raised TBIL compared to non-COVID-19 patients. Whether TBIL's increase in such patients is indicative of a direct hepatic involvement of the viral infection or secondary to a complication requires further research.

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251 - Submission No. 1136

THE PROGNOSTIC UTILITY OF SERUM FERRITIN IN PATIENTS WITH COVID-19 IS DIFFERENT BETWEEN SEXES AND AGE GROUPS

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Background and Aims: Serum ferritin is a well-established marker of disease severity in COVID-19 patients although its value for predicting adverse outcomes has not been fully examined. We present sex-disaggregated data on the prognostic utility of serum ferritin in hospitalized COVID-19 patients.

Methods: We recorded the admission ferritin levels of 225 Caucasian patients (median age 65.2 years, 62.7% males) admitted consecutively to the COVID-19 unit of the Internal Medicine Department of a tertiary public general hospital in Athens, Greece. Patient outcomes were classified dichotomously as "favorable" (discharge without intubation during hospitalization) and "adverse" (intubation or any-cause in-hospital death). SPSS v.27.0 was used for statistical analysis.

Results: Median ferritin levels at admission were significantly higher in male (529 μg/L) compared to female (333.5 μg/L) patients (P<0.001, two-tailed Mann-Whitney U-test). Patients of both sexes with adverse outcomes had higher median ferritin levels compared to those with favorable outcomes (males: 975 μg/L versus 424 μg/L, P<0.001; females: 612 μg/L versus 310 μg/L, P=0.294). Receiver Operator Characteristics (ROC) curve analysis showed that the accuracy of ferritin for predicting adverse outcome, as expressed by the area under the ROC curve (AUC) differed considerably between sexes, being statistically significant (null hypothesis: AUC=50%) only in males (male AUC=71.2%, 95%CI: 61.5-80.9, P<0.01; female AUC=57.1, 95%CI: 42.8-71.4, P=0.294). Subgroup analysis showed that in younger males (≤60 years) the prognostic accuracy of ferritin was higher (AUC 80.8%, 95%CI: 64.2%-97.3%, P<0.01).

Conclusions: The prognostic utility of serum ferritin in hospitalized patients with COVID-19 depends on demographic variables including sex and age.

252 - Submission No. 1103

PERICARDITIS AFTER COVID-19 VACCINATION: A CASE SERIES

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Background and Aims: Pericarditis and myocarditis are among the complications associated with mRNA COVID-19 vaccines. Aim of our study was to identify the clinical profile of pericarditis occurred after COVID-19 vaccination in patients attending our pericardial disease clinic.

Methods: We analyzed thirty-nine cases of patients vaccinated with COVID-19 vaccines who developed a pericarditis within 30 days after vaccination in the Department of Internal Medicine at Fatebenefratelli Hospital in Milan, followed from December 1st, 2021 to October 1th, 2022.

Results: Thirty-nine individuals, of which 26 were women, with a median age of 39 years, had vaccine related pericarditis. Three patients were vaccinated with AstraZeneca, 6 with Moderna, the remaining with Pfizer-BioNTech. Two patients required hospitalization: one subject developed constrictive effusive pericarditis, while another was treated with anakinra, switched to canakinumab after severe skin reactions. In the remaining cases clinical symptoms were mild and didn't require hospitalization. Chest pain was reported in 100% of cases, whereas pericardial effusion (in one case larger than 10 mm) was evidenced in 35 subjects. Eighty percent of patients experienced tachycardia, whereas 90% reported asthenia. An increase in indices of inflammation (CRP) was documented in 50% of patients, usually mild. Ninety percent of patients were treated with low-dose NSAIDs, 95% with colchicine, while 49% of cases required treatment with low-dose steroids for asthenia; 49% of cases were treated with beta-blockers or ivabradine for tachycardia.

Conclusions: COVID-19 vaccination induces an insidious and troublesome form of pericarditis, but with good prognosis. In fact, vaccine-induced pericarditis is mostly mild and doesn't require hospitalization.

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253 - Submission No. 1086

ASSESSMENT OF FACTORS ASSOCIATED WITH CLINICAL AND PHYSIOLOGICAL FUNCTIONING IN PATIENTS WITH POST-COVID-19 SYMPTOMS

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Background and Aims: Post COVID-19 entity is characterized by prolonged symptoms related to precedent acute COVID-19. Pathophysiology and predisposition for this syndrome are still obscure.

Methods: A cross sectional study at the outpatient post-COVID-19 clinic (January 2021-June2022). Evaluation at 3 months following acute COVID-19 included patients' demographic, somatometric, clinical data, post-COVID-19 sequelae, lung spirometry and laboratory tests. Data were compared using ANOVA, Kruskal-Wallis or Chi-square tests among 3 groups of patients: A) without symptoms, (n=22, 13.8%); B) with symptoms lasting for the first month after acute onset (n=75, 45.3%); C) with persistent symptoms at visit (n=65, 40.9%).

Results: Patients (n=159), were male (n=104, 65.4%) - mean (SD) age: 56.3 (13.8) and BMI: 28.9 (5.8) Kg/m2- with above threshold waist circumference (n=98, 61.6%). Frequent comorbidities: Hypertension (n=48), metabolic syndrome (n=43), dyslipidemia (n=40), hypothyroidisms (n=30), diabetes mellitus (n=22), autoimmune disease (n=14). Only active smoking (33.3%), hypothyroidism (18.9%) thromboembolic disease (1.9%) differed among groups A, B, C (p=0.008, p=0.020, p=0.022 respectively). COVID-19 vaccination percentages by groups were: A=9.1%, B=1.4% and C=12.3% (p=0.039). No difference in severe acute COVID-19 (77.4%) among groups. Significantly persistent post-COVID-19 symptoms at the time of visit were fatigue (71.1%), dyspnea (35.9%), cough (22.6%), myalgias/arthralgias (13.8%), headache (7.6%) along with assessment of general (93.9%), pulmonary (67.7%) and neuropsychiatric (41.6%) sequela (p<0.001), whereas lung function and laboratory results did not differ among groups.

Conclusions: Post-COVID-19 syndrome persisting symptoms affected physical functioning and cannot be explained by previous severe disease, underlying conditions or laboratory and functional lung tests, suggesting alternative pathophysiological pathways.

254 - Submission No. 186

RELATIONSHIP BETWEEN THE NUMBER OF SYMPTOMATIC DAYS OF PATIENTS WITH COVID-19 BEFORE HOSPITALIZATION WITH THE LEVEL OF SPO2, AND FOLLOW-UP OF MORTALITY

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Background and Aims: Coronavirus disease 2019 is a new pandemic disease that has caused widespread complications and deaths around the world. Hence, it is essential to identify the causes affecting deaths by this disease. The purpose of this study is to relate the number of days of symptoms of patients with COVID-19 before hospitalization with the level of SpO_2 at the beginning of hospitalization, the number of days of hospitalization, and the follow-up of mortality up to one month later.

Methods: This study was a cross-sectional analytical study that was conducted on 600 patients with COVID-19. First, the information on registered people and SpO_2 during hospitalization, the number of days of hospitalization, and the follow-up of mortality up to one month later were recorded. Then the data were compared based on independent t-test, ANOVA, and Pearson correlation.

Results: The findings of this study showed that 14.3% of the studied patients with COVID-19 died. Compared to recovered patients, the patients who died were older, had longer average durations of symptoms until hospitalization and durations of hospitalization (P<0.001), and had lower average arterial blood oxygen at the beginning of hospitalization (P<0.001).

Conclusions: Due to the high prevalence of mortality in hospitalized COVID-19 patients and the identification of risk factors affecting more patients, the patients, especially those with higher risk, should be trained to refer faster to the hospital in case of symptoms of COVID-19. Faster diagnosis, can lead to timely treatment and reduce the death rate of patients.

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255 - Submission No. 1184

A PILOT STUDY OF THE EFFICACY AND ECONOMICAL SUSTAINABILITY OF ACUTE CORONAVIRUS DISEASE 2019 PATIENT MANAGEMENT IN AN OUTPATIENT SETTING

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Background and Aims: To report a preliminary experience of outpatient management of patients with coronavirus disease 2019 (COVID-19) through an innovative approach of healthcare delivery.

Methods: Patients evaluated at the mild-to-moderate COVID-19 outpatient clinics (MMCOs) of San Raffaele University Hospital and Luigi Sacco University Hospital in Milan, Italy, from 1 October 2020 to 31 October 2021 were included. Patients were referred by general practitioners (GPs), Emergency Department (ED) physicians or hospital specialists (HS) in case of moderate COVID-19. A classification and regression tree (CART) model predicting ED referral by MMCO physicians was developed to aid GPs identify those deserving immediate ED admission. Cost-effectiveness analysis was also performed.

Results: A total of 660 patients were included. The majority (70%) was referred by GPs, 21% by the ED and 9% by HS. Patients referred by GPs had more severe disease as assessed by SpO_2, PaO_2/FiO_2, C-reactive protein levels and interstitial involvement at lung ultrasound. Among them, 18% were addressed to the ED following MMCO assessment. CART analysis identified three independent predictors, namely home-measured SpO_2, age and body mass index, that robustly divide patients into risk groups of COVID-19 severity. Home-measured SpO_2 < 95% and BMI ≥ 33 Kg/m^2 defined the high-risk group. The model yielded an accuracy (95% CI) of 83% (77–88). Outpatient management of COVID-19 patients allowed the national healthcare system to spare 1,490,422.05 € when compared with inpatient care.

Conclusions: MMCOs were effective and sustainable in managing COVID-19 patients and allowed to alleviate pressure on EDs and hospital wards, favoring effort redirection toward non-COVID-19 patients.

256 - Submission No. 1144

INTERLEUKIN-6 CORRELATES IN PATIENTS WITH COVID-19

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Background and Aims: Interleukin-6 (IL-6) in one of the main inflammatory cytokines and increased levels were found in patients with COVID-19. We aimed to investigate how IL-6 correlates with disease severity in patients diagnosed with COVID-19.

Methods: We performed a retrospective inclusion of the patients hospitalized in the Pneumology Department of Colentina Clinical Hospital and diagnosed with COVID-19 by positive RT-PCR oropharyngeal swab.

Results: A total number of 111 patients was identified, 58 (52.3%) male gender. Patients were grouped by disease severity, symptoms, and pulmonary involvement (screened by thoracic computer tomography) in mild (29.7%), moderate (19.8%), and severe (50.3%) disease. Among admission symptoms, only dyspnea was more frequently found in patients with high IL-6 levels, 22/33 (40%) vs. 38/18 (67.9%), p=0.003. Further, IL-6 levels correlated negatively with oxygen (O2) saturation (r=-0.486; p<0.001) and positively with the O2 need L/min (r=0.430, p<0.001). Furthermore, a correlation between serum IL-6 and D-dimers, ferritin, leucocytes, procalcitonin at admission, was identified (p<0.05), as opposed to fibrinogen or lymphocytes. However, IL-6 serum level predicted lower lymphocytes count and higher fibrinogen levels during disease evolution: 880 (600; 1290) vs. 800 (510; 1177) /uL; p=0.259; and 700 (550; 1130) vs. 625 (360; 837)/ uL; p=0.016, respectively: 508.0 (393.5; 589.0) vs. 545.0 (456.5; 654.5) mg/dL; p=0.072 and 530.0 (458.0; 619.5) vs. 589.0 (509.5; 694.5) mg/dL; p=0.033. By ROC, high IL-6 levels were best predicted by the C-reactive protein value: AUC (95%CI) 0.738 (0.628-0.848), p<0.001.

Conclusions: Our results suggest that IL-6 could be considered as serological marker for disease severity assessment in COVID-19.

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257 - Submission No. 2399

COMPARISON OF MORTALITY AND LENGTH OF HOSPITAL STAY BETWEEN PATIENTS WITH AND WITHOUT COVID-19 IN 2020-2021: A RETROSPECTIVE COHORT STUDY IN ISRAEL

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Background and Aims: The COVID-19 pandemic greatly changed the public's awareness of potentially serious upper respiratory tract symptomology. At present, there has been little data comparing the length of hospital stay, and mortality between both COVID-19 positive and negative (COVID-19+ and COVID-19-, respectively) individuals with upper respiratory tract infections (URTI) from Israel.

Methods: Using a large-scale dataset from an Israeli medical center on the southern coast, we identified individuals attending the Emergency Room (ER) after self-reported contact or exposure to other COVID-19+ individuals with any URTI symptoms in 2020-2021, as well as those among them who were hospitalized for more than 48h (inpatients). We analyzed rates of mortality and duration of hospitalization.

Results: We identified 23,671 individuals with any URTI symptoms or suspected for COVID-19, including 2,951 COVID-19+ and 20,720 COVID-19-. COVID-19- was linked with poorer survival in comparison to COVID-19+ [Hazard Ratio (HR): 1.56, Confidence Interval (CI) 95%: 1.50-1.63, p<0.001 for all and HR: 1.37, CI: 1.29-1.45, p<0.001 for inpatients]. COVID-19+ patients were hospitalized for a longer period of time than those who were COVID-19-: median (IQR) of 3 (0-7) to 1 (0-3) days (median test, p<0.001).

Conclusions: COVID-19+ inpatients were more likely to survive compared to COVID-19- inpatients with URTI. COVID-19+ may be associated with longer hospitalization periods to COVID-19- with URTI. It is possible that COVID-19- individuals probably attended the ER further along in their disease course (compared to COVID-19+). Further analysis is needed regarding hospitalization length and mortality of COVID-19- patients before, during, and after the 2020 pandemic.

258 - Submission No. 2404

COMPARISON OF INPATIENT CHARACTERISTICS AND IN-HOSPITAL MORTALITY BETWEEN PATIENTS WITH AND WITHOUT COVID-19 IN 2020-2021: A RETROSPECTIVE COHORT STUDY IN ISRAEL

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Background and Aims: There is little data evidence comparing the mortality rates of coronavirus disease (COVID-19) with upper respiratory tract infection (URTI) in the eastern Mediterranean. We aimed to describe and explore the characteristics of both COVID-19 positive and negative (COVID-19+ and COVID-19-, respectively) individuals from the southern coast of Israel.

Methods: Using a large-scale dataset from a single Israeli medical center on the southern coast, we identified individuals hospitalized after self-reported URTI symptoms in 2020-2021 (all with COVID-19+ or COVID-19-). We compared inpatient characteristics and in-hospital mortality while performing multivariable proportional hazard risk ratio (RR) analyses for in-hospital mortality, including adjustments to age, mechanical ventilation (MV) and chronic diseases.

Results: We identified 23,674 inpatients with URTI symptoms of whom including 2,952 COVID-19+ and 20,722 COVID-19-. Among the total studied population, the diagnosis of pneumonia, COVID-19, anemia and age>65y had a higher RR [95% confidence intervals (CI) in brackets] for in-hospital mortality [1.5 (1.2-1.9), 1.6 (1.2-2.3), 1.7 (1.1-2.6) and 1.4 (1.0-1.8), respectively; p<0.05 for all]. The use of MV at admission was similar when comparing COVID-19+ to COVID-19- (0.2% vs. 0.1%), but higher during the entire hospitalization in the COVID-19+ group (0.3% vs. 0.1%; p=0.002).

Conclusions: COVID-19- inpatients were less likely to die than those hospitalized due to COVID-19+. However, this was mainly driven by findings in older people and those with pneumonia and anemia. Moreover, there was no difference in mortality rates in those mechanically ventilated. The higher mortality RR of anemia among both COVID-19 and URTI inpatients warrants further investigation.

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259 - Submission No. 1243

ASSOCIATION BETWEEN PAO2/FIO2 RATIO (P/F RATIO) AND SERUM ALBUMIN AND ITS INTERPLAY WITH ARTERIAL AND VENOUS THROMBOTIC EVENTS IN COVID-19 PATIENTS

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Background and Aims: PaO_2/FiO_2 is a marker of hypoxia/hypoxemia and mortality. Several prothrombotic changes are associated with the decrease of P/F ratio, but his role in patients with arterial and venous thrombosis remains unclear. The aim of this study is to assess, in patients with COVID-19, the association between P/F ratio and arterial/venous thrombosis.

Methods: This is an observational retrospective cohort multi-center study performed in non-ICU COVID-19 medical wards. We included patients with laboratory-confirmed COVID-19 and SARS-CoV-2-related pneumonia who needed hospitalization, from March 2020 to March 2021. Primary endpoints of the study were arterial and venous thrombosis during the hospitalization.

Results: 1406 COVID-19 patients were recruited; 289 (21%) patients had P/F ratio<200 and 1117 (79%) ≥200. Compared to the patients with P/Fratio≥200, those with P/F ratio<200 were older, with major need of intensive care unit (ICU) and with a higher prevalence of smoking, coronary artery disease, chronic obstructive pulmonary disease and use of steroids and LMWH. They have higher levels of glycemia and D-dimer and lower albumin, PaO_2 and SpO_2. Multiple linear regression analysis showed that albumin and D-dimer were associated with P/F ratio. During the hospitalization 159 patients were transferred in ICU, 253 patients died, 225 patients had arterial and venous thrombotic events. A logistic analysis was performed to analyze the predictors of thrombosis in COVID-19 patients. P/F ratio<200, albumin, D-dimer, and history of transient ischemic attack/stroke independently predicted thrombotic events.

Conclusions: This study shows that patients affected by COVID-19 with P/F ratio<200 have higher risk to develop arterial and venous thrombotic events and suggests hypoalbuminemia as a mechanism accounting for hypoxia-related-hypercoagulability.

260 - Submission No. 1289

TWO CASES OF AORTIC DISSECTION AND COVID-19 DISEASE

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Case Description: COVID-19 disease is accompanied with several extrapulmonary manifestations. We report two cases of aortic dissection and COVID-19 disease.

Case 1: A 56-year-old man, active smoker, presented to the emergency department (ED) with fever,14 days after tested positive for SARS CoV2.He was also complaining of retrosternal chest pain, radiating to the neck and sweating. On physical examination, there was no blood pressure difference between arms, and he was hemodynamically stable. Laboratory results revealed leukocytosis, elevated C-reactive protein 19mg/L (<0.7) and elevated d-dimers 3.28 (<0.25). Case 2: A 71-year-old woman, SARS CoV-2 positive, with a history of hypertension, admitted due to sudden onset of dyspnea, epigastric and chest pain, central cyanosis. She developed hypoxemic respiratory failure, respiratory alkalosis and laboratory results showed elevated d-dimers.

Clinical Hypothesis: Due to high suspicion of acute pulmonary embolism (PE), CTPA was performed in both cases.

Diagnostic Pathways: The CTPA of the first patient was negative for PE, but the radiologist suspected dissection of the ascending aorta. The echocardiogram showed aortic annulus 44 mm and proximal ascending aorta diameter 47 mm. Following aortic CT angiography, aortic dissection DeBakey II was diagnosed. Due to extension of the dissection to the iliac arteries, the patient was transferred to the referential cardiothoracic department and underwent emergency surgery.

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The CTPA of the second patient confirmed the diagnosis of PE. Unfortunately, she went into sudden cardiorespiratory arrest, but the cardiopulmonary resuscitation was unsuccessful. The autopsy revealed aortic dissection DeBakey IIIb.

Discussion and Learning Points: Aortic dissection is an uncommon but extremely serious complication of COVID-19 disease, because of the high mortality rate. This report points out the importance of clinical suspicion and early diagnosis of aortic dissection.

261 - Submission No. 1381

CENTRAL NERVOUS SYSTEM INFECTION IN A YOUNG WOMAN WITH COVID-19 DISEASE

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Case Description: COVID-19 disease is a respiratory disease that can also affect the central nervous system (CNS). The main symptoms are headache, dizziness and loss of taste and smell. SARS-CoV-2 can be also associated with ischemic strokes, venous sinus thrombosis, meningitis, encephalitis, myasthenia, Guillain Barre syndrome, Weston syndrome and acute disseminated encephalomyelitis.

We report a case of a 19-year-old woman, with obesity, that presented to the emergency department with fever, headache, neck pain, photophobia and vomiting. The patient was fully conscious, hemodynamically stable, without neck stiffness and the signs of meningitis were negative. The rapid antigen test for SARS-CoV-2 was negative and the laboratory test revealed a C-reactive protein elevation and lymphopenia. The brain CT scan and neck X-ray were normal.

Clinical Hypothesis: A CNS infection was suspected, and lumbar puncture was performed.

Diagnostic Pathways: The laboratory results of cerebrospinal fluid (CSF) revealed 100 cells, lymphocytes 90%, LDH 13IU/L and total protein 45mg/dl. The culture was negative and the PCR test of the CSF for Meningococcus, Pneumococcus, HSV1-2, VZV, Parechovirus, Human Herpes Virus-6, *Cryptococcus neoformans/gattii*, *Listeria monocytogenes*, *Hemophilus influenzae* and *Streptococcus agalactiae* was negative.

Discussion and Learning Points: IV ceftriaxone and acyclovir were administered, and she was finally diagnosed with COVID-19 following nasopharyngeal swabbing. The patient was transferred to a reference hospital. The neurological complications of COVID-19 are of clinical significance and CNS infection should be considered in SARS-CoV-2 positive patients with neurological symptoms.

262 - Submission No. 2407

POST-COVID CONSULTATION - ONE YEAR EXPERIENCE

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Background and Aims: A year after the pandemic hit Europe it was clear that after resolving the acute symptoms a portion of the patients did not make a full recovery. The burden of disease was increasing, and these patients needed answers we had not yet available. Post covid syndrome, as it is now recognized, is still under investigation. It is consensual that it is a post viral syndrome with the most frequent symptoms being tiredness, brain fog, dyspnea, some degree of cognitive impairment, insomnia as well as depression. It is an exclusion diagnosis requiring complementary studies to reach it. This syndrome impacts deeply the functional capacity of the patients affected by it. As we acknowledge this, a dedicated consult was created.

Methods: Retrospective study, from a pool of 2,335 patients who had been hospitalized with COVID-19 we made a telephonic triage and had 219 eligible for in-office evaluation. From these, 91 fitted the criteria for post-covid syndrome.

Results: The median age of the observed patients was 57 years old and 57% were males. The most prevalent comorbidities were hypertension, obesity, hyperlipidemia, and diabetes. Tiredness was reported in 70%, 28.5% reported memory changes, 24% had arthralgia, 19% dyspnea, 14% insomnia and 12% reported some degree of cognitive impairment.

Conclusions: The close follow up and study of these patients will provide us with invaluable information on a syndrome that despite not being completely new arouse an important discussion on the absence of support for these patients who represent an important portion of the working population.

263 - Submission No. 303

POST COVID ELEVATED PLASMA D-DIMERS ARE ASSOCIATED WITH ARTERIAL HYPERTENSION IN OUTPATIENTS WITH NO CLINICAL EVIDENCE OF THROMBOTIC EVENTS. A PRIMARY HEALTH CARE FACILITY EXPERIENCE

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Background and Aims: COVID-19 is associated with clotting disorders whereas hypertension is a risk factor regarding disease severity. The aim of the study was to investigate a relation between hypertension and post-COVID plasma D-dimer levels

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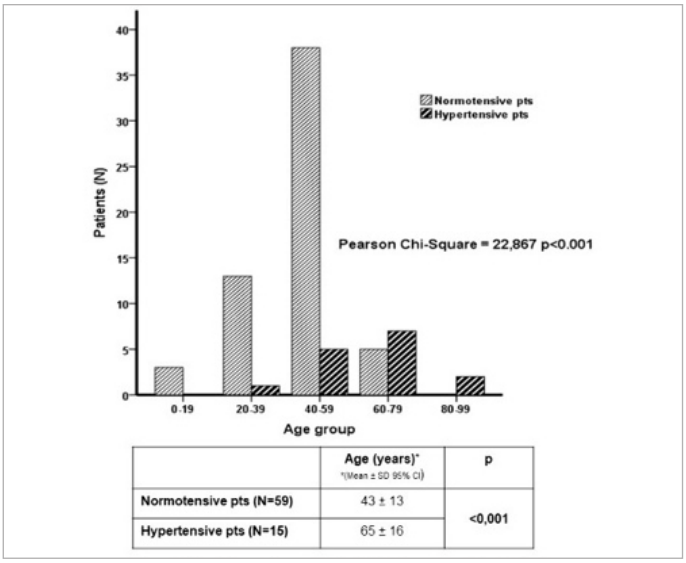
in non-hospitalized patients that recovered from coronavirus infection without evidence of thrombotic events.

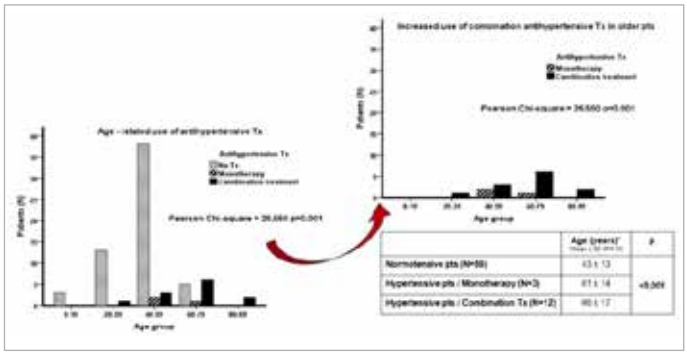
Methods: Real-life, retrospective, observational study of N=74 patients that were treated at a primary healthcare facility at Khalkida, Greece between July and October 2022. Demographic characteristics, medical history and treatment were recorded while plasma D-dimer testing was performed at first follow-up visit 30±19 days after positive SARS-CoV-2 rapid antigen or PCR diagnostic assay. Chi-square, T-test and ANOVA were used in data analysis.

Results: Prevalence of hypertension and use of combination antihypertensive treatment vs monotherapy were significantly increased among older subjects [χ^2=22.867, p<0.001 & χ^2=26.550, p=0.001 (Figures1,2)]. Mean age was greater in hypertensives (p<0.001) and highest among those under combination treatment [(p<0.001), (Figures1, 2)]. Hypertension was related to higher post-COVID plasma D-dimer levels in patients without clinical evidence of thrombosis [χ^2=11.293 p=0.003, 567±369 ng/ml vs 306±215 ng/ml p=0.003 (Figure 3)]. D-dimer levels were higher in hypertensives receiving combination treatment vs monotherapy [χ^2=16,427 p<0.001, 627±384 ng/ml vs 301±113 ng/ml, p=0.004 (Figure 4)].

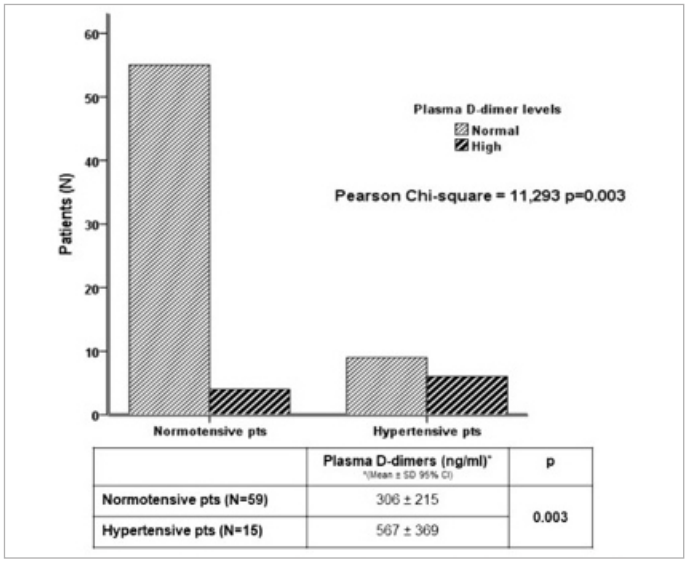
Conclusions: In the absence of thrombotic events elevated post-COVID plasma D-dimer levels are related to hypertension, particularly in older patients under combination antihypertensive treatment. However, long-term prognostic significance of high plasma D-dimers in this setting remains unclear.



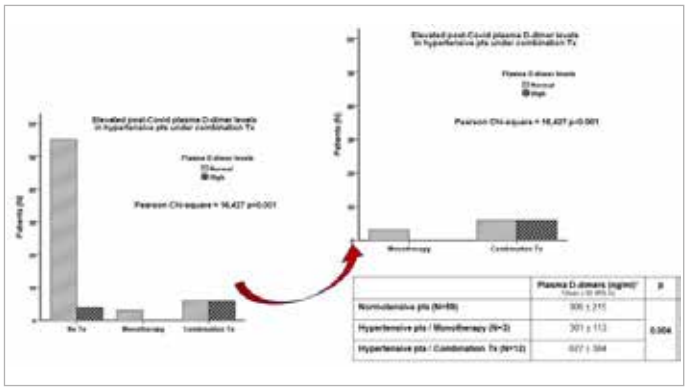
263 Figure 1. Prevalence of hypertension is higher among older patients



263 Figure 2. Administration of combination antihypertensive treatment vs monotherapy is significantly increased among older patients



263 Figure 3. Hypertension is associated with higher post-Covid plasma D-dimer levels



263 Figure 4. Post-Covid D-dimer levels were significantly higher in hypertensive patients receiving combination antihypertensive treatment vs monotherapy

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264 - Submission No. 769

POST COVID ELEVATED PLASMA D-DIMERS ARE ASSOCIATED WITH INCREASED BMI IN OUTPATIENTS WITH NO CLINICAL EVIDENCE OF THROMBOTIC EVENTS. A PRIMARY HEALTH CARE FACILITY EXPERIENCE

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Background and Aims: COVID-19 is associated with clotting disorders whereas obesity is a risk factor regarding disease severity. Additional adverse prognostic factors include diabetes and hypertension. The aim of the study was to investigate a relation between body mass index (BMI) and post-COVID plasma D-dimer levels in non-hospitalized patients that recovered from coronavirus infection without evidence of thrombotic events.

Methods: Real-life, retrospective, observational study of N=74 patients treated at a primary healthcare facility at Khalkida, Greece between July - October 2022. Demographic characteristics, medical history and treatment were recorded while plasma D-dimer testing was performed. Chi-square and T-test were used in data analysis.

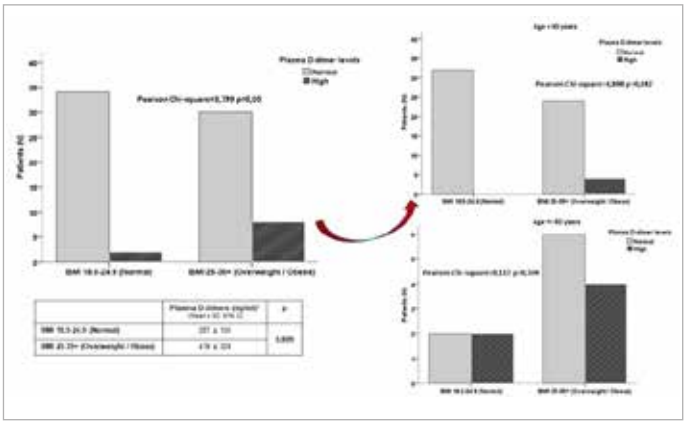
Results: D-dimer testing was performed at 30±19 days after positive SARS-CoV-2 rapid antigen or PCR diagnostic assay (Table 1). Prevalence of elevated D-dimers was increased among overweight/obese (BMI 25-35+) versus patients with normal weight (BMI 18,5-24,9) [χ^2=3.799, p=0.05 (Figure 1)]. Plasma D-dimers were higher in overweight / obese patients [(416±324 vs 287±165 ng/ml, p=0.009 (Figure 1)] Age stratification revealed a significant association between increased BMI and high D-dimers in patients < 60 years but not in patients ≥ 60 years old ([χ^2=4,898, p=0.042 and χ^2=0,117, p=0.594 respectively (Figure 1)]. Prevalence of diabetes and hypertension was higher in overweight / obese patients [χ^2=3,654, p=0.05 & χ^2=6,181, p=0.013 (Figure 2)].

Conclusions: In the absence of thrombotic events elevated post-COVID plasma D-dimer levels are related to increased BMI, particularly in patients <60 years old. Long-term prognostic significance of high plasma D-dimers in this setting remains unclear.

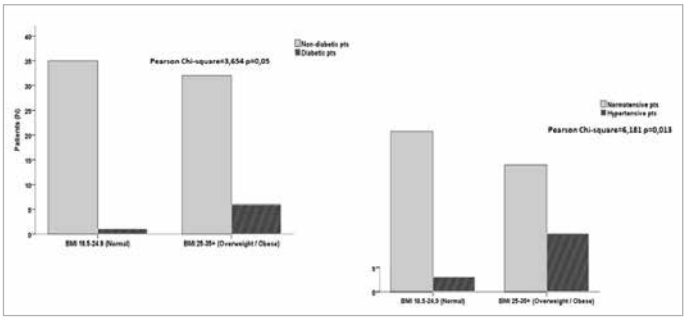
	N	%
Covid-19 patients	74	100
SARS-CoV$_2$ reinfection	9	12,2
Male patients	30	40,5
Mean age (years)*	48 ± 16	
Age > 60 years	14	18,9
Hospitalization	1	1,4
Death	0	0
Immunized patients (≥ 3 vaccine doses)	70	94,6
Not immunized patients	4	5,4
Diabetes mellitus type 2	7	9,5
Obesity (BMI ≥ 30)	13	17,6
Mean BMI*	26,8 ± 5,2	
Arterial hypertension	15	20,3
Elevated plasma D-dimers post Covid-19	10	13,5
D-dimers (ng/ml)*	360 ± 273	
Days from positive rapid antigen / PCR test*	30 ± 19	

*(Mean ± SD 95% CI)

264 Table 1. Study population characteristics



264 Figure 1. Elevated post-Covid D-dimer levels with no evidence of acute thrombosis are associated with increased BMI, particularly in patients aged <60 years



264 Figure 2. Prevalence of diabetes mellitus and arterial hypertension is significantly higher among overweight and obese vs patients with normal body weight

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265 - Submission No. 813

THE CHANGING PATTERN OF CAUSE OF DEATH IN PATIENTS HOSPITALIZED WITH COVID-19: A SINGLE CENTER EXPERIENCE

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Background and Aims: Infection by SARS-CoV-2 and its related syndrome COVID-19 has been associated with millions of deaths worldwide. However, the clinical impact of changes in the virus, the host and treatment protocols on the – clearly related – death toll of COVID-19 is still unclear.

Methods: We retrieved demographic, clinical and radiological characteristics of all patients admitted at Hadassah Medical Center with a diagnosis of COVID-19 and died during hospitalization in the 1st, 2nd and 5th waves. The primary outcomes were the cause of death (COVID-19 related or not) according to the death certificate, the cause of death following reevaluation by the research team, and the presence of typical COVID-19 infiltrates on lung imaging.

Results: We found 240 patients with a diagnosis of COVID-19 who died during the 1st, 2nd and 5th waves. The groups did not differ with respect to their comorbidities. However, patients who died during the 5th wave, compared to those of the 1st and 2nd waves, were older and less likely to be male and of Arab descent. Patients who died during the 5th wave were less likely to die of COVID-19 related cause (58.4% vs. 87.1%, p<0.001) or to possess a typical lung infiltrate on lung imaging (64.9% vs. 84.0%, p=0.001). We found high level of agreement between the death certificate and the research group reevaluation.

Conclusions: Our data suggest that a significant proportion of patients who died in the 5th wave might die of non-COVID-19 disease. This could be related to reduced virus virulence, enhanced immunity, and improved treatment.

266 - Submission No. 905

PROGNOSTIC ACCURACY OF STANDARD CHEST-X-RAY AND LUNG ULTRASOUND IN COVID-19 PNEUMONIA: A COMPARISON BETWEEN TWO DIAGNOSTIC TOOLS

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Background and Aims: Chest radiography (CXR) and lung ultrasound (LUS) have been used as first evaluation tools in COVID-19. Their prognostic power has been studied as they may represent affordable alternatives to CT scan. Our aim was to compare the prognostic accuracy of CXR and LUS at predicting adverse events in patients with COVID-19 pneumonia.

Methods: We included patients admitted to two internal medicine units with COVID-19 pneumonia from February to April 2020. CXR and LUS were performed at admission; radiological severity was quantified with Brixia and LUS score respectively. Prognostic accuracy of both techniques was evaluated together with clinical variables. The primary outcome was a composite of noninvasive mechanical ventilation, admission to ICU and death. Secondary outcome was the composite of death and admission to ICU. We also evaluated agreement between a radiology and an internal medicine resident after a short training in attributing Brixia score.

Results: 140 patients were included in the analysis. Primary outcome occurred in 49 (35%). At multivariate regression only dyspnoea, PaO_2/FiO_2 and Brixia score were associated with the primary outcome. The ROC analysis for the primary outcome demonstrated an AUC of 0.783 for LUS and 0.876 for Brixia score (p=0.0169). For the secondary outcome AUCs were 0.789 and 0.805 respectively. Inter-rater reliability for Brixia score had a weighted Cohen's Kappa of 0.59.

Conclusions: Both LUS and CXR demonstrated a good prognostic accuracy, but CXR appears to perform slightly better for the primary outcome. There was an acceptable concordance between a radiologist and an internal medicine physician for Brixia score.

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267 - Submission No. 1286

PREVENTION IS BETTER THAN HEALING: PRELIMINARY DATA FROM THE CASTELLI-EARLY-COV 19 (CEC-19) OBSERVATIONAL STUDY

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Background and Aims: Early anti-SARS-CoV-2 therapies are being administered at Internal Medicine of Castelli Hospital from April 8th 2021 to COVID-19 outpatients with mild-moderate disease, within 5-7 days from symptoms onset. Our aim was to perform an evaluation of the effectiveness of early anti COVID-19 therapies in terms of outcome of patients and costs.

Methods: The Center Team contacted the eligible patients collecting personal, clinical, and laboratory data. The choose of treatment Monoclonal Antibodies (MAbs) vs oral antiviral) was made on the basis of: main viral variant, medical history and clinical status. The available options were: MABs (bamlaniviamb-etesevimab, casirivimab-imdevimab, sotrovimab) administrable intravenously within 7 days from symptoms onset; Lagevrio (molnupriavir) or Paxlovid (nirmatrelvir-ritonavir) administrable within 5 days orally.

Results: 355 patients treated with MAbs: M/F 177/178; median age 63 years; obesity 26.5%. 345 treated with Lagevrio: M/F 175/170; median age 71 years, obesity 29.6%. 75 patients treated with Paxlovid: M/F 29/46, obesity 29.3%. Major comorbidity were cardiovascular diseases for MAbs (53.5%) and Lagevrio (69.2%); immunodeficiency (46.7%) for Paxlovid. Negativization time (days): MAbs 16; Lagevrio 14, Paxlovid 8. Patients presented adverse effects especially for Paxlovid. Hospitalization rate was led than 5%. Residual symptoms were recorded in around 20% of the patients. Adherence to therapy was very high. Mortality rate not significant and related to comorbidities.

Conclusions: Early treatment of SARS-CoV-2 appears to be well tolerated, avoiding hospitalizations. It is possible to hypothesize a saving of about 4500 € per patient treated with monoclonals and about 5000 € with antivirals treatment.

268 - Submission No. 2446

PREVENTION IS BETTER THAN CARE. CLINICAL AND ECONOMIC IMPLICATIONS OF MOLNUPIRAVIR IN COVID 19: A CROSS-SECTIONAL STUDY IN ITALY

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Background and Aims: Since 2020, COVID-19 represents a threat for frailty patients; several therapeutic options have been explored. We aimed to investigate efficacy, safety and economic value of treatment with Molnupiravir in a cohort of fragile patients affected by COVID-19.

Methods: Observational, prospective, cross-sectional study. Cost-effectiveness analysis was performed in order to compare a scenario with patients treated with Molnupiravir versus a scenario where previous standard of care was the only available strategy. A what-if approach was followed so that the control scenario was modelled as if the 345 patients cohort (175 males, 170 females; median age 71 years) was administered with the previous standard of care instead of Molnupiravir.

Results: In January-July 2022, 21 patients (6.09%) were unvaccinated, 251 patients (69.86%) had ≥2 risk factors. This population structure led to a dominant result of Molnupiravir versus the standard of care, thus involving a potential total savings of about 92,954 € per patient (8% of standard of care cost).

Conclusions: Early treatment helped patients who partially responded to vaccine, or with absolute contraindications to vaccination, to overcome COVID-19 without the need of hospitalization. Molnupiravir represents an effective treatment, avoiding disease progression especially in fragile old patients suffering from multiple pathologies and taking several drugs, thanks to its manageability.

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269 - Submission No. 1259

PROLACTIN AS A PREDICTOR OF COVID-19 OUTCOMES

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Background and Aims: Multiple reports suggest a role for prolactin (PRL) in regulating inflammation. PRL's direct effect on cellular signaling pathways that involve cytokine mediation highlights its potential as an inflammatory biomarker. We aimed to assess PRL levels in patients admitted to our hospital for COVID-19 and explore its prognostic value on disease outcomes.

Methods: This study consecutively included COVID-19-positive patients requiring supplementary oxygen administration in a tertiary university hospital from April-July 2022. Patients were excluded in the absence of informed consent, being of reproductive age, and/or receiving medication affecting PRL's metabolism. PRL serum levels were obtained on the first day of hospitalization. Patients' clinical and laboratory parameters, including hospitalization outcomes, were recorded.

Results: A total of 100 patients were included in this study. Patient characteristics are compared based on hospitalization outcome and need for invasive mechanical ventilation (IMV) in Tables 1 and 2, respectively. PRL levels were significantly lower in patients that died (p=0.033) and in patients that eventually required IMV (p=0.007). Multivariate logistic regression revealed that PRL was significantly related to the event of intubation OR=0.793 (95% CI; 0,666-0.944) and predicted well for survival OR=1.298 (95% CI; 1.079-1.562) when adjusting for age, sex, and pertinent confounders. The calculated ROC curve for intubation prediction yielded an area under the curve (AUC) equal to 0.72 with an optimal cut-off point of 9.75 ng/ml.

Conclusions: PRL levels can act as predictors of clinical outcomes in COVID-19. Further research into PRL's role in SARS-CoV-2-induced systemic inflammation, investigating its influence on cytokine mediation, is warranted.

Demographics	
Age median (IQR)	32 (24-35)
Gestational week median (IQR)	36 (23-38)
Comorbidities (%)	
Hypertension	1 (1.4)
Diabetes	3 (4.3)
Hypothyroidism	5 (7.2)
BMI>30	5 (7.2)
Hematologic condition	4 (5.8)
Former OB/GYN pathology	3 (4.3)
Symptomatology	
Days from onset median (IQR)	3 (2-7)
Asymptomatic (%)	31 (44.9)
Fever (%/symptomatic)	21 (55.3)
Dyspnea (%/symptomatic)	14 (36.8)
Cough (%/symptomatic)	21 (55.3)
Contractions (%/symptomatic)	18 (28.9)
Pregnancy Outcomes (%)	
Preterm Delivery	21 (30.4)
Fetal clinical abnormalities	11 (15.9)
Neonatal ICU admission	8 (11.6)
Miscarriage	1 (1.4)
Still Birth	2 (2.9)
SGA	4 (5.8)
CS due to ARDS	4 (5.8)
Maternal outcomes (%)	
Hospitalization	19 (27.5)
Survival	69 (100)
IMV	6 (8.6)
Pharmacologic Management (%)	
Corticosteroids	31 (44.9)
Remdesivir	16 (23.2)
BMI; Body Mass Index, OB/GYN; Obstetric/Gynecologic, ICU; Intensive Care Unit, SGA; Small for Gestational Age, CS; Cesarean Section, ARDS; Acute Respiratory Distress Syndrome, IMV; Invasive Mechanical Ventilation	

269 Table 1. Patient Characteristics (n=69)

DOI: 10.12890/2023_V10Sup1

	Hospitalized (n=19)	Not hospitalized (n=50)	p
Demographics			
Age median (IQR)	34 (24-40)	31 (24-34)	0.07
Gestational week median (IQR)	32 (28-35)	36 (34-38)	0.01
Former smokers (%)	2 (10.5)	9 (18)	0.34
Clinical characteristics			
WHO CPS median (IQR)	5 (5-7)	2 (1-4)	0.001
BMI>30 (%)	5 (26.3)	0	0.001
At least one comorbidity (%)	6 (31.6)	7 (14)	0.09
P/F < 400 (%)	14 (73.7)	3 (6)	0.001
NIV (%)	8 (42.1)	0	0.001
IMV (%)	6 (31.6)	0	0.001
Pharmacological Management			
Corticosteroids (%)	16 (84.2)	15 (30)	0.001
Remdesivir (%)	10 (52.6)	6 (12)	0.001
Symptomatology			
Asymptomatic (%)	0	31 (62)	0.001
Days from onset median (IQR)	7 (2-8)	2 (2-4)	0.019
Fever (%/symptomatic)	12 (63.2)	9 (47.4)	0.32
Dyspnea (%/symptomatic)	14 (73.7)	0	0.001
Cough (%/symptomatic)	13 (68.4)	8 (42.1)	0.1
Contractions (%/symptomatic)	2 (10.5)	9 (47.4)	0.01
Pregnancy Outcomes (%)			
Preterm Delivery	7 (36.8)	14 (28)	0.33
Composite Adverse Perinatal	7 (36.8)	6 (12)	0.025
Laboratory Values median (IQR)			
WBC (K/µl)	7.07 (5.32-8.71)	9.14 (7.47-11.29)	0.002
LYMPH (K/µl)	0.97 (0.7-1.57)	1.48 (1.02-2.08)	0.006
CPK (ng/ml)	79 (20-101)	80 (40.5-163.5)	0.23
LDH (IU/L)	318 (233-386)	204 (173-282.5)	0.001
C-RP (mg/dL)	5.94 (2.21-12.3)	2.29 (1-4.29)	0.004
Ferritin (ng/ml)	140 (75.75-241)	71 (22-94)	0.001
D-Dimers (µg/ml)	1.19 (0.67-2.18)	1.53 (1.02-2.16)	0.26

WHO CPS; World Health Organization Clinical Progression Score for COVID-19, BMI; Body Mass Index, P/F; PaO2/FiO2 ratio, NIV; Non-Invasive Ventilation, IMV; Invasive Mechanical Ventilation, WBC; White Blood Cells, LYMPH; lymphocyte count, CPK; Creatine phosphokinase, LDH; Lactate Dehydrogenase, C-RP; C-reactive protein

269 Table 2. Hospitalized vs. non-hospitalized pregnant women

270 - Submission No. 464

EARLY IMMUNE PROFILE ASSESSMENT BY FLOW CYTOMETRY PREDICTS SEVERE COVID-19 PNEUMONIA: AN EASY SCORE

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Background and Aims: The objective of our study is to predict severe SARS-CoV-2 pneumonia using early cytometric profiles.

Methods: Prospective and observational study of adults with confirmed COVID-19 infection admitted on Emergency Department (ED). We collected epidemiological, clinical and laboratory data of every patient until they were discharged or died. Multiparametric flow cytometry (FC) analysis of T-lymphocytes (CD4, CD8, naïve(Tn), central-memory (Tcm), effector-memory (Tem), effector (Te) and Th17), B-lymphocytes, NK cells, plasma blasts, p-DCs (plasmacytoid dendritic-cells), m-DCs (myeloid dendritic-cells), basophils and monocytes (MO1, MO2, MO3, slan+MO3) was performed on whole peripheral blood collected on EDTA, before immunosuppressive therapy was started. Severity was assessed on the basis of World Health Organization´s international 10 level ordinal scale (WHOs, Figure 1) and also according to 4 respiratory statuses, based on SpO_2 (peripheral blood oxygen saturation)/FiO_2 (fraction of inspired oxygen) ratio (SpFi). SpFi-group1>452, SpFi2:315-452; SpFi3:236-315, SpFi4<236.

Results: 64 patients were included: 32 patients (50%) evolved from initial SpFi 1-2 to SpFi 3-4 during follow-up. Plasma blasts <0.075% and active T lymphocytes CD8+ (CD8+CD38+DR+) >5.3%, were identified as independent risk factors to severe pneumonia (WHO>6, meaning oxygen by non-invasive ventilation or high flow). A score (0, 1, 2) comprising both risk factors, was significantly predictive of WHO>6, regardless of the initial respiratory status or age. In our cohort, 4.3% (1/12) patients with 0 points arrived at WHO>6, 10/20(50%) patients with 1 point [p=0.007 OR: 22; CI95% (2.36-204.75); and 87.5% (7/8) if 2 points [p<0.001; OR: 154; IC95% (8.48-2797.04)].

Conclusions: Flow cytometry on whole peripheral blood samples of SARS-CoV-2 pneumonia patients, collected before corticosteroid or immunosuppressive therapy, could identify cytometric patterns associated to prognosis. A score including plasma blasts and activated CD8, could detect patients who will require high-flow oxygen devices during follow up.

Patient State	Descriptor	Score
Uninfected	Uninfected; no viral RNA detected	0
Ambulatory mild disease	Asymptomatic; viral RNA detected	1
	Symptomatic; independent	2
	Symptomatic; assistance needed	3
Hospitalised: moderate disease	Hospitalised; no oxygen therapy*	4
	Hospitalised; oxygen by mask or nasal prongs	5
Hospitalised: severe diseases	Hospitalised; oxygen by NIV or high flow	6
	Intubation and mechanical ventilation, pO_2/FiO_2 ≥150 or SpO_2/FiO_2 ≥200	7
	Mechanical ventilation pO_2/FiO_2 <150 (SpO_2/FiO_2 <200) or vasopressors	8
	Mechanical ventilation pO_2/FiO_2 <150 and vasopressors, dialysis, or ECMO	9
Dead	Dead	10

270 Figure 1.

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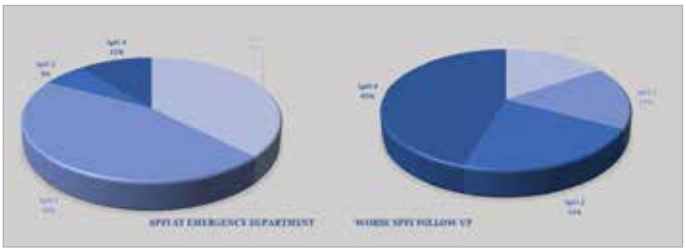
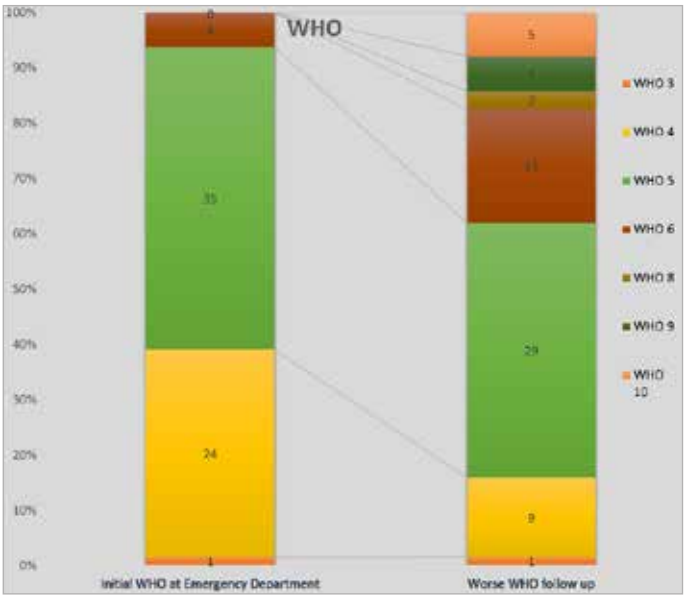
Sex	**Male**	**40 (62.5%)**
	Female	24 (37.5%)
Age	<50	17 (26.6%)
	50-65	23 (35.9%)
	65-80	16 (25%)
	>80	8 (12.5%)
Ethnic group	Caucasian	35 (54.7%)
	North Africa	4 (6.3%)
	Hispanic	9 (14.1%)
	Southeast Asia/islands	4 (6.3%)
	Central Asia	5 (7.8%)
	Unknown	7 (11%)
Treatment	Dexamethasone	57 (89.1%)
	Tocilizumab	11 (17.2%)
	Remdesivir	6 (9.4%)
	Enoxaparin	62 (96.9%)
	Vitamin D	27 (42.2%)
	Clinical Trial Drug	16 (25%)
	Ceftriaxone	21 (32.8%)
SARS-CoV-2 Vaccine	Vaccinated	8 (12.5%)

270 Figure 2.



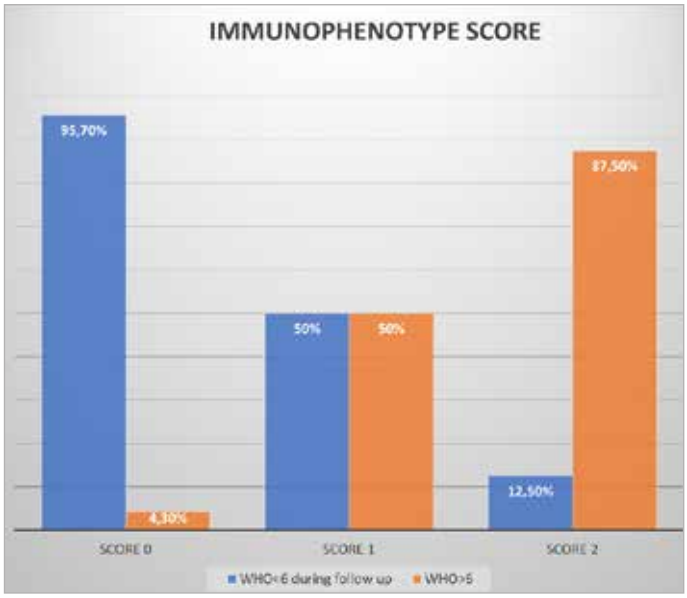
270 Figure 3.



270 Figure 4.

Immunophenotype at ED and Worse respiratory status during follow up				
Worse SpFi	Leucocyte subset %	Odds Ratio	Sensibility %	Specificity %
SpFi1	Monocytes >4.55	17.5 (p=0.009)	90	66
	T lymphocytes >75.3	14 (p=0.002)	80	77.8
	pDC >0.035	17.6 (p<0.001)	80	83.5
	mDC>0.095	27.3 (p<0.001)	87.5	79.6
	Basophil>0.165	19.92 (p=0.007)	87.5	74
SpF4	T/NK ratio<4.33	7.125 (p<0.001)	77.1	67.9
	NK>11.5	10.15 (p<0.001)	85.7	62.9
	mDC<0.045%	8.17 (p<0.001)	70	68
	T lymphocyte<72.5	5.03 (p<0.001)	65.7	72.4

270 Figure 5.



270 Figure 6.

271 - Submission No. 627

PLASMA CELL LEUKEMIA OCCURRING SIX MONTHS AFTER COVID-19 INFECTION IS ASSOCIATED WITH A PARANEOPLASTIC LIMBIC ENCEPHALITIS

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Case Description: A 73-year-old obese man was diagnosed with symptomatic COVID-19 infection. The patient's condition improved but six months later a new deterioration ensued. Following the appearance of pancytopenia, plasmacytosis of the peripheral blood (35%), as well as the bone marrow (31%), disclosing an osteoclastic pattern. The encephalitis prevailing by then was of the limbic type. It was positive for anti-GABA B-antibodies. Therefore, the condition being neither an infection, a metabolic disorder, nor a vascular lesion, is most consistent with an autoimmune reaction. The clinical features were consistent with plasma cell leukemia, associated with a paraneoplastic syndrome. The diagnosis favored the POEMS syndrome, even though some criteria were missing. It was sustained by an ascites

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collection surrounding an enlarged spleen, as well as filling up both gutters. This POEMS patient was related to COVID-19, both by the original malady, as well as with a later COVID-19 pulmonary involvement, encompassing extensive ground glass changes. In this instance, the patient developed hypoxemic respiratory failure and died of respiratory insufficiency, as well as a result of plasma cell leukemia.

Clinical Hypothesis: A possible association between POEMS syndrome and severe pulmonary COVID-19, possibly a long COVID-19 complication.

Diagnostic Pathways: Imaging (CT/MRI), bone marrow aspiration and biopsy, blood analyses.

Discussion and Learning Points: We report the simultaneous occurrence of a neuropathic paraneoplastic syndrome, induced by plasma cell leukemia, and confounded by pulmonary COVID-19. To our knowledge, this is the first-described association between POEMS syndrome and a severe pulmonary long COVID-19 complication.

272 - Submission No. 2188

SECONDARY HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS (SHLH) AS A COVID-19 COMPLICATION IN AN END-STAGE-KIDNEY-DISEASE (ESKD) PATIENT: AN UNUSUAL PATH OF IMMUNOLOGICAL EXHAUSTION

Achilleas Betsikos[1], Eleni Paschou[2], Evanthia Gazouni[3], Evaggelia Patrikalou[4], Rafaela Filiou[1], Konstantinos Ntais[1], Aggelos Zorbas[3], Athanasios Bellos[3], Paraskevi Founta[4], Nikolaos Sabanis[4]

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Case Description: Description A 70-year-old man with a history of ESKD undergoing hemodialysis, type II diabetes mellitus (DMII) and recently diagnosed chronic Hepatitis B infection, presented with mild COVID-19 accompanied by leukopenia. During hospitalization, there was intermittent fever of nonspecific pattern. The patient was stable and receiving oxygen through nasal cannula. Chest computed tomography revealed mild ground-glass opacities in both lungs. Progressively he developed pancytopenia, tension ascites, hepatosplenomegaly and altered mental status. Bone marrow aspiration revealed feature of hemo-phagocytosis. Despite the aggressive treatment with corticosteroids, Intravenous Immunoglobulin, tocilizumab, broad-spectrum antibiotics and remdesivir the patient died due to massive upper gastrointestinal bleeding

Clinical Hypothesis: Hemophagocytic lymphohistiocytosis constitutes an unusual and life-threatening condition of uncontrollable activation of the immune response. It is characterized by the aberrant activation of T-lymphocytes, Natural killer cells and hyper-secretion of cytokines that might result in multi-organ failure. SARS-CoV-2 was recently recognized as a cause of this potentially lethal complication.

Diagnostic Pathways: The HScore yielded 236 points, attributing a probability of 98-99% to the diagnosis of sHLH.

Discussion and Learning Points: sHLH is a rare disorder of the immune system that is usually triggered from viral infections, autoimmune diseases, and malignancies in predisposed patients. In corroboration of the above, it should be noted that COVID-19 infection is independently related to increased levels of circulating cytokines that drive the immune system to its exhaustion. In this patient the chronic antigenic exposure to the Hepatitis B virus, the deranged immune system due to the ESKD and the DMII set the base on which COVID-19 infection triggered this rare syndrome.

273 - Submission No. 1526

THE CHANGING LANDSCAPE OF COVID-19 COAGULOPATHY AND LIFE-THREATENING BLEEDINGS AT UNUSUAL SITES

Achilleas Betsikos[1], Eleni Paschou[2], Evanthia Gazouni[3], Georgios Zagkotsis[4], Evaggelia Patrikalou[5], Paraskevi Founta[5], Aggelos Zorbas[3], Christina Zoulogianni[3], Nikolaos Sabanis[5]

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Case Description: We report the case of a 72-year-old woman with a history of hypertension, end-stage kidney disease under hemodialysis (ESKD), coronary artery disease, chronic obstructive pulmonary disease and Addison's disease. She was recently hospitalized with SARS-CoV-2 infection and discharged home after a week, receiving prophylactic dose of enoxaparin. On the 27th day she complained of abdominal pain accompanied by a palpable abdominal mass and clinical signs of hypovolemic shock. The second patient was a 78-year-old man. His medical history included hypertension, ESKD, atrial fibrillation and heparin-induced thrombocytopenia under fondaparinux. He was also hospitalized due to COVID-19 and 15 days after discharge he presented with hemodynamic instability accompanied with a massive ecchymosis located on the left paravertebral region.

Clinical Hypothesis: Soft tissue hematomas (STH) can be presented as life-threatening bleeding events (BE) during severe illness associated with thrombocytopenia, hypofibrinogenemia or disseminated intravascular coagulopathy. Late onset of BE have been primarily related to low molecular weight heparin (LMWH)

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administration in patients with distinct characteristics.

Diagnostic Pathways: Computed tomography revealed in the first patient a left rectus sheath hematoma of 8.5 cm diameter and in the second patient multiple hematomas located in the erector spinae muscles, with no evidence of active bleeding.

Discussion and Learning Points: STH at unusual sites represent another hemostatic paradox of SARS-CoV-2 infection that may be presented not only early but also late in the course of the disease in vulnerable patients with multiple underlying comorbidities under LMWH. Timely diagnosis and management are required to avoid life-threatening consequences.

274 - Submission No. 1260

COVID-19 INFECTION DURING PREGNANCY: A SINGLE CENTER EXPERIENCE

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Background and Aims: Data regarding COVID-19 outcomes on pregnancy have only started to emerge. We aimed to report the experience of pregnant women presenting with COVID-19 and explore potential risk factors that are associated with the need for hospitalization and adverse outcomes.

Methods: We retrospectively recorded the maternal and perinatal files of pregnant women presenting from April 2020 – April 2022 in the emergency department of a tertiary hospital. Patient demographics, clinical characteristics, pertinent medical history, clinical manifestations, and laboratory values were documented upon presentation. Outcomes and treatment modalities were also recorded, and associations explored.

Results: A total of 69 pregnant women were included in the study (Table 1). Nineteen (27.5%) patients were admitted for observation, all symptomatic (Table 2). Dyspnea was the most defining symptom of hospitalization, whereas contractions were significantly more present in the non-hospitalized population. A P/F ratio of less than 400 was significantly related to hospitalization, as was obesity (Cramer's V=0.702 and 0.453, respectively). For each day delay in presentation following symptom onset, the odds of hospitalization were increased by 1.812 (95% CI: 1.366-2.404). Preterm delivery rates did not differ between hospitalization groups; however, composite adverse perinatal outcomes, including stillbirth, SGA or neonatal ICU admission, were significantly more in women hospitalized for COVID-19.

Conclusions: Pregnancy is a unique physiologic condition that may constitute a state of vulnerability to systematic infection and requires distinct disease management. Our results reflect the need for specific guidelines in the management of COVID-19 pregnant patients.

Demographics	
Age median (IQR)	32 (24-35)
Gestational week median (IQR)	36 (23-38)
Comorbidities (%)	
Hypertension	1 (1.4)
Diabetes	3 (4.3)
Hypothyroidism	5 (7.2)
BMI>30	5 (7.2)
Hematologic condition	4 (5.8)
Former OB/GYN pathology	3 (4.3)
Symptomatology	
Days from onset median (IQR)	3 (2-7)
Asymptomatic (%)	31 (44.9)
Fever (%/symptomatic)	21 (55.3)
Dyspnea (%/symptomatic)	14 (36.8)
Cough (%/symptomatic)	21 (55.3)
Contractions (%/symptomatic)	18 (28.9)
Pregnancy Outcomes (%)	
Preterm Delivery	21 (30.4)
Fetal clinical abnormalities	11 (15.9)
Neonatal ICU admission	8 (11.6)
Miscarriage	1 (1.4)
Still Birth	2 (2.9)
SGA	4 (5.8)
CS due to ARDS	4 (5.8)
Maternal outcomes (%)	
Hospitalization	19 (27.5)
Survival	69 (100)
IMV	6 (8.6)
Pharmacologic Management (%)	
Corticosteroids	31 (44.9)
Remdesivir	16 (23.2)
BMI; Body Mass Index, OB/GYN; Obstetric/Gynecologic, ICU; Intensive Care Unit, SGA; Small for Gestational Age, CS; Cesarean Section, ARDS; Acute Respiratory Distress Syndrome, IMV; Invasive Mechanical Ventilation	

274 Table 1. Patient Characteristics (n=69)

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	Hospitalized (n=19)	Not hospitalized (n=50)	p
Demographics			
Age median (IQR)	34 (24-40)	31 (24-34)	0.07
Gestational week median (IQR)	32 (28-35)	36 (34-38)	0.01
Former smokers (%)	2 (10.5)	9 (18)	0.34
Clinical characteristics			
WHO CPS median (IQR)	5 (5-7)	2 (1-4)	0.001
BMI>30 (%)	5 (26.3)	0	0.001
At least one comorbidity (%)	6 (31.6)	7 (14)	0.09
P/F < 400 (%)	14 (73.7)	3 (6)	0.001
NIV (%)	8 (42.1)	0	0.001
IMV (%)	6 (31.6)	0	0.001
Pharmacological Management			
Corticosteroids (%)	16 (84.2)	15 (30)	0.001
Remdesivir (%)	10 (52.6)	6 (12)	0.001
Symptomatology			
Asymptomatic (%)	0	31 (62)	0.001
Days from onset median (IQR)	7 (2-8)	2 (2-4)	0.019
Fever (%/symptomatic)	12 (63.2)	9 (47.4)	0.32
Dyspnea (%/symptomatic)	14 (73.7)	0	0.001
Cough (%/symptomatic)	13 (68.4)	8 (42.1)	0.1
Contractions (%/symptomatic)	2 (10.5)	9 (47.4)	0.01
Pregnancy Outcomes (%)			
Preterm Delivery	7 (36.8)	14 (28)	0.33
Composite Adverse Perinatal	7 (36.8)	6 (12)	0.025
Laboratory Values median (IQR)			
WBC (K/μl)	7.07 (5.32-8.71)	9.14 (7.47-11.29)	0.002
LYMPH (K/μl)	0.97 (0.7-1.57)	1.48 (1.02-2.08)	0.006
CPK (ng/ml)	79 (20-101)	80 (40.5-163.5)	0.23
LDH (IU/L)	318 (233-386)	204 (173-282.5)	0.001
C-RP (mg/dL)	5.94 (2.21-12.3)	2.29 (1-4.29)	0.004
Ferritin (ng/ml)	140 (75.75-241)	71 (22-94)	0.001
D-Dimers (μg/ml)	1.19 (0.67-2.18)	1.53 (1.02-2.16)	0.26

WHO CPS; World Health Organization Clinical Progression Score for COVID-19, BMI; Body Mass Index, P/F; PaO2/FiO2 ratio, NIV; Non-Invasive Ventilation, IMV; Invasive Mechanical Ventilation, WBC; White Blood Cells, LYMPH; lymphocyte count, CPK; Creatine phosphokinase, LDH; Lactate Dehydrogenase, C-RP; C-reactive protein

274 Table 2. Hospitalized vs. non-hospitalized pregnant women

275 - Submission No. 1803

3 AND 6-MONTH PSYCHIATRIC OUTCOMES IN CRITICALLY ILL SARS-COV-2 SURVIVORS: A PROSPECTIVE STUDY IN A PORTUGUESE POPULATION

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Centro Hospitalar Tâmega e Sousa, Internal Medicine, Oporto, Portugal

Background and Aims: Although mid and long-term psychiatric sequelae are predicted, there are only few studies about the subject in critically ill COVID-19 survivors. The aim is to evaluate mid-term prevalence of psychiatric disease and respective predictors.

Methods: Longitudinal prospective study of critically ill COVID-19 survivors followed up at 3 and 6 months after discharge. A battery of standardized instruments GAD-7, PHQ-9, PCL-V was administered. Written informed consent obtained.

Results: A total of 149 patients discharged after COVID-19 hospitalization were recruited to an outpatient visit at T3 and T6. 117 completed the test battery. Age ranged 25-85y with mean values 61.9±12.0. 38.5% were female. Mean age adjusted CCI was 2.6±2.0 and 43.6% had at least one comorbidity. 24.8% had psychiatric comorbidities. Concerning education, 56.4% had 1st cycle-basic education. 17.1% were single, divorced or widowed. The prevalence of psychiatric interference at T3 and T6 were 22.2% vs. 12.0% (p= 0.012) for anxiety, 23.1% vs.11.1% (p=0.007) for depression and 7.7% vs. 2.6% (p= 0.031) for PTSD, respectively. Significant improvement between evaluations was noted in all mean PCL-V domains. Univariate analysis was conducted for anxiety and depression provisional diagnosis at T6. Female gender [p= 0.012] and ferritin levels [p= 0.046] seem to correlate with anxiety and mMRC dyspnea scale [p= 0.031] and psychiatric background [p= 0.009] correlated with depression.

Conclusions: Clinically significant anxiety, depression, and PTSD, among COVID-19 survivors were observed at 3 and 6 months after discharge with significant improvement over time. In our study, risk of anxiety correlated with female gender and risk of depression with mMRC scale and psychiatric background.

276 - Submission No. 2388

COMPARISON OF NEUTROPHIL-TO-LYMPHOCYTE RATIO AND C-REACTIVE PROTEIN AS INFLAMMATION BIOMARKERS IN PATIENTS WITH COVID-19

Athanasia Sergounioti[1], Dimitrios Rigas[2], Dimitrios Kontogiannis[3], Georgios Margonis[1], Christos Kakkanas[3]

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Background and Aims: Neutrophil-to-Lymphocyte Ratio (NLR) has been proposed as a prognostic and predictive biomarker for COVID-19.The aim of our study is to determine the relationship between NLR and C-Reactive Protein (CRP)which is a recognized inflammation biomarker.

Methods: The study included 54 patients, 27 men (mean age:70.6 years) and 27 women (mean age: 81.6 years), who were hospitalized in the COVID-19 unit of our hospital. Complete blood count (CBC) and CRP results were recorded, upon admission in the COVID-19 unit. The NLR index was calculated using the formula NLR=neutrophil/lymphocytes, where neutrophil is the absolute number of neutrophils and lymphocyte is the absolute number of lymphocytes. The statistical processing of the data was done with the MS Office Excel 11 program.

Results: In Figure 1, where the distribution of NLR values in relation to CRP is presented, it is implied that for CRP>5 mg/dL, there is a statistical dependence between the two variables. Indeed, by progressively applying Spearman's Rho statistical test, Figure 2 was obtained, where we observe that for CRP values <3 mg/dL, the statistical dependence of the two variables is strong (r_s>0.6), whereas, for CRP values >3 mg/dL, the statistical dependence of the two variables becomes very strong (r_s>0.8). In particular, the

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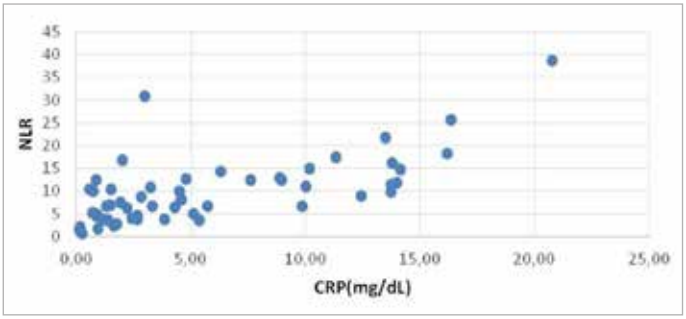
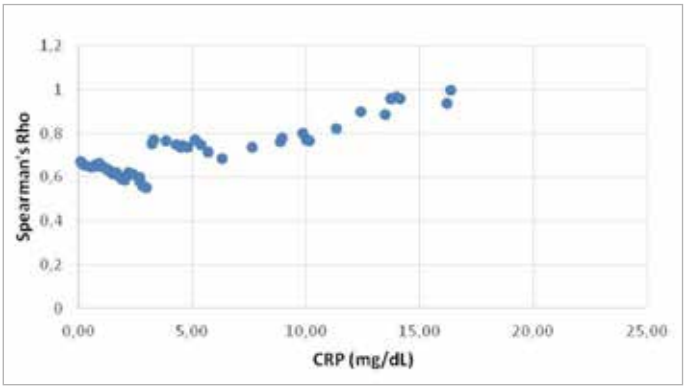
Spearman Rho curve between CRP and NLR is approximated by a quadratic equation (R^2=88%), which means that in this area, NLR's increase rate is rising rapidly and sharply.

Conclusions: Our study shows that NLR values co-vary with CRP values, and indeed for CRP values >3 mg/dL, the increase rate of NLR rises more rapidly in relation to the increase rate of CRP. Therefore, NLR behaves as a more sensitive marker of inflammation in patients with COVID19, for CRP values >3mg/dL.



276 Figure 1.



276 Figure 2.

277 - Submission No. 2440

COMPARISON OF SYSTEMIC IMMUNE INFLAMMATION INDEX (SII) AND C-REACTIVE PROTEIN AS INFLAMMATION BIOMARKERS IN PATIENTS WITH COVID-19

Athanasia Sergounioti[1], Dimitrios Kontogiannis[2], Efstathios Alonaris[3], Dimitrios Rigas[4], Georgios Margonis[1], Christos Kakkanas[2]

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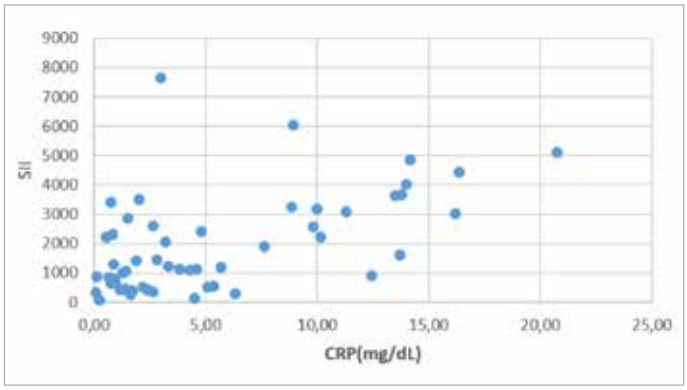
Background and Aims: The Systemic Immune Inflammation Index (SII) has been widely studied for the prognosis of various types of malignancies. However, its clinical significance has not yet been fully clarified. The purpose of our study is to compare the values of LLR with the values of CRP, a universally recognized biomarker of inflammation used to determine the severity of the COVID-19 disease, in patients admitted to the COVID-19 unit of our hospital.

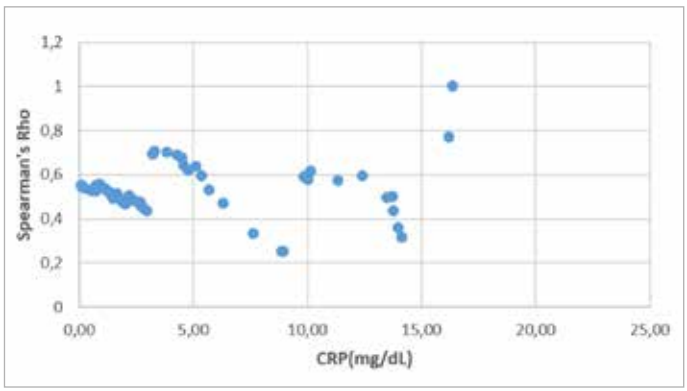
Methods: The study included 54 patients, 27 men (mean age 70.6 years) and 27 women (mean age 81.6 years), who were admitted to the COVID-19 unit of our hospital. The results of the Complete Blood Count (CBC) and CRP were recorded upon their admission to the COVID-19 unit. The SII index was calculated based on the mathematical formula SII=(Neutrophil*PLT)/lymphocyte, where neutrophil is the absolute number of neutrophils, PLT is the number of platelets and lymphocyte is the absolute number of lymphocytes. The statistical processing of the data was done with MS Office Excel 11.

Results: In Figure 1, which shows the distribution of SII values in relation to CRP, it is suggested that there may be a statistical dependence between the two variables. Indeed, by progressively applying Spearman's Rho statistical test, Figure 2 was obtained, where we observe that for CRP<3 mg/dL, the statistical dependence of the two biomarkers is moderate($0.40<r_s<0.60$). However, for CRP>3 mg/dL, we observed that $r_s>0.60$, therefore, the statistical dependence of the two biomarkers is strong.

Conclusions: From our findings, there seems to be a statistical dependence between the values of SII and CRP, which is strengthened for CRP values over 3mg/dL. Therefore, the SII index could possibly be used for the clinical evaluation of patients with COVID-19.



277 Figure 1.



277 Figure 2.

DOI: 10.12890/2023_V10Sup1

278 - Submission No. 2441

COMPARISON OF LLR (LDH-TO-LYMPHOCYTE RATIO) AND C-REACTIVE PROTEIN AS INFLAMMATION BIOMARKERS IN PATIENTS WITH COVID-19

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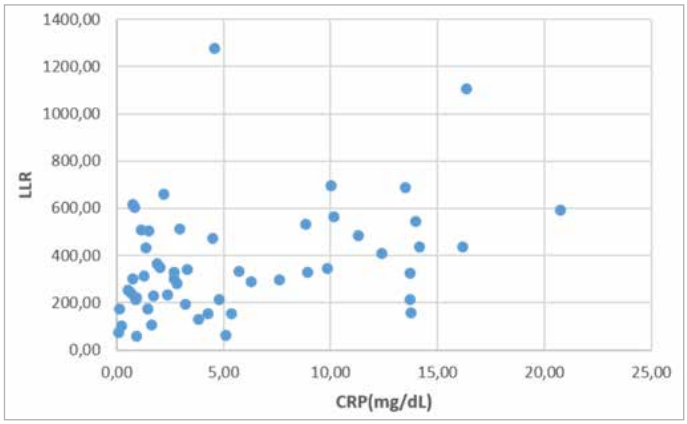
Background and Aims: The LDH-to-Lymphocyte Ratio (LLR) has been proposed as a new, cost-effective biomarker with prognostic and predictive value for COVID-19 infection. The purpose of our study is to compare the values of LLR with the values of CRP, a universally recognized biomarker of inflammation used to determine the severity of the COVID-19 disease in patients admitted to the COVID-19 unit of our hospital.

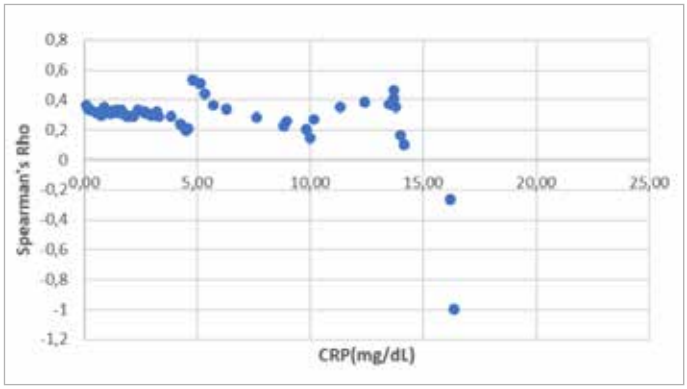
Methods: The study included 54 patients, 27 men (mean age 70.6 years) and 27 women (mean age 81.6 years), who were admitted to the COVID-19 unit of our hospital. The results of the complete blood count (CBC) and of the lactate dehydrogenase enzyme were recorded upon their admission to the COVID-19 unit. The LLR index was calculated based on the mathematical formula LLR=LDH/lymphocyte, where LDH is the value of the lactate dehydrogenase enzyme and lymphocyte is the absolute number of lymphocytes. The statistical processing of the data was done with MS Office Excel 11.

Results: In Figure 1, which shows the distribution of LLR values in relation to CRP, it is suspected that there may be a statistical dependence between the two variables. Indeed, by progressively applying Spearman's Rho statistical test, Figure 2 was obtained, where we observe that for CRP<5 mg/dL, the statistical dependence of the two biomarkers is weak ($0.20<r_s<0.40$). However, for CRP>5 mg/dL, we observe that r_s tends towards the value of 0.60 and therefore the statistical dependence of the two biomarkers can be characterized as moderate.

Conclusions: From our findings, there seems to be a noteworthy statistical dependence between the values of LLR and CRP, which is strengthened for CRP values>5 mg/dL. New studies in larger samples will allow more secure conclusions to be drawn.



278 Figure 1.



278 Figure 2.

279 - Submission No. 2444

COMPARISON OF PLATELET-TO-LYMPHOCYTE RATIO AND C-REACTIVE PROTEIN AS INFLAMMATION BIOMARKERS IN PATIENTS WITH COVID-19

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Background and Aims: Platelet-to-Lymphocyte Ratio (PLR) has been proposed as a new, cost-effective biomarker with prognostic and predictive value for COVID-19. The purpose of our study is to compare the values of PLR with the values of CRP, a universally recognized biomarker of inflammation used to determine the severity of the COVID-19 disease, in patients admitted to the COVID-19 unit of our hospital.

Methods: The study included 54 patients, 27 men (mean age 70.6 years) and 27 women (mean age 81.6 years), who were admitted to the COVID-19 unit of our hospital. Complete blood

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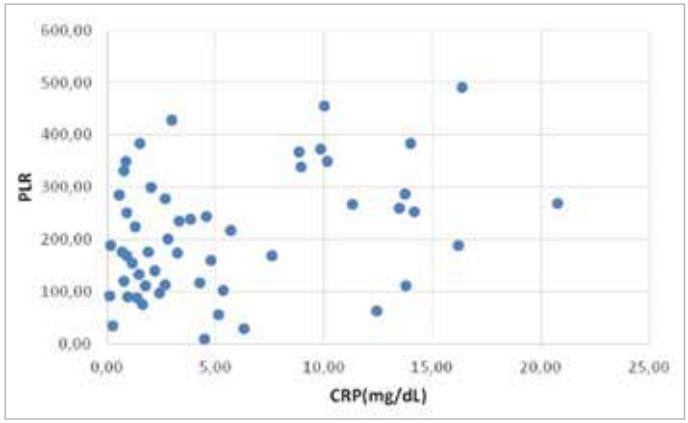
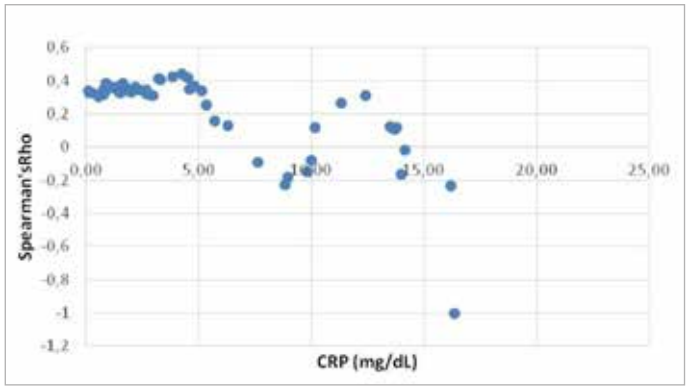
count (CBC) and CRP results upon admission to the COVID-19 unit were recorded. The PLR index was calculated based on the mathematical formula PLR=platelet/lymphocyte, where platelet is the number of platelets and lymphocyte is the absolute number of lymphocytes. The statistical processing of the data was performed using the MS Office Excel 11.

Results: In Figure 1, where the distribution of NLR values in relation to CRP is presented, it is not clear whether there is a statistical dependence between the two variables. By progressively applying Spearman's Rho statistical test, Figure 2 was obtained, where we observe that the statistical dependence of the two variables is weak to moderate ($0.2<r_s<0.4$).

Conclusions: Our findings show that there does not appear to be a statistical relationship between PLR and CRP values, which would indicate the potential utility of PLR as a predictive and prognostic marker in patients with COVID-19. However, new studies in larger samples will allow more secure conclusions to be drawn.



279 Figure 1.



279 Figure 2.

280 - Submission No. 2445

COMPARISON OF RDW AND C-REACTIVE PROTEIN AS INFLAMMATION BIOMARKERS IN PATIENTS WITH COVID-19

Athanasia Sergounioti[1], Dimitrios Rigas[2], Dimitrios Kontogiannis[3], Efstathios Alonaris[4], Christos Kakkanas[3]

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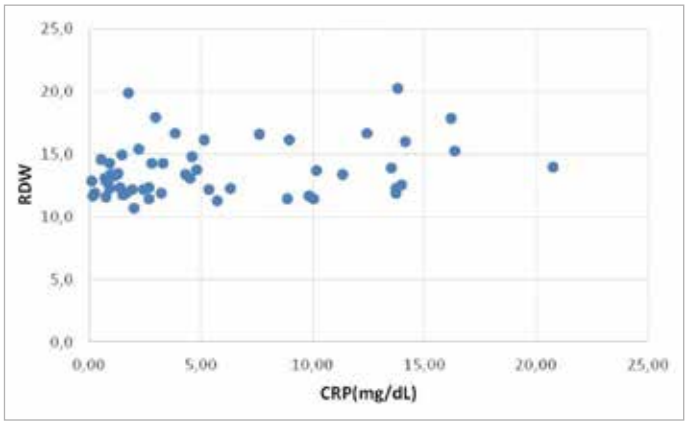
Background and Aims: RDW (Red Cell Distribution Width) has been proposed as a new, cost-effective biomarker with prognostic and predictive value for COVID-19. The purpose of our study is to compare the values of RDW with the values of CRP, a universally recognized biomarker of inflammation used to determine the severity of the COVID-19 disease, in patients admitted to the COVID-19 unit of our hospital.

Methods: The study included 54 patients, 27 men (mean age 70.6 years) and 27 women (mean age 81.6 years), who were admitted to the COVID-19 unit of our hospital. Complete blood count and CRP results were recorded upon admission to the COVID-19 unit. The statistical processing of the data was done with the MS Office Excel 11.

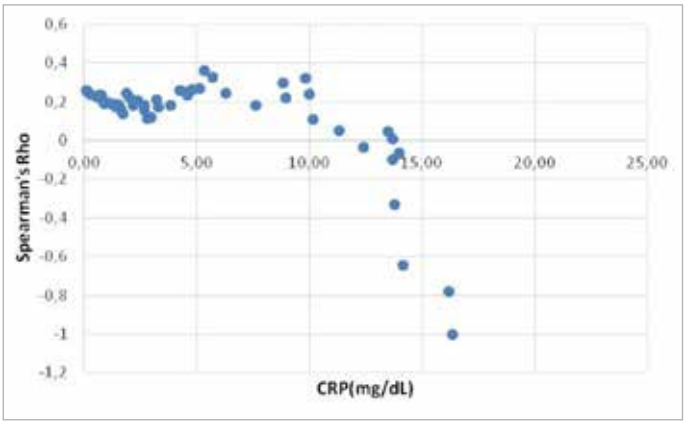
Results: In Figure 1, which shows the distribution of RDW values in relation to CRP, it is not clear whether there is a statistical relationship between the two variables. By applying the Spearman's Rho statistical test progressively, Figure 2 emerged, where we observe that the statistical dependence of the two variables can be characterized as indifferent ($r_s<0.20$).

Conclusions: From our findings, there does not seem to be a statistical dependence between RDW and CRP, which would indicate the possible utility of RDW as a predictive and prognostic indicator in patients with COVID-19.However,studies in larger samples of patients are needed in order to draw safe conclusions.



280 Figure 1.

DOI: 10.12890/2023_V10Sup1



280 Figure 2.

281 - Submission No. 1107

DOES ACTIVE SARS-COV-2 INFECTION OR COVID-19 VACCINATION INFLUENCE ELABEL PEPTIDE LEVEL?

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[3]Medfit Karolina Kłoda, Szczecin, Poland

Background and Aims: A regulatory effect of Elabela on the cardiovascular system, namely blood pressure in adults, has been demonstrated in mouse studies. According to emerging reports of negative effects of other hormonally active peptides with known BP regulatory function (ACE2) on the early days of the pandemic, the study aimed to evaluate whether there is a correlation between Elabela level and active infection or vaccination against COVID-19.

Methods: A single-site, cohort, prospective study was investigated with 66 patients, including vaccinated subjects and those hospitalized due to active COVID-19 disease, who were recruited at County Hospital in Szamotuły, Poland from April 2021 to February 2022. The study included Caucasian adults, divided into 2 groups according to their immune status (COVID-19 vaccination taken or non-vaccinated) and assessment of SARS-CoV-2 infection by PCR or antigen test. Serum levels of Elabela were determined in the study patients by chromatography.

Results: A total of 66 subjects, including 25 vaccinated subjects and 41 diagnosed with COVID-19 disease – amongst them 5 were vaccinated before symptoms – were enrolled in this study. Plasma levels of Elabela were lower in non-vaccinated, although the difference was significant amongst those with BMI above 30 kg/m^2. Furthermore, the plasma level of Elabela in subjects hospitalized with COVID-19 was lower than in the vaccinated group. The difference was significant in the group with BMI above 30 kg/m^2.

Conclusions: Vaccination against COVID-19 affects serum Elabela levels differently. The available findings suggest that this might be associated with higher cardiovascular risk due to hypertension in obese patients with COVID-19.

282 - Submission No. 1340

LUNG RECOVERY AFTER COVID-19 PNEUMONIA: THE INSIGHTS INTO THE AXIS OF CD4+CCR2+ AND CD8+CCR2+ T - CELLS

Edita Strumiliene[1], Laimute Jurgauskiene[1], Ingrida Zeleckiene[1,2], Rytis Bliudzius[2], Arturas Samuilis[1,2], Ligita Jancoriene[1,3]

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Background and Aims: The immune system plays a significant role in COVID-19 severity. However, the factors remaining prolonged lung recovery are still unknown. Increased CCR2+ T-cells have been observed in progressive pulmonary fibrosis. The aim of this study was to analyze the relationship between CD4+CCR2+ and CD8+CCR2+ T-cells and the radiological lung abnormalities at the post-COVID period.

Methods: Peripheral blood samples were collected from post-COVID patients at 3 and 6 months after the discharge from hospital; the analysis of CD4+CCR2+ and CD8+CCR2+ T-cells was performed. Radiological score (RS) - considering reticular lung changes and "ground glass opacity"- was evaluated at the chest CT-scan. The patients were divided in 2 groups: post - moderate and severe COVID-19.

Results: Forty-seven patients (mean age 57,8, SD±9,1) were included (24 male): 19 were after moderate, 28 - severe COVID-19; with no difference between the groups according to the age and sex. At both visits higher levels of CD4+CCR2+ than CD8+CCR2+ T-cells was observed in total patient count. There was no significant difference in comparing COVID-19 severity groups or comparing the CCR2+ T-cell subtypes change over time. The RS was significantly higher in severe disease group with decreasing over time ($p < 0.001$). We did not find significant association on blood CD4+ and CD8+ expressing CCR2+ T-cells with RS.

Conclusions: We did not find significant association on blood CD4+ and CD8+ expressing CCR2+ T-cells changes over time or with radiological lung abnormalities within the lung recovery period in COVID-19 pneumonia survivors; but we confirmed lung structure recovery over time.

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283 - Submission No. 1310

A CASE OF COVID-19 ASSOCIATED PULMONARY ASPERGILLOSIS (CAPA), A RISING SUPERINFECTION IN THE COVID-19 ERA WITH INCREASING MORTALITY

Kassiani Papanastasi, Maria Tampaki, Maria Brolia, Anthimos Tsakiris, Alexandra Tseke, Rena Karampela, Haralampos Birbilis

Sotiria Thoracic Diseases Hospital of Athens, Internal Medicine Department, Athens, Greece

Case Description: A 69-year-old male patient, with non-Hodgkin lymphoma receiving acalabrutinib, presented with persistent fever and headache, for 14 days after performing a positive PCR for SARS-CoV-2. He was treated with remdesivir and a 5-day dexamethasone regimen, without any response.

Clinical Hypothesis: The suspicion of secondary superinfection including fungal invasive disease due to immunosuppression was set.

Diagnostic Pathways: Proceeding with the work-up, blood tests including galactomannan and tuberculin skin test as well as CNF encephalitis/meningitis panel were negative. Antimicrobial treatment started due to increasing inflammatory markers, despite negative blood-, urine- and sputum-cultures. A complete imaging work-up was performed, revealing worsening of known consolidations and new bilateral pleural effusions. Given the high suspicion of atypical pathogens, we received bronchoalveolar lavage through bronchoscopy, from which cultures for *Aspergillus fumigatus* and galactomannan were positive, leading to immediate administration of voriconazole with prompt defeverness. Six weeks of antifungal therapy were completed, with clinical and imaging improvement.

Discussion and Learning Points: There are increasing reports that SARS-CoV-2 predisposes to bacterial and fungal secondary infections, emerging CAPA as a new entity with higher mortality. Bronchoscopy remains the gold standard in identifying patients with aspergillus tracheobronchitis setting the diagnosis a challenge since its limited performance due to aerosol generation and therefore high risk of viral transmission during the pandemic.

References:

-Koehler P, et al. Defining and managing COVID-19-associated pulmonary aspergillosis: the 2020 ECMM/ISHAM consensus criteria for research and clinical guidance. The Lancet Infectious Diseases. 2021;21(6):e149-e162. doi:10.1016/S1473-3099(20)30847-1

284 - Submission No. 731

COVID-19 AND AUTO INFLAMMATORY DISEASES: TRIGGERING FACTOR OR IS THERE AN ETIOPATHOGENIC LINK: ABOUT 2 CASES

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Case Description: Since the onset of the global pandemic, the clinical manifestations associated with SARS-CoV-2 have continued to expand, giving the disease a polymorphic character. Autoinflammatory disease and COVID-19 share several clinical and biological features, including systemic inflammation and cytokine storm. In this work, we report two cases of autoinflammatory disease that occurred immediately after SARS-CoV-2 .

Clinical Hypothesis: Observation 1 - A 16-year-old patient presented with a severe multisystem inflammatory syndrome on day 10 after infection with SARS-CoV-2. A thorough etiological investigation was conducted, and the diagnosis of Still's disease was made. After the introduction of 2 courses of immunoglobulin and corticosteroid therapy, the evolution was favorable, marked by clinical improvement and a regression of the inflammatory syndrome. Observation 2 - A 29 years-old man was referred to us for suspected ankylosing spondylitis one month after infection with SARS-CoV-2. Clinically, the patient presented with inflammatory polyarthralgia, axial involvement with normal AS functional indexes on examination. After introduction of non-steroidal anti-inflammatory drugs, we noted a clinical and biological response.

Diagnostic Pathways: Observation 1 - The diagnosis of Still's disease was made to the criteria of Yamaguchi and Fautrel, after ruling out other etiologies, including neoplasia, infection, and autoimmune disease. Observation 2 - Investigation revealed an inflammatory syndrome, a positive HLA-B27, and grade 2 right unilateral inflammatory sacroiliitis on MRI.

Discussion and Learning Points: COVID-19 is a mysterious infection the development of autoinflammatory diseases following COVID-19 would be related to a dysregulation of the innate immune system common to both situations. Further data would be needed to explain an etiopathogenic link.

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285 - Submission No. 1837

INHALED CICLESONIDE IN ADULTS HOSPITALIZED WITH COVID-19: A RANDOMIZED CONTROLLED OPEN-LABEL TRIAL (HALT COVID-19)

Daniel Brodin[1], Per Tornhammar[2], Anders Krifors[3], Peter Ueda[4], Eli Westerlund[5], Sandra Wojt[6], Simon Athlin[7], Olof Elvstam[8], Anca Neumann[1], Arsim Elshani[9], Julia Gieseke[2], Jens Källkvist[2], Sayam Bunpuckdee[2], Christian Unge[6], Martin Larsson[10], Björn Johansson[11], Johan Ljungberg[11], Jonas Lindell[12], Johan Hansson[13], Ola Blennow[14], Daniel Andersson[2]

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[2]Karolinska Intitutet, Department of Medicine, Huddinge, Stockholm, Sweden

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Background and Aims: Our aim was to assess the efficacy of inhaled ciclesonide in reducing the duration of oxygen therapy (an indicator of time to clinical improvement) among adults hospitalized with COVID-19.

Methods: Multicenter, randomized, controlled, open-label trial. Nine hospitals (3 academic hospitals and 6 non-academic hospitals) in Sweden between June 1, 2020, and May 17, 2021 were involved. Participants included adult patients hospitalized with COVID-19 and receiving oxygen therapy. The intervention implied administration of inhaled ciclesonide 320 µg twice daily for 14 days versus standard care. The primary outcome was duration of oxygen therapy, an indicator of time to clinical improvement. Key secondary outcome was a composite of invasive mechanical ventilation/death.

Results: Data from 98 participants were analyzed (48 receiving ciclesonide and 50 receiving standard care; median (IQR) age, 59.5 (49-67) years; 67 (68%) male). Median (IQR) duration of oxygen therapy was 5.5 (3-9) days in the ciclesonide group and 4 (2-7) days in the standard care group (hazard ratio (HR) for termination of oxygen therapy 0.73 (95% CI 0.47-1.11), with the upper 95% CI being compatible with a 10% relative reduction in oxygen therapy duration, corresponding to a <1-day absolute reduction in a post-hoc calculation). Three participants in each group died/received invasive mechanical ventilation (HR 0.90 (95% CI 0.15-5.32)). The trial was discontinued early due to slow enrollment.

Conclusions: In hospitalized COVID-19 patients receiving oxygen therapy, this trial ruled out, with 0.95 confidence, a treatment effect of ciclesonide corresponding to more than a one-day reduction in duration of oxygen therapy. Ciclesonide is unlikely to improve this outcome meaningfully.

286 - Submission No. 1571

ASPIRATION PNEUMONIA DUE TO ACCIDENTAL INHALATION AND DIGESTION OF TURPENTINE OIL, IN A PATIENT WITH A RECENT HISTORY OF COVID-19 DISEASE

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Case Description: A sixty-year-old female patient presented to the emergency department complaining of chest pain, accompanied with episodes of vomiting and cough, after accidental ingestion and inhalation of turpentine oil. The patient has a recent history of COVID-19 infection, that caused anosmia and ageusia. In the ED, she was febrile and lung auscultation revealed crackles in right lower lobe. Laboratory findings revealed increased inflammatory markers. An initial chest radiograph showed right lower lobe infiltrates. The patient was admitted to the internal medicine department for further evaluation and treatment.

Clinical Hypothesis: Aspiration pneumonia due to turpentine inhalation.

Diagnostic Pathways: ENT examination revealed no edema or mucosal lesions. Chest computed tomography revealed consolidation in the left upper lobe and a small airy cavity in the right lower lobe. She was treated with intravenous ceftriaxone and clindamycin and oral prednisolone, considering aspiration pneumonia as the most likely diagnosis. The patient was discharged after 10 days, with sufficient gas exchange. A repeat CT scan one month later, revealed elimination of the parenchymal lesions. A gastroscopy was also performed, with no pathological founds.

Discussion and Learning Points: The importance of this case was to highlight the vast range of complications of COVID-19 disease. Despite the rarity, turpentine oil might be the cause of aspiration pneumonia.

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287 - Submission No. 420

LONG-TERM DURABILITY OF IGG ANTIBODIES AGAINST SARS-COV-2

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Background and Aims: The long-term persistence of naturally acquired antibodies against SARS-CoV-2 is not yet well understood. Characterization of kinetics and durability of antibody response over time is essential in managing of COVID-19 pandemic, particularly in healthcare workers (HCW). We aimed to characterize kinetics and durability of antibody response over time in HCW.

Methods: Prospective monitoring of anti-SARS-CoV-2 IgG antibody titers in a representative sample of seropositive healthcare workers (HCW) of a large Spanish Hospitals Group after the first pandemic wave. Serial measurements of serum IgG-anti-SARS-CoV-2 were obtained during 18-months, since baseline (April-May,2020) until November,2021. The ELISA test detected specific subunits of spike and nucleocapsid proteins od SARS-CoV-2 not affected by vaccination. Linear mixed models were used to investigate antibody kinetics over time.

Results: One hundred-and-thirty-four seropositive subjects (median age: 46.0 years; 68.7%female) were included in the final analysis. After a median follow-up of 527 days (17.6 months), the serum-persistence probability was 45.92% (confidence interval 95%: 39.03%-52.45%). The main factor associated with serum-persistence over time was higher baseline titers (tertile 3 vs tertile 2 vs tertile 1: 57.5% vs 33.5% vs 8.7%; p< 0.001). The estimated mean time to loss antibodies was 471.74 (95% CI: 432.43-511.06) days from baseline.

Conclusions: This is one of the first reports measuring the kinetics of natural antibody response against SARS-CoV-2 over 18 months. Almost half of the subjects remained seropositive after this period but had a significant decrease in antibody titers. Higher baseline antibody titer was independently associated with longer antibody durability. The estimated mean persistence of antibodies was approximately 16 months.

288 - Submission No. 1854

PREVALENCE OF COMPLIANCE TO VACCINATION AGAINST SARS-COV-2 IN PATIENTS WITH TYPE 2 DIABETES: WHERE ARE WE TODAY?

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Background and Aims: Increased morbidity and mortality from SARS-CoV-2 infection are described in patients with diabetes compared to the general population. The ongoing COVID-19 pandemic has further demonstrated that patients with diabetes are more susceptible to serious infection from SARS-CoV-2 with higher-rates of acute-respiratory-distress syndrome. Patients admitted to the Intensive Care Unit with COVID-19 have a 58% incidence of diabetes.

Methods: We examined the current compliance to the recommended vaccination against SARS-CoV-2 in the patients visiting our Diabetes Outpatient Clinic between January-May 2022 using specifically created questionnaires.

Results: We included 503 patients with type 2 diabetes (227men/276women). Only 21.6% (n=108) was not vaccinated against SARS-CoV-2 due to uncertainty about the vaccine's effectiveness (41.8%), whereas 58.2% of them declared prejudiced and cautious about vaccination, although they admitted considering COVID-19 as a serious public disease (OR=3.71, 95%CI 2.31–6.62, p<0.001). They attributed their uncertainty and cautiousness about SARS-CoV-2 vaccination to the problematic overload of information offered by the media and infectious disease "experts" and the "back-and-forth" ongoing policy of the applied public health measures. Most of the patients were not influenced by the vaccination status of their friends/relatives (OR=2.33, 95%CI 1.37–4.18, p<0.001). Disagreement with their doctor's advice that vaccination can decrease the risk of serious COVID-19 was independently associated with vaccination unwillingness (OR=2.22, 95%CI 1.25–3.79, p<0.001).

Conclusions: Most of our patients with diabetes were fully vaccinated against SARS-CoV-2. A clear and consistent communication of evidence and uncertainties from the medical community remains essential to support patients with diabetes in the critical choice to be vaccinated.

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289 - Submission No. 189

COMPARATIVE ANALYSIS OF CRP AS A BIOMARKER OF THE INFLAMMATORY RESPONSE INTENSITY AMONG COMMON VIRAL INFECTIONS AFFECTING THE LUNGS - COVID-19 VERSUS THREE OTHERS

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Background and Aims: Severe acute respiratory syndrome-corona virus 2 (SARS-CoV-2) is associated with significant morbidity and mortality. C-reactive protein (CRP) is a useful inflammatory biomarker for patients admitted with an infection. This study aimed to compare CRP level as an indicator of inflammation severity between SARS-CoV-2 and common respiratory viral infections.

Methods: A cross-sectional study of all adult patients hospitalized in the internal medicine department, geriatric department, or internal intensive care unit between 02/2012 and 06/2021 with laboratory-confirmed respiratory viral infection was performed. SARS-CoV-2, influenza A, influenza B, and respiratory syncytial virus (RSV) were studied. Patients with laboratory-confirmed concurrent viral or bacterial infections were excluded. Patients with malignancy were also excluded. Age, gender, comorbidities, and CRP level upon admission were compared between groups. Univariate and multivariable analyses were applied.

Results: Among 1,124 patients 18.2% had SARS CoV 2, 48.3% influenza A, 18.9% RSV, and 14.6% influenza B. SARS CoV 2 patients were significantly younger (median 69.4 vs. ≥76 years) and had lower Charlson score (median 3 vs. ≥4 in other groups) compared to patients with other viral pathogens. After adjustment for patients' age, gender and comorbidities, SARS CoV 2 patients had a higher probability (OR=1.84-2.02, p<0.01) of having CRP values in the upper quartile (>117 mg/L) compared to all other viral pathogens while between all others there was no significant difference.

Conclusions: Higher CRP level upon admission is approximately twice more common among SARS-CoV-2 patients compared to other widespread respiratory viruses which may demonstrate the higher intensity of inflammation caused by SARS-CoV-2.

290 - Submission No. 986

CHANGING DEMOGRAPHICS AND OUTCOMES OF PATIENTS ADMITTED TO A COVID-19 UNIT DURING THREE SUCCESSIVE PANDEMIC WAVES

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Background and Aims: Our aim was to present the demographic characteristics and in-hospital outcomes of patients admitted to the COVID-19 unit of the Department of Internal Medicine of a general hospital in Athens during three successive pandemic waves.

Methods: We reviewed the records of 357 patients admitted consecutively from February 2021 to March 2022. Over this time period, the dominant (>90%) SARS-CoV-2 variants in the local population were Beta (February to June 2021), Delta (July to December 2021) and Omicron (January to March 2022). One-way ANOVA with a Tukey post hoc test was used for comparison of means and Pearson Chi-Square for comparison of proportions.

Results: The results are summarized in the table below. Gender and age composition of inpatients differed significantly among successive waves of the pandemic (P<0.01). There was a gradual increase in age and in the proportion of female patients. The male/female ratio in the Omicron variant cohort was 9:11, identical to that of non-COVID patients admitted over the same period. Although the rate of severe respiratory failure was significantly lower in patients with the Omicron variant (P<0.001), their overall death rate was not significantly different from that of previous variants.

Conclusions: Significant changes in demographics and outcomes of COVID-19 inpatients occur in parallel with the emergence of new SARS-CoV-2 variants. The changes can be ascribed to differences in variant biology and in disease prevention strategies (social lockdown, vaccination). The mortality of patients with the Omicron variant probably reflects comorbidities associated with the advanced age of this group of patients.

	Beta variant	Delta variant	Omicron variant
Number/Gender	129 / M 64%	111 / M 59%	117 / M 45%
Median age	63 (M 60, F 65)	68 (M 66, F 74)	72 (M 71, F 76)
% vaccinated*	12.3 (M 18, F 4.4)	31.5 (M 36.4, F 24.4)	43.9 (M 42.3, F 45.3)
% MV	19.4 (M 20.5, F 17.4)	29.7 (M 30.3, F 28.9)	6.0 (M 5.6, F 6.3)
% Death	17.8 (M 19.3, F 15.2)	21.6 (M 18.2, F 26.7)	19.7 (M 18.5, F 20.3)

* vaccinated with at least 1 dose, MV: Mechanical ventilation, F: Female, M: Male

290 Figure 1.

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291 - Submission No. 2076

AN AUDIT ON THE ACUTE MANAGEMENT OF HYPERKALEMIA IN THE INPATIENT SETTING

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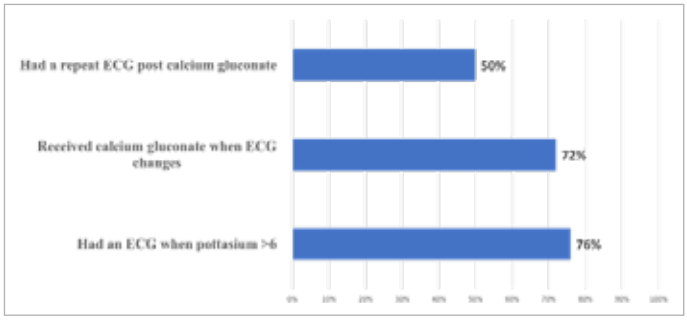
Background and Aims: Hyperkalemia is a common electrolyte disorder encountered in hospitalized patients with an incidence of 1 – 10%. The symptoms of hyperkalemia are non-specific and can vary from generalized fatigue to catastrophic arrhythmias and cardiac arrest. This makes its management critical and time dependent. It is also important to highlight that overtreatment of hyperkalemia causes can be as risky resulting in death due to hypokalemia and hypoglycemia. In this audit we aimed at assessing the measures taken by the internal medicine division in the acute management of hyperkalemia in comparison to the Renal Association Clinical Practice Guidelines – Treatment of acute hyperkalemia in Adults – July 2020.

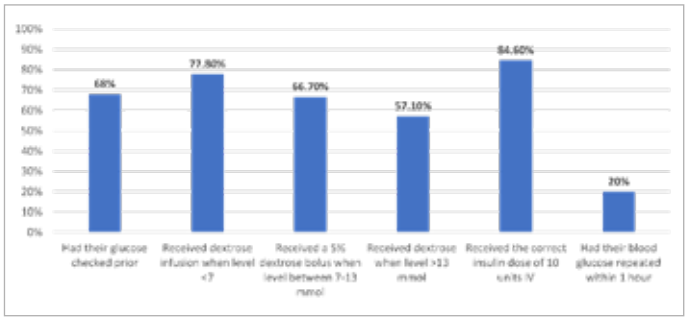
Methods: We included patients admitted under internal medicine department with hyperkaliemia, potassium level >5.5 mmol/L during the period between June 2021 to January 2022. Those admitted under ICU, had DKA or required urgent dialysis were excluded. We reviewed patients' charts retrospectively to assess the management measures.

Results: Sample size 41 patients. 24% of patients did not get an ECG when K >6, of those 28% did not receive calcium gluconate (Figure 1). ECG was not repeated in 50% post intervention, 32% did not have their glucose measured prior to insulin. 80% of those who received insulin did not have their blood glucose repeated within 1hr. 75% did not received the correct dose of salbutamol. 50% did not get a repeated K post intervention.

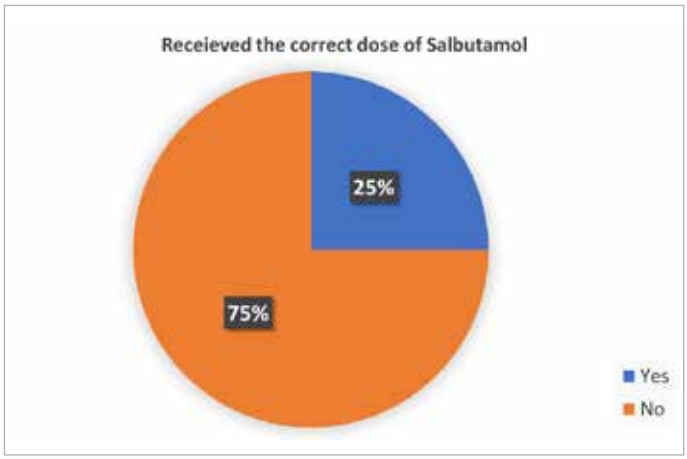
Conclusions: In the department of medicine, we are poorly compliant with the international guidelines in the acute management of hyperkalemia which is a critical deficiency that requires significant attention.



291 Figure 1.

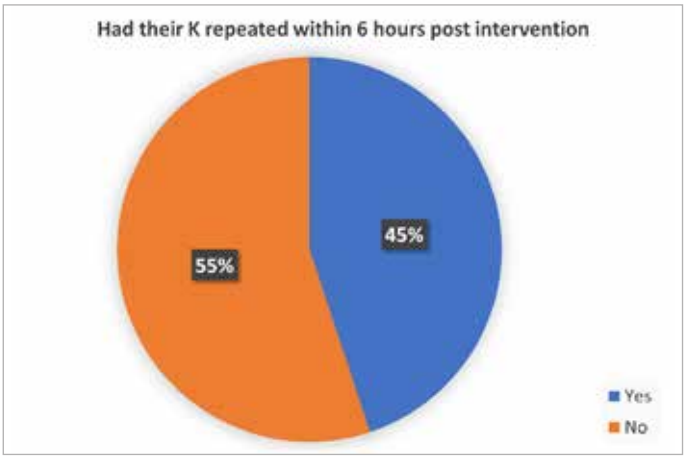


291 Figure 2.



291 Figure 3.

 DOI: 10.12890/2023_V10Sup1



291 Figure 4.

292 - Submission No. 1845

SPLENIC ABSCESS WITH SEPTIC SHOCK AS PRESENTATION

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Case Description: We present a 63-year-old woman that was admitted to the emergency department with a 3-day evolution of abdominal pain, localized to the left hypochondrium. She had no fever or other symptoms. She has a past history of diabetes, hypertension, chronic kidney disease (CKD; KDIGO 3a), obesity and blindness. She presented with hypotension, prostration and anuria. Laboratory data showed leukocytosis (18.3x10^3/L), PCR 24.9 mg/dL, acute on chronic kidney disease (creatinine 8.15mg/dL, urea 192 mg/dL) and metabolic acidemia (pH 7.294, HCO_3 13). On the computed tomography (CT), it was evidenced a splenic abscess (8.5x5.6x8cm). She was admitted in intensive care with the diagnosis of septic shock and multiorgan dysfunction; needing noradrenaline and dialysis.

Clinical Hypothesis: Stool and blood cultures were drawn, and she began antibiotic therapy with piperacillin-tazobactam. After discussion with the surgical team, it was decided to maintain conservative therapy.

Diagnostic Pathways: She evolved favorably, suspending noradrenaline after two days, but still maintained the need for intermittent dialysis, two weeks later. She completed ten-day course of piperacillin-tazobactam, the cultures were negative and remained afebrile; in the revaluation CT two weeks later, the abscess maintained the same characteristics. She had an echocardiogram with no evidence of endocarditis, no evidence of documented bacteriemia or any other infection.

Discussion and Learning Points: Splenic abscesses are relatively uncommon, and their management remains a challenge; the mortality possibly reaching 70%. The treatment includes surgical intervention, percutaneous drainage or conservative treatment with antibiotics and organ support. They usually result from hematogenous spread and it's important to search for the origin of infection.

293 - Submission No. 258

A COMPARISON OF NEWS AND NEWS-C PERFORMANCE IN ACUTE MEDICAL PATIENTS: CAN EARLY WARNING SCORES PLAY A PROGNOSTIC ROLE?

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Background and Aims: NEWS has been widely validated in acute hospital settings to detect patients at risk of clinical deterioration; during COVID-19 pandemic a modified version (NEWS-c) has been implemented adding age to vital signs. Aim of this study is to analyze performances of NEWS and NEWS-c considering transfers to intensive care units (ICUs), in-hospital mortality and deaths within 72h as primary outcomes.

Methods: All consecutive patients admitted to an Acute Medical Unit in Lombardy (Italy) from Dec-17 to Nov-19 have been included, collecting data regarding NEWS and NEWS-c, comparing cardiocirculatory (group 1), respiratory (group 2) and infectious (group 3) reasons for admission and performing AUROCs for both scores.

Results: 2162 patients were considered, the median values of NEWS and NEWS-c were 2 (IQR 1-4) and 5 (IQR 3-7) respectively, with higher values in non-survivor patients and in the ones transferred to ICUs. Considering in-hospital mortality the AUROCs were 0.77 (95%CI 0.73-0.80) for NEWS-c and 0.75 (95%CI 0.71-0.79) for NEWS, p=0.001, less differences were found in the assessment of deaths within 72h. For ICU-transfers, the best AUROC was the one of NEWS in group 3, 0.81 (95%CI 0.67-0.95), while the worst was the one of NEWS-c in group 1, 0.49 (95%CI 0.38-0.60).

Conclusions: Comparing different outcomes NEWS-c has shown a consistently better discrimination power to predict in-hospital mortality but no significant differences have been found between the two scores considering ICU-transfers. The discrepant results among three diagnostic categories highlight the good performance of NEWS in providing early warning of dismal events but downsize its effective prognostic role.

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294 - Submission No. 1237

ENHANCING LUMBAR PUNCTURE PROCEDURE SAFETY IN CLINICAL PRACTICE

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Background and Aims: Lumbar puncture (LP) is a frequent procedure within acute medicine. However, is not without its risks and can be technically challenging, making standardized patient centered care and robust documentation paramount. We had a pre-existing Ambulatory Care Lumbar Puncture checklist, but no official set method of completing or documenting the LP procedure, and consistency was witnessed to be poor.

Methods: We aimed to identify whether diagnostic lumbar punctures carried out within our Ambulatory Care and Acute Assessment Units were meeting both documentational and clinical standards of best practice. Our audit standards were derived through literature review and collation of national guidelines. We identified 21 key parameters for our project.

Results: Data were collected retrospectively over an eight-month period; 27 patients were identified, and 21 patient files successfully acquired. Analysis showed excellent standards of pre-procedural documentation and clinical practice, which was fairly consistent across grades. Poorer standards procedural and post-procedural documentation were noted. There were no substantial differences in standards when using the current checklist, however it is lacking key information.

Conclusions: We therefore launched a revised LP proforma which is more comprehensive and introduced new atraumatic needles due to their lower incidence of post LP side effects. We have initiated a new Lumbar Puncture training course providing education on the use of both the new proforma and needles. We have presented the outcome of this audit at the Hinchingbrooke Hospital Clinical Governance Meeting. We plan to re-audit in six months to evaluate our interventions.

295 - Submission No. 756

SUSPECTING METASTATIC SPINAL CORD COMPRESSION IN ACUTE CARE: A RACE AGAINST TIME

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Case Description: Metastatic spinal cord compression (MSCC) is an oncological emergency and major cause of morbidity due to irreversible spinal cord damage. It occurs when a tumor impinges on the spinal cord or causes vertebral collapse. Here we report two cases of MSCC and their outcomes. In Case 1, an 81-years old male farmer with medical history of hypertension, myocardial infarction and T2 vertebral fracture, presents "off legs" to the emergency department following a 48-hour deterioration. He is confused, with 856 ml of retained urine. In Case 2, a 75-year-old female retiree with type 2 diabetes, hypothyroidism, and multiple myeloma (in remission) presents with a 3-week history of back pain.

Clinical Hypothesis: In case 1, a provisional diagnosis of delirium secondary to urinary retention was made. Only after 48 hours did a neurological examination prompt further investigation. In Case 2, a neurological examination on admission elicited reduced power in the hip flexors, sensory changes over the left thigh and upgoing plantars bilaterally, indicating that MSCC must be excluded.

Diagnostic Pathways: The definitive investigation for MSCC is magnetic resonance imaging and should be performed within 24 hours on presentation of symptoms. Upon diagnosis, administration of corticosteroids followed by surgical intervention and/or radiotherapy must be rapidly initiated for best outcomes.

Discussion and Learning Points: Differentiating MSCC from more benign and self-limiting causes remains a challenge. MSCC nearly always presents with a prolonged history of back pain, usually affecting the thoracic spine. Lack of awareness frequently leads to delayed diagnosis and is the biggest obstacle to preventing unnecessary morbidity and mortality.

296 - Submission No. 2182

AN UNCOMMON CAUSE OF ACUTE ABDOMINAL PAIN

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Case Description: 51-year-old woman with chronic kidney disease, arterial hypertension, dyslipidemia and obesity. She had pain in the left iliac fossa (LIF) for four days denying vomiting or altered of intestinal transit. In clinical examination the patient had fever and pain in LIF with abdominal guarding.

Clinical Hypothesis: Diverticulitis. Epiploicappendagitis.

Diagnostic Pathways: Laboratory tests showed elevated inflammatory parameters. Due to the suspicion of acute abdomen, namely diverticulitis, an abdominal CT was made and showed densification of the mesenteric fat laterally to the transition between the descending colon and the sigmoid colon more suggestive of epiploicappendagitis.

Discussion and Learning Points: Epiploicappendagitis (EA) is a benign disease that results from torsion or spontaneous thrombosis of the epiploic appendage central draining vein. It is an uncommon cause of acute abdominal pain that clinically mimic other common causes of acute abdominal pain. A diagnosis is made using ultrasound and/or computed tomography (CT) of the abdomen and treatment is based on analgesic and anti-inflammatory therapy. EA should be considered as one of the differential diagnoses for acute lower abdominal pain because an inaccurate diagnosis can lead to unnecessary hospitalizations, antibiotic therapy and surgical intervention.

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297 - Submission No. 2190

TREATMENT OF URINARY TRACT INFECTION WITH BACTEREMIA WITHOUT HOSPITALIZATION

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Case Description: 79-year-old woman with arterial hypertension. She had nausea, fever and positive murphy's kidney punch on the left.

Clinical Hypothesis: Urinary tract infection (UTI).

Diagnostic Pathways: Blood tests showed elevated inflammatory parameters and urine sample tests positive for nitrate and leukocyte esterase. A renal ultrasound was made and excluded complications. The diagnoses of acute pyelonephritis were assumed. The patient remained in the emergency department for 24 hours where she started empiric antibiotic therapy with ceftriaxone after performing blood and urine cultures. In face of her clinical stability, she was discharged to medical consultation medicated with cefuroxime 500 mg every 12 hours. She was observed after 48 hours and was asymptomatic. *Escherichia coli* sensitive to cefuroxime was isolated from urine and blood cultures and inflammatory parameters decreased. Due to this favorable evolution and after discussion between the Internal Medicine and Infectious Diseases specialties it was decided to maintain the treatment with oral antibiotic namely cefuroxime 500 mg every 8 hours for 14 days. Clinical and laboratory surveillance continued until 1 week after the end of antibiotic therapy at which time the patient had negative inflammatory parameters and negative blood cultures.

Discussion and Learning Points: Urinary tract infection (UTI) is a common cause of hospitalization especially in the elderly and bacteremia as complication is frequently present. This case showed how it possible to treat patients with UTI with oral antibiotics as long as there aren't severity criteria and is ensured adequate surveillance. In this way we can reduce hospitalizations, related complications, and treatment costs.

298 - Submission No. 2010

BILATERAL PULMONARY EMBOLISM IN A TEENAGER GIRL

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Case Description: In February 2020 (before COVID-19 pandemic) a 15-year-old young women was presenting at emergency room with acute onset pain in lower left thorax. The symptoms had started 24h before. The clinical examination found a good general status, 136/69 mmHg blood pressure, 115/min heart rate, 98% saturation, 37.1°C temperature, tachypnea 25/min. She was 164 cm height, 65 kg of weight. The patient had suffered a left ankle sprain three weeks ago, treated by immobilization with Aircast support for 14 days. She had started oral contraceptives a month before. The patient had an asthma history.

Clinical Hypothesis: Based on the clinical findings, the suspicion of pulmonary embolism is raised! The Aircast splint is removable every evening compared to medical gypsum, so no thromboprophylaxis was added.

Diagnostic Pathways: Blood tests showed elevated D-dimer 6.14 mg/l, elevated CRP 34.1 mg/l, normal arterial blood gases. Left inferior member Duplex ultrasonography and transthoracic cardiac ultrasonography were both normal. Chest angio-computed tomography showed bilateral pulmonary embolism with left lung infarction. The patient was admitted for anticoagulant therapy: low-molecular-weight heparin, two times daily and clinic/hemodynamic monitoring. Further blood test discovered a C protein deficit.

Discussion and Learning Points: This case shows a limited clinical finding of a life-threatening pathology (pulmonary embolism) in a 15 years-old girl presenting association of risk factors for thromboembolism: discontinuous immobilization of the ankle, oral contraception, and unknown inherited thrombophilia (C protein deficit).

299 - Submission No. 2038

HYPERSENSITIVITY REACTION AGAINST ANISAKIS SIMPLEX IN A POSTSPLENECTOMY PATIENT

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Case Description: A fifty-year-old fisherman with past medical history of pancreaticosplenectomy for recurrent alcoholic pancreatitis was referred to our hospital for further evaluation of anaphylaxis for the first time. Prior to the episode, he recalled pruritic rash with shortness of breath when he was taking a nap, and subsequently collapsed about two hours after consuming well-cooked saury.

Clinical Hypothesis: Although he denied any specific food or drug allergies, he recalled occasional, self-limiting rash following splenectomy four years ago. Combined with the history and the possible occupational exposure, he was highly suspicious of hypersensitivity against Anisakis simplex.

Diagnostic Pathways: Laboratory result was significant for positive IgE antibody against Anisakis simplex (Class V). In addition to the prescription of epinephrine autoinjectors and antihistamines for future episodes, he was instructed to avoid all seafood that might contain the antigen.

Discussion and Learning Points: Anisakiasis has been increasing worldwide as Japanese food culture of consuming raw seafood

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established reputation, but it has been underreported partly because the awareness remains low among clinicians. This case also illustrates the unique point in that the patient was sensitized to Anisakis simplex after splenectomy, whose association is unclear. In contrast to other food allergies, some subtypes of the antigens are heat-resistant, which makes sensitized patients more susceptible to recurrent hypersensitivity reactions if not instructed properly. Therefore, we should keep in mind that it is important to recognize and suspect the disease in patients with recent history of seafood consumption regardless of the undercooked status.

300 - Submission No. 479

VARIANT GUILLAIN BARRE IN INTENSIVE CARE UNIT

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Case Description: A 45-year-old patient without any medical history presented to the Emergency Department in a comatose state (GCS 3/15). The patient was immediately intubated while the brain CT showed no pathological findings. It is reported from his relatives, muscle weakness the past ten days. The patient was transferred to the Intensive Care Unit, initially presenting with a decimal febrile movement and a gradual increase in CRP. Lumbar puncture was performed which revealed absence of cells in CSF, glu: 71 mg/dl, LDH: 30 IU/I, albumin: 142 mg/dl. PCR testing of CSF for possible pathogens was negative.

Clinical Hypothesis: Due to the clinical and imaging findings, encephalitis and Guillain Barre syndrome were included in the differential diagnosis.

Diagnostic Pathways: Treatment was started as a possible CNS infection empirically with acyclovir, ceftriaxone, metronidazole. A brain MRI-MRV was performed without pathological findings. Screening for toxoplasma, CMV, EBV was negative for recent infection as was immunological screening (including screening for SGP G, MAG, anti-ganglioside antibodies). After completing treatment with acyclovir and the patient not improving, Variant Guillain Barre was considered as a possible diagnosis and a five-day regimen with hyperimmune γ-globulin 0.4 g/kg/day was administered. The patient showed gradual clinical improvement and was discharged from the ICU on the 15th day of hospitalization.

Discussion and Learning Points: The diagnosis of Variant Guillain Barre is made by exclusion. Confirmation of the diagnosis, in cases where the laboratory test is negative, is made by the response to treatment with immunoglobulin.

301 - Submission No. 830

STRONGER THAT YOU THINK: CASE OF REFRACTORY STATUS EPILEPTICUS SECONDARY TO SYNTHETIC CANNABINOID USE

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Case Description: A 55-year-old male with medical history of schizophrenia, DM and drug abuse, brought to the Emergency Department after presenting multiple episodes of seizures, treated with Ativan 2mg IV upon arrival. Patient reported synthetic marihuana use prior to onset of symptoms. Initial physical examination without focal neurological deficits and adequate vital signs. Afterwards, the patient presented an event of refractory status epilepticus, which required ativan, keppra, endotracheal intubation and propofol intravenous drip treatment. Supportive therapy was given, and antiepileptic drug regimen was optimized by neurology service, including keppra, dilantin, propofol drip and versed drip.

Clinical Hypothesis: Refractory status epilepticus.

Diagnostic Pathways: Work up performed remarkable for leukocytosis and thrombocytosis; elevated CPK levels and toxicology screening negative. Head CT and Brain MRI showed no ischemic changes or other intracranial pathologies. EEG showed low and medium voltage 6-7 Hz theta, alternating with low voltage beta, bilaterally, and intermittent slowing in the 2-3 Hz delta range on the right hemisphere. Seizures resolved 5 days after initial presentation; the patient was able to be extubated and discharged home without residual deficits.

Discussion and Learning Points: The synthetic structure of THC used and the constant changes of its components to avoid quality controls and regulatory oversight has been linked to more severe life-threatening symptoms and adverse effects. Data on human toxicity are limited despite widespread abuse and real-time confirmatory testing is unavailable. Promptly identification and adequate treatment determine better outcomes. Further awareness to the general population should be reinforced regarding the increased risks of seizures and complications associated with the use of synthetic cannabinoids.

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302 - Submission No. 1385

EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS AND PULMONARY EMBOLISM

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Case Description: A 26-year-old female patient, with 6 months history of severe asthma and allergic rhinitis complicated by recurrent exacerbation, was admitted to our internal medicine department with chief complaints of abdominal pain, vomiting, acute shortness of breath, and chest pain. Laboratory tests showed marked hypereosinophilia of 5880 (56% of eosinophils) and an elevated D-dimer level of 570 UI/ml.

Clinical Hypothesis: The diagnosis of eosinophilic granulomatosis with polyangiitis (EGPA) complicated with pulmonary embolism was suspected.

Diagnostic Pathways: Sinus, Thoracic and abdominal computed CT-scan displayed chronic bilateral sinusitis, ground glass opacities in both lungs, and thinking in the esophageal wall and the distal small bowel. Pulmonary scintigraphy showed a distal pulmonary embolism. ANCA screening was normal. The diagnosis of EGPA was established according to the ACR/EULAR 2022 classification criteria. The patient was treated with methylprednisolone, 1 g/day for 3 days, followed by gradual tapering of prednisone and with cyclophosphamide regimen and anticoagulant therapy.

Discussion and Learning Points: Eosinophilic granulomatosis with polyangiitis (EGPA) is a rare systemic small-sized vessel vasculitis characterized by the presence of severe asthma, rhinitis, and peripheral eosinophilia. It is associated with an increased thromboembolic risk. However, pulmonary embolism was scarcely reported as an inaugurating manifestation of the disease.

303 - Submission No. 945

A SIMPLE DIAGNOSIS WITH AN OBSTRUCTIVE COMPLICATION

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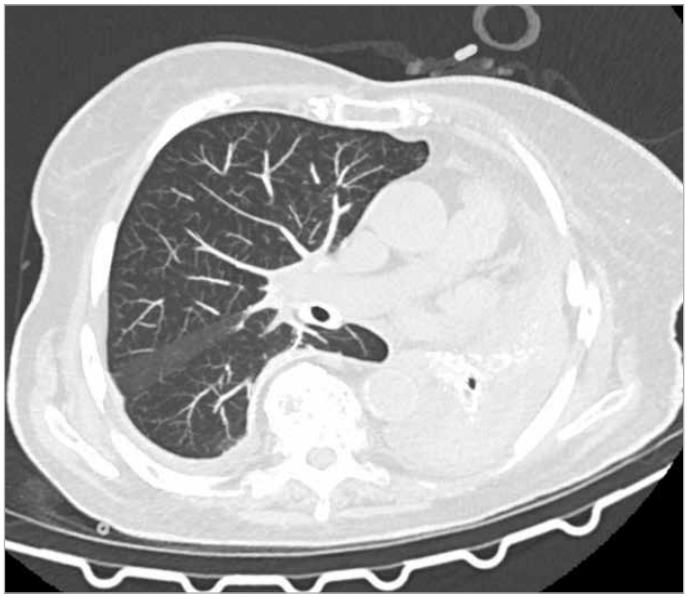
Case Description: We introduce to you an 81-year-old woman with osteoporosis that limits her mobility and no other relevant medical background, who is hospitalized with tracheobronchitis and hypoxemic respiratory insufficiency. At her admission with no significant clinical or laboratorial findings. Evolution was favorable until the fifth day of treatment when the murmur was clearly diminished in the left lung.

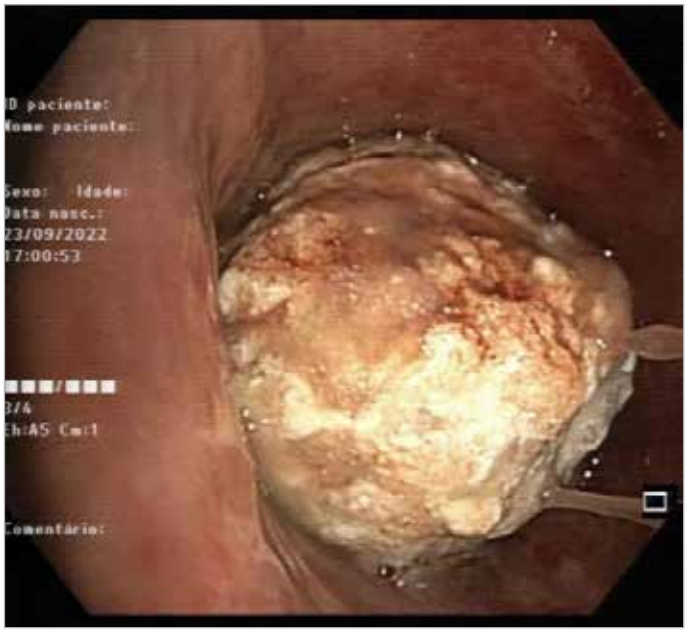
Clinical Hypothesis: The first hypothesis that had occurred was acute pulmonary edema as well as atelectasis since the patient had a lot of secretions.

Diagnostic Pathways: So, a chest X-ray was ordered but was not suggestive of such but of atelectasis. Based on this she performed a chest computerized tomography scan (Figure 1). The report mentioned the left main bronchus occlusion and atelectasis of ipsilateral same lung. A bronchoscopy was performed and found a strange body occluding such bronchus, believed to be a pill (Figure 2).

Discussion and Learning Points: After removal and reinforcement of kinesitherapy the patient clinically improved. With these findings dysphagia was tested with a negative result. A careful physical exam needs to be performed in every patient in order to detect sudden changes in their condition.



303 Figure 1.



303 Figure 2.

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304 - Submission No. 1910

DYSPNEA IN YOUNG PATIENT, NOT EVERYTHING IS COVID

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Case Description: A 26-year-old man who came to the Emergency Department referred from his Primary Care Center due to dyspnea on minimal exertion.
He presented a clinical picture consisting of progressive dyspnea until minimal effort was made for a week of evolution. At initial assessment, diaphoretic patient, hypertensive 190/120 mmHg, rand oxygen saturation in room air 88%. In pulmonary auscultation, moist crackles in ⅔ of both lung fields. In lower limbs, warm malleolar edema.
Clinical Hypothesis: We must have a holistic semiological approach to propose a differential diagnosis that includes pathologies such as kidney disease, heart disease, viral infections, pulmonary thromboembolism and acute respiratory distress syndrome, among others.
Diagnostic Pathways: The emergency laboratory study revealed normochromic normocytic anemia, uncompensated metabolic acidosis and non-hypercapnic respiratory failure, renal failure of renal origin with creatinine 14.8 mg/dL, proBNP 114496 pg/mL. Clinical lung ultrasound shows abundant B lines with left basal pleural effusion.
Discussion and Learning Points: Given the data obtained, the patient was oriented as acute pulmonary edema and renal failure of renal origin with oligoanuria resistant to depletive and vasodilator treatment. To rule out possible nephrotic syndrome.
Given the refractory nature of the therapeutic response, the Nephrology Department was contacted for urgent dialysis, which was performed without incident, confirming nephrotic syndrome. In order to confirm clinical suspicion of glomerulonephritis, a diagnostic renal biopsy was proposed, which was ruled out due to low renal cortical-medullary differentiation. In a serum-immunological study, positivity for anti-PLA2R was highlighted, so the final diagnosis of primary membranous glomerulonephritis was assumed.

305 - Submission No. 814

BACK TO THE CLASSICS

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Case Description: A 32-year-old male patient consulted in emergencies relating left sided pleuritic chest pain and fever in the last two days. He had been recently diagnosed Crohn's disease and two weeks before he had a colitis flare. He denied shortness of breath, cough, expectoration, or any other remarkable symptom. Pulsi oximetry showed normal O_2 saturation and chest X-ray revealed a peripheric left lower lobe alveolar infiltrate.
Clinical Hypothesis: Pneumonia vs pulmonary embolism.
Diagnostic Pathways: Emergency physicians' initial evaluation was headed to manage the patient as having pneumonia. However, it was quite appealing that the suspected pneumonia caused so much pain while not producing expectoration or hypoxemia. Taking a closer look to the chest X-ray made us think of a classical radiological sign related to pulmonary embolism (PE): Hampton's hump (attached image). Although PE also causes hypoxemia most of times and there was no shortness of breath, the features of pain and the radiologic appearance made it a more likely diagnosis. D-Dimer was significantly high and then a chest CT scan confirmed the presence of PE with bilateral pulmonary infarctions.
Discussion and Learning Points: PE presents with dyspnea in 70% of patients. When it is absent, diagnosis becomes a clinical challenge. Other clues can help in this situation, like the presence of pleuritic pain suggesting the coexistence of pulmonary infarction and the presence of prothrombotic risk factor such as inflammatory bowel disease and convalescence. Besides, Hampton's hump is a classical sign whose popularity has diminished but it is really important in this kind of situations to direct the diagnosis.

306 - Submission No. 2104

TETRADOTOXIN(TTX) POISONING IN HAIFA, ISRAEL

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Case Description: Tetrodotoxin (TTX) is a neurotoxin found mainly in puffer fish. TTX blocks the voltage gated sodium channel in muscles and neurons causing weakness and numbness followed by respiratory and/or cardiac failure[1]. Although puffer's fish original habitat is the tropical waters, it migrates through the Suez Canal to be found near the Mediterranean shores[2].
Clinical Hypothesis: A 68 years-old male presented to the emergency department (ER) due to vomiting and general weakness, 3 hours after consuming a puffer fish. His medical history included obstructive sleep apnea and lymphoma in his past.

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Diagnostic Pathways: His vital signs were blood pressure 153/77 mmHg, heart rate 70bpm, SaO_2 94% without fever. Physical examination revealed diffused muscles weakness. Blood gases showed pH 7.36, HCO_3 23.9mEq/L, SpO_2 93%, $PaCO_2$ 42 mmHg. ECG with Sinus tachycardia. Chest Xray without any lung opacities.
Discussion and Learning Points: TTX poisoning was suspected and due to deterioration and impending respiratory failure he was intubated and admitted to the ICU where he stayed for 5 days before being successfully weaned from the ventilator and transferred to internal ward where he stayed for another 3 days recovering from the intoxication and a ventilator associated pneumonia. TTX is heat stable without any known antidote making it one of the most lethal toxins known to mankind[1]. TTX intoxications around the Mediterranean shores are rare but rising and following case a reminder of a rising public health hazard.

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307 - Submission No. 1631

ABDOMINAL AORTIC ANEURYSM

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Case Description: 76-year-old man with history of hypertension, diabetes mellitus type 2, dyslipidemia, smoking and coronary heart disease submitted to coronary artery bypass graft a few years before. He was admitted in the Emergency Department with nausea, sweating and epigastric pain that aggravated with meals. No previous similar episodes. On physical examination, high blood pressure, no abdominal mass or bruit detected.
Clinical Hypothesis: Acute myocardial infarction; Peptic ulcer disease; Acute pancreatitis; Abdominal aortic aneurysm.
Diagnostic Pathways: Blood evaluation without rising of cardiac biomarkers and with normal amylase and lipase; Electrocardiogram with no signs of acute myocardial infarction; CT scan with infrarenal aortic aneurysm with eight centimeters long and maximum diameter of seven centimeters, without signs of rupture.
Discussion and Learning Points: The abdominal aortic aneurysm had a large initial diameter (larger than 5.5 centimeters) that is associated with a high risk of rupture. The patient was submitted to endovascular aneurysm repair. Abdominal aortic aneurysm diagnosis requires a high degree of suspicion and is associated with potential for significant morbidity and mortality.

308 - Submission No. 1679

DRUG RASH WITH EOSINOPHILIA AND SYSTEMIC SYMPTOMS

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Case Description: A 65-year-old man was admitted in the emergency department (ED) with a maculopapular pruritic rash and facial edema that began six days before. He had been recently diagnosed with trigeminal neuralgia and was treated with carbamazepine for six weeks and stopped one week before the skin manifestations appeared. During his staying in ED, it was necessary to administer intravenous glucocorticoids and subcutaneous adrenaline due to aggravation of facial edema and onset of dyspnea without respiratory insufficiency.
Clinical Hypothesis: Drug reaction with eosinophilia and systemic symptoms (DRESS). Acute cutaneous lupus erythematosus. Hyper-eosinophilic syndrome. Viral infections.
Diagnostic Pathways: Laboratory evaluation: eosinophilia; negative antinuclear antibodies; negative serologies for human herpesvirus 6 and 7, Epstein-Barr virus, Cytomegalovirus, Hepatitis A, B and C; negative blood cultures.
Discussion and Learning Points: Initially the patient was treated with intravenous glucocorticoids with a satisfactory clinical improvement that was followed by oral glucocorticoid slowly tapered over six weeks. Drug reaction with eosinophilia and systemic symptoms is a rare, potentially life-threatening, drug-induced hypersensitivity reaction. Antiseizure medications, including carbamazepine, are among the high-risk drugs to develop this condition. The diagnosis of DRESS requires a high degree of suspicion and clinical judgment with assessment of drug exposures in the months preceding the illness.

309 - Submission No. 1316

MALIGNANT HYPERTENSION AS A CAUSE OF THROMBOTIC MICROANGIOPATHY WITH SEVERE MULTIORGANIC INVOLVEMENT

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Case Description: A 46-year-old male consults for blurred vision and headache. Blood pressure values are 200/110 mmHg (without prior known hypertension), neurological exploration is normal, and the ophthalmological study is compatible to bilateral central venous thrombosis. In blood tests, it stands out: creatinine 4.5 mg/dL, lactate dehydrogenase 700 U/L, hemoglobin 10 g/dL, 58,000 platelets/microliter. The head scanner shows occipital hypodensity compatible with posterior reversible encephalopathy syndrome (PRES). The patient is admitted to the intensive care

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unit to blood pressure control; verifying the existence of abundant schistocytes, haptoglobin <30 ng/dL and a negative Coombs test.

Clinical Hypothesis: Given the initial suspicion of thrombotic thrombocytopenic purpura (TTP) (due to neurological involvement), malignant hypertension (due to blood pressure levels and venous thrombosis), or hemolytic uremic syndrome (HUS) (due to kidney involvement): plasmapheresis and administration of intravenous corticosteroids are performed.

Diagnostic Pathways: Secondary hypertension is later ruled out (hormones, abdominal ultrasound and polysomnography are normal), assuming the hypertension as primary and poorly controlled due to the absence of treatment. Thrombophilia study, microbiological cultures (stool, blood and urine), ADAMTS-13 and complement levels are normal. Finally, the diagnosis is thrombotic microangiopathy (TMA) due to malignant hypertension with target organ damage (vein thrombosis, PRES, and renal involvement).

Discussion and Learning Points: TMA due to malignant hypertension should always be a diagnosis of exclusion, especially in renal and/or neurological involvement. Emergent treatment with corticosteroids and plasmapheresis is essential until other types of TMA are ruled out (mainly TTP and HUS). In addition, the importance of antihypertensive drugs to slow down the evolution of the disease should not be forgotten.

310 - Submission No. 2379

ACCURACY OF CHADS2 AND CHA2DS2-VASC IN PREDICTING STROKE/TIA IN CRITICALLY-ILL PATIENTS WITH NON-VALVULAR ATRIAL FIBRILLATION: A PILOT STUDY FROM THE AFICILL 2.0 COHORT

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Background and Aims: Non-valvular atrial fibrillation (NVAF) is a common cardiac arrhythmia burdened by a high stroke risk. Among critically ill patients, it is associated with a raised stroke/TIA and bleeding risk, due to the interactions between critical illness and patients' characteristics. Despite the importance of this issue and the difficulties in the management of these patients, cardioembolic risk stratification is currently performed with CHADS2 and CHA2DS2-VASc scores. We have already observed that these scores were not helpful stratifying stroke risk in a smaller cohort. With this paper, we aimed to assess stroke/TIA prevalence in a larger cohort of critically ill patients and evaluate the capacity of CHADS2 and CHA2DS2-VASc to evaluate stroke/TIA risk in a larger cohort to validate our previous observations.

Methods: We retrospectively enrolled all the consecutive patients from 02/01/2002 to 02/02/2011 admitted to our sub-intensive Medicine unit for a critical illness and affected by NVAF. For each patient we calculated CHADS2 and CHA2DS2-VASc scores and stroke/TIA occurrence during the admission. We assessed the accuracy of each score with ROC curve analysis, comparing their performance with the DeLong method. We performed the statistical analysis with SPSS 13.0.

Results: We obtained 3372 consecutive, critically ill patients, with 336 (9.96%) stroke/TIA. ROC curves showed that CHADS2 (AUC: 0.558; 95%CI: 0.542-0.575; p<0,0001) and CHA2DS2-VASc (AUC: 0.573; 95%CI: 0.557-0.590; p<0.0001) had a very poor performance in predicting stroke/TIA. Both scores' performances did not significantly differ (AUC-difference=0.015; p=0.07).

Conclusions: With this preliminary study conducted in a larger cohort, we confirm the high stroke/TIA prevalence and the poor performance of the classical approach to predict stroke/TIA in critically ill patients with NVAF.

311 - Submission No. 1790

STREAMLINING ADMISSION DOCUMENTATION INCREASES THE CONTINUITY OF CARE BETWEEN THE EMERGENCY DEPARTMENT AND THE MEDICAL ADMISSION UNIT

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Background and Aims: The traditional clerking structure in a medical admission unit (AMU) focuses on the presenting history, which is already extensively documented by the Emergency Department (ED). Consequently, the progress following treatment in the ED is often overlooked. This project aims to minimize process duplication and increase the care continuity between ED and AMU.

Methods: A revised electronic admission proforma was launched (March 2022) to include headings: summary of the history, treatment and clinical progress since ED, updated examination and key decisions important for ongoing care (thromboprophylaxis decision, medicine reconciliation, resuscitation status). 127 admissions (48.8% with new structure) were examined (February-May 2022), and we surveyed the users. We measured the documentation of progress and treatment received in ED, and key decisions important for ongoing care.

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Results: Two months following its introduction, 92% of the admission used the new proforma. The new proforma was associated with an increased in the review of treatment (98.3% vs. 21.5%, p<0.0001) and clinical progress since ED (89.8% vs 43.1%, p<0.0001) when compared with the traditional structure. Its use also increased the key decision documentation: thromboprophylaxis (96% vs 24%, p<0.0001), medicine reconciliation (96.7% vs 4.6%, p<0.0001) and DNACPR (50% vs 9.2%, p<0.0001). The users felt that the new structure was flexible and 83.3% of the consultants surveyed found the proforma useful, highlighting improved fluidity and safety.

Conclusions: The structure of clerking process on admission influences the continuity of care between the department. Reducing the process duplication allows the team to focus on key safety aspects of care.

312 - Submission No. 1146

THE IMPORTANCE OF ASKING THE COMPANION

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Case Description: A 30-year-old woman with no history of interest consulted for a clinical picture consisting of swelling of right 2nd and 3rd metacarpal-phalangic joints and ipsilateral elbow, with increased local temperature and erythema. She referred fever of 38ºC. Physical examination revealed signs of arthritis and a small painful erythron-violaceous maculo-papular lesion in the right heel. Blood analysis revealed neutrophilic leukocytosis and an elevated C-reactive-protein. X-rays showed no erosions.

Clinical Hypothesis: Since the patient denied a history of interest, we decided to extend the anamnesis with her partner, who referred a 3-day-evolution purulent urethral discharge, supporting the suspicion of disseminated gonococcal infection (IGD).

Diagnostic Pathways: Blood cultures, urethral and cervical samples were obtained; arthrocentesis of the elbow could not be performed. Treatment with intramuscular ceftriaxone and oral doxycycline was initiated. The microbiologic results confirmed the diagnosis, and clinical improvement was observed.

Discussion and Learning Points: IGD is an infectious entity characterized by joint inflammatory involvement in sexually active patients. The differential diagnosis includes rheumatoid arthritis, psoriatic arthritis, spondyloarthropathies with peripheral manifestation, crystal arthropathies and other infectious arthritis. Microbiological isolation is necessary for the diagnosis, not always easy since the profitability of the cultures (synovial fluid/blood) is scarce and depends on the time of infection. In case of high suspicion, early antibiotic start is essential. This case depicts the importance of carrying out an exhaustive anamnesis, being sometimes necessary to extend the interview with relatives, who can provide enlightening data. In this patient, it allowed to narrow down the diagnostic possibilities and initiate immediate treatment at the time of assessment.

313 - Submission No. 2260

SSRI-RELATED HYPONATREMIA AS A SEIZURE DETONATING EFFECT IN A PATIENT PREVIOUSLY DIAGNOSED WITH EPILEPSY

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Case Description: A 59-year-old female was admitted to Internal Medicine Department due to a two-minute-long seizure and secondary 15-minute-long loss of consciousness. The patient has a history of diagnosed epilepsy since she was five years old, with a recent increase in seizures in the last month, treated with levetiracetam 750 mgBID, lamotrigine 100mgBID, carbamazepine 800 mgBID; olanzapine 10 mg, sertraline 100 mg as treatment for major depression. Head CT scan, EEG and brain MRI all normal. Laboratory findings showed serum sodium 111 mmol/L, serum chloride 76.4 mmol/L. Cortisol and thyroid hormone levels all normal. All medication was withdrawn but levetiracetam, and citalopram was started. Plasma sodium was corrected in a course of 3-4 days, during which no seizures occurred, the patient being discharged after it. In the follow-up consultations during the next month, the patient did not report recurrence of seizures.

Clinical Hypothesis: The medication caused hyponatremia, which served as a detonating element in a high-risk patient for the occurrence of seizures due to the prior diagnosis of epilepsy.

Diagnostic Pathways: The absence of any abnormality but the hyponatremia leads to its diagnosis as the present cause for seizures.

Discussion and Learning Points: The SSRI therapy has been described as a cause for hyponatremia[1]. It's important to note, that the epilepsy had been in control prior to the adding of the SSRI, which matches the time of the recurrence of seizures. The absence of seizures after the empirical withdrawal of the medication, and the correction of sodium confirms it.

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314 - Submission No. 2041

A RARE CASE OF IMMUNE THROMBOCYTOPENIA IN A MULTI-TRAUMA PATIENT

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Case Description: A 46-year-old male was transferred to our intensive care unit (ICU) after a 6-meter fall. On admission, he was hemodynamically unstable and had sustained multiple trauma: bilateral pneumo-hemothorax, multiple rib fractures, epidural hematoma, diffuse brain edema, subarachnoid hemorrhage, and thoracic vertebrae fractures, but no intrabdominal injuries. He was stabilized, requiring multiple transfusions (red blood cell, fresh frozen plasma, platelets (PLT), and coagulation factors). On the 3d day of his admission, as bleeding had been controlled, he was started on unfractionated heparin (UFH) for venous thromboembolism prophylaxis. Two days later, he developed severe thrombocytopenia (PLT 1000/µl), UFH was discontinued and he was initially treated with multiple platelet transfusions to no avail.

Clinical Hypothesis: Differential diagnosis for his severe thrombocytopenia included acute hemorrhage, Heparin-induced Thrombocytopenia (HIT), disseminated intravascular coagulation (DIC), drug/sepsis-associated, post-transfusion purpura (PTP) and immune thrombocytopenia (ITP).

Diagnostic Pathways: A series of head, thoracic and abdominal contrast-CT scans were performed that excluded acute hemorrhage. HIT was excluded as 4Ts score was <4 and mono-HIT test was negative. HIV, hepatitis, Coombs testing, as well as, blood cultures were negative and fibrinogen, PT, aPTT values were normal. An immune-mediated thrombocytopenia was suspected, and the patient was started on iv prednisolone (1 mg/Kg) and intravenous immunoglobulin (IVIG) (30 g OD) for five days. Less than 48 hours later, the platelet count had started to rise and was fully recovered by admission day 9.

Discussion and Learning Points: Most likely our patient developed either PTP or ITP, but unfortunately, anti-platelet antibody testing was unavailable to confirm the diagnosis. Severe thrombocytopenia (PLT<1000/µL) should always raise suspicion of an immune-associated mechanism, requiring specific treatment with IVIG and corticosteroids.

315 - Submission No. 1306

MULTIPLE ORGAN FAILURE AS A FORM OF DRUG TOXICITY DUE TO ALLOPURINOL

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Case Description: An 82-year-old male farmer with no drug allergies and multiple cardiovascular risk factors treated with enalapril, allopurinol and gemfibrozil. He is admitted to the emergency department for rapidly progressive cognitive deterioration and a maculopapular exanthema with plantar involvement. Laboratory tests reveal acute renal failure, coagulopathy, metabolic acidemia, rhabdomyolysis, hyper-transaminemia and high elevation of acute phase reactants, all compatible with possible sepsis. Once possible alterations in lumbar puncture and thoraco-abdominal CT are ruled out, given the close contact with cattle, empirical treatment with piperacillin-tazobactam and levofloxacin is started.

Clinical Hypothesis: Sepsis and organ failure due to possible Mediterranean boutonneuse fever.

Diagnostic Pathways: Despite an initial satisfactory evolution, the patient presents a worsening of the skin lesions together with marked hyper-eosinophilia (4210/microliter) and negative serology for rickettsiosis, which forces us to reconsider the differential diagnosis. After re-historying the patient we discovered the recent initiation of allopurinol, which together with the hyper-eosinophilia, raises the possibility of a drug reaction with eosinophilia and systemic symptoms (DRESS syndrome) as a diagnosis.

Discussion and Learning Points: Finally, we get a skin biopsy which results consistent with our diagnosis suspicion. We perform the RegiSCAR scale obtaining 8 points (considering the definitive diagnosis of DRESS with six or more points), which allows us to confirm the diagnosis. Finally, after withdrawal of allopurinol, a complete resolution of the clinical picture is observed. As a lesson learned from our case, we would like to emphasize the importance of considering drugs and their adverse effects in the differential diagnosis of any disease.

316 - Submission No. 362

VENOUS THROMBOEMBOLISM: TWO IN ONE

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Case Description: The patient was an autonomous 58-year-old male. Past medical history: pacemaker and two hepatic transplants caused by chronic hepatitis due to Hepatitis C. Regular medication: ciclosporin 250mg, tacrolimus 1mg, mirtazapine 30mg.
Patient went to the emergency service due to pain on right lower

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limb and worsening tiredness for 10 days. On admission patient was alert, orientated and cooperative. Tachypneic (30 bpm) with SpO_2 90% on room air. Pulmonary and cardiac auscultation with no changes. On physical examination, the right lower limb was warm to touch, red and with a small oedema.

Clinical Hypothesis: Deep Vein Thrombosis (DVT); cellulite; erysipelas; pulmonary thromboembolism (PTE).

Diagnostic Pathways: Blood results: INR 1.01 and D-Dimmer 2.8 cmg/mL. Arterial blood gas shows hypocapnia. The computerized tomography (CT) angiography of the right lower limb shows signs of DVT with extension to the proximal femoral vein. Thoracic CT angiography shows signs of acute pulmonary thromboembolism with a thrombus on the bifurcation of the common artery of the right lower and middle lobe.

Discussion and Learning Points: The main types of venous thrombosis are DVT and PTE, that can occur simultaneously. Regarding the clinical presentation, DVT is easier to diagnose in comparison with PTE, which requires a higher suspicion level to reach the diagnosis. D-dimmer had a negative predictive value when in suspicion of pulmonary thromboembolism, and it's very important to do score Geneve or Wells to classify the probability of occurrence, although the gold-standard test is the thoracic CT angiography. Regarding the DVT, the gold-standard test is the doppler ultrasound of the lower limbs.

317 - Submission No. 485

THE PERFORMANCE DIAGNOSTIC OF PULMONARY THROMBOEMBOLISM IN COVID-19 INFECTION. UNSPECIFIC D-DIMER VS SPECIFIC WELLS AND GENEVA SCALES AS A PREDICTIVE FACTORS OF PE

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Background and Aims: The Wells and Geneva scales have been used for the diagnoses of pulmonary thromboembolism (PE) for many years and the elevation of D-dimer (DD) is associated value with the possibility of thrombotic events. The aim of this study is to determine the optimal DD cutoff point of diagnostic suspicion of PE and to know if the Wells and Geneva scales still being useful in COVID-19.

Methods: Retrospective study in confirmed COVID-19 patients that underwent a computed tomography pulmonary angiogram (CTPA) due to PE clinical suspicion. Data were collected from January to June 2021.

Results: A 13.5% were diagnosed with PE (20/148 CPTA). The median of blood DD levels were 2231ng/mL (IQR: 1079-4426). It was found that PE patients has significantly higher DD levels than Non-PE patients ($p<0.05$). The mean of predictive score rules were 3.55 in Wells and 4.09 in Geneva. A D-dimer value of 3126 ng/mL with a sensitivity of 80% and a specificity of 68.5% was identified as the best cut-off point to rule out PE in patients with COVID-19, that avoided 87 CPTA and missed 4 PE diagnosis. In the ROC curve analysis, an area under the curve (AUC) of 0.77(95% CI 0.68 to 0.85) plasma DD showed a moderate to good accuracy defining PE, an AUC of 0.60 (95% CI 0.48 to 0.72) Wells' score showed a moderate to low accuracy; and an AUC of 0.41(95% CI 0.26 to 0.55) Geneva score showed low accuracy.

Conclusions: The optimal DD cutoff point has a higher diagnostic performance than the Wells and Geneva scales in COVID-19-related PE

318 - Submission No. 1484

METHANOL INTOXICATION

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Case Description: A 49-year-old woman comes to the Emergency room with nausea, decreased level of consciousness and decreased visual acuity, with two-sided blindness. She was recently operated of a suprasellar meningioma and was receiving antiepileptic treatment after suffering an epileptic status. She was hemodynamically stable and afebrile, with unreactive mydriatic pupils, and no other findings in the neurological and systemic exploration. The brain CT didn't show any alterations. In the blood tests we observed a metabolic acidosis (pH 7.06, bicarbonate 4.6 mmol/L), an elevated anion-gap (28.4 mmol/L) and osmolar gap (72 mmol/L).

Clinical Hypothesis: Suspecting an intoxication, we send a sample to an external reference laboratory.

Diagnostic Pathways: After initial fluids and bicarbonate replacement, and no improvement, we decided to start hemodialysis, noticing improvement. The MRI showed a diffusion restriction in both putamen. The final toxicology results showed a methanol concentration of 977 mg/dL.

Discussion and Learning Points: Methanol intoxications are usually secondary to poisoning or autolytic purpose. The clinical manifestations begin in 6-24 hours after the intake, or longer in cases of joint intake with ethanol. It affects the gastrointestinal tract and the nervous central system. It can also affect the optical nerve, causing permanent blindness with an afferent pupillary defect, which indicates worse prognosis and bigger brain damage. The diagnosis is based in clinical findings, laboratory results and the confirmation with the blood levels. The main treatment is the administration of ethanol or fomepizole. They compete in the joint to the enzyme alcohol-dehydrogenase, responsible of the formation of the toxic metabolite. Hemodialysis is also indicated to remove the toxic from the blood.

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319 - Submission No. 1524

FACTORS ASSOCIATED WITH HOSPITALIZATION OR EMERGENCY SURGERY FOR ACUTE NON-TRAUMATIC ABDOMINAL PAIN: A RETROSPECTIVE STUDY ABOUT 2201 CASES

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Background and Aims: Acute abdominal pain (AAP) stands for 10% of emergency department (ED) visits. Identifying severe conditions without fail remains a challenge. Previous studies have underlined that abdominal guarding is associated with hospitalization or surgery, but this factor alone cannot identify all severe conditions. The aim of our study was to assess the factors associated with hospitalization or surgery among the patients presenting with AAP in the ED.

Methods: We performed a single-center retrospective observational study including all the patients who presented in the ED for AAP in 2019, the last year before COVID-19 pandemic. We collected a total of 86 factors dealing with medical history, clinical or paraclinical examination. We compared discharged patients to patients who were hospitalized or underwent surgery, using Bonferroni's correction for multiple tests.

Results: We analyzed 1769 discharged patients and 432 patients who were hospitalized or underwent surgery. Only three factors were identified as statistically associated with hospitalization or emergency surgery through multivariate analysis: abdominal guarding (OR 5.7; 95% CI 2.9-11.4; p= $4.5*10^{-6}$), serum lipase greater than 3 times the upper limit of normal (OR 29.3; 95% CI 7.8-110.0; p=$3.6*10^{-6}$), and C-Reactive Protein (CRP) over 6 mg/L (OR 2.8; 95% CI 1.9-4.2; p=$3.2*10^{-6}$).

Conclusions: This large retrospective cohort study confirms the value of abdominal guarding for distinguishing severe from benign AAP, and identifies elevated serum lipase and CRP as associated with hospitalization or emergency surgery. However, despite the analysis of numerous factors, we could not devise a useful triage algorithm to identify all severe conditions.

320 - Submission No. 2172

(NOT SO) SPONTANEOUS SPLEEN RUPTURE

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Case Description: A 55-year-old man with hyper-triglyceridemia, COPD and hypertension was admitted at the emergency department with abdominal pain with dorsal girdle irradiation, anorexia, nausea, and constipation. The laboratory workup highlighted elevation of lipase and hypertriglyceridemia. Echographically, showed an image suggestive of acute pancreatitis associated with a large pseudocyst (approximately 39x18mm). He was admitted to the ICU for acute pancreatitis with multiorgan dysfunction. After 19 days of discharge from the ICU, at the surgical ward, he presented an episode of sudden pain in the left quadrants with peritoneal reaction. CT revealed an extensive hemoperitoneum at left subdiaphragmatic level, which was considered to have a splenic origin.

Clinical Hypothesis: Spleen rupture due a pancreatic pseudocyst.

Diagnostic Pathways: The patient underwent exploratory laparostomy, where the presence of a pancreatic pseudocyst was described, covering the ruptured spleen and a voluminous hemoperitoneum. The plane between the pseudocyst and the spleen was detached, with iatrogenic rupture of the pseudocyst, which was drained and hemostasis of the surrounding vessels and structures. At postoperative day 1 he developed hemorrhagic shock and underwent a new surgery that revealed a surgical site hemorrhage and high output pancreatic fistula. The patient had an uneventful recovery.

Discussion and Learning Points: Pancreatic pseudocyst is a frequent complication of acute pancreatitis, usually small and uncomplicated. The main complications associated are rupture into the peritoneum, hemorrhage, infection, compression, or fistulas to neighboring organs. The spleen, despite its proximity, is very rarely affected, and when it is, the consequences are often dramatic. We emphasize the importance of early suspicious and prompt surgical intervention for a favorable outcome.

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321 - Submission No. 286

HYPERACUTE T-WAVES WITH NO ST ELEVATION: A CAN'T MISS PRESENTATION OF 100% LAD OCCLUSION MYOCARDIAL INFARCTION

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Case Description: A 50-year-old woman, smoker, with hyperlipidemia, visited the Emergency Department complaining of chest pain radiating to the jaw and right arm for 3 hours. Her medication included: pitavastatin 2mg, escitalopram 10mg. Her brother had had multiple myocardial infarctions (MI) and died of MI at 50. Her physical exam was unremarkable with normal vital signs.

Clinical Hypothesis: The major clinical hypothesis was acute coronary syndrome.

Diagnostic Pathways: The electrocardiogram (ECG) showed tall, broad and symmetrical T waves in leads V2 through V4, disproportional to preceding QRS complexes, poor R-wave progression in the precordial leads and minor ST-segment elevation ~1 mm in V1 through V3. These findings were not present on her previous ECG and were recognized by the attending team as STEMI (ST-segment elevation myocardial infarction) equivalent, indicative of LAD (left anterior descending artery) occlusion. Cardiology declined emergency coronary angiography, citing absent STEMI criteria. These findings persisted in serial ECGs, without STEMI criteria. The patient remained hemodynamically stable but required a nitroglycerin infusion for pain control. The initial high-sensitivity troponin (chsTnI) was 25 ng/L and at 1h 121 ng/L. The following day, coronary angiography revealed 100% mid segment LAD occlusion, TIMI-flow 0 (thrombolysis in myocardial infarction), and echocardiogram showed apical hypokinesis with normal systolic function. Peak chsTnI at 24h was 29500 ng/L.

Discussion and Learning Points: STEMI-equivalent ECG patterns of occlusive MI are frequently underrecognized, which can lead to poor outcomes. STEMI-equivalent and purely clinical criteria for emergency coronary angiography according to international guidelines frequently aren't followed in clinical practice, which underscores the need for broader discussion on this topic.

322 - Submission No. 1647

MY SKIN IS SCREAMING! DOCTOR, I NEED HELP – STEVENS-JOHNSON SYNDROME

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Case Description: In patients with symptoms of tiredness and adynamia we doctors are tempted to medicate and do all we can to improve our patients. Stevens-Johnson Syndrome (SJS) is a severe cutaneous hypersensitivity reaction (skin and mucous membranes) that usually requires hospitalization. This case is about a 68 years-old woman to whom was prescribed lamotrigine for depression that complicated with SJS. She came to the emergency room with vast skin manifestations and respiratory complaints.

Clinical Hypothesis: Clinical manifestations such as painful rash and blisters in the skin and mucous membranes were present accompanied by fever (temperature 39ºC) and sore throat. The patient was admitted for 3 weeks at Internal Medicine care, stopping immediately the treatment with lamotrigine. Initially she also needed oxygen therapy and analgesics.

Diagnostic Pathways: A skin biopsy was performed in the abdomen affected area of the patient that proved our clinical suspicious - SJS. She required aggressive treatment with cyclosporine for 10 days (3 mg/kg/day). Fortunately, after 3 days treatment the patient started to improve and was controlled in the Internal Medicine floor.

Discussion and Learning Points: The SJS is a medical emergency that requires a fast approach and treatment decision. Our patient was evaluated during the internment by our colleagues of ophthalmology according to the guidelines showing no complications. In our hospital we don't have a dermatology department what reflects the tremendous importance of Internal Medicine department and the good preparation of the clinics to follow and treat this kind of patients. In the posterior follow up the patient showed complete remission of the clinical manifestations.

323 - Submission No. 579

ULTRASOUND COHORT IN THE EMERGENCY DEPARTMENT ON FUNDACION DE ALCORCON UNIVERSITY HOSPITAL

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Background and Aims: To describe the findings with point of care ultrasound (POCUS) performed by the Ultrasound Unit of Fundación de Alcorcon University Hospital (FAUH).

Methods: Cohort, retrospective and descriptive study of 388 patients admitted in the Emergency Department of FAUH between February and June of 2022. The POCUS performed were request by emergency doctors and the data were collected by an online form. We analyzed different clinical and ultrasound aspects.

Results: 388 patients were examined (51.8% male and 47.4% female). Above all, the main findings were: 1) 263 lung POCUS in

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which 62.7% were pathological with 24% pleural disease, 51.7% interstitial pattern and 30% pleural effusion. 2) 273 abdominal POCUS: - 14% and 15.9% of cystic lesions in the right and left kidney respectively. - 260 Hepatic POCUS with 16±3.1 cm average size with 6% of intrahepatic masses and 7% of perihepatic fluid. - 247 biliary POCUS with 22.2% of pathologic gallbladder and 7.2% of cholelithiasis. - Inferior venous cava showed 42% of <1.5cm diameter and adequate collapsibility. Only 0.7% showed abdominal aorta aneurysm. - 215 bladder POCUS showed 7.5% urinary retention. 3) 248 Echocardiography. - 39.5% showed left ventricle hypertrophy. - 13% right ventricle systolic dysfunction. - 55% mitral insufficiency and 18.9% aortic insufficiency. - 9% of pericardial effusion. - Echocardiographic probability of pulmonary hypertension estimated were low (36%), intermediate (14%) and high (9%).

Conclusions: POCUS in an Emergency Department contribute to the diagnosis, clinical and therapeutic orientation in several patients in order to improve our medical assistance.

324 - Submission No. 580

VALUE OF POINT OF CARE ULTRASOUND (POCUS) IN THE EMERGENCY DEPARTMENT

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Background and Aims: To determine the number of patients in whom ultrasound modified the diagnosis, management and saved further exams within the Emergency Department Clinical Ultrasound Unit of a University Hospital in Madrid during a five-months period.

Methods: Descriptive, observational single-center study, held in ED of a teaching hospital. Clinical multi-organ ultrasound was performed under request of physicians in charge of patients or following active search of patients who could benefit from it by the Unit personnel.

Results: The main reason for requiring ultrasound were heart failure, dyspnea, abdominal pain. POCUS brough to relevant diagnosis in 31.2% of cases, allowing changes in management in 20.2% of cases. It brought to save further examinations in 24.4% of cases. The main unexpected diagnoses were heart failure (4.9%), pneumonia (4.9%) and cholecystitis (3.4%). Main changes in management were: change of medical therapy (79.1%), invasive procedures (3.1%). POCUS mainly allowed to spare abdominal ultrasound (9.3%), echocardiography (7.1%).

Conclusions: POCUS improved physical examination in identifying medical conditions. Many authors defined it the "fifth pillar of patients' examination". This study shows the value of standardized multi-organ POCUS as an additional tool ED patients' decision making. In about 1/3 of cases, it brought to relevant diagnosis. In 1/4 of patients POCUS had implications in treatment and saved a radiological examination. A large body of literature show clinical ultrasound relevance, but our study is among the few highlighting its usefulness in the ED, when used in a standardized way, after proper training. A study limitation is it's observational, single-center and without a control group: reducing external validity.

Heart failure	16,5%
Abdominal pain	9,2%
Lower respiratory tract infection	5,4%
Other	68,9%

324 Table 1. Most frequent reasons for request

RELEVANT OR UNSUSPECTED DIAGNOSIS	31,2%
IMPLICATIONS FOR CHANGING TREATMENT	20,2%
SAVING OF RADIOLOGICAL TESTS IN THE EMERGENCY DEPARTMENT	24,4%

324 Table 2.

	N	%
Heart failure	29	4,9%
Pneumonia	29	4,9%
Cholecystitis		3,4%
Valvulopathy		1,9%
Cholelithiasis		1,5%
Pulmonary hypertension		1,5%
Ascites		1,2%
Pleural effusion		1,2%
Hydronephrosis		1,2%
Aortic aneurysm	5	0,8%
Depressed LVEF		0,7%
Acute urinary retention		0,7%
Deep vein thrombosis		0,7%

324 Table 3. Unsuspected or relevant diagnoses

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	N	
Treatment setting		15,1%
Interventionism		3,4%
Income		0,7%
Referral to surgery		0,7%
High		0,5%
Observation		0,3%
Other evidence	1	0,2%

324 Table 4. Most common clinical ultrasound implications

	N	%
Ultrasound	55	9,3%
Echocardiogram	42	7,1%
Chest X-ray		6,2%
Lower limb ultrasound		2,4%
Lower limb ultrasound	1	
TAC	1	

324 Table 5. Savings on diagnostic tests

325 - Submission No. 854

CORRELATION OF TRICUSPIDEAL INSUFFIENCY WITH PULSED DOPPLER IN SUPRAHEPATIC, FEMORAL AND VENOUS EXCESS ULTRASOUND GRADING SYSTEM SCORE (VEXUS)

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Background and Aims: To determine the correlation between the tricuspid insufficiency (TI) with femoral (FV) and supra-hepatic veins (SHV) ultrasound (US) pulsed doppler (PD) and VExUS score.
Methods: Cohort, retrospective, descriptive and bi-center study of 61 heart failure (HF) patients with pro-BNP >500 pg/mL admitted in the Emergency Department of Fundación Alcorcon University Hospital (FAUH) between November and May 2022. We selected patients with TI and analyzed the FV, portal and SHV PD in addition to VExUS score. Subsequently we studied the correlation between these parameters and the TI severity grade with Pearson's method.
Results: Of all US we found severe TI in 31.1% of patients, patients with mild and moderate TI were 34.4% respectively. The mean age was 78.9±12.6 years. Ultrasound findings of the inferior vena cava showed 2.2±0.5 cm in diameter and 91% absence of collapsibility. FV and VHS EP showed that 39.3% of our patients had a severe inverted systolic phase of the VHS and 73.8% had a pulsatility pattern on FV EP. The VExUS score showed 32.8% grade 0, 19.7% grade 1, 18% grade 2 and 29.5% had a grade 3 score. We found correlation between TI severity, VHS and VF PD doppler and VExUS score ($p<0.001$). In addition, severe and mild TI also showed correlation between PD and VExUS score.
Conclusions: In our study, the presence of severe reversed systolic phase of supra-hepatic veins, pulsatility in femoral vein or high VExUS score, could be a predictor of TI severity in patients with acute HF.

326 - Submission No. 2381

INCIDENCE AND TYPE OF MAJOR BLEEDINGS AFFECTING THE CRITICALLY-ILL PATIENT WITH NONVALVULAR ATRIAL FIBRILLATION: A PILOT ANALYSIS OF THE AFICILL 2.0 COHORT

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Background and Aims: Non-valvular atrial fibrillation (NVAF) is common among critically ill patients, being associated to both markedly raised stroke/TIA and major bleeding (MB) risk: antithrombotic management of these patients is difficult, since the stratification of hemorrhagic and cardioembolic risk is currently performed with scores which are not validated for critically ill patients. We already observed that HAS-BLED scores was not helpful to stratify bleeding risk in this setting. With this paper, we aimed to assess prevalence and characteristics of MB and to evaluate the reliability of HAS-BLED score to assess bleeding risk in a large cohort of critically ill subjects with NVAF.

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Methods: We retrospectively enrolled all the consecutive patients from 02/01/2002 to 02/02/2011 admitted to our sub-intensive Medicine unit for a critical illness and affected by NVAF. For each patient we calculated HAS-BLED score and observed the occurrence of MB defined according to ISTH criteria during the admission. We assessed the accuracy with ROC curve analysis. We performed the analysis with SPSS 13.0.

Results: We obtained 3457 consecutive, critically ill patients (age: 78.4±9.78 years; 45.7% females). We observed 449 (13.0%) in-hospital deaths or ICU transfers, 336 (9.90%) stroke/TIA and 393 (11.4%) MB. MB were intracranial (152 patients, 4.4%), gastrointestinal (137 patients, 4.0%), intramuscular/retroperitoneal (37 patients,1.0%), genitourinary (17 patients, 0.5%) and other (50 patients,1.4%) bleeding. Median HAS-BLED was 2 [2]. ROC curve showed that HAS-BLED (AUC: 0.521; 95%CI: 0.490-0.550; p=0.184) was not accurate in predicting MB in this setting.

Conclusions: We confirm a very high prevalence of MB in this cohort of critically ill subjects affected by NVAF, underlining the poor performance of the classical approaches stratifying the hemorrhagic risk among critically ill patients affected by NVAF.

327 - Submission No. 2100

PERICARDIAL ABSCESS: A MEDICAL EMERGENCY

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Case Description: A 76-year-old woman with a past medical history of Multiple Myeloma under chemotherapy. She was referred to the emergency service due to lumbago, fever and adynamia associated with hypotension for at least 24 hours. On observation, the patient presented hypo phonetic heart sounds, positive Murphy's punch sign to the right, signs of poor peripheral perfusion and anuria. Analytically, the patient presented normochromic normocytic anemia, an acute kidney injury, increased inflammatory parameters and metabolic acidemia. It was assumed that the patient was in septic shock. Empirical antibiotic therapy was started after blood cultures were collected and a central venous catheter was placed. Aminergic support was initiated with noradrenaline with hemodynamic improvement but maintaining anuria.

Clinical Hypothesis: Septic shock. Cardiac tamponade.

Diagnostic Pathways: A thoraco-abdomino-pelvic CT was performed, which showed a voluminous pericardial abscess with a thickness of approximately 4 cm. A transthoracic echocardiogram identified findings suggestive of constrictive pericarditis associated with low cardiac output. Given the progression to cardiogenic shock and the greater need for aminergic support. A partial pericardiectomy was performed, which was later positive for *E. Coli* in accordance with the cultures collected at admission. After a 38-day internment, the patient was discharged with a similar degree of autonomy as before hospitalization.

Discussion and Learning Points: Constrictive pericarditis has several etiologies, bacterial being one of the least frequent. Additionally, there are few documented cases of pericarditis caused by gram-negative bacteria. Hemodynamic stabilization of the patient upon admission is essential and urgent, although he resolution of the condition is only achieved with control of the infectious focus by pericardiectomy.

328 - Submission No. 556

CONFIRMATION BIAS IN EMERGENCY MEDICINE: THE EFFECT OF PERSONALITY TRAITS

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Background and Aims: Confirmation bias is the tendency to interpret clinical information to fit a predetermined diagnosis. It is especially prevalent in emergency medicine due to high patient volume and decision-making density. Potential misdiagnosis may lead to adverse patient outcomes. Extant literature suggests personality traits influence propensity for cognitive biases. The research objectives are thus to: (i) investigate the relationship between personality traits (Big 5) and confirmation bias, and (ii) propose and assess a confirmation bias reduction strategy comprising slowing down, metacognition, and Bayesian reasoning.

Methods: Through a pre-test/post-test intervention design, 72 medical students completed a Big 5 questionnaire, then rated their agreement with the suggested diagnoses of a series of emergency case vignettes. The cases were divided equally and randomly into pre-test/post-test and designed to have multiple differential diagnoses. The proposed strategy was implemented as the intervention. Participants were divided by Big 5 scores using median splits. Pre-test scores, as well as the difference between pre-test and post-test scores, were analyzed to address the two research objectives respectively.

Results: Results showed a significant correlation between greater confirmation bias and low Openness ($p<0.05$) and low Extraversion ($p<0.05$). Furthermore, results showed a statistical difference between pre-test and post-test scores ($p<0.05$), suggesting overall effectiveness of the proposed strategy. There was also a significant correlation between the proposed strategy's effectiveness and high conscientiousness ($p<0.05$) and agreeableness ($p<0.05$).

Conclusions: Medical students low in extraversion and openness are more prone to confirmation bias. The proposed strategies are effective in reducing confirmation bias, particularly in highly conscientious and agreeable students.

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329 - Submission No. 1968

LARGE PLEURAL EMPYEMA IN A YOUNG FEMALE WITH SECONDARY BILIARY CIRRHOSIS

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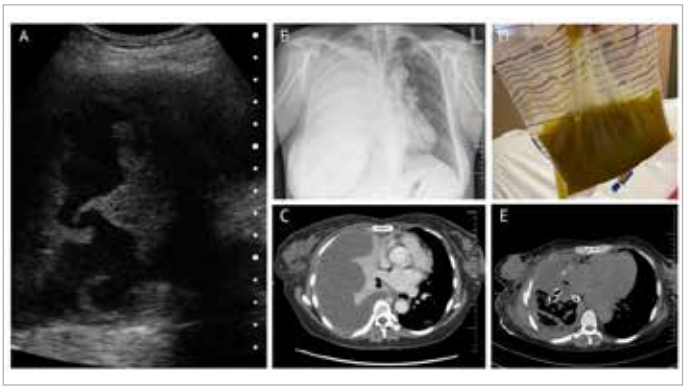
Case Description: A 48-year-old female with a history of secondary biliary cirrhosis and recurrent cholangitis was presented to the emergency department because of dyspnea, icterus, and RUQ pain. Her laboratory results showed conjugated hyperbilirubinemia, elevated CRP, and liver enzymes with a predominantly cholestatic pattern. Abdominal ultrasound showed dilatation of intrahepatic bile ducts. The chest radiograph revealed a large unilateral pleural effusion (Figure 1B).

Clinical Hypothesis: The patient was suspected to have acute cholangitis and vascular decompensation of cirrhosis with simple hepatic hydrothorax.

Diagnostic Pathways: Because of progressive dyspnea, a thoracocentesis was planned. Pleural ultrasound revealed a complex septated effusion with undulating septa inside the anechoic fluid (Figure 1A). Chest CT was performed subsequently and showed a large effusion with an entirely atelectatic lung. Notably, septations were not seen on CT (Figure 1C). A chest tube was inserted with a derivation of purulent fluid (Figure 1D). Thoracotomy with adhesiolysis and partial resection of upper and middle lobes were later performed. Chest CT after the procedure showed regression of empyema and improved lung aeration (Figure 1E).

Discussion and Learning Points: Patients with complex septated effusions on ultrasound had higher intensive care unit admission rates and mortality than those with non-septated effusions (Chen et al., 2009). Complex pleural effusions are better visualized by ultrasound than by CT of the thorax (Dancel et al., 2018). Additionally, the appearance of sonographic septation is a helpful sign in predicting drainage outcomes in empyema (Chen et al., 2009). This case underlies the critical role of pleural ultrasound in the early and successful management of exudative pleural effusions.



329 Figure 1.

330 - Submission No. 1483

TESTICULAR MIXED GERM CELL TUMOR ON A 19 YEARS OLD PATIENT

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Case Description: A 19-year-old patient presented in our emergency department with an intense pain on his back that radiated to lower abdomen that started 7 days ago. The pain was colicoid and gradually worsening. His medical history was free, except for a mild pain in groin area that started about 6 months ago. Clinical findings included a positive ''Giordano'' sign on his right side and a mass on his left testicle that was painless and adhered to underlying structures. He was afebrile and had no other symptoms or signs from the rest of his physical examination. Biopsy, after a same day left orchiectomy, revealed a mixed germ cell tumor. The patient is currently under chemotherapy with no recurrent disease.

Clinical Hypothesis: Our clinical hypothesis based on his testicle mass was a primary malignant tumor of the testicles.

Diagnostic Pathways: Full blood workup and urine samples were negative for infection. B-hCG was positive and chest x-ray revealed lung lesions typical for lung metastasis. A full body CT scan was acquired in our emergency department that showed a soft tissue tumor of the left testicle and lung, right kidney and brain metastatic disease. Biopsy after left orchiectomy revealed a mixed germ cell tumor.

Discussion and Learning Points: Medical awareness is mandatory for emergency department doctors in order to diagnose such rare diseases that present with such common clinical findings

331 - Submission No. 2202

POCUS SAVES TIME AND IMPROVE OUTCOME IN ER

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Case Description: We present the case of a 51-year-old man with T4N3M1 lung adenocarcinoma undergoing chemotherapy and radiotherapy. Was observed in the ER by Pulmonology, with 3 days of dyspnea and productive cough. On examination with BP of 111/70 mmHg, tachycardia (120 bpm), polypnea, with scattered snoring and wheezing on pulmonary auscultation. EKG with sinus tachycardia and chest X-ray without alterations. Analytically with leukocytosis, with neutrophilia, total bilirubin of 2 mg/dl, AST 146 U/L, ALT 477 U/L and CRP 27 mg/dl.

Clinical Hypothesis: Was assumed respiratory infection and ATB was started with ceftriaxone after septic screening.

Diagnostic Pathways: A formal hepatic ultrasound was requested

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to study the hepatocellular injury, the liver was unaltered, but bilateral pleural effusion, circumferential pericardial effusion and ascites were observed. The patient was placed under the care of Internal Medicine. On clinical reassessment, he presented clinical worsening, with desaturation and bilateral elevate jugular venous pressure, maintaining the remaining findings. POCUS was performed which revealed circumferential pericardial effusion with systolic right atrial collapse, compromised right ventricular diastolic expansion and dilated IVC without respiratory variability. Cardiology was contacted, which confirmed the POCUS findings with a formal echocardiogram, it was assumed a tamponade and was performed an urgent pericardiocentesis, the patient improved rapidly.

Discussion and Learning Points: This case highlights the importance of the holistic assessment of internal medicine. In addition, it emphasizes the increasingly role of POCUS in the clinical practice of Internal Medicine, without POCUS team, the patient would wait longer to undergo an echocardiogram, with the risk of cardiac arrest.

332 - Submission No. 872

IMPROVING DOSE ADJUSTMENTS IN VENOUS THROMBOSIS PROPHYLAXIS IN HOSPITALISED MEDICAL PATIENTS AT THE ACUTE & GENERAL MEDICINE WARDS

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Background and Aims: Weight-adjusted venous thromboprophylaxis strategies have become standard practice, especially in the era of the COVID-19 pandemic. In this project, we aimed to examine adherence to the weight base protocol in the acute and general medicine wards and implement appropriate interventions to reduce error.

Methods: We conducted three PDSA cycles. The first was focused on sharing the VTE prescribing data with the multidisciplinary team highlighting the prevalence of errors. Next, we focused on improving the weight measurement. Finally, we include a VTE prophylaxis checklist in the ward round templates to prompt prescription review.

Results: Lack of dose adjustment to weight was the most common error recorded at baseline ((81/565; 14.3%), or 30.9% of the LMWH prescribed in the acute medical unit). These decisions were not reviewed on transfer to the wards, with 56.4% (35/62) of the prescriptions left uncorrected, primarily due to no recent weight recorded. Data-sharing interventions did not improve the proportion of correct prescriptions or weight available on admission. In contrast, implementing weight measurement as part of the nursing admission checklist increased the weight documentation from 61.3% to 83.3%. Similarly, the use of the VTE checklist was associated with an increased prescription review, as indicated by the 95% completion rate. Importantly, LMWH prescriptions with doses correctly adjusted to weight rose from 56.4% to 84%.

Conclusions: Implementing appropriate VTE prophylaxis in an acute setting can pose significant challenges. Thus, subsequent review of the VTE decision in the ward involving a multidisciplinary approach is crucial to improve the consistency in the standard of care.

333 - Submission No. 222

PNEUMOTHORAX EX VACUO

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Case Description: A 90-year-old lady with a history of hypertensive cardiomyopathy presented with worsening dyspnea. A chest X-ray (Figure A) and CT scan (Figure B) showed massive right pleural effusion. A pleural catheter was inserted and 24 hours later 2500ml fluid were drained with mild improvement in dyspnea. A new X-ray (Figure C) showed a huge pneumothorax.

Clinical Hypothesis: After the second X-ray, we were faced with a serious diagnostic dilemma. Was there a post-traumatic tension pneumothorax on stage or something else was going on? One key element was that the patient did not deteriorate and was hemodynamically stable. However, we were very concerned about the possibility of having an iatrogenic pneumothorax. Therefore, we decided to proceed to the placement of an intrapleural chest tube (Bülau).

Diagnostic Pathways: An intrapleural chest tube (Bülau) was placed, but it resulted to no improvement of the pneumothorax. A new CT scan (Figure D) revealed an un-expandable right lung and a mass obstructing central right bronchus. At that time the cytology exam of the pleural fluid came, and it was positive for squamous cell carcinoma.

Discussion and Learning Points: Pneumothorax ex vacuo occurs if the underlying lung is unable to expand due to bronchial obstruction. The lung collapses and the negative pleural pressure gradually pulls in fluid. It occurs following therapeutic paracentesis, is benign and mostly asymptomatic, and most of the times requires no treatment. In expert hands, pneumothorax ex vacuo emerges as the most common cause of pneumothorax after therapeutic paracentesis and may be helpful, as it redirects the diagnostic investigation.

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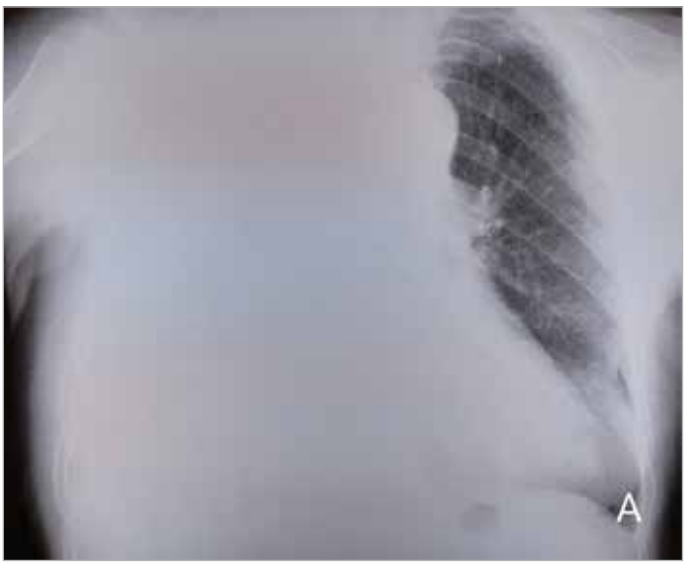
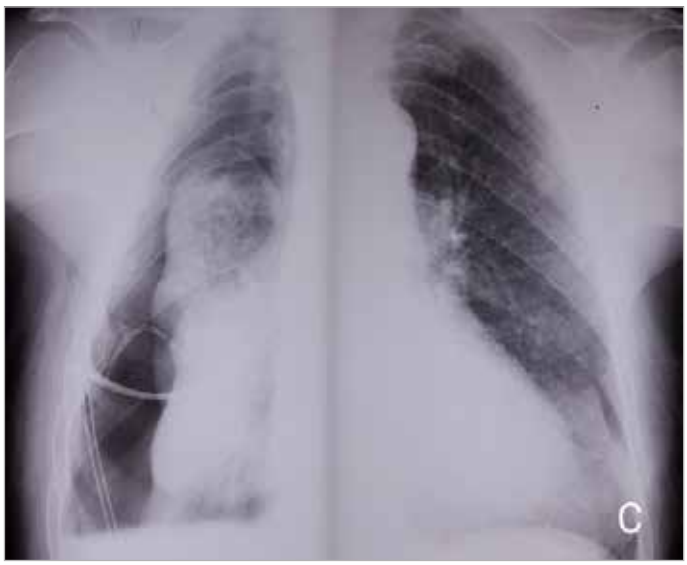
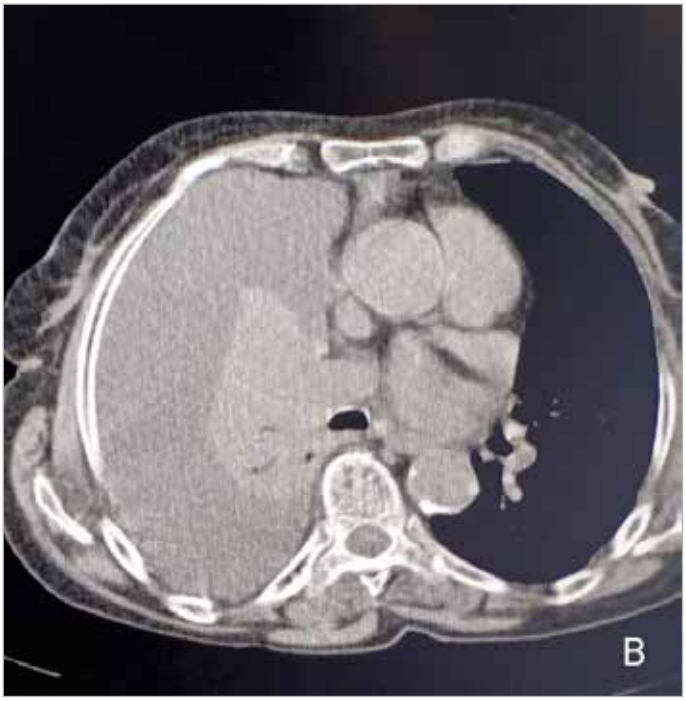


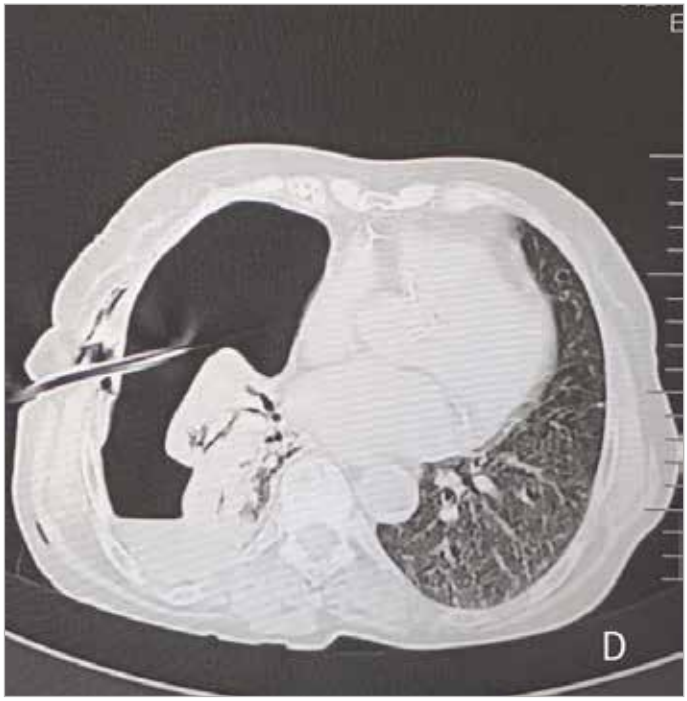
333 Figure A.



333 Figure C.



333 Figure B.



333 Figure D.

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334 - Submission No. 1008

XANTHOGRANULOMATOUS HYPOPHYSITIS: UNUSUAL CAUSE OF PITUITARY LESION

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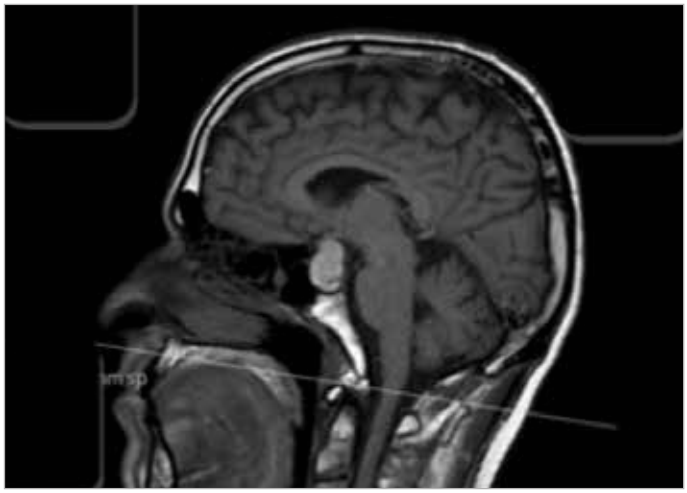
Case Description: We report, a rare case of xanthogranulomatous hypophysitis in a 45-year-old male patient, who presented with complaints of progressive headache, weight loss, loss of libido and altered vision. The patient's personal and family history was unremarkable for a similar condition. Initial physical examination was normal and hormonal workup, revealed evidence of secondary adrenal insufficiency, and fluctuation in pituitary hormone levels (Pan-Hypopituitarism). The patient's symptoms were relieved following surgical treatment. The postoperative course was uncomplicated, and he was discharged within 7 days postoperatively on oral hydrocortisone, levothyroxine & testosterone injection with early clinic follow-up.

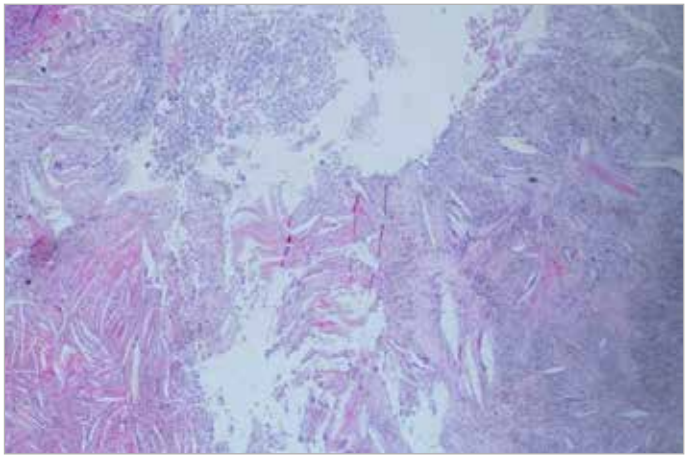
Clinical Hypothesis: Hypophysitis, a disease that resembles tumors of the pituitary gland, both radiologically and clinically, can be easily missed.

Diagnostic Pathways: Laboratory workup: TSH: 1.24 milli IU/ml, free T4:7.4 pmol/L, prolactin: 666 milli IU/ml, GH: 0.5 milli IU/ml, IGF1: 10.82 nmol/L, LH: 1.8 milli IU/ml, FSH: 3.3 milli IU/ml, total testosterone: 0.32 nmol/L, ANA & QuantiFERON TB negative. MRI head reported sellar and suprasellar lobulated dumbbell-shaped lesion measuring about 2.5 x 2.6 x 1.6 cm. There was mild bulging into the lateral cavernous sinus and mild compression of both the optic chiasm and the posterior pituitary infundibulum. (Figure 1) The histological examination reported necrotic material, some reactive changes and cholesterol clefts that were suggestive of xanthogranuloma of the sellar region. (Figure 2)

Discussion and Learning Points: A rare case of xanthogranulomatous hypophysitis, an inflammatory condition of the pituitary gland presents with similarly to pituitary tumors. Early recognition with high clinical suspicion is necessary to avoid surgical intervention and optimal management.



334 Figure 1.



334 Figure 2.

335 - Submission No. 1500

SEASONALITY OF DIABETIC KETOACIDOSIS

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Background and Aims: Diabetic ketoacidosis (DKA) is an acute life threatening complication frequently associated with precipitating factors such as infection and fluid disbalance. The seasonality of

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DKA is not well established. The aim of this study is to determine whether seasonality affects the hospitalizations associated with DKA.

Methods: In this retrospective study, we assessed medical records of all patients hospitalized between 2013-2020 with DKA at Soroka University Medical Center, a large, 1200-bed university-affiliated referral center in Southern Israel. Harmonic analysis was conducted to assess the annual cycle of DKA occurrence.

Results: The cohort comprised 4,547 patients, mean age at first DKA event was 54.1±19.0 years, and 48.4% were males. Harmonic terms reflecting the annual cycle (expressed by cosine and sine) were significantly associated with the daily DKA variability. Lower mean daily DKAs counts were observed during the spring and beginning of fall, while higher occurrence was observed at summer and beginning of the winter season.

Conclusions: Seasonal variation in hospitalizations for DKA can be mediated by climate conditions and by seasonality of the precipitating events. Understanding the environmental triggers of the DKA events can guide the healthcare providers and patients in the developing of the successful prevention strategy.

336 - Submission No. 952

COMPLETE AND PARTIAL DIABETES REMISSION IN PATIENTS AT HIGH CARDIOVASCULAR RISK DURING FIVE-YEAR OF DIETARY INTERVENTION

Juan Francisco Alcalá Díaz[1,2], Antonio Camargo-Garcia[1,2], José David Torres Peña[1,2], Antonio Pablo Arenas De Larriva[1,2], Javier Delgado Lista[1,2], José López Miranda[1,2]

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Background and Aims: Type 2 diabetes (T2DM) is reversal up to two years by intense weight loss using bariatric surgery or very low-calorie diets. We evaluated the effect of the consumption of two diets, a low-fat and the Mediterranean diet, on T2DM remission during five years of intensive dietary counseling without promoting weight loss in coronary heart disease patients.

Methods: 190 newly diagnosed T2DM participants who had not been receiving glucose-lowering treatment from the CORDIOPREV study were randomized to consume either a Mediterranean or a low-fat diet. T2DM remission was defined as fasting plasma glucose <126 mg/dl, 2-hours plasma glucose in the glucose overload <200 mg/dl, and HbA1c <6.5% maintained during at least two-year and without glucose-lowering medication.

Results: 73 (40%) patients achieved T2DM complete or partial remission regardless of the diet consumed during the follow-up (Responders). Responders presented enhanced beta-cell functionality, better insulin sensitivity, and lower hepatic insulin resistance compared with non-Responders (p<0.05) after the intervention, without a clinically significant weight loss. Baseline BMI values and glucose levels predicted T2DM remission (AUC: 0.821; 95% CI 0.759-0.884). Our results also demonstrated that diabetes patients diagnosed by HbA1c criteria had a higher probability of T2DM remission (HR: 10.95; 95% CI 4.27-28.05).

Conclusions: Our results suggest that T2DM remission, complete or partial, is possible through an improvement in insulin sensitivity and beta-cell functionality through intensive dietary counseling. Moreover, the probability of remission can be assessed with 2 variables, glucose and body mass index, and the rates of remission vary according to the different diagnostic criteria.

337 - Submission No. 1012

REDUCTION OF CIRCULATING LEVELS OF METHYLGLYOXAL BY A MEDITERRANEAN DIET IS ASSOCIATED WITH PRESERVED KIDNEY FUNCTION IN TYPE 2 DIABETES PATIENTS WITH CORONARY HEART DISEASE

Juan Francisco Alcalá Díaz[1,2], Elena Yubero[1,2], Laura Martín Piedra[1,2], Alba Quirós Jiménez[3], Pablo Pérez Martínez[1,2], Javier Delgado Lista[1,2]

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Background and Aims: Advanced glycation end products (AGEs) are involved in kidney disease pathogenesis in type 2 diabetes. Our aim was to analyze whether AGE reduction and the consequent modulation of AGE metabolism, after consumption of two healthy diets, could be involved in delaying the impairment of kidney function in coronary heart disease (CHD) patients and type 2 diabetes.

Methods: Type 2 diabetes patients (540 out of 1002 patients from the CORDIOPREV study) were classified into three categories according to serum creatinine-based estimated glomerular filtration rate (eGFR) at baseline: normal eGFR (≥90 mL/min/1.73m^2), mildly-impaired eGFR (60-<90 mL/min/1.73m^2) and severely-impaired eGFR (<60 mL/min/1.73m^2). Serum AGE levels (methylglyoxal-MG) and N-carboximethyllysine-CML) and gene expression related to AGE metabolism (AGER1, RAGE, and GloxI mRNA) were measured before and after 5-years of dietary intervention [Mediterranean diet (35% fat, 22% MUFA, <50% carbohydrates) or a low-fat diet (28% fat, 12% MUFA, >55% carbohydrates)].

Results: Mediterranean diet produced a lower decline of eGFR compared to the low-fat diet, both in the total population and in mildly-impaired eGFR patients (p = 0.035). Moreover, the Mediterranean diet was able to decrease MG levels and increase GloxI expression in normal and mildly impaired eGFR patients (all p<0.05). An increment of a SD of MG levels, after dietary

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intervention, determined 5.5-fold (95% CI 0.053–0.633) more the probability of declining eGFR.

Conclusions: These findings reinforce the clinical benefits of the Mediterranean diet in the context of secondary cardiovascular disease prevention providing a dietary strategy for the reduction of AGEs that could reduce CKD complications.

338 - Submission No. 1223

HYPERAMMONEMIA INDUCED ENCEPHALOPATHY: IS LIVER DISEASE THE ONLY CAUSE?

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Case Description: A 20-year-old male of Pakistani origin, was referred from the Psychiatry ward due to decreased level of consciousness, pancytopenia, and hepatosplenomegaly. He was hospitalized for acute psychotic episode. No prior medical history or history of drug and alcohol abuse had been established. During the examination he presented signs of confusion, resting tremor and hepatosplenomegaly. Laboratory tests were normal except for hyperammonemia (250 μmol/L; normal 12-66 μmol/L) and pancytopenia.

Clinical Hypothesis: High blood ammonia levels cause encephalopathy. Excess of ammonia levels occurs through liver disease, Reye's syndrome, drug toxicity, vascular anomalies, or urea cycle enzyme disorders (UCDs).

Diagnostic Pathways: Blood samples for bacterial infection were negative as well as viral serologies. Full body CT scan demonstrated hepatosplenomegaly and brain MRI scan was indicative for ammonium encephalopathy. A myelogram test was also performed, showing reactive bone marrow alterations. Percutaneous liver biopsy revealed minimal lobular inflammation with mild cholestasis and moderate fibrosis (stage 2-Ishak). Plasma amino acids and urine organic acid levels revealed decreased plasma citrulline (8 nmol/mL; normal 12-55 nmol/mL) and elevated urinary orotic acid (172.4 mmol/mol Cr) which were suggestive of adult-onset ornithine transcarbamylase deficiency (OTCD). Cessation of protein intake and intravenous hydration with glucose and lipids catabolism led to significant clinical improvement.

Discussion and Learning Points: UCDs are a group of rare inherited metabolic disorders. Early clinical suspicion and rapid ammonia measurement is crucial since patient outcome correlates with the duration and peak level of ammonia. Care of an individual with a urea cycle disorder should be provided by a team coordinated by a metabolic specialist in a tertiary center.

339 - Submission No. 800

INCIDENTAL BILATERAL ADRENAL ENLARGEMENT AND HAEMORRHAGE: A CASE MIMICKING PRESENTATION OF ACUTE CHOLECYSTITIS

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Case Description: Incidental adrenal enlargement is defined radiologically as a non-malignant growth of the adrenal glands. Common causes include Cushing's disease, primary hyperaldosteronism and congenital adrenal hyperplasia. The wide range of clinical manifestations in tandem with the infrequency with which it is encountered makes incidental adrenal hyperplasia a challenge to diagnose.

Clinical Hypothesis: A 55-year-old man presented with a two-week history of right upper quadrant (RUQ) abdominal pain only, which was sharp, maximal, worse on inspiration and lying supine with no further symptoms. Examination revealed Murphy's sign positive with associated localized peritonism. Hypertension was recorded (systolic, 144 mmHg) with other observations within range. Laboratory findings showed leukocytosis and elevated C-reactive protein. A diagnosis of acute cholecystitis was made, and CT-scan was performed to rule out perforation.

Diagnostic Pathways: Radiological findings included massive symmetrical enlargement of both adrenal glands (right: 62 mm, left: 82 mm) with heterogenous hyper-dense changes around the right adrenal gland representing hemorrhage. Short Synacthen test and 9AM cortisol levels had ruled out adrenal insufficiency. The patient was clinically stable, discharged with analgesia and is awaiting further investigations including 24hr urinary cortisol, urine metanephrines, urinary steroid profile, CT-adrenal imaging, and endocrine review.

Discussion and Learning Points: There is a paucity of literature describing this uncommon clinical presentation of abdominal pain secondary to incidental adrenal enlargement and hemorrhage disguised with features strongly suggestive of acute cholecystitis. With increasing availability and technical refinements of computed tomography (CT), the number of incidentally discovered adrenal lesions, is likely to increase and should therefore be considered in patients presenting with the 'acute abdomen'.

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340 - Submission No. 1801

THYROID STORM AS A CAUSE OF ATRIAL FIBRILLATION AND HEART FAILURE

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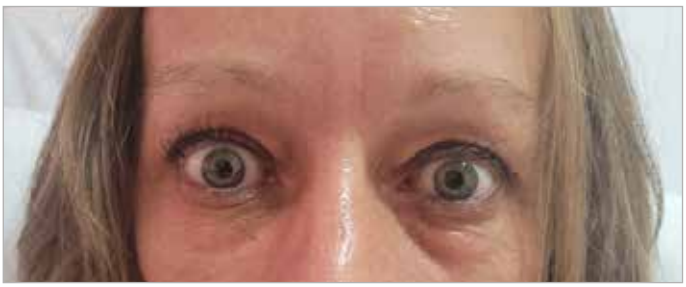
Hospital Universitario Virgen de la Victoria, Internal Medicine, Málaga, Spain

Case Description: We present the case of a 53-year-old woman who complained of palpitations, exertional dyspnea, and dysphonia within the last week. The patient additionally referred unintentional weight loss in the last year. At the moment of arrival to the hospital, blood pressure was 150/70 mmHg with a heart rate of 160 beats per minute. Physical examination revealed the presence of exophthalmos (Figure 1) and grade II goiter. Arrhythmic heart tones and bibasal crackles were appreciated on cardiorespiratory auscultation. A pitting edema was seen in lower limbs. An electrocardiogram showed an atrial fibrillation with rapid ventricular response. Medical treatment was started with partial response.

Clinical Hypothesis: The presence of an arrhythmia in a patient with no cardiovascular history along with physical examination findings, raised the possibility of a thyrotoxic crisis.

Diagnostic Pathways: An ultrasound demonstrated the presence of diffuse goiter. Blood tests revealed an elevation of thyroid hormones (TSH < 0.008, FT4 62, T3 >30). A bilateral pleural effusion was demonstrated by a chest X-ray. Echocardiography ruled out the presence of heart disease. With these data, the patient was diagnosed with heart failure secondary to atrial fibrillation in the context of a thyroid storm, with a Burch and Watorksky score of 55. Symptoms ameliorated after initiating specific treatment with propranolol, propylthiouracil and hydroaltesone.

Discussion and Learning Points: Thyroid storm is a rare life-threatening condition. The degree of thyroid hormone excess typically is not more profound than that seen in patients with uncomplicated thyrotoxicosis. The presence of a tachyarrhythmia in patients with no cardiovascular history should prompt the possibility of a thyroid disorder.



340 Figure 1.

341 - Submission No. 1093

AN UNCOMMON DIABETIC DEBUT

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Case Description: An 81-year-old woman diagnosed one month ago with insulin-dependent type 2 diabetes mellitus with poor glycemic control. She reports epigastric pain, weakness, and weight loss of eight kilograms in the last two weeks, as well as dyspnea on minimal exertion. Pulmonary auscultation is normal. The abdomen is painful in the hypogastrium, there is no edema in the extremities, although she has spontaneous hematomas in arms and legs.

Clinical Hypothesis: Laboratory tests show hyponatremia, hyperkalemia, and dissociated cholestasis. Abdominal ultrasound shows left adrenal mass and metastatic liver. Given the clinical dyspnea, the absence of congestive signs and sinus tachycardia, D-dimer (17400) was requested. Axial angio-tomography confirms the presence of acute bilateral thromboembolism, as well as pulmonary metastases and bilateral ilio-caval thrombosis. The liver biopsy gives the diagnosis of solid clear cell carcinoma of adrenal origin.

Diagnostic Pathways: The hormonal study shows slightly elevated cortisoluria, suppressed adrenocorticotropic hormone and absence of suppression after 1 milligram of nocturnal Dexamethasone, as corresponds to a Cushing's syndrome. There is elevation of adrenal androgens (beta-estradiol, 17-hydroxyprogesterone, androstenedione, dehydroepiandrosterone and testosterone). Aldosterone and renin are normal.

Discussion and Learning Points: The patient was diagnosed with adrenal carcinoma with hyperglycemia secondary to Cushing's syndrome. Adrenal carcinoma is a rare neoplasm with a poor prognosis. It usually presents with Cushing's syndrome, that justifies hyperglycemia and hematomas in this patient, and virilization. Definitive cure requires adrenalectomy with intra- and postoperative glucocorticoid replacement; but given the extent of the disease in this case conservative management was chosen.

References:

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342 - Submission No. 2397

COMPARISON OF LIPID LEVELS IN PSYCHIATRIC PATIENTS, BEFORE AND DURING THE COVID-19 PANDEMIC

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Background and Aims: The current COVID-19 pandemic has negatively affected primary care to chronically ill patients, such as patients with dyslipidemia. Aim of the study is the comparison of lipid levels of total cholesterol (TC), Triglycerides (TG) HDL and LDL of psychiatric patients monitored at the psychiatric Hospital before the pandemic (9/2018 -2/2020) and during its progression (3/2020-2 /2022).

Methods: The study was done retrospectively and included 622 patients with dyslipidemia who were examined at the Outpatient Clinics during the aforementioned time intervals. Lipid levels were measured in peripheral blood and at least two measurements were averaged for each patient. The statistical method used to compare the mean value of TC, TG, HDL and LDL was the paired χ^2 ($p<0.05$).

Results: The mean of the mean values of lipids before and after the pandemic are shown in table 1.

Conclusions: In the present study, a statistically significant increase in TC, TG, LDL and a decrease in HDL in patients of the Psychiatric Hospital were found during the last two years, which indicates a worsening of the lipidemic control of these patients. It is worth noting that 126 out of 622 pts (11%) missed a scheduled follow-up visit, indicating the way the pandemic affected the behavior of psychiatric patients.

	Before the pandemic	After the pandemic	P value
Total cholesterol	213 (SD 144-289)	244 (SD 178-300)	<0,001
Triglycerides	166 (SD 71-171)	189 (SD 84- 294)	=0,0275
LDL	142 (SD 97-188)	184 (SD 113 -244)	<0,001
HDL	38 (SD 18 -58)	22 (SD 13 -34)	<0,001

342 Table 1.

343 - Submission No. 1404

NOT EVERY HYPOTENSION IS SEPSIS

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Case Description: A 47-year-old woman with thalassemic trait and G6PDH deficiency with food-triggered hemolysis, primary autoimmune hypothyroidism, and chronic gastritis; was admitted for asthenia, weakness, lack of concentration and emotional lability. Associated with orthostatic dizziness, epigastralgia, arthralgias and hair loss. Physical exam revealed hypotension and generalized mucocutaneous hyperpigmentation including non-photoexposed areas and gums. Treatment with intensive fluids was not effective. Urgent tests showed exacerbation of anemia without hemolysis and hypo osmolar hyponatremia with elevated urinary osmolality and sodium.

Clinical Hypothesis: We are dealing with a young woman with general physical and cognitive impairment, refractory hypotension, generalized mucocutaneous hyperpigmentation and hyponatremia. Therefore, our main suspicion is primary adrenal insufficiency and systemic glucocorticoids were started showing improvement.

Diagnostic Pathways: Once other causes of hypotension were excluded, an endocrinological study showed low basal cortisol levels and ACTH stimulation test without adrenal response. Given the patient's age and history, without anatomical alterations by imaging, anti-adrenal antibodies were requested resulting positive, confirming diagnosis of autoimmune primary adrenal insufficiency.

Discussion and Learning Points: Prevalence of adrenal insufficiency is 5/10,000 in general population. Secondary insufficiency is the most frequent, due to suppression of the hypothalamic-pituitary axis because of exogenous glucocorticoids. As for primary insufficiency, is mostly caused by autoimmune alterations and presented as part of a polyglandular syndrome, as in our case. Tuberculosis is the most common cause in developing countries. Treatment is based on substitutive regimen with glucocorticoids and mineralocorticoids, as well as the etiology. Finally, since adrenal crisis is life-threatening, a proper evaluation is essential to suspect the condition and initiate treatment.

344 - Submission No. 834

A SILENT KILLER: METABOLIC SYNDROME, AN UNUSUAL CASE OF COMPLICATED STROKE AT AN EARLY AGE

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Case Description: 26-year-old male with no previous medical history, involved in a motor vehicle accident, preceded by event of loss of consciousness. Due to slow mentation and incoherent speech patient was brought to Emergency room. Physical examination with no focal neurologic deficits, elevated blood pressure, hyperglycemia, and BMI of 33.3.

Clinical Hypothesis: Ischemic Stroke at an early age.

Diagnostic Pathways: Initial labs with HgbA1C 10.6% and mixed hyperlipidemia. Head CT scan and MRI revealed an acute left internal capsule ischemic infarct. Carotid doppler, 2D echocardiogram, EKG, head/neck CTA and Holter monitoring unremarkable. High-intensity statins, aspirin, antihypertensive

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medication and insulin regimen was started. Patient was discharged with intensive lifestyle changes recommendation and orders for rheumatologic and hypercoagulable state work up, 2 weeks after discharge. At one month's follow-up, the patient was found with improved HgbA1C levels, controlled hypertension, and 10-pounds weight loss. Rheumatologic and hypercoagulable work up grossly unremarkable. Patient with 4 out of 5 criteria from the NCEP ATP3 for diagnosing metabolic syndrome.

Discussion and Learning Points: Several elements of the pathophysiology of metabolic syndrome may lead to vascular endothelial dysfunction and vascular inflammation, that could result in the development of atherosclerotic cardiovascular disease, increasing the risk of heart disease and stroke even in young patients. In cases with similar presentations, it is essential to rule out cardioembolic and hypercoagulable states as possible etiologies of acute stroke. Metabolic syndrome should be strongly considered as a direct cause, once work up is completed. Further advice regarding aggressive lifestyle changes and treatment of the individual risk factors should be directly assessed.

345 - Submission No. 1374

PRIMARY HYPERPARATHYROIDISM AND SYSTEMIC LUPUS ERYTHEMATOSUS: A COINCIDENCE OR AN ASSOCIATION?

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Case Description: A 65-year-old patient was followed up in Internal Medicine department for late-onset systemic lupus erythematosus (SLE) at the age of 62 years. The diagnosis was established according to the SLICC criteria in the presence of evocative cutaneous and articular signs associated with positive antinuclear antibodies and native anti-DNA antibodies. The patient presented with hypercalcemia at 3 mmol/l with hypophosphatemia at 0.68 mmol/l.

Clinical Hypothesis: Concomitant hyperparathyroidism and SLE was suspected.

Diagnostic Pathways: The parathyroid hormone level was elevated at 169.9 pg/ml. The rest of biological investigations was normal. Regarding the impact of hypercalcemia, she reported significant asthenia and chronic constipation. Renal ultrasonography had objectified kidneys of chronic nephropathy with bumpy contours. Osteopenia was objectified by bone densitometry. Cervical ultrasonography revealed an 18.5x9 mm lower left parathyroid nodule. Thus, the diagnosis of primary hyperparathyroidism (PHP) associated with SLE was retained.

Discussion and Learning Points: The association between SLE and endocrinopathies, in particular, autoimmune diseases, is frequent. However, its association with PHP was rarely described through less than ten cases reported in the literature. Pathophysiological links between these two pathologies are possible but have so far been poorly defined.

346 - Submission No. 2169

PERSONALIZED APPROACH TO THE MANAGEMENT OF PATIENTS WITH TYPE 2 DIABETES AND COMORBIDITIES

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Background and Aims: Type 2 diabetes mellitus (T2D) is a common disease with a steady upward trend. A combination of T2D and other diseases of internal organs, lead to the increase in the overall risk of cardiovascular events and premature death. Objective. To develop a personalized approach to the management of patients with T2D with comorbid pathology and choice of appropriate management plan according to the current guidelines.

Methods: Standard clinic-laboratory methods were used for diagnosis. Groups were formed for patients with T2D and renal diseases, cardio-vascular diseases. Data evaluation was performed with the standard statistical methods.

Results: Study population consisted of 65 participants, 29 males and 36 females, mean age 65.19 (±10,6). All participants had T2D and renal disease, of which 30 (46.15%) participants had pyelonephritis, 35 (53.84%) had diabetic renal disease. Cardiovascular disease: 31 (47.69%) – ischemic heart disease, 39 (60%) – arterial hypertension. 30 patients (experiment group) were given selective and reverse sodium-glucose inhibitor cotransporter type 2 dapagliflozin. The positive effect of dapagliflozin on the course of the disease was noted in patients of the experimental group, namely: slowing the progression of nephropathy, reduction of albuminuria; reduction and / or stabilization of blood pressure, weight loss. Adverse events, including cardiovascular events, were not observed.

Conclusions: The results of the study indicate a significant contribution of early diagnosis of complications and concomitant pathology in patients with type 2 diabetes mellitus improving the prognosis and quality of life of patients, important for preventing the progression of complications and the development of cardiovascular events.

347 - Submission No. 2071

UNCOMMON CASE OF VITAMINE D OVERDOSING

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Case Description: We describe a case of 54 – year woman admitted for symptomatic hypercalcemia. After a thorough investigation, the

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cause was found - excessive use of vitamin D concentrate. Even one year after hospitalization, the patient has still hypercalcemia, renal insufficiency, and a high level of vitamin D.

Clinical Hypothesis: In patients with symptomatic hypercalcemia, at the beginning of the investigation process we should pay special attention to the complete medical history, including the use of vitamin supplements or other dietary additives.

Diagnostic Pathways: In addition to symptomatic hypercalcemia renal insufficiency and anemia was present. The patient repeatedly denied the use of dietary supplements. Beside basic biochemical tests parathormone was examined, with normal result. Ultrasound of thyroid gland was performed with no pathology. Due to CRAB syndrome, multiple myeloma was considered - protein electrophoresis, differential blood count and bone marrow aspiration were also done. In the meantime, very high serum vitamin D was detected (3653 ng/l). After further repeated questions, the patient admitted use of preparation with a high content of vitamin D (concentrate for poultry breeding). Finally, a kidney biopsy was performed, where calcium crystals in the tubules were histologically confirmed.

Discussion and Learning Points: Especially during the COVID-19 pandemic, the use of this preparation gained significant popularity. However, our case report proves, that the use of excessive doses is harmful. In diagnostic process of hypercalcemia, we have to consider not only the most common causes, but also rare reasons, such as vitamin D overdose.

348 - Submission No. 40

AUTOIMMUNITY IN WHOLE

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Case Description: A 56-year-old woman with a personal history of Graves-Based disease treated with radioiodine 10 years ago and iatrogenic hypothyroidism and diabetes mellitus 4 months earlier with HbA1C 15.2% treated with oral antidiabetics and insulin. She consulted for constitutional syndrome, diffuse abdominal pain and vomiting almost daily, unrelated to food intake, with a 6-month history. Nonspecific feeling of dizziness without orthostatism. On physical examination, blood pressure was 90/66 mmHg. No hyperpigmentation of mucous membranes or palms. Diffuse discomfort on deep palpation of the abdomen. The emergency laboratory tests revealed mild hyponatremia and hyperkalemia (127 and 5.6 mEq/L, respectively) and minimal elevation of liver enzymes (GPT 46, GGT 94) and urea (74 mg/dL).

Clinical Hypothesis: She was admitted for study of constitutional syndrome and screening for neoplasia of the digestive sphere.

Diagnostic Pathways: Among the complementary tests performed, blood count, CRP, proteinogram, tumor markers, PTH, immunoglobulins and normal chest and abdominal CT. TSH and peripheral hormones in range with positivity for anti-TPO. Morning cortisol in the lower limit of normal (7.6 IU/mL) with very high ACTH (>1250 IU/mL). Given the suspicion of primary adrenal insufficiency, a mineralocorticoid study (undetectable aldosterone and elevated renin) and adrenal autoimmunity study were requested with positivity for anti-21 hydroxylase antibodies. Pancreatic autoimmunity was additionally requested, showing positivity for anti-GAD 65 antibodies (6575 IU/mL), being diagnosed with autoimmune polyglandular syndrome type 2.

Discussion and Learning Points: Replacement treatment was initiated with hydrocortisone 30 mg/24 h and fludrocortisone 0.1 mg/24 h, with disappearance of digestive symptoms, increased appetite, and improvement in the general condition.

349 - Submission No. 1696

SEVERE VITAMIN B12 DEFICIENCY AND HELICOBACTER PYLORI INFECTION: A CASE OF PANCYTOPENIA, MELASMA, PERIPHERAL NEUROPATHY AND TABES DORSALIS

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Case Description: A 32-year-old female from Nepal, vegan since childhood, presented with a 3 month-history of dyspepsia, followed by progressive fatigue, gait imbalance and feet and ankle paresthesia, 3 weeks prior to admission. Anamnesis was negative for weight loss, diarrhea, lymphadenopathies, fever or recent travelling. Observation showed paleness, malar melasma, glossitis, decreased vibratory sensation, impaired proprioception, ataxic gait and positive Romberg test.

Clinical Hypothesis: Severe vitamin B12 deficiency.

Diagnostic Pathways: Laboratory tests revealed pancytopenia with evidence of megaloblastic anemia, severe vitamin B12 deficit (76 ng/L), iron deficit (TSAT 9%), folate deficit (4 ng/mL) and negative anti-intrinsic factor and anti-parietal cells antibodies. EBV, CMV and Parvovirus B19 serologies were negative. HIV and pregnancy tests were negative. Thyroid function was normal. Upper digestive endoscopy did not show any macroscopic alterations. Gastric and duodenal biopsies demonstrated moderate chronic antral gastritis without metaplasia and a positive H. pylori test, and chronic exacerbated duodenitis with cryptitis, respectively. Intramuscular vitamin B12 and intravenous iron repletion were promptly initiated, leading to a leukopenia resolution, improvement of anemia and thrombocytopenia and peripheral neuropathy resolution. The patient underwent H. pylori eradication treatment with omeprazole, bismuth, clarithromycin, and amoxicillin. 4 months after discharge, she was clinically fit and laboratory tests were normal.

Discussion and Learning Points: This illustrates a paradigmatic case of severe chronic vitamin B12 deficiency exacerbated by H. pylori gastro-duodenitis with hematologic global dysfunction, skin hyperpigmentation, peripheral neuropathy and subacute signs of dorsal columns and lateral corticospinal tract demyelination. The importance of early recognition relies on the prevention of irreversible neurological symptoms.

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350 - Submission No. 200

THE THERAPEUTIC BENEFITS OF PHOSPHATE REPLACEMENT IN HYPOPHOSPHATAEMIC INPATIENTS - A SYSTEMATIC REVIEW

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Background and Aims: Hypophosphatemia is common in the acutely unwell, with an incidence as high as 22% among hospital inpatients. Often, in-patient hypophosphatemia is treated with oral or IV replacement. In this systematic review, we examine the evidence for the therapeutic benefit of phosphate replacement for inpatients.

Methods: A literature search was carried out on PubMed and EMBASE to find papers which recorded the treatment of hypophosphatemia, with the following outcomes: mortality, length of stay (LOS), duration of mechanical ventilation, kidney function, and change in serum phosphate concentration. RoB 2.0 and ROBINS-I tools were used to grade the risk of bias.

Results: From 99 papers, 47 were excluded from the titles or were duplicates; 52 abstracts were reviewed, which identified 21 full papers, from which 9 papers were included in this systematic review (417 participants in total). From the 9 papers, there were 15 subgroups, based upon severity of hypophosphatemia. Treatment resulted in 11 of 15 (73%) groups achieving normophosphatemia. There was some evidence of increased mortality in patients with more severe hypophosphatemia (up to 22.4%, $p < 0.05$). There was no evidence of treatment affecting kidney function. Phosphate replacement was not definitively shown to reduce LOS or ventilation time.

Conclusions: There is little evidence that treatment of hypophosphatemia provides any clinical benefit, other than increasing serum phosphate concentrations. More research is needed to establish the therapeutic benefit of phosphate replacement in hypophosphatemic inpatients.

351 - Submission No. 316

EUGLYCEMIC DIABETIC KETOACIDOSIS IN A PATIENT WITH TYPE 1 DIABETES MELLITUS

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Case Description: A 42-year-old female presented to the Emergency Department with abdominal pain and vomiting. She has a significant medical history of Type 1 diabetes mellitus (DM) on the basal-bolus insulin regime. Investigations showed severe metabolic acidosis and ketosis even though her blood glucose levels were normal. Upon further assessment, the patient had been taking Empagliflozin, a Sodium-Glucose Cotransporter-2 (SGLT 2) inhibitor. The diagnosis of Euglycemic Diabetic Ketoacidosis due to Sodium-glucose Cotransporter-2 (SGLT 2) Inhibitor was made. Intravenous Insulin and hydration were started, and her condition improved with the treatment. She was provided health education regards to Type 1 DM and discharged well.

Clinical Hypothesis: Importance of looking for euglycemic diabetic ketoacidosis in a patient with acidosis, ketosis and normal glucose levels.

Diagnostic Pathways: Diagnosis of euglycemic diabetic ketoacidosis is often missed or delayed especially if clinicians are not looking out specifically for it. Patients with suggestive symptoms and signs should prompt the clinician to perform laboratory investigations to check for acidosis and ketosis even in the presence of normoglycemia.

Discussion and Learning Points: Although euglycemic diabetic ketoacidosis can have serious consequences, it is a treatable condition with good response to intravenous insulin, hydration, and close monitoring of ketones, renal panel and glucose levels. It is important to have a high index of suspicion for this condition and review the patient's medication list once the diagnosis is confirmed. Health education should be given to T1DM patients about this condition and its warning symptoms and signs.

352 - Submission No. 1843

MASKED SYMPTOMS OF A BENIGN NEOPLASM OF THE ENDOCRINE PANCREAS: A CASE REPORT OF AN INSULINOMA

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Case Description: We present a case in line with the SCARE 2020 criteria of a 43-year-old Caucasian man, who complained of a seven-year history of inconsistent episodes of fatigue and vague hypoglycemic symptoms. Past medical history was significant for rheumatoid arthritis (RA), mixed dyslipidemia, major depression disorder, and hypogonadism.

Clinical Hypothesis: Chronic use of low-dose prednisone for RA treatment, combined with exogenous testosterone shots for hypogonadism, led to adverse hypoglycemic unawareness, masking the patient's insulinoma.

Diagnostic Pathways: Diagnostic work up revealed elevated serum insulin (29.7 uIU/mL, normal values [NV]: 2.6-24/uIU/mL), elevated C-peptide levels (54.6 mg/mL, NV: 1.1 to 4.4 mg/mL), low glucose levels (as low as 46 mg/dL, NV: 70-99 mg/dL), and a negative hypoglycemic drug assay. MRI of the abdomen revealed a 2-cm pancreatic mass. Patient underwent exploratory laparotomy, distal pancreatectomy, splenectomy, and partial omentectomy. Post-operative histopathology and immunohistochemical staining

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confirmed the diagnosis of insulinoma. Immediately following removal of the insulinoma, hyperglycemia (as high as 286 mg/dL) was observed. Patient is currently treated with insulin.

Discussion and Learning Points: Endogenous hyper insulinemic hypoglycemia secondary to pancreatic neuroendocrine neoplasm is diagnostically challenging, perhaps due to its rarity. Insulinomas present with discrete neuroglycopenic symptoms preceded by sympathoadrenal symptoms. Median duration of symptoms before diagnosis is approximately 1.5 years. Current literature does not emphasize how hypoglycemic unawareness in non-diabetics can delay work-up of insulinomas. Clinicians need an elevated level of suspicion when presented with chronic hypoglycemia in the setting of chronic steroid use.

353 - Submission No. 1707

DEPRESSION AND DIABETES - AN OVERLOOKED ASSOCIATION

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Background and Aims: Several representative surveys in developed countries found that depressed people are more likely to have several comorbidities. This study aims to emphasize the correlation between depression and diabetes.

Methods: We performed a cohort study involving 108 diabetic patients under hospital specialized care for an observational period of 18 months. Primary endpoint was to evaluate the presence of diagnosed depression or depressive symptoms. Patient's sociodemographic characteristics and clinical data were retrieved from hospital records and analyzed through logistic regression and hypothesis tests (Mann-Whitney U and Chi-square).

Results: Our sample consisted of patients with a median age of 70.3±10.6 years-old, predominantly males (54.6%), the majority being followed for type 2 diabetes (93.5%). We observed that 60% presented symptoms, only 23.1% had diagnosed depression and 16.7% with no diagnosed depression presented symptoms. There was no statistically significant difference between glycemic control and the presence of depression or symptoms. We found association between having depression ($p<0.01$) or symptoms ($p<0.01$) and being female. We observed association between divorce and depression ($p=0.04$) and between widowhood and symptoms ($p=0.01$). Through logistic regression, we examined that retired patients were 3.1 times more likely to have depression. Also, patients without diagnosed depression, with symptoms and suffering from anxiety have respectively 3.3 and 2 times more risk of being treated with antidepressants.

Conclusions: There is a significant prevalence of depression or depressive symptoms in diabetic patients and it urges medical professionals to be aware of this issue, address it more actively and provide adequate psychiatric evaluation and multidisciplinary follow-up for better outcomes.

354 - Submission No. 1695

HYPERPARATHYROIDISM: THE CONSEQUENCE OR THE CAUSE

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Case Description: A 55-year-old woman with stage G4/A3 chronic kidney disease (CKD) of obstructive etiology (lithiasis) with history of many urology interventions in the past. To mention a history of secondary hyperparathyroidism with parathyroid hormone (PTH) of 600 pg/mL with normal calcium values, identified in the nephrology consultation. Admitted to emergency department for muscle weakness for 4 days. In the blood tests, severe hypercalcemia was identified, with calcium values of 15 mg/dL.

Clinical Hypothesis: The patient was hospitalized for treatment and etiological investigation of hypercalcemia. During hospitalization, an etiological study of hypercalcemia was carried out. An elevation of PTH was identified, as it was previously known. In this context, the hypothesis that hyperparathyroidism previously classified as secondary was actually primary has been questioned.

Diagnostic Pathways: After excluding other causes of hypercalcemia, and given the most likely hypothesis to be the autonomous production of PTH, a thyroid ultrasound was performed with a study of the parathyroid glands, which identified an image compatible with a hyper vascularized parathyroid nodule, that should be studied with 4D CT of the neck.

Discussion and Learning Points: Given the findings, primary hyperparathyroidism was assumed to be the cause of hypercalcemia and a probable cause of CKD since hypercalcemia may be at the origin of lithiasis episodes. In conclusion, hypercalcemia is not a normal physiological response to secondary hyperparathyroidism and, in patients with obstructive kidney dysfunction and increased PTH with hypercalcemia, a diagnosis of primary hyper-parathyroidism should be assumed and parathyroid studies performed.

355 - Submission No. 683

ECTOPIC CUSHING SYNDROME. ACTH-PRODUCING LUNG TUMOR

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Case Description: A 48-year-old female patient admitted due to a low level of consciousness. Her background highlights having been a heavy smoker, suffering from stage IV breast cancer (bone and liver metastases) that received several lines of chemotherapy

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treatment, diabetes, and high blood pressure. Her physical examination revealed, in addition to neurological deterioration, hirsutism, obesity, edema of the lower limbs, abdominal striae, and a cushingoid face. Analytically, hypernatremia with hypokalemia stands out, together with significant metabolic alkalosis.

Clinical Hypothesis: With this exploration and analytical data, our main suspicion was that of Cushing's Syndrome, pending identification of origin.

Diagnostic Pathways: For the diagnosis, elevated blood ACTH and urinary free Cortisol were confirmed. In addition, a chest CT scan found a lesion compatible with a lung mass. This led to the final diagnosis of ectopic Cushing's syndrome due to ATCH-producing lung tumor.

Discussion and Learning Points: ACTH-dependent ectopic Cushing's syndrome secondary to bronchial neoplasia is a rare entity, occurring in approximately 10-15% of cases. The manifestations correspond to a usual Cushing's syndrome, both physically and analytically, and the diagnosis is made mainly with blood ACTH and urinary free cortisol, in addition to looking for a lung lesion that justifies the production of said hormone. If an accurate diagnosis is not reached, the suppression test can be performed with 8 milligrams of dexamethasone. The treatment of this specific entity would always be surgical. In case of contraindication, the medical treatment that could be used would be ketoconazole, metyrapone or mitotane.

356 - Submission No. 1752

IMMUNOINFLAMMATORY AND ENDOTHELIAL MARKERS OF ISCHAEMIC VASCULAR DAMAGE, STRUCTURAL AND CANDIDATE GENETIC POLYMORPHISMS ANALYSIS IN PATIENTS WITH PERIPHERAL VASCULAR COMPLICATION OF DIABETES: THE DIABETIC FOOT

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Background and Aims: Diabetic foot syndrome (DFS) is one of the leading causes of morbidity in diabetic patients, the rate of which is approximately twice that of patients without foot ulcers. The aim of our study was to assess whether DFS exhibit epigenetic changes on miRNAs and SNP of inflammatory and proangiogenic molecules to highlight a possible genetic predisposition in such subjects in developing ulcerative complications of the lower limb compared to a control population of diabetic and non-diabetic subjects with no mention of ulcerative complications of the foot.

Methods: We enrolled 50 patients with DFS, 40 diabetic non-DFS and 20 healthy controls between 03/2021 and 06/2022. Patients underwent assessment of endothelial function, cognitive status, and blood sampling to evaluate cytokines, miRNA and prothrombotic gene polymorphisms.

Results: Patients with DFS, compared with diabetic and healthy patients, have lower RHI, MMSE, and higher cytokine levels (VEGF, HIF-1a, Gremlins1). Diabetic patients without and with ulcerative complications had a higher expression of the VEGFC2578A CC polymorphism and a lower expression of the VEGFC2578A AC polymorphism compared to the healthy control. Multiple regression analysis shows that in patients with DFS, there is an increased presence of RHI < 1.6 ($p<0.0005$) and MMSE < 24 ($p= 0.034$).

Conclusions: We demonstrated in a population with diabetic foot an increased expression of the VEGF C2578A CC polymorphism, higher levels of serum markers of adipo-inflammation such as Gremlin-1, VEGF, HIF, and an increased degree of endothelial dysfunction and cognitive decline. These biomarkers were found to be valuable and predictive for the diagnosis of diabetic foot.

357 - Submission No. 1000

DIET QUALITY AND RISK OF TYPE 2 DIABETES IN CORONARY PATIENTS: FROM THE CORDIOPREV STUDY

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Background and Aims: Type 2 diabetes mellitus (T2DM) is one of the main causes of death in Western countries. Nutritional interventions promoting healthy dietary patterns with high nutrient density could be associated with its prevention. This study aims to evaluate whether diet quality, assessed by the Nutrient-Rich Food Index 9.3 (NRF9.3) and the Alternative Healthy Eating Index 2010 (AHEI-2010), after consumption of two healthy dietary interventions (a Mediterranean diet and a low-fat diet), influences the risk of developing T2DM in patients with coronary heart disease (CHD).

Methods: All patients from the CORDIOPREV study without T2DM at baseline were included. Data about T2DM incidence was obtained in the first 5 years of intervention. Dietary intake information from Food Frequency Questionnaires at baseline and after one year of intervention was used to calculate NRF9.3 and AHEI-2010 scores. COX hazard risk analysis was performed to study the association of T2DM incidence at 5 years with the changes in the dietary scores during the first year of intervention.

Results: After 5 years of dietary intervention, incident-T2DM patients exhibited lower values of NRF9.3 (difference between score at year 1 and basal) compared to non-T2DM patients. COX regression analyses determined that patients who exhibited low values of NRF9.3 score (difference between year 1 and basal) showed a higher risk of developing T2DM. No relationships were found between AHEI-2010 and T2DM development.

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Conclusions: Improved diet quality in terms of nutrient density after a dietary intervention was associated with a lower T2DM risk in patients with CHD.

358 - Submission No. 386

FLUSHING AND TENSIONAL FLUCTUATIONS

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Case Description: 70 years-old woman with hypertension, gastric carcinoid tumor without implication of lamina propria and recent diagnosis of Parkinson disease. Two months ago, arterial tension started to fluctuate with hypo-hypertension crisis poor drug responding. Now she is admitted with tachycardia and flushing.

Clinical Hypothesis: Attending to patient´s clinical record and using flushing, tachycardia and hypertension as signs for differential diagnosis we thought of: - Parkinson or its treatment. - Carcinoid syndrome. But they, obviously, don´t fulfil criteria. Other causes could be renal, cardiovascular and some pulmonary diseases, but we bet for endocrine disorders like Cushing Syndrome, hyperthyroidism, phaeochromocytoma.

Diagnostic Pathways: Neither physical examination nor general plasma and urine analysis were relevant. Gastroscopy and biopsy showed no carcinoid tumor progression. A complete hormonal determination: cortisol, 5HIAA, dopamine derivates, catecholamines and metanephrines in urine and serum cortisol, thyroid hormones, PTH, aldosterone and renin in plasma showed elevated dopamine and metanephrines. A body TAC (to rule out mainly carcinoid metastases and primary tumors) was normal but an I131 MIBG scan showed left suprarenal gland captation leading to final diagnosis of phaeochromocytoma.

Discussion and Learning Points: Phaeochromocytoma triad is not always present, and some crisis can produce hypotension and be triggered by drugs as rasagiline. Elevated dopamine products were also consequence of Parkinson treatment. Catecholamines can be normal out of crisis. We consider this clinical report as an example of the global vision that we should have as internal medicine doctors in order to avoid diagnostical confusion due to our typical patient´s pluri-pathology and poly-medication.

359 - Submission No. 1838

NON-INVASIVE LIVER FIBROSIS INDICES AS INDICATORS OF MICROVASCULAR AND MACROVASCULAR COMPLICATIONS IN TYPE 2 DIABETES

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Background and Aims: NAFLD is more prevalent in patients with obesity, diabetes and metabolic syndrome that are risk factors for non-alcoholic steatohepatitis and liver fibrosis. NAFLD is related to cardiovascular outcomes in diabetes. We aim to investigate the relationship between diabetic complications and non-alcoholic fatty liver disease (NAFLD) fibrosis score (NFS) and fibrosis-4 score (FIB4).

Methods: 300 patients with type 2 diabetes mellitus (T2DM) were retrospectively evaluated according to NAFLD diagnosis on ultrasound in outpatient clinic. Risk of advanced fibrosis was estimated using fibrosis-4 (FIB-4) and NAFLD fibrosis score (NFS). Diabetic complications of the patients were noted.

Results: Baseline characteristics of T2DM patients according to the presence of NAFLD according to the ultrasound examination demonstrated in Table 1. Among microvascular complications, the only difference is in diabetic nephropathy, that is higher in percentage in patients with NAFLD (Table 2). Presence of diabetic retinopathy is related to FIB-4 ($p=0.001$) and NFS ($p<0.001$) scores. NFS score ($p=0.037$), not FIB-4 ($p=0.517$), is related to diabetic nephropathy. Among macrovascular complications, only coronary artery disease is related to NFS and FIB-4 scores ($p=0.037$ and $p=0.004$ respectively) (Table 3). In logistic regression analysis, NFS >0.676 values are associated with increased rates of diabetic retinopathy, independently of age, sex, Hba1c and duration diabetes (OR:1.155, $p=0.030$). FIB-4 has no relation to microvascular complications according to logistic regression analysis ($p>0.05$ for all) (Table 4). Neither FIB-4 nor NFS have an effect on the presence of macrovascular complications ($p>0.05$ for all).

Conclusions: Our findings suggest that increase in NFS score is associated with an increased prevalence of diabetic retinopathy independently of confounding factors. Further studies are required to feasibility of non-invasive fibrosis scores to evaluate the presence of diabetic microvascular and macrovascular complications.

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	Overall n=300 Mean±SD	NAFLD n=260 Mean±SD	Non-NAFLD n=40 Mean±SD	p value
Age (years)	59.39±9.79	60.09±9.23	54.83±12.00	
Male, n (%)	178(59.3)	105(40.4)	17(42.5)	0.936
Diabetes Duration (years)	14.89±9.7	15.00±6.86	14.23±5.90	0.572
BMI (kg/m²)	31.50±5.24	32.06±5.11	27.83±4.55	**<0.001**
FIB-4 index	1.10±0.67	0.71±0.04	0.33±0.05	0.460
NFS	-0.82±1.24	-0.81±1.28	-0.86±0.96	0.813
FBG (mg/dl)	158.34±50.34	159.43±50.00	151.30±52.63	0.242
HbA1c (%)	7.96±1.24	7.97±1.22	7.91±1.39	0.630
TSH (mU/l)	2.66±1.24	2.68±4.55	2.39±0.85	0.419
T.Cholesterol (mg/dl)	199.03±47.82	200.85±48.19	187.20±44.07	0.098
LDL-c (mg/dl)	116.34±38.99	117.18±39.48	111.05±35.72	0.408
TG (mg/dl)	177.24±117.13	183.65±119.89	135.63±87.53	**0.001**
Non-HDL-c (mg/dl)	151.20±46.32	153.26±46.76	138.25±41.68	**0.046**
AST (IU/L)	23.13±10.07	27.38±16.79	20.23±4.59	0.200
ALT (IU/L)	26.30±16.11	27.38±16.79	19.30±7.78	**0.001**
PLT (x10³/l)	274.88±74.05	278.70±76.24	250.03±52.03	**0.014**
Albumin (gr/dl)	4.36±0.28	4.37±0.28	4.28±0.26	**0.018**
eGFR (ml/min/1.73m²)	87.76±22.76	86.35±22.37	96.90±23.41	**0.006**

Statistical significance at p<0.05. Abbreviations: BMI; body mass index, NAFLD; Non- alcoholic fatty liver disease, NFS: NAFLD score, FBG; fasting blood glucose, TSH; thyroid stimulating hormone, LDL-c; Low density lipoprotein cholesterol, AST; aspartate aminotransferase, ALT; alanine aminotransferase, UMCR; Urinary microalbumin creatinine ratio, eGFR; estimated glomerular filtration rate.

359 Table 1. Demographic characteristics of patients with Type 2 Diabetes according to Non-Alcoholic Fatty Liver Deisease presence in Ultrasound

	NAFLD n=260 n (%)	Non-NAFLD n=40 n (%)	p-value
Microvascular Complications			
Diabetic neuropathy	133(56.1)	22(57.9)	0.977
Diabetic Retinopathy	92(38.0)	12(36.4)	1.000
Diabetic Nephropathy	104(40)	8 (20)	0.015
Macrovascular Comorbidities			
Coronary Artery Disease	91(35.0)	12(30.0)	0.659
Cerebrovascular Disease	42(16.2)	2(5.0)	0.089
Peripheral vascular disease	18(6.9)	2(5.0)	1.000
Medications			
insulin	168(64.6)	27(67.5)	0.859
metformin	229(88.1)	29(72.5)	**0.016**
sulfonylurea	44(16.9)	6(15)	0.939
pioglitazone	3(1.2)	1(2.5)	0.438
DPP4 inhibitors	159(61.2)	14(35.0)	**0.003**
SGLT-2 inhibitors	42(16.2)	0	**0.013**
Acarbose	7(2.7)	0	0.600
GLP-1 analogs	10(3.8)	0	0.369
Meglitinides	6(2.3)	0	1.000
Statins	151(58.1)	26(65.0)	0.512
Fenofibrate	14(5.4)	2(5.0)	1.000

Abbreviations: NAFLD: non-alcoholic fatty liver disease, DPP4: dipeptidyl peptidase-4, SGLT-2: sodium glucose co-transporter, GLP-1: glucagon like peptide-1

359 Table 2. Comparison of complications, comorbidities and medications of patients with Type 2 Diabetes mellitus according to the presence of NAFLD

		FIB-4	NFS
Neuropathy	cc	0.022	0.052
	p	0.718	0.392
Retinopathy	cc	0.197	0.262
	p	**0.001**	**<0.001**
Nephropathy	cc	0.038	0.120
	p	0.517	**0.037**
Coronary artery disease	cc	0.164	0.121
	p	**0.004**	**0.037**
Cerebrovascular disease	cc	0.053	0.045
	p	0.359	0.442
Peripheral artery disease	cc	-0.054	0.031
	p	0.351	0.590

Abbreviations: NFS: NAFLD fibrosis score, FIB4: Fibrosis-4 score, cc: correlation coefficient

359 Table 3. Correlation analysis of microvascular and macrovascular complications of diabetes and NFS and FIB-4 scores

		RETINOPATHY OR (%95CI)	p value	NEUROPATHY OR (%95CI)	p value	NEPHROPATHY OR (%95CI)	p value
NFS							
Model-1	Low	Ref (1)		Ref (1)		Ref (1)	
	Intermediate-High	0.820 (0.126-1.514)	0.021	0.192 (-0.410-0.745)	0.569	-0.358 (-0.759-1.101)	0.719
	High	1.155 (0.109-2.200)	0.030	0.380 (-0.746-1.177)	0.661	0.595 (-1.031-1.137)	0.137
Model-2	Low	Ref (1)		Ref (1)		Ref (1)	
	Intermediate-high	0.770 (0.045-1.494)	0.037	0.090 (-0.494-0.703)	0.765	-0.439 (-1.037- 0.159)	0.150
	High	1.166 (-0.073-2.259)	0.037	0.239 (-0.498-0.678)	0.633	0.072 (-0.876-1.019)	0.882
FIB-4							
Model-1	Low	Ref (1)		Ref (1)		Ref (1)	
	Intermediate-high	0.314 (-0.314-0.942)	0.327	-0.048(-0.683-0.586)	0.586	-0.291(-0.938-0.281)	0.291
Model-2	Low	Ref (1)		Ref (1)		Ref (1)	
	Intermediate-high	0.425 (-0.234-1.084)	0.206	-0.008 (-0.639-0.654)	0.982	-0.391 (-1.014-0.232)	0.218

Data are presented as odds ratios (95% confidence intervals), NFS: NAFLD fibrosis score, FIB-4 fibrosis score, T2DM: type 2 diabetes mellitus.

Model 1: adjusted for age, gender

Model 2: adjusted for age, gender, HbA1c, diabetes duration

359 Table 4. Logistic regression analyses of microvascular complication in patients with T2DM

360 - Submission No. 2369

THE ROLE OF HELICOBACTER INFECTION ON ATHEROSCLEROSIS IN DIABETIC PATIENTS

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Background and Aims: In this study, the aim was to investigate the effect of Helicobacter pylori (Hp) presence on carotid intima-media thickness, which is an early sign of atherosclerosis in type 2 diabetic patients.

Methods / Intervention: This study is a retrospective study conducted with type 2 diabetic patients who were followed up in the gastroenterology and diabetes outpatient clinic. The relationship between the presence of Hp and laboratory findings, demographic and clinical characteristics, intima-media thickness, and pathology findings were analyzed in patients who underwent endoscopy for dyspepsia.

Results / Impact: A total of 73 cases meeting the inclusion criteria, 32 males (43.8%) and 41 females (56.2%), between 42 and 83 years with an average age of 59 ± 10 years were included in the study. Of the cases, 31 (42.4%) were found to be Hp positive. Among the participants, the presence of carotid plaque was observed in 17 (40.5%) of the Hp negative patients and 16 (51.6%) of the Hp positive patients (p = 0.476). The presence of Hp increases the left carotid intima-media thickness (CIMT) by 0.092 mm (p = 0.018) at 95% significance level on the left. In addition, age has an effect on the increase of left CIMT (β = 0.007, p < 0.001) and right CIMT (β = 0.009, p < 0.001). LDL-C levels have an effect on right CIMT (β = 0.001, p = 0.003).

Conclusions: We demonstrated that the presence of Hp increases the carotid intima-media thickness in patients with type 2 diabetes. In addition, LDL-C and age have an increasing effect on intima-media thickness.

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361 - Submission No. 1955

SGLT2 INHIBITORS AND KETOGENIC DIET: A DANGEROUS ASSOCIATION IN T2DM PATIENT

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Case Description: Sodium glucose co-transporter 2 inhibitors (SGLT 2- I) are a novel class of oral antidiabetic drug for Type 2 diabetes mellitus (T2DM) currently highly used for protective rule on renal and cardiac output. Genital mycotic infection is the most common adverse reaction. In 2015, FDA issued a warning regarding risk of inducing euglycemic diabetic ketoacidosis (EDKA), but no attention has been paid on diet modification. A 52-year-old man presented to emergency department with abdominal pain and vomiting.

Clinical Hypothesis: He was in treatment with SGLT2-I/biguanide association in the last one year for T2DM. Of note, he referred to have started a ketogenic diet three days before symptoms.

Diagnostic Pathways: Laboratory evaluation revealed severe metabolic acidosis with anion gap 27.7, pH 6.89, pCO_2 9.2 mmHg, HCO_3 1.8 mmHg, lactate 3.2 mmol/L, ketonuria 80 mg/dl, glycemia 220 mg/dl defining a case of EDKA. C peptide was 3.6 confirming type 2 DM. Anti-diabetic treatment was stopped. Treatment was started with 0.9% saline solution, insulin and glucose infusion, early potassium replacement and alkali. Symptoms resolved in few days with normalization of parameters: pH 7.4, pCO_2 36, lactate 0.6, HCO_3 23, glycemia 190, no ketonuria.

Discussion and Learning Points: In the case the risk of EDKA due to SGLT2-I treatment has been significantly increased by ketogenic diet: in absence of any carbohydrate reserve fat is only source of energy. It is important for care provider to adapt dietary modification to diabetes medication. Patient on SGLT2-I should be advised to avoid this kind of diet. Further recommendations are needed to allow a safe management of treatment.

362 - Submission No. 969

HYPONATREMIA: NOT ALWAYS WHAT YOU THINK IT IS

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Case Description: A 60-year-old female with hypertension, medicated with chlorthalidone, was admitted in the emergency room with a convulsive status and depressed level of consciousness. Physical exam with blood pressure of 115/60 mmHg, without any other alterations. She was promptly intubated and levetiracetam was started. Blood tests showed hyponatremia 110 mEq/L, serum osmolarity 244 mOsmol/Kg, urinary osmolarity 442 mOsmol/Kg, urinary sodium 133 mEq/L and glycemia 123 mg/dL. Brain CT scan revealed expansive sellar lesion, compatible with a macroadenoma. Hyponatremia correction was immediately started.

Clinical Hypothesis: Hyponatremia secondary to thiazide, SIADH or macroadenoma induced hypopituitarism.

Diagnostic Pathways: Diuretic was suspended. Cerebral MRI revealed extension to the cavernous sinuses of the sellar/suprasellar lesion. Further studies showed TSH 1.31 UI/mL, fT4 0.69 ng/dL, morning cortisol 1.6 mcg/L and ACTH 3.7 ng/L with normal levels of other pituitary hormones, compatible with hypopituitarism due to a nonfunctioning pituitary macroadenoma. Hormonal replacement therapy was started. Evidence of polyuria (7 liters/day) and a suboptimal analytical evolution forced a trial with desmopressin, to exclude diabetes insipidus, with no improvement, which led to switching strategy to fluid restriction, assuming a contribution of SIADH. The patient maintained normal levels of sodium after combining hormonal therapy with fluid restriction and was transferred to neurosurgery for go on surgery.

Discussion and Learning Points: Hyponatremia due to hypopituitarism is a rare condition that can be life-threatening. A SIADH-like presentation is caused by ADH secretion secondary to glucocorticoid deficit. This case shows the importance of understanding the full consequences of a nonfunctioning macroadenoma and its therapeutic approaches. Thus, our patient needed not only hormonal supplementation but also fluid restriction to control her hyponatremia.

363 - Submission No. 1338

UNCERTAINTY IN ANALYTICAL VALUES

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Case Description: A 54-year-old man treated with omeprazole. The patient was received for a constitutional syndrome study, abdominal pain and a dysfunction of bowel habits. Laboratory tests show a progressive increase of chromogranin A (CgA) values up to 1906 ng/ml.

Clinical Hypothesis: The main presumption of diagnosis is neuroendocrine neoplasia.

Diagnostic Pathways: An extensive endoscopic study was requested including colonoscopy and a thoraco-abdominal-pelvic CT scan, complemented with a PET-CT, nevertheless no evidence of tumor pathology was found. Additionally, an Octreoscan® did not detect a pathological uptake. Given the secondary contribution of drugs to the increase of CgA values, it was decided to discontinue the treatment with omeprazole. A further revision after one month showed a favorable clinical evolution and a reduction in the CgA levels down to 160 ng/ml.

Discussion and Learning Points: CgA is a known tumor marker

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(TM) of neuroendocrine neoplasms, however, it is characterized by a low specificity and sensitivity. Secondary causes of its increase include the ingestion of proton pump inhibitors, which block hydrochloric acid secretion and increase the level of CgA in blood. In the case presented here, we depart from a study of a self-limiting constitutional syndrome to find the CgA as a misleading parameter. We would like to emphasize that the role of TMs in the diagnosis of malignant processes is currently under debate due to their low specificity, being more suitable for the follow-up of diagnosed neoplasms. Given a high level of CgA values, we first recommend exploring secondary causes to eventually avoid complementary tests that may be iatrogenic to the patient.

364 - Submission No. 1881

A DIFFERENT TYPE OF HYPERTENSION

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Case Description: 50 years-old male, treated for hypertension with three different medications (including a diuretic) for 7 years, presented poor blood pressure control. As a complication, the patient suffered a hemorrhagic stroke.

Clinical Hypothesis: The age of onset of hypertension and its difficult control raised suspicion for the diagnosis of secondary hypertension.

Diagnostic Pathways: Laboratory tests showed reduced plasma renin concentration (PRC) of 0.78 ng/L, a high plasma aldosterone concentration (PAC) of 35.66 ng/dL, with a PAC/PRC ratio of 45.7 (> 3.8).

To confirm the diagnosis of primary hyperaldosteronism (PA), a captopril suppression test was performed. The patient showed an abnormal increased PAC 2h after the administration of captopril 50 mg, which confirmed the diagnosis.

Abdominal computer tomography scan excluded the presence of adrenal adenomas and adrenal vein sampling showed bilateral autonomous hormone production.

The patient started therapy with spironolactone 100 mg, with adequate control of blood pressure.

Discussion and Learning Points: Primary hyperaldosteronism (PA) is a common cause of secondary hypertension. The classic presentation of PA includes difficult to control hypertension and hypokalemia. However, less than 37% of patients will present with hypokalemia. If untreated, PA is associated with higher cardiovascular risk when compared to patients with other forms of hypertension. The treatment of choice is adrenalectomy in those with unilateral disease. Those with bilateral adrenal hyperplasia can be treated with mineralocorticoid antagonists as well as other antihypertensive agents for further blood pressure control.

365 - Submission No. 1623

ARE WE ABLE TO RECOGNIZE MALNUTRITION? HOSPITAL NUTRITIONAL ASSESSMENT IN AN INTERNAL MEDICINE DEPARTMENT

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Background and Aims: Disease Related Malnutrition (DRM) is currently underdiagnosed with a great impact on the clinical outcome of our patients. We propose to analyze and evaluate the nutritional status of patients admitted to Internal Medicine in March 2020.

Methods: This descriptive study included all patients over 65 years of age admitted to the Complejo Asistencial de Segovia (Spain) in the first week March 2020. Screening by Mini Nutritional Assessment (MNA), examination and specific nutritional assessment were performed in the first 48 hours.

Results: We analyzed a sample of 24 patients, 56% women with a median age of 86 years, 25% institutionalized, 30% dependent and 16% with cognitive impairment, dependent and 16% with cognitive impairment. Up to 22.7% were admitted on an absolute diet. 53.3% presented an age-adjusted BMI at admission in the overweight range. 61.9% presented risk of malnutrition by MNA, with established malnutrition in 14.3%. 15% of the admitted patients developed DRM by clinical and/or analytical criteria. Specific treatment was maintained at discharge in only 4.1% of patients and nutritional data or related clinical diagnoses appeared in less than 1% of patients.

Conclusions: The prevalence of risk (61.9%) and established DRM (25%) was higher than studies in our area. The tool that detected more than 60% of patients at risk of malnutrition was the MNA. DRM on admission (14%) and the incidence hospital malnutrition (15%) continues to be extremely high, requiring specific action. We noted substantial deficits in terms of diagnosis, targeted treatment and codification in medical reports, showing the need for protocolized care.

366 - Submission No. 2154

REGARDING A CLINICAL CASE: GLUCOSE, THE BODY'S MAIN SOURCE OF ENERGY

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Case Description: A 67-year-old woman, personal history: no drug allergies, hypertensive, obesity, psoriatic arthritis. In medical treatment with weekly methotrexate and deflazacort. The patient was admitted for a study of intermittent hypoglycemia for the past 3 weeks, with recurrent syncope and headache.

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Clinical Hypothesis: Hypoglycemia is defined as a clinical syndrome that appears in those situations in which blood glucose concentrations are below 40 mg/dl.

The most common symptoms are: Irritability, headache, and syncope. 90% of hypoglycemia occurs due to external causes (medications, alcohol, excessive sports) and the remaining 10% occurs due to causes secondary to some organic, autoimmune, tumor or endocrine-metabolic disease. The objective of this case is to study the differential diagnosis of hypoglycemia, beyond the typical causes.

Diagnostic Pathways: Initial diagnostic tests: fasting test that is suspended after 5 hours due to hypoglycemia < 40 mg/dl, with symptoms that resolve with the administration of glucose. Given the main pathological findings in blood test, increased Peptide C and increased proinsulin, the main diagnostic suspicion is hyperinsulinism. Finally, an octreotide scan was performed, with a positive result, insulinoma in the head of the pancreas. Medical treatment with diazoxide was started, and finally it was decided to perform pancreaticoduodenectomy, with positive results.

Discussion and Learning Points: Insulinomas are neuroendocrine tumors that autonomously secrete insulin, causing hypoglycemia as the main symptom. Fasting test, octreotide scan are the main diagnostic tests and diazoxide and surgery are the main treatments. It is the role of the internist to carry out a good anamnesis and differential diagnosis of hypoglycemia, in order to reach the diagnosis of insulinoma.

367 - Submission No. 1952

REVIEW OF THE ADEQUACY OF TREATMENT IN PATIENTS WITH DIABETES MELLITUS TYPE 2 ADMITTED TO INTERNAL MEDICINE BASED ON GLOMERULAR FILTRATION RATE

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Background and Aims: Many of the patients with diabetic nephropathy (DN) admitted to hospitals do not have an optimal adjustment of the antidiabetic treatment according to the glomerular filtration rate (GFR). Our objective is to evaluate the adequacy of the antidiabetic treatment (DT) according to this.

Methods: Retrospective descriptive study in which patients with DM2 admitted to internal medicine during February 2.018 were included (excluding those who were still hospitalized or died).

Results: We included 83 patients with DM2 of 381 admissions, with an average age of 81 (± 8) years and female predominance (60.2%). 59% of patients had associated comorbidities (Table 1). The main causes of hospital admission are numbered in Table 2. The average stay of income was of 6 (± 6) days. 33.7% (28 patients) had DN stage 2, 49.4% (41 patients) stage 3 and 3.6% (3 patients) stages 4 and 5. At admission, the mean GFR was 51 ml/min. The prior DT to admission is shown in Table 3. 96.4% received treatment adjusted to their GFR. At discharge, 27.7% received change in their treatment, being adjusted to GFR in 94%. The main changes were: insulin addition (26.1%), increase in dose and treatment simplification (17.4% respectively).

Conclusions: There was predominance of women and advanced age. Most comorbidities were related to macrovascular disease. GFR is taken into account during admission and discharge to adjust the DT.

COMORBIDITIES	NUMBER OF PATIENTS (%)
ischemic heart disease	22 (26.5%)
stroke	17 (20.5%)
peripheral vascular disease	15 (18.1%)
diabetic retinopathy	10 (12%)
COPD	9 (10.8%)
amputations	4 (4.8%)

367 Table 1.

CAUSE OF HOSPITAL ADMISSION	NUMBER OF PATIENTS (%)
respiratory infection	24 (28.9%)
heart failure	18 (21.7%)
diabetic decompensation	15 (18.1%)
urinary tract infection	13 (15.7%)
COPD exacerbation	9 (10.8%)
diarrhea/oral intolerance	8 (9.6%)

367 Table 2.

PREVIOUS ANTI-DIABETIC DRUGS	NUMBER OF PATIENTS (%)
Diet	9 (10.8%)
Metformin	34 (40.9%)
Glinides	8 (9.6%)
Sulfonylureas	7 (8.4%)
DDP-4 inhibitors	41 (49.4%)
SGLT2 inhibitors	2 (2.4%)
Basal insulin	14 (16.9%)
Basal-bolus insulin	3 (3.6%)
Pre-mixed insulin	12 (14.5%)

367 Table 3.

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368 - Submission No. 2101

PREVALENCE AND CLINICAL CHARACTERISTICS OF DIABETICS ADMITTED IN TWO REGIONAL HOSPITALS OF THE PRINCIPALITY OF ASTURIAS

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Background and Aims: Characteristics of patients admitted with diabetes.

Methods: A descriptive, cross-sectional and observational study was carried out for 24 hours in two regional hospitals in the Principality of Asturias in March 2018. All patients admitted to the Internal Medicine section were collected, analyzing the number of them diagnosed with diabetes, their demographic data, comorbidities, glycosylated hemoglobin (HbA1c), total number of drugs (including antidiabetics), causes and number of admissions in the last year.

Results: Data from 83 patients were collected, of whom 30 were diabetic (36%). Of them, 21 were women (70%). In 7 patients, HbA1c was greater than 8% (26.7%). The reasons for admission were: 11 respiratory infection/pneumonia, 10 decompensated heart failure (CHF), 3 diabetic decompensation, 2 tumor pathology, 2 other infectious processes and the rest other pathologies. Hypoglycemic treatments were: 4 sulfonylureas, 13 insulin, 9 metformin, 5 repaglinide, 8 DPP-4 inhibitors, and 3 without treatment. 11 of the patients were on 2 or more treatments. Total number of medications of the patients, 17 (57%) were taking 10 or more medications and 10 (33%) were taking between 5 and 9 medications.

Conclusions: The increased prevalence of diabetes mellitus (DM), the aging of the population, chronic complications and associated comorbidities mean that these patients represent 30-40% of hospitalized patients.

369 - Submission No. 961

GLP-1RA AND SGLT2-I IN T2DM. ARE THEY EFFICIENT IN THE LONG RUN? RESULTS FROM AN OUTPATIENT DIABETIC CLINIC

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Background and Aims: The use of the newer drug classes for T2DM is supported by clear clinical evidence in terms of their cardiorenal protection and benefits. The aim of this study was to determine the long-term effectiveness of these two drug categories in the everyday clinical practice, given the already known phenomenon of "failure" of other antidiabetic therapies over time.

Methods: We studied 332 patients with T2DM of mean age 66.5±0.5 years and mean disease duration 16.2 ±0.4 years. The group had regular follow-up every four months for a total of three years. The patients received either a GLP1-RA, a SGLT2-I or both classes of drugs, always combined with metformin, according to the drugs' special indications and each and every patient's needs.

Results: Mean HbA1c decreased significantly in the first follow up visit from 7.76%±0.6 to 7.12%±0.5 ($p<0.001$) and remained stable through the first year, without further significant reduction. The decrease remained stable until the third year of follow up. The response of the treatment did not differ between the two genders. Mean BMI also showed a significant decrease during the first four months, from mean 32.56±0.39 to 31.8±0.38 ($p<0.001$) and kept decreasing significantly for the next one year. This reduction corresponds to an average final loss of 2.3±0.2 kg in men and 2.4±0.3 kg in women.

Conclusions: In everyday clinical practice, the newer classes of antidiabetic drugs showed immediate improvement in glycemia and body weight in the majority of the regularly monitored patients, and the effectiveness remained stable for three years.

370 - Submission No. 968

GLP1-RA AND SGLT2-I. WHICH IS MORE EFFECTIVE IN T2DM? OUTCOMES FROM THE DIABETIC OUTPATIENT CLINIC OF TWO YEARS FOLLOW UP

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Background and Aims: The use of GLP1-RA and SGLT2-I is supported by significant evidence from the literature. Results show effective glucose regulation and cardiorenal protection. The aim was to compare the effectiveness of these antidiabetic classes of drugs in daily clinical practice.

Methods: We studied 332 patients with T2DM of mean age 66.5±0.5 years and mean disease duration 16.2±0.4 years. The group had regular follow-up every four months for a total of two years, despite the pandemic. They received either GLP1-RA (Group A), SGLT2-I (Group B) or both drugs (Group C), always in combination with metformin.

Results: The initial HbA1c did not differ significantly between the three groups (7.83% vs 7.58% vs 7.83% respectively, $p>0.05$). During the first four months HbA1c showed a significant reduction in all groups ($p<0.001$) and reached values of 7.07% in Group A, 7.13% in Group B and 7.30% in Group C, with no difference between them in all comparisons. The decrease in HbA1c remained stable through the end of the two years follow-up in all groups. As far as the BMI is concerned, SGLT2-I (Group B) were administered

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to patients with significant lower initial BMI than the other groups (28.77 for Group B, vs 34.03 for Group A, vs 34.17 for Group C) ($p<0.001$), but showed a similar reduction, which was maintained through the end of the study with no further significant change (33.23 for Group A, 27.98 for Group B, and 33.54 for Group C).

Conclusions: GLP1-RA and SGLT2-I are equally effective in everyday clinical practice if administered as indicated.

371 - Submission No. 1978

TESTOSTERONE DEFICIENCY INDEPENDENTLY PREDICTS MORTALITY IN WOMEN WITH HFREF: INSIGHTS FROM THE T.O.S.CA. REGISTRY

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Background and Aims: Testosterone deficiency (TD) is associated with increased morbidity and mortality in heart failure with reduced ejection fraction (HFrEF). However, data in women are scanty. The aim of this study was to investigate the prognostic impact of TD on women with HFrEF.

Methods: Among 480 patients prospectively enrolled in the T.O.S.CA. (Terapia Ormonale Scompenso CArdiaco) registry, a prospective, multicenter, nationwide, observational study, 94 women were included in the current analysis. The TD was defined as serum testosterone levels lower than 25 ng/dl. Data regarding clinical status, echocardiography, exercise performance, cardiovascular hospitalization, and survival after an average follow-up of 36 months were analyzed.

Results: Thirty patients (31.9%) displayed TD. TD was associated with lower tricuspid annular plane excursion (TAPSE) to pulmonary arterial systolic pressure PASP ratio (TAPSE/PASP) ($P = 0.008$), peak oxygen consumption (VO_2 peak) ($P = 0.03$) and estimated glomerular filtration rate ($P < 0.001$). TD was an independent predictor of the combined endpoint of all-cause mortality/cardiovascular hospitalization (HR: 10.45; 95%CI: 3.54-17.01; $P = 0.001$), all-cause mortality (HR: 8.33; 95%: 5.36-15.11; $P = 0.039$), and cardiovascular hospitalization (HR: 2.41; 95% CI: 1.13-4.50; $P = 0.02$).

Conclusions: One-third of women with HFrEF displays TD that impacts remarkably on their morbidity and mortality. TD is associated with a worse clinical profile including exercise capacity, right ventricular-pulmonary arterial coupling, and renal function. These findings lend support to an accurate profiling of women with HF, a problem often overlooked in clinical trials.

372 - Submission No. 1334

HYPONATRAEMIA AS A SIGN OF AMIODARONE-INDUCED THYROID DYSFUNCTION

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Case Description: This is an 81-year-old patient, whose principal medical history is atrial fibrillation on treatment with Rivaroxaban and Amiodarone. He was admitted to the emergency department for persistent macro-hematuria. In analytical control, he presented Na 117.9 mEq/l, with normal values in prior test one month before. After interviewing the patient, he reported no neurological symptoms, nausea, vomiting or dyspnea. Physical examination was anodyne, with euvolemic state.

Clinical Hypothesis: Euvolemic hyponatremia.

Diagnostic Pathways: He was admitted to the Internal Medicine Department. Complementary tests showed serum osmolality 240 mOsm/kg, urinary osmolality 199 mOsm/kg, urinary Na 92 mEq/l, TSH 23.08 IU/ml, T4 0.38 ng/dl, cortisol 12.6 ug/dl and corticotropin 30.1 pg/ml. He was diagnosed of euvolemic hyponatremia, secondary to amiodarone iatrogenic hypothyroidism. Firstly, hyponatremia was corrected up to safe levels using hypertonic saline. Afterwards, treatment was started with levothyroxine, and amiodarone was replaced by bisoprolol. In subsequent reviews, Na was corrected to 124 mEq/l 2 weeks after starting levothyroxine.

Discussion and Learning Points: Amiodarone is an antiarrhythmic with an iodine supply 50-100 times higher than the recommended daily intake of iodine. This causes the Wolff-Chaikoff effect, which inhibits the synthesis of thyroid hormones, resulting in clinical hypothyroidism. Treatment consists of the addition of levothyroxine to amiodarone treatment, or its withdrawal and addition of potassium perchlorate. The main mechanism by which hypothyroidism is associated with hyponatremia is due to an increase in antidiuretic hormone levels by baroreceptor stimulation, in response to the decrease in cardiac output associated with hypothyroidism. The association between amiodarone-induced hypothyroidism and hyponatremia has not been described previously, unlike the association with SIADH and heart failure.

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373 - Submission No. 2052

PARATHYROID HORMONE, CALCIUM-PHOSPHATE HOMEOSTASIS AND BONE HEALTH 10 YEARS AFTER OBESITY SURGERY

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Background and Aims: The long-term effects of parathyroid hormone (PTH) on bone health is not established after obesity surgery, and the calcium-phosphate homeostasis is insufficiently explored. We therefore explored the role of PTH in this context.
Methods: We invited for a 10-year follow-up after Roux-en-Y gastric bypass. Weight and height were measured, fasting blood samples collected for serum analyses, and dual-energy x-ray performed. Relevant information was registered in a case-report form. We performed correlation and linear regression analyses.
Results: Of 203 operated patients, 9 had died, and 125 of the 194 remaining (64%) attended follow-up. One denied study participation, and two were excluded with missing bone data. Mean age (SD) was 48 (18) years, PTH 6.0 (2.9) pmol/l, ionized calcium 1.21 (0.04) mmol/l, 25-OH vitamin D 59 (23) nmol/l, phosphate 1.03 (0.19) mmol/l, magnesium 0.83 (0.08) mmol/l and BMI 36.1 (7.0) kg/m^2. Mean bone mineral density (BMD) Z-scores at lumbar spine, femoral neck and total hip were in the range -0.86 (0.82) to -0.79 (0.87). PTH correlated positively with BMI and magnesium, and negatively with ionized calcium, phosphate and eGFR. PTH related negatively with adjusted BMD at all sites, at femoral neck together with ionized calcium, and at total hip with ionized calcium and phosphate. Twenty-one (17%) had osteoporosis, with a three times higher incidence of low-energy fractures postoperatively, compared with non-osteoporotic.
Conclusions: We found a relationship between PTH, the calcium-phosphate homeostasis and BMD. Targeting elevated PTH levels and maintaining sufficient calcium-phosphate homeostasis can promote bone health after obesity surgery.

374 - Submission No. 674

ENCEPHALOPATHY SECONDARY TO PANCREATITIS AND HYPERTRIGLYCERIDEMIA

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Case Description: We present the case of a 51-year-old type 2 diabetes patient presenting with abdominal pain and unresponsiveness. She was diagnosed as having diabetic ketoacidosis and started on appropriate treatment. However, the patient became drowsier although diabetic ketoacidosis had improved. Hence patient had to be admitted to ITU for investigating her drowsiness and support her airway.
Clinical Hypothesis: We have the scope of formulating the hypothesis that this encephalopathy was partly contributed by the hypertriglyceridemia as well as pancreatitis. Although we could not find such cases in adult non familial hypertriglyceridemia in literature searches, there is such evidence described in children with familial type 1 hyperlipidemia.
Diagnostic Pathways: Radiological imaging showed evidence of pancreatitis, but no overt necrosis. Triglyceride level was 32 mmol/L. Lumbar puncture ruled out CNS infection. EEG provided evidence of ongoing encephalopathy. The patient had a full recovery which correlated with her improvement of hypertriglyceridemia.
Discussion and Learning Points: Hypertriglyceridemia is associated with complications and poorer outcomes. Acute pancreatitis and pancreatic encephalopathy can be induced by diabetic ketoacidosis and hypertriglyceridemia. However, to the best of our knowledge, the association of this triad and its treatment has not been widely discussed in our literature. Neither could we find much evidence of non-familial adult hypertriglyceridemia induced encephalopathy. This can be a scope for further research.

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375 - Submission No. 1313

THE CORRELATION BETWEEN THE THYROID PARENCHYMA VASCULARIZATION, TPOAB LEVELS AND THYROID VOLUME IN HASHIMOTO HYPOTHYREOSIS

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Background and Aims: The aim of the study is to show the correlation between the type of thyroid parenchyma vascularization according to the serum TPOAb levels and thyroid volume in patients with Hashimoto hypothyroidism.

Methods: We have used US for measuring the thyroid volume, color-doppler and power-doppler for determining the thyroid vascularization and the serum TPOAb levels. We have divided the patients in three groups according the TPOAb: with low level of TPOAb<100 IU/ml, intermediate TPOAb 100-1000 IU/ml and high levels of TPOAb>1000 IU/ml.

Results: From 213 patients, 105 (49.3%) were with type 0 of thyroid vascularization, 49 (23%) type 1, 55 (25.8%) type 2 and 4 (1.9%) type 3. Patients with type0 and TPOAb<100 57(54.3%) had normal thyroid volume 49 (85.9%), increased 1(1.8%), decreased 7 (12.3%). Patients with type 0 and TPOAb100-1000 36 (34.3%) had normal volume 16 (44.5%), increased 14 (38.9%), decreased 6 (16.6%). Patients with type 0 and TPOAb>1000 12 (11.4%) had normal volume 7 (58.3%), increased 4 (33.3%), decreased 1 (8.4%). Patients with type 1 and TPOAb<100 13 (26.6%) had normal volume 7 (53.8%), increased 1 (7.7%), decreased 5 (38.5%). Patients with type 1 and TPOAb100-1000 18 (36.7%) had normal volume 7 (38.9%), increased 6 (33.4%), decreased 5 (27.7%). Patients with type 1 and TPOAb>1000 18 (36.7%) had normal volume 6 (33.4%), increased 12 (66.6%). All type 2 and TPOAb<100 5 (9%) were with increased volume. Patients with type 2 and TPOAb100-1000 18 (32.7%) had normal volume 5 (27.8%), increased 13 (72.2%). Patients with type 2 and TPOAb>1000 32 (58.3%) had normal volume 8 (25%), increased 23 (71.8%), decreased 1 (3.2%). All type 3 had TPOAb>1000 1 (25%) normal, 3 (75%) with increased volume.

Conclusions: Increased vascularization of the thyroid gland positively correlates with elevated TPOAb and increased thyroid volume. The most increased volume was in type 2 and type 3 vascularization with high TPOAb. Most of the patients with low TPOAb and low type 0 and type 1 vascularization had normal or decreased volume.

376 - Submission No. 1241

RESPIRATORY ALKALOSIS INDUCED HYPOPHOSPHATEMIA: A CAUSE OF TOXIC METABOLIC ENCEPHALOPATHY

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Case Description: A 64-year-old man was brought in overnight by ambulance in a confused and agitated state, suffering an apparent mental health crisis. A venous blood gas on admission noted respiratory alkalosis and raised lactate. A CT head scan showed normal intracranial appearances with no acute abnormalities. The patient subsequently regressed into catatonia. The next morning, the patient was no longer confused and following normal laboratory test results, he was discharged.

Clinical Hypothesis: In the absence of primary structural brain disease, severe hypophosphatemia is a known cause of toxic metabolic encephalopathy (TME), an acute confessional state characterized by metabolic disturbances that adversely affect consciousness and cognition. TME can be resolved within hours if the etiology is identified early and treated. Interestingly, the patient's hypophosphatemia resolved completely before supplementation could be given and was subsequently attributed to his transient respiratory alkalosis.

Diagnostic Pathways: Diagnosis of TME relies on excluding other conditions that may cause acute delirium. In this case, laboratory studies to identify hematological and electrolyte abnormalities found hypophosphatemia. Neuroimaging and toxicologic screening excluded other organic causes including intoxication. Thyroid function, cortisol, and Vitamin B12 were assessed for endocrinopathy, and all results were normal.

Discussion and Learning Points: Acute respiratory alkalosis is a common cause of marked hypophosphatemia in hospitalized patients. It affects the glycolytic pathway and is associated with lactic acidosis. Severe hypophosphatemia can lead to TME and a spectrum of neurologic symptoms ranging from irritability to delirium, seizures, and coma. Rapid diagnosis of underlying causes and management of hypophosphatemia are important.

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377 - Submission No. 1793

HOSPITALIZATION OUTCOMES OF PATIENTS WITH TYPE 2 DIABETES MELLITUS COMPLICATED WITH DIABETIC KETOACIDOSIS

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Background and Aims: Diabetic ketoacidosis (DKA) is a hazardous medical emergency complicating diabetes, most often in patients with type 1 diabetes (T1DM) but also in type 2 (T2DM). Prognostic factors and differences in hospitalization outcomes have not been elucidated yet.

Methods: We conducted a retrospective cohort analysis of outcomes among 204 patients admitted with DKA to the Shamir medical center (2013-2021). Patients were identified by ICD-9 code for DKA and the diagnosis was confirmed using strict criteria according to the American Diabetic Association. Subject's characteristics, laboratory data, and hospitalization outcomes were retrieved by a chart review, and a comparison between patients with T1DM and T2DM was executed. Outcomes of T2DM patients with and without SGLT-2 treatment were also evaluated.

Results: The study cohort included 126 patients with T1DM, and 78 with T2DM. The latter group was significantly older (62.9 vs. 35.2 p<0.001), with an advanced complex of comorbidities, and micro- and macrovascular complications in comparison to patients with T1DM. The overall in-hospital mortality rate (6.4% vs 0% p<0.05) and 90 days mortality rate (7.7% vs 0% p<0.05) were higher in patients with T2DM. However, using multivariable analysis, diabetes type did not remain independently associated with in-hospital and 90-day mortality. SGLT-2 treatment had no effect on hospitalization outcomes of patients with T2DM.

Conclusions: Patients with T2DM have adverse hospitalization outcomes that can be attributed to their older age and complex comorbidities. SGLT2 treatment did not have an additional adverse effect on outcomes.

378 - Submission No. 568

AN YOUNG GIRL WITH POLYGLANDULAR SYNDROMES AND COMPLICATIONS - AN INTERNIST APPROACH

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Case Description: Patient, a young female, with a known case of T1DM for 15 years ,with poor glycemic control, known case of primary hypothyroidism for 3 years on regular intake of levothyroxine, CKD V for 5-months (non-dialysis dependent) and hypertension for 4-5 months on irregular medication, presented with symptoms and signs of DKA and hypertensive emergency (Table 1).

Clinical Hypothesis: In the background of T1DM, co-existing TAD, we approached this patient as a probable case of Type 3 APS with subclinical hypercortisolism which is rare.

Diagnostic Pathways: Her thyroid profile showed primary hypothyroidism picture with significantly high anti-TPO (13.000 IU/Ml) level.

Discussion and Learning Points: This case fits the diagnosis of APS3 instead. APS-3 is a group of endocrine tissue autoimmune illnesses that may include hypothyroidism, T1DM, and subclinical hypercortisolism but without Addison disease. Diagnosis of Cushing syndrome in CKD patients is still a challenge for clinicians due to its highly positive false hypercortisolism. T1DM patients, with associated comorbidities like renal dysfunction, are prone to brittle diabetes, hence require close monitoring. strict diabetic education and disciplined diabetic diet. Multimorbidity and autoimmunity go hand in hand and autoimmunity may be a major cause of multimorbidity in young patients. Polypharmacy is not only a problem in the elderly but the young population too who are stricken by multimorbidity.

Investigation (with reference range)	Patient's value
S. Cortisol (After Mid-night 1 mg dexamethasone suppression test) (< 1.8 µg/dl))	20.40
S. Cortisol (Mid-night) (29 ng/dL - 101 ng/dl)	9.09
S. Cortisol (8 AM Morning)(5 - 25 ug/dl)	15.06
S. ACTH (10 - 60 pg/mL)	7.2

378 Table 1.

379 - Submission No. 1886

FOURNIER'S GANGRENE INCIDENCE ASSOCIATED WITH ISGLT2 USE IN A TERTIARY HOSPITAL

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Background and Aims: Fournier's gangrene is a potentially fatal infectious disease, causing necrotizing fasciitis on the perineo-genital region. In August 2019, the FDA issued a statement warning of the association between SGLT2 inhibitors and Fournier's gangrene. The aim of our work was to determine the incidence of Fournier's gangrene in diabetics in a tertiary hospital, evaluating the use of iSGLT-2 as a risk factor.

Methods: Observational, retrospective, and descriptive study, performed between January 2018 to present. Subjects: patients

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admitted for Fournier gangrene. Qualitative and quantitative variables were obtained from the electronic medical records.
Results: 23 patients were obtained, 19 men and 4 women with a mean age of 66 years. Of the 23 cases, 12 were diabetic (52%), 4 of them in active treatment with iSGLT-2 (33%). The group of diabetic patients without iSGLT2 had a mean glycemia on admission of 255 mg/dl and an HbA1C of 7.63%. As for the group under active treatment with iSGLT2, mean glycemia on admission was 262 mg/dl and HbA1C was 7.83%, observing no significant differences between the two groups. Other variables such as inflammatory reactants, renal function or exitus showed no differences.
Conclusions: Fournier's gangrene is a rare and potentially fatal disease that occurs more frequently in diabetics. In our data the use of SGLT2 inhibitors did not impact the evolution of the disease, showing a similar clinical evolution to diabetics without such treatment.

380 - Submission No. 2166

INFECTION SECONDARY TO SEVERE NEUTROPENIA AS MAIN MANIFESTATION IN A IMPENDING THYROID STORM: A CASE REPORT

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Case Description: A 21-year-old male student was referred to the Internal Medicine Department due to a severe neutropenia found as part of the approach to a dental abscess with a 2-week evolution. Clinically, the patient presented a 25-point value in the Burch-Wartofsky Point Scale (BWPS). Laboratory results showed leukocytes 700/µL, neutrophils 0/µL, lymphocytes 300/µL, TSH 0.002IU/µL, FT4 5.2ng/dl, FT3 10.2 pg/µL. The patient evolved to septic shock, for which he was treated with 2-agent antimicrobial therapy. 2 days later, abscess drainage is carried out and he's started with anti-thyroid therapy, thiamazole 15mg/8h, propranolol 40mg/8h. Because of the symptoms, refractory to the anti-thyroid drugs, thyroidectomy is proposed as definitive treatment. 4 days later, with increasing WBC and decreasing thyroid hormones, the patient is discharged from hospital, with follow-up appointment to Endocrinology to begin thyroid replacement therapy.
Clinical Hypothesis: The impending thyroid storm caused severe neutropenia, which led to infection and secondary septic shock.
Diagnostic Pathways: Clinically, the patient presented with an abscess, infection signs and 25-point value in BWPS. The last one confirms an impending thyroid storm, reaffirmed by laboratory results. The WBC count confirms the severe neutropenia. The following septic shock is diagnosed as a consequence of the latter.
Discussion and Learning Points: Neutropenia is described among hyperthyroidism manifestations, but generally in mild to moderate level[1], with no severe consequences. With this patient, we learn that severe neutropenia can also be a manifestation of impending thyroid crisis, which can lead to more adverse outcomes.

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381 - Submission No. 2257

HYPONATREMIA-RELATED SEIZURES AS MANIFESTATION OF A CLINICALLY DIAGNOSED SIADH SECONDARY TO SSRI THERAPY: A CASE REPORT

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Case Description: A 69-year-old female was admitted to the Internal Medicine Department due to one episode of emesis and two tonic-clonic seizures. She refers a history of hypertension, untreated COPD, right nephrectomy secondary to nephrolithiasis and major depression treated with sertraline and citalopram. The patient presented agitation and aggressive behavior, without signs of edema. Cerebrospinal fluid examination was normal. Head CT scan without abnormalities. Laboratory results showed serum sodium 109.1 mmol/L, plasma osmolarity 227 mOsm/kg, urinary osmolarity 600 mOsm/kg. Both cortisol and thyroid hormones were tested, resulting in normal ranges. SIADH diagnosis is established, for which the SSRI medicine is withdrawn. Serum sodium is corrected, and the patient is discharged from hospital after serum and urinary values are back to normal, with no recurring seizures or hyponatremia.
Clinical Hypothesis: The SSRI caused a SIADH, which led to hyponatremia and seizures secondary to it.
Diagnostic Pathways: In absence of neurological infection and CT scan abnormalities, the hyponatremia is established as the cause of seizures. The analysis of both plasma osmolarity and urinary findings lead to the diagnosis of SIADH as the origin of the hyponatremia.
Discussion and Learning Points: The SSRI therapy has been described as a cause for SIADH[1]. In this case, the empirical withdrawal of SSRI medication, with no recurring hyponatremia or seizures, confirms it. With this, we learn the clinical approach that can lead to the diagnosis of SIADH as a cause of seizures, as well as the side effects of said medication.

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382 - Submission No. 1108

80-YEAR-OLD-WOMAN WITH ALTERED MENTAL STATUS AND PERIORAL NUMBNESS

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Case Description: An 80-year-old woman with a history of dementia, hypertension, thyroidectomy, alfacalcidol intake, arrived to the E.R. with altered mental status (aMS) and perioral numbness, that started three days prior. She brought laboratory tests that suggested a PTH value of 5.9 pg/mL.

Clinical Hypothesis: The patient was investigated for the aMS. No abnormal findings were established during physical examination, whereas the ABGs revealed a metabolic alkalosis [pH=7,51 pCO_2=40, pO_2=71, HCO_3=32]. From E.R. lab tests: creatinine = 2.78 mg/dL, urea = 71mg/dL, corrected calcium = 16 mg/dL, Mg = 3.1 mg/dL, CRP = 1.8 mg/dL, serum albumin = 3.4 g/dL, 25-OH-VitD = 12 ng/mL. Computed tomography (CT) scan of the brain was performed (no acute abnormalities), as well as a neurologic evaluation that suggested re-evaluation after the restoration of electrolyte imbalances. Kidney-ureter-bladder ultrasonography showed no abnormal findings. The patient was admitted to the internal medicine ward for further investigation.

Diagnostic Pathways: The patient was intravenously hydrated and zoledronic acid was administered. CT scans of the thorax (normal) and abdomen (diverticula of the sigmoid colon) were performed. From quantitative serum immunoglobulin test: (IgE = 47, IgG = 1300, IgA = 238) and serum protein electrophoresis no single-clone immunoglobulin production was established. Neurologic re-evaluation suggested dementia dysregulation due to hypercalcemia. Thyroid ultrasonography revealed images of thyroidectomy, and homogenous tissue at the isthmus region (possibly thyroid tissue).

Discussion and Learning Points: The patient improved rapidly after restoring the hypercalcemia and was soon discharged from the hospital. After adequate imaging and laboratory studies, the symptoms were attributed to hypercalcemia caused by milk-alkali syndrome (due to alfacalcidol intake)

383 - Submission No. 1084

IMPACT OF THE COVID-19 PANDEMIC ON THE COMPENSATION OF DIABETES MELLITUS IN GERIATRIC PATIENTS

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Background and Aims: The impacts of COVID-19 (coronavirus disease 2019) are both direct and indirect, with the pandemic period itself and the associated restrictive measures having an impact on the psyche, physical activity and dietary habits. The aim of our study was to evaluate the impact of the pandemic on diabetes mellitus compensation in a geriatric population.

Methods: We retrospectively analyzed all patients over 65 years of age followed in the diabetes outpatient clinics and compared the last values of glycated hemoglobin (HbA1c), LDL (low density lipoprotein) cholesterol before the start of the COVID-19 pandemic (September 2019 - February 2020) and the first values after a year or more from the start of the pandemic (March 2021 - December 2021).

Results: A total of 711 patients were included in the analysis, 57% (n=403) women and 43% (n=308) men, median age 73 years. An increase in HbA1c levels was observed in 54% of patients (n=381), more frequently in women than in men (56% vs 50%, P=0.12), and in patients in the 75 years and older age group compared with the under 75 years group (57% vs 52%, P=0.14). We observed an increase in LDL cholesterol levels in the post-pandemic period in 26% (n=187) of patients.

Conclusions: Our analysis showed that more than half of the geriatric patients with diabetes had higher HbA1c values one year after the start of the COVID-19 pandemic compared with pre-pandemic values. Twenty-six percent of patients had an increase in LDL-cholesterol values.

384 - Submission No. 1314

THE COVID-19 PANDEMIC FROM THE PERSPECTIVE OF PATIENTS WITH DIABETES MELLITUS

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Background and Aims: Diabetes mellitus is significantly associated with severe course and mortality in COVID-19. Quarantine and isolation are associated with greater incidence of depression, anxiety, changes in diet and physical activity, among others.

Methods: Patients were asked to fill in an anonymous, voluntary structured questionnaire during their planned visits to the diabetes outpatient clinics in the period from 1 April to 31 July 2021. We asked about their gender, age, whether they were worried about the disease and how their eating habits, alcohol consumption, body weight and blood pressure values had changed compared to the period before the start of the COVID-19 pandemic.

Results: We analyzed questionnaires from 919 patients aged 19-93 years (median 64 years). On a scale of 1 (no concern at all) to 10 (major concern), 228 patients (24.8%, on a scale of 7-10), 284 patients (30.9%, on a scale of 4-6), and 390 patients (42.4%, on a scale of 1-3) indicated significant concern about the disease. A total of 61.2% (n=562) of the respondents reported a healthier diet. Alcohol was reduced or abstinent in 811 (88.3%) patients. Weight gain was reported by 250 (27.2%) respondents. A worsening of

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glycaemia was reported by 176 (19.2%) and a worsening of blood pressure compensation by 81 (8.8%) patients.

Conclusions: About half of the respondents expressed concern about the disease, about a quarter expressed great concern, and half of the patients had significantly reduced their contacts. There was no evidence of significant weight gain, alcohol consumption, unhealthy diet, and decompensation of blood pressure.

385 - Submission No. 831

A CASE OF SYNDROME OF INAPPROPRIATE ANTIDIURETIC HORMONE SECRETION: A CHALLENGE TO TREAT

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Case Description: A 79-year-old man, fully independent in the activities of daily life, with history of hypertension, type 2 diabetes mellitus, and recurrent small cell lung carcinoma (SCLC), had mental confusion, asthenia, nausea and vomiting for 1 week. On admission, he was confused and disoriented. He was euvolemic and euglycemic. Laboratory testing revealed plasma sodium level was 110mmol/L. The patient began fluid restriction and diuretics and, initially, sodium levels rose, and symptoms improved, but then sodium levels dropped again and neurological symptoms worsened, with visual and auditory hallucinations. The patient was then given vasopressin V2 receptor antagonist, Tolvaptan. After the first dose, sodium levels rose from 114 mEq/L to 131 mEq/L in less than 24h. After dose adjustments, sodium levels stabilized over 130mEq/L, and neurologic symptoms improved significantly.

Clinical Hypothesis: Euvolemic hyponatremia, probably caused by syndrome of inappropriate antidiuretic hormone secretion (SIADH), a paraneoplastic syndrome most commonly associated with SCLC.

Diagnostic Pathways: Further tests showed plasma osmolality 275mOsm/Kg, urine osmolality 186 mOsm/Kg, and sodium in urine sample 81 mEq/L. This met Schwartz and Bartter's criteria for SIADH.

Discussion and Learning Points: In this case, the hyponatremia had likely existed for some time, but failed to garner attention until serious clinical manifestations developed. History of SCLC as well as the initial success of fluid restriction raised the suspicion of hyponatremia caused by SIADH. Fluid restriction is the primary treatment option for SIADH. The vasopressin V2 receptor antagonist is effective for assisting the SIADH treatment. Because of risk of osmotic demyelination syndrome (ODS), guidelines determine optimal correction rate should be between 10 and 12 mEq/L per day.

386 - Submission No. 778

WHAT ADIPOSE TISSUE BENEATHS

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Case Description: 36-year-old Colombian women with history of type 2 diabetes mellitus, hypertrichosis, acanthosis nigricans and polycystic ovary syndrome who was hospitalized for hyperosmolar hyperglycemic syndrome triggered by lack of access to insulin therapy and folliculitis due to Methicillin-resistant *Staphylococcus aureus*. On examination, she had a phenotype with decreased adipose tissue in trunk, limbs, and gluteal region, with prominent musculature, severe acanthosis nigricans and hirsutism. She denied consanguinity or relevant family history.

Clinical Hypothesis: Making the differential diagnosis of diabetes in young adults.

Diagnostic Pathways: Tests performed: HbA1c 12%, normal C-peptide, TSH, and cortisol. Negative autoimmunity. She presented nephrotic-range proteinuria, so a renal biopsy confirmed a diffuse diabetic nephropathy. A thoraco-abdominopelvic CT showed a diffuse thickening of the dermis, several lipomas, pulmonary hamartoma, and abdominal lymphadenopathy. HIV serology, blood protein levels, peripheral blood smear and LDH were normal. Considering the manifestations and the phenotype, the presence of lipodystrophy syndrome is considered. It is requested the determination of leptin: decreased by 1.2 ng/mL (lower limit 5,1 ng/mL). Treatment was started with ACE inhibitors, statins, canagliflozin, metformin, and insulin therapy. She maintains follow-up in external consultations and is awaiting the genetic results.

Discussion and Learning Points: Lipodystrophy syndromes are rare heterogeneous disorders characterized by deficiency of adipose tissue, a decrease in leptin levels and severe metabolic abnormalities including diabetes mellitus and dyslipidemia. Meticulous anamnesis and clinical examination are essential for the diagnosis, genetic testing provides confirmation. Treatment is based on lifestyle changes and aggressive treatment of comorbidities. In cases of severe metabolic syndrome, the use of leptin analogues is proposed.

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387 - Submission No. 1355

ADRENAL CARCINOMA: STRANGE PATHOLOGY IN A 25-YEAR-OLD WOMAN

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Case Description: We present the case of a 25-year-old woman, previously healthy with no-oncologic history. Presenting amenorrhea, hirsutism, facial edema similar to the cushingoid phenotype, edema of the lower limbs, appearance of acneiform lesions on the trunk and upper limbs, as well as progressive asthenia and muscle weakness associated with abdominal pain predominantly in the right flank.

Clinical Hypothesis: Adrenal carcinoma.

Diagnostic Pathways: Physical examination revealed elevated blood pressure (150/90 mmHg), marked generalized muscle atrophy and the presence of painful hepatomegaly. In the analytical determinations, alterations of the hormonal profile are evidenced with elevations of serum cortisol values (120 µg/dL), cortisol in 24-hour urine (2298 µg/24h), decrease of serum ACTH (< 5 µg/dL). Also noteworthy are elevated values of male sex hormones; serum DHEAs (>30,000 µg/dL) and serum testosterone (4.73 µg/dL). Similarly, we have noticed an elevation of liver enzyme values. Subsequently, a CT scan of the thorax and abdomen showed a left adrenal mass with malignant radiological characteristics and multiple liver lesions compatible with metastasis. A biopsy of the mass was performed revealing a Ki67 proliferation index of 85%. The diagnosis of stage IV androgen-secreting adrenal carcinoma with hepatic metastases was confirmed and systemic treatment with cisplatin, etoposide and mitotane was initiated. Currently, the patient continues to receive chemotherapy treatment with good tolerance to mitotane without progression of her disease.

Discussion and Learning Points: Adrenal carcinoma is a rare, aggressive tumor with a poor prognosis. Generating mineralocorticoid hormones favors Cushing's syndrome while androgen secretions is responsible for hyperandrogenism.

388 - Submission No. 1585

SWITCHING OF GLYCEMIC LOWERING TREATMENT AT HOSPITAL DISCHARGE IN TYPE 2 DIABETES PATIENTS

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Background and Aims: We analyzed modifications in glucose-lowering therapy (GLT) of type 2 diabetes patients (T2D) after admission to Internal Medicine (IM) regarding previous glycemic control.

Methods: We undertook a prospective study of patients with previous diagnosis of T2D consecutively admitted to Internal Medicine department during a 4-week period. GLT was recorded at admission and at discharge. Changes at discharge were classified as intensification, reduction or unchanged based on predefined criteria and analyzed considering HbA1c at admission.

Results: A total of 118 consecutive patients were included. Mean age was 81.9±8.8 and 50% were male. Microangiopathy was present in 50% of patients, and macroangiopathy was present in 36.4% of them. Treatment at admission: 5.9% dietary measures, 54% antihyperglycemic agents (OHAs), 21.2% insulin and 17.8% combination therapy with insulin/OHAs. At discharge 67.9% of patients remain without treatment modifications, it was intensified in 15.6% of patients and 16.5% underwent a reduction of treatment intensity.

Conclusions: We observed an acceptable glycemic control before admission in our cohort, with >50% of patients presenting HbA1c<7%. Glycemic-lowering therapy was modified in 1/3 of patients, being intensified in those patients (45%) with worse glycemic control and decreased in those with tight glycemic control. These results show a willingness disposition in our doctors on achieving a better long-term glycemic control (Table 1).

	HbA1c <7%	HbA1c 7-8.5%	HbA1c >8.5%
Age	81.2±9.8	83±7	81.1±.8.2
OHAs at admission	64.2%	31%	36.4%
Insulin therapy at admission	22.6%	68%	32%
Intensification treatment at discharge	12.2%	13.8%	45.5%
Decrease in treatment intensity at discharge	20.4%	27.6%	0%

388 Table 1. Treatment changes regarding HbA1c

389 - Submission No. 1191

IS METFORMIN THERAPY ASSOCIATED WITH CHRONIC METABOLIC ACIDOSIS?

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Background and Aims: Metformin associated lactic acidosis (MALA) is a feared complication of a poorly understood etiology. We hypothesize that MALA represents the severe case of a possibly more prevalent metabolic acidosis associated with metformin therapy.

Methods: We collected data from electronic records of patients with diabetes hospitalized at the Soroka University Medical Center (SUMC) between 2005-2019 who had blood gases taken. Anion gap (AG) was compared between patients who received metformin 3 months prior to hospitalization (MT) and patients not

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receiving metformin (NMT). We further stratified analysis by the baseline eGFR.

Results: 8294 patients received metformin versus 9470 patients who did not. There was no difference in age, gender, and Charlson comorbidity index (CCI). AG and pH did not differ between the groups in 15,918 patients with a GFR >45 (>90 ml/min: 9.9 vs 10.1 p=0.5, 60-90 ml/min: 10.2 vs 10.2 p=0.17, 45-60 ml/min: 10.5 vs 10.8 p=0.01). In 1846 patients with GFR<45, AG was higher in MT group (12.3 in the MT vs 10.8 in NMT, p<0.001).

Conclusions: These results show that there is no increase in AG in patients taking metformin in patients with normal kidney function. A chronic increase in AG in patients with renal failure taking metformin may increase their susceptibility to MALA.

390 - Submission No. 1601

PROFILE OF PATIENTS TREATED WITH GLP-1 RECEPTOR ANALOGUES IN THE INTERNAL MEDICINE CONSULTATION

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Background and Aims: To assess the clinical and demographic characteristics of patients treated with GLP-1 analogs and the response to them in the Internal medicine consultation from 2019 to the 2022.

Methods: Patients assisted in the Internal Medicine consultation from 01/28/19 to 06/28/22 who started treatment with GLP-1 analogues and also have been reviewed at least once were included.

Results: Sixteen patients were analyzed, of whom 5 were men (31.3%) and 11 women (68.8%), 2 were smokers (12.5%), 13 were hypertensive (81.3%), 11 were dyslipidemic (68.8%) and 3 had non-alcoholic fatty liver disease (18.8%). The mean age was 64.81 years. The mean BMI at the start of treatment was 40.06 kg/m2 and the mean weight was 104.84 kg. Regarding the baseline analysis, the mean HbA1c was 8.12%, the mean glucose baseline of 206 mg/dl, the mean total cholesterol 164 mg/dl and the mean triglycerides 235 mg/dl. Weight reduction at the first medical review (3-6 months) was 11.5 kg on average with a mean reduction of BMI of 2.45 kg/m^2, and HbA1c of 1.48%. Patients with follow-up at one year (7 of them), presented at this time a reduction in BMI of 3.30 kg/m^2, 8.17 kg of weight and 2.35% of HbA1c. The patient with the longest follow-up (3 years) has reduced her weight by 12 kg (current BMI 41.8 kg/m^2 and initial 47 kg/m^2).

Conclusions: GLP-1 analogs are a useful tool for the treatment of poorly controlled diabetes in obese patients. After three years of treatment, reduction in weight, HbA1c and BMI are achieved.

391 - Submission No. 1017

THE UNLIKELY

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Case Description: A 70-year-old woman entered the Emergency Department with holocraneal headache, non-specific malaise and generalized edema. The patient had a history of arterial hypertension, atrial fibrillation, dyslipidemia and a thyroid nodule under surveillance. She had been under amiodarone for 3 months in addition to her usual medication: bisoprolol, anticoagulant and angiotensin II receptor antagonist. The patient was hemodynamically stable, normocardic and normothermic. The physical examination showed periorbital and lower limb edema with no other findings. The neurological exam was normal.

Clinical Hypothesis: Hypothyroidism.

Diagnostic Pathways: The analytical study undertaken revealed TSH 379 IU/mL, T4 0.15 ng/dL, T3 16 ng/dL, anti-thyroglobulin antibodies 64.3 IU/mL, Anti-thyroid peroxidase antibodies 576.9 IU/mL, total cholesterol 560 g/dL, LDL 319 mg/dL and triglycerides 370 mg/dL. The blood count, renal and hepatic's function and ionogram were normal. A thyroid ultrasound indicated thyroiditis and noted the presence of a pre-existing thyroid nodule. The diagnosis of myxedema was assumed in the context of amiodarone therapy and, thus, oral levothyroxine 50 mcg was administrated. Throughout the following 3 months, the patient came in for weekly follow-ups with analytical evaluation, until the values normalized, and the clinical picture improved. The patient was referred to endocrinology follow-ups.

Discussion and Learning Points: Despite the common use of many drugs, their side effects can appear in any patient. This clinical case reiterates the need to carefully consider the pros and cons of each prescribed drug. Furthermore, possible side effects should be identified as early as possible, in view of the inherent drug interruption and initiation of targeted treatment, thus improving the prognosis

392 - Submission No. 1744

GLP-1 RECEPTOR AGONISTS IN HEMODIALYSIS

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Background and Aims: Glucagon-like peptide receptor agonists 1 (GLP -1 RAs) are one of the first options in the algorithm treatment in patients with type 2 diabetes mellitus (T2DM). For patients with glomerular filtration rate (GFR) <15min/ml clinical data are scarce according to the summary of product characteristics of the drug. The purpose of this study is to test the efficacy and safety of once

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weekly GLP-1 agonists to this population.

Methods: GLP-1RAs once weekly was administered to five (5) hemodialysis patients with T2DM. Patients were informed about the benefits and risks of GLP-1RAs administration, with emphasis on incomplete data in hemodialysis patients.

Results: Patients were monitored for 6 months. The main side effect recorded was gastrointestinal disorders that subsided after approximately 2 months. Glycosylated hemoglobin (HbA1c) was significantly reduced (-1.6 to -3.3%) and compliance improved. At the same time, a steady decrease in BMI was recorded (-0.9 to -1.5), while with the previous intensified regimen, the patients showed a gradual increase in their body weight. No comorbidities aggravation was recorded.

Conclusions: GLP-1 agonists seem a safe therapeutic choice for glycemic control and also in long term weight loss in hemodialysis patients.

393 - Submission No. 2281

EFFECT OF GLP-1 RECEPTOR AGONISTS ON BODY WEIGHT IN SUBJECTS TREATED WITH ANTIPSYCHOTIC DRUGS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Background and Aims: Glucagon-like peptide-1 receptor agonists (GLP-1RAs) constitute a drug class primarily developed for the treatment of subjects with type 2 diabetes, which have also provided significant benefit for subjects with obesity without underlying diabetes. Individuals with psychotic disorders under antipsychotic treatment represent a patients' population susceptible to the development of obesity, linked to other metabolic disturbances.

Methods: We searched PubMed and Cochrane Library from inception to 1st December 2022 for randomized controlled trials (RCTs) enrolling obese or overweight adult subjects with underlying psychotic disorder treated with antipsychotic drugs, randomized either to GLP-1RAs or control. We set as primary efficacy outcome the change in body weight and as secondary efficacy outcomes the change in body mass index (BMI) and in waist circumference.

Results: We pooled data from 4 trials in a total of 199 enrolled subjects. GLP-1RA treatment, compared to control, resulted in a significant decrease in body weight by 3.8 kg [mean difference (MD) = -3.80, 95% CI: -6.35 to -1.24, I^2 = 64%]. In addition, GLP-1RA treatment led to a significant decrease in BMI, compared to control, by 1.04 kg/m^2 (MD = -1.04, 95% CI: -1.92 to -0.17, I^2 = 35%). However, no significant effect on waist circumference was shown (MD = -3.2, 95% CI: -6.47 to 0.08, I^2 = 88%).

Conclusions: Treatment with GLP-1RAs can provide significant benefit on weight loss among individuals treated with antipsychotic drugs. Larger trials are required to confirm these results.

394 - Submission No. 1717

RECURRENT CUSHING'S SYNDROME PRESENTING WITH DELIRIUM

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Case Description: The authors describe the case of a 73-year-old female, with previous history of ACTH dependent Cushing's syndrome in remission (after left adrenalectomy with aldosterone productive adrenal adenoma), that presented with progressively aggravating dizziness, confusion, dysarthria, global muscle weakness and urinary incontinence culminating on a proximal myopathy with severe mobility deficits. Blood workup revealed severe hypokalemia and thyroid-stimulating hormone decrease.

Clinical Hypothesis: Cushing's syndrome is a clinical entity that results from overproduction of glucocorticosteroids, the most common cause being the pituitary adenoma. There are other occasional causes such as iatrogenic, ectopic secretion of corticotrophin (ACTH), adrenal tumors and others even more rare.

Diagnostic Pathways: Diagnosis may be difficult due to the variety of clinical manifestations, depending on intensity and duration of the glucocorticosteroids effect, most common being hyperandrogenism signs, proximal muscle weakness, obesity, hyperglycemia and with a myriad of possible effects on reproductive, dermatological, cardiovascular or neuro-behavioral systems. She was taken to a specialized center for additional study where urinary cortisol analysis and dexamethasone suppression test confirmed ACTH dependent Cushing's syndrome, with elevated serum chromogranin A, although radiological investigation with head and thoraco-abdominal CT, petrous sinus catheterization and positron emission tomography did not reveal any pituitary or neuroendocrine tumor. Currently she remains on surveillance and under support treatment with cortisol suppressants.

Discussion and Learning Points: This specific Cushing´s syndrome case aims to emphasize the atypical clinical presentation with neurological symptoms as well as reinforce the importance of an accurate medical history and the necessary high clinical suspicion for the correct diagnosis and subsequent treatment.

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395 - Submission No. 913

BILATERAL PHEOCHROMOCYTOMA – GREAT DANGER UNDER A GREAT MASQUERADE

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Case Description: A 19-year-old female patient presented with headache and palpitation. She had history of poorly controlled hypertension since the previous year. Her family history had no relevant features. Physical examination revealed tachycardia (110 bpm) and arterial hypertension (215/160 mmHg), without significant difference between both upper and lower limb measurements. Initial bloodwork showed mild anemia (hemoglobin of 10.8 g/dL) with normal serum creatinine, but microalbuminuria. Pregnancy test result was negative.

Clinical Hypothesis: Regarding patient's age, several causes of secondary arterial hypertension were considered, especially endocrine-related.

Diagnostic Pathways: Hormonal work-up revealed increased serum noradrenaline (17,806 pg/mL) and 24-hour urinary free normetanephrine (19,533 ug). Abdominal computed tomography showed a round mass in both adrenal glands (density superior to 10 UH) and functional imaging confirmed the accumulation of 123I-metaiodobenzylguanidine bilaterally, suggesting a bilateral pheochromocytoma. Transthoracic echocardiography revealed severe left ventricular dilation (ejection fraction of 35%) and a hypokinetic pattern suggestive of atypical Takotsubo syndrome. Adequate blood pressure control was achieved after initiation of phenoxybenzamine, nifedipine and bisoprolol. Three weeks later, retroperitoneal bilateral subtotal adrenalectomy was performed, and steroid therapy was initiated. Histopathologic examination showed a potentially aggressive left-sided tumor (Ki67 proliferation index 3%) and genetic testing is ongoing. Hormonal re-analysis was unremarkable two months after surgery. Transthoracic echocardiography showed significant improvement in left ventricular volume and ejection fraction (55%) eight months after surgery, confirming the atypical Takotsubo syndrome pattern.

Discussion and Learning Points: Pheochromocytoma is rare but increasing in incidence and its presentation may mimic common diseases. This case highlights the benefit of a multidisciplinary collaboration to achieve prompt diagnosis and treatment.

396 - Submission No. 2228

INSULINOMA: A RARE CAUSE OF HYPERINSULINISM

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Case Description: Female, 36 years old, Ukrainian, war refugee, baker by profession, with a history of allergic rhinitis, without daily medication. Upon arrival in Portugal, she had a lipothymia with severe hypoglycemia 33 mg/dl and the need to be hospitalized. In the hospital we realized that she had a 1-year of history of lipothymia under study in her home country. During hospitalization, surveillance of hypoglycemia was carried out, with the need for intravenous(iv) infusion of serum with 5% dextrose. The patient remained without access to insulin therapy or oral antidiabetic drugs. Blood analysis shown 4.1% glycated hemoglobin (HbA1c). She underwent a fasting tolerance test with biochemical confirmation of hypoglycemia, high insulinemia and slightly increased C-peptide, with the rest of the hormonal study being normal. An abdomino-pelvic computed tomography (CT) scan was performed without evidence of pancreatic nodules. Positron emission tomography (PET) was performed, which showed intense focal hyper-uptake in a single lesion in the body of the pancreas, compatible with a neuroendocrine tumor, which was also seen in Endoscopic ultrasonography. She was referred to the Hepatobiliary Surgery department, where she was proposed for corpo-caudal pancreatectomy. Surgery went well and histology demonstrated a G2 neuroendocrine tumor.

Clinical Hypothesis: Is the presence of persistent hypoglycemia due to endogenous or exogenous hyperinsulinism?

Diagnostic Pathways: The suspicion of endogenous hyperinsulinism was high because the patient has severe symptomatic hypoglycemia with a long period of fast.

Discussion and Learning Points: Insulinomas are rare pancreatic islet cell tumors, some are associated with multiple endocrine neoplasia type 1 (MEN1) syndrome. The clinical manifestation is fasting hypoglycemia.

397 - Submission No. 325

WHAT LIES BEHIND HEART FAILURE

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Case Description: We present the case of a 58-year-old patient with lower limbs progressive edema and dyspnea. The blood and urine analysis showed renal dysfunction, transaminase elevation and nephrotic range proteinuria. An echocardiography was performed which showed hypertrophy of the left ventricle and the lateral wall of the right ventricle, suggestive of infiltrative cardiomyopathy.

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Clinical Hypothesis: The patient was admitted under the diagnosis of heart failure but the result of additional tests made it necessary to rule out a deposition disease.

Diagnostic Pathways: For the diagnosis of amyloidosis, it is necessary a confirmation by pathological anatomy of positive amyloid material deposits with Congo red stain and apple green birefringence with polarized light. We performed a kidney biopsy where amyloid material deposit was demonstrated. These deposits were negative to light chains, amyloid A and transthyretin, so it is most likely that the origin was a protein alteration of genetic origin.

Discussion and Learning Points: Systemic amyloidosis is a disease caused by infiltration of one or more organs by protein deposits, called amyloid material. The pathogenic mechanism of amyloidosis is varied, it may be due to an excess in the production of a certain protein or to a genetic mutation that generates a protein with a different conformation. Symptomatic treatment should be established for the dysfunction of the affected organs. It is also important to try to reduce the production of amyloid material with chemotherapy. The prognosis of amyloidosis is poor, survival is usually no greater than 5 years from diagnosis.

398 - Submission No. 1299

NORMOGLYCAEMIC KETOACIDOSIS CAUSED BY SODIUM-GLUCOSE COTRANSPORTER TYPE 2 INHIBITORS: THE ANION GAP IS THE KEY

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Case Description: 73-year-old man with type 2 diabetes mellitus, disabled after suffering a stroke. He was taking dapagliflozin 10 mg, metformin and vildagliptin. He was taken to the emergency department due to malaise, bilious vomiting, and refusal to eat. Blood tests on admission showed: glucose 155 mg/dL (70-110); sodium 137 mmol/L (135-145); chlorine 104 mmol/L (98-109); pH 7.29 (7.32-7.43); CO_2 partial pressure 21.8 mmHg (30-50); bicarbonate 10.2 mmol/L (22-26); lactate 1.2 mg/dL (0.5-2). After receiving several boluses of undiluted intravenous 1 M bicarbonate, blood tests showed one day later: glucose 146 mg/dL; sodium 163 mmol/L; potassium 2.9 mmol/L (3.5-5.5); chlorine 129 mmol/L; serum osmolality 344 mOsm/kg (275-295); pH 7.25; partial pressure of CO_2 26.2 mmHg; bicarbonate 11.1 mmol/L. The patient was admitted to the ward.

Clinical Hypothesis: Metabolic acidosis of unclear cause. Severe hypernatremia due to intravenous bicarbonate.

Diagnostic Pathways: The patient had metabolic acidosis with increased anion gap (22), normal osmolal gap (5), and superimposed metabolic alkalosis (delta 3.2) due to intravenous bicarbonate. After ruling out other potential causes, normoglycemic ketoacidosis due to dapagliflozin was suspected. Blood levels of beta-hydroxybutyrate were requested and found to be very high (30.5 mg/dL; 10 times the upper limit of normal). The patient was treated with insulin and the acidosis resolved. He eventually died of acute cholecystitis.

Discussion and Learning Points: Up to 7% of diabetic ketoacidosis cases may present with glycaemia below 250 mg/dl; more than 70% are associated with sodium-glucose cotransporter type 2 inhibitors. Most cases are overlooked due to low clinical suspicion and poor diagnostic processes, resulting in iatrogenic complications.

399 - Submission No. 1828

REAL-LIFE EFFECTIVENESS OF TREATMENTS FOR HYPERCALCAEMIA. RESULTS FROM A COHORT STUDY

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Background and Aims: Our aim was to analyze the effectiveness of the treatments for hypercalcemia in a regional cohort.

Methods: Retrospective, bicentric cohort study including all patients diagnosed with hypercalcemia at Hospital Regional Universitario de Málaga (Spain) and Hospital de la Serranía (Ronda, Málaga, Spain) between 2014-2018. Univariate and multivariate regression analyses were performed to study the effects of the different treatments on the correction of hypercalcemia.

Results: Data were collected on the hypocalcemic treatments administered to 195 patients. 10.8% received only one treatment; 25.1% received two; 30.3% received three; 26.7% received four; 2.6% received five; and 4.6% did not receive any specific treatment. The most commonly used treatment was fluid therapy (86.8%), followed by loop diuretics (70.9%), bisphosphonates (60.7%), corticosteroids (46.2%), and calcitonin (6.6%); only 1.2% of cases required renal replacement therapy. The correction rate of hypercalcemia was 65.2%. A statistically significant association on the correction of hypercalcemia was found only in the case of bisphosphonates, confirmed in a multivariate regression analysis (OR 2.84; 95% CI: 1.34-6.1; p=.007). The results of the univariate analyses are summarized in table 1.

Conclusions: In our real-life study only, bisphosphonates showed significant efficacy in the treatment of hypercalcemia. Overall efficacy was rather poor, with normocalcemia being achieved in only two thirds of treated patients.

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	n	OR	95% CI	p
Calcitonin	13	6.8	0.9 - 53.7	.07
Fluid Therapy	159	2.1	0.8 - 5.5	.15
Bisphosphonates	110	2	1.1 - 3.8	.034
Loop diuretics	132	1.5	0.7 - 3	.27
Corticosteroids	81	1.4	0.8 - 2.7	.29

399 Table 1.

400 - Submission No. 2324

GASTROINTESTINAL STROMAL TUMOR (GIST) INDUCED HYPOGLYCEMIA

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Case Description: Non-islet-cell tumor hypoglycemia (NICTH) is a rare syndrome caused by a wide variety of tumors. GIST was reported to induce hypoglycemia by releasing insulin-like growth factor-2 (IGF-2) in less than 15 cases. We report a case of a 71-year-old woman who was admitted with fatigue, dizziness, and palpitations. She has been suffering from abdominal pain and weight loss for two years. Gastroscopy 8 months before admission was normal and blood glucose levels (BGLs) then were 47 mg/dL. Her medical background includes only hypertension and dyslipidemia. Upon arrival, vital signs were stable except for tachycardia of 120 bpm without high fever. A physical examination revealed a huge epigastric mass.

Clinical Hypothesis: A palpable abdominal mass with a history of weight loss, raised suspicion for a space-occupying lesion (SOL). The low BGLs measured in a non-diabetic patient raised the hypothesis of tumor-induced hypoglycemia.

Diagnostic Pathways: Hypoglycemia was diagnosed by demonstrating the "Whipple's triad": Hypoglycemia of 55 mg/dL was measured while symptoms of fatigue and tachycardia were observed. Treatment with 5% dextrose increased the patient's BGLs and relieved her symptoms. Insulin and IGF-1 levels at the time of hypoglycemia were low (<2 uU/mL and 17.1 ng/mL respectively). A total body CT revealed an SOL in the upper abdomen. A biopsy taken from the mass came back positive for GIST.

Discussion and Learning Points: Although rare, NICTH should be suspected when a non-diabetic patient presents with hypo insulinemic hypoglycemia, as the prognosis of those tumors could be serious and early diagnosis is crucial.

401 - Submission No. 1980

DIAGNOSIS OF DIABETES MELLITUS TYPE 1 IN A TEENAGER WITH DIABETIC KETOACIDOSIS TRIGGERED BY COVID-19

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Case Description: A 16-year-old Caucasian male was admitted because of vomiting and low-grade fever. He had been diagnosed with COVID-19 by reverse transcription polymerase chain reaction (RT-PCR) testing of a nasopharyngeal swab sample for SARS-CoV-2 two days prior to his admission. His past medical history revealed weight loss and polydipsia for the past few weeks. Physical examination revealed decreased level of consciousness (GCS 12/15), tachypnea with Kussmaul breathing and tachycardia.

Clinical Hypothesis: Diabetic ketoacidosis (DKO) triggered by SARS-CoV-2 infection was suspected.

Diagnostic Pathways: Laboratory tests revealed hyperglycemia (serum glucose 727mg/dL [40.35 mmol/L]), metabolic acidosis (pH 6.84, HCO3 3.9 mmol/l) and presence of ketone in the urine. The patient received large amounts of intravenous crystalloid fluids and intravenous insulin and electrolytes supplementation, with subsequent resolution of ketoacidosis and restoration of consciousness within 36 hours after admission. Glycosylated hemoglobin was found elevated (HbA1c = 12,5%), suggesting long-lasting hyperglycemia, while serum autoantibodies for Diabetes Mellitus type 1 (DM1) were found positive (anti-GAD = 43.7 U/ml, anti-IA2 = 1.8 U/ml). Serum C-peptide levels were below the normal range, compatible with impaired insulin production and confirmed the diagnosis of DM1.

Discussion and Learning Points: DKO is a medical emergency in patients with either pre-existing or first-diagnosed DM, particularly of type 1. Research during the years of the SARS-CoV-2 pandemic reports increased incidence of DKO in patients with DM and COVID-19, rendering medical alertness for the diagnosis and prompt management of DKO mandatory.

402 - Submission No. 2229

"THYROID-CARDIAC AXIS": AN IMPORTANT INTERACTION

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Case Description: A 73-year-old man with paroxysmal atrial fibrillation medicated with amiodarone 200mg id and bisoprolol

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10 mg id, was hospitalized due to decompensated heart failure and tachydysrhythmia. He complained of palpitations, 10 kg weight loss, psychomotor retardation, and memory deficits for the last 2 months. Blood tests revealed TSH <0,008 uUI/mL, FT4 40.6 pmol/L and FT3 7.33 pmol/L.

Clinical Hypothesis: Amiodarone-induced thyrotoxicosis was admitted and therapy with hydrocortisone, propranolol and thiamazole was promptly started. Later, due to lack of heart rate control, cholestyramine and potassium iodide solution were also instituted. After one week, atrial flutter with rapid ventricular response persisted, so electrical cardioversion was performed.

Diagnostic Pathways: The echocardiogram revealed left ventricular hypertrophy and an ejection fraction of 31%. Additional evaluation showed positive antithyroglobulin and TSH receptor antibodies. Ultrasound showed thyroid enlargement with bilateral hypoechoic nodules. During hospitalization, prognostic-modifying therapy was started, and patient improved not only from congestive heart failure, but also from cognitive impairment.

Discussion and Learning Points: Thyrotoxicosis has a variable spectrum of presentation, from subclinical hyperthyroidism to thyroid storm. Amiodarone-induced thyrotoxicosis can result from excess iodine (type 1) or from direct cytotoxic effect on thyroid gland (type 2). In this context, heart failure can have more than one mechanism. In our case sustained tachyarrhythmia probably resulted in tachycardiomyopathy with left ventricular dysfunction. So, the use of amiodarone raises important questions. Furthermore, hyperthyroidism may also explain the potentially reversible cognitive impairment described. Severe conditions of thyrotoxicosis are relatively unusual, making the presentation of this case a moment of reflection about the most appropriate approach of these situations.

403 - Submission No. 522

ASSOCIATION BETWEEN RATE OF CORRECTION OF HYPERNATREMIA AND ALL-CAUSE MORTALITY

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Background and Aims: Hypernatremia is common among hospitalized patients. Current guidelines suggest correction rate of up to 0.5 mmol/L/h to avoid neurological damage. We aimed to elucidate the association between hypernatremia correction rate and patient outcomes

Methods: The study cohort comprised all patients with severe hypernatremia (sodium>155 mmol/L) hospitalized between 2007 and 2021 in the Tel-Aviv medical center. Association between patient outcomes and hypernatremia correction rate grouped as fast correctors (>0.5 mmol/L/h) and slow correctors (≤0.5 mmol/L/h) were explored using the Wilcoxon rank-sum test for continuous variables and Fishers exact test for categorical variables, adjusting for demographics, medications, laboratory tests and the Charlson comorbidity index. Potential neurologic complications were identified through ICD codes. Chronological and casual relationship with hypernatremia correction rate were ascertained through medical chart review.

Results: A total of 4,265 patients were included, of which 343 (8%) were fast correctors. Median hospitalization length was shorter for fast vs slow correctors, 5 (IQR 2.1-14.9) versus 7.2 (IQR 3.5-16.1) days, respectively (p<0.001). Slow correction was associated with higher 30-day mortality (OR 1.98 [95% CI 1.55-2.55]), regardless of whether hypernatremia was hospital acquired (OR 2.09 [95% CI 1.53-2.84]) or documented on admission (OR 1.62 [95% CI 1.05-2.51]. Prevalence of neurological complications was comparable for both groups (p=0.2) and none were attributed to correction rate of hypernatremia.

Conclusions: Rapid correction of hypernatremia was associated with shorter hospitalizations and significantly lower patient mortality, without neurologic complications. Physicians should consider the totality of evidence when considering the optimal rates of correction for patients with severe hypernatremia.

404 - Submission No. 390

HYPONATREMIA'S ETIOLOGIC STUDY IN A YOUNG PATIENT

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Case Description: A 25-year-old male, without relevant medical history or medication, was admitted to the emergency room. The patient complained of asthenia and anorexia during the previous month with progressive worsening, as well as a loss of 5 kilograms in two months (<10% of body weight). Upon physical examination, the patient presented hypotension (85/49 mmHg) and darkened gums. There was no darkening of palmar creases. Blood analysis revealed hyponatremia (118 mmol/L, N 135-145), hyperkalemia (5.3 mmol/L, N 3.5-4.5), and polycythemia (hemoglobin 17.3 g/dL, N 13.5-17.0).

Clinical Hypothesis: The main clinical hypotheses were syndrome of inappropriate antidiuretic hormone secretion (central or paraneoplastic) and adrenal insufficiency. Chest x-ray, brain CT, and abdominal ultrasound were unremarkable. The patient was admitted for etiologic study and treatment of symptomatic hyponatremia.

Diagnostic Pathways: The subsequent investigation revealed low serum osmolarity (240 mOsm/Kg, N 275-295), high urine sodium (86 mEq/L), low 8 AM serum cortisol (4.92 mcg/dL, N>18). ACTH stimulation test suggested adrenal insufficiency. ACTH was elevated (>1250 pg/ml, N<46), aldosterone diminished (2.69 ng/dL) and 21-hydroxylase antibodies were negative. TSH, Free-T4,

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dehydroepiandrosterone, and androstenedione were within the normal range. Abdominal-CT excluded adrenal lesions. A chronic primary adrenal insufficiency diagnosis was made (Addison's disease) and the patient was started on corticoid supplementation and fluid therapy. Sodium slowly reached normal levels and significant clinical improvement was seen. The patient was discharged and continues follow-up in endocrinology's outpatient clinic.

Discussion and Learning Points: This patient presented constitutional symptoms, which raised suspicion of cancer. Even though Addison's disease is rare, awareness of it is essential for a timely diagnosis and appropriate disease control.

405 - Submission No. 1186

A SHOCKED THYROID AFTER THE COVID-19 VACCINE

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Case Description: Male, 82 years old, no relevant past medical history. Admitted for epigastric pain, nausea and vomiting with episodes of palpitations. 3rd dose of anti-SARS-CoV-2 mRNA vaccine in the last 10 days. On admission had no fever, hemodynamically stable, cardiopulmonary auscultation without alterations, non-pathological abdomen, without oedema. During Emergency stay, the patient had a regular narrow complex tachycardia episode, heart rate >180 bpm, hypotension, sweating and epigastric pain. Electrical cardioversion was performed with reversion to RS, HR 84 bpm.

Clinical Hypothesis: Giving the characteristics, prevalence and prognostic importance a cardiac cause (ischemia, arrhythmia origin) must be firstly excluded, as well as thyroid disease. Also, giving de symptoms, abdominal cause should be investigated

Diagnostic Pathways: Admission EKG sinus rhythm (SR), 73 bpm, no ischemia signs. Negative troponin, no changes in the hepatobiliary profile, negative amylase. Abdominopelvic CT scan without important changes. Complementary study: TSH 0.04 with T4L 1.54. Echocardiogram without significant changes. Negative anti-thyroid antibodies, negative TRABS, thyroid ultrasound with enlargement of the gland. Thyroid scintigraphy with near absence of radiopharmaceutical uptake in relation to probable subacute thyroiditis. Started thiamazole and propranolol, with symptomatic control.

Discussion and Learning Points: The authors assumed a Tachyarrhythmia due to thyrotoxicosis secondary to subacute thyroiditis after anti-SARS-CoV-2 vaccine. Subacute thyroiditis is a common cause of thyrotoxicosis. Although the viral etiology is the most common, there is evidence of cases after immunizations, namely with anti-SARS-CoV-2 mRNA vaccines, mechanism unknown. The presentation of the thyroid pathology described above in the form of an arrhythmia other than atrial fibrillation, requiring cardioversion, is not common.

406 - Submission No. 2373

TAKOTSUBO SYNDROME IN THE CONTEXT OF SEVERE HYPOGLYCEMIA

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Case Description: 39-year-old male (Image 1), type 1 diabetic with poor therapeutic adherence, transferred to Emergency Department due to low level of consciousness and severe hypoglycemia (capillary glucose 13 mg/dL). Stable vital signs. Sarcopenia with BMI 17.1 Kg/m^2. Electrocardiogram: sinus tachycardia with prolonged QTc (the following day diffuse flattening of T waves appeared). Biochemical test, ethanol, urine toxic test and head CT without alterations. After normalizing hypoglycemia with intravenous glucose, his hemodynamic condition worsened. Transthoracic echocardiogram: severe left ventricular dysfunction, morphology compatible with TTS with decreased ejection fraction and cardiac output, despite vasoactive drugs. Troponin 1042.67 ng/L. Balloon pump and ventricular support were implanted.

Clinical Hypothesis: Diabetes mellitus is the most frequent endocrine disorder, and hypoglycemia its most frequent complication. Although there are few described cases of TTS associated with hypoglycemia, it could be the main cause in this case.

Diagnostic Pathways: In addition to hypoglycemia, another etiology may be protein-calorie malnutrition. Biochemical, echocardiographic, and electrocardiographic findings normalized during follow-up. Angiography without alterations (Image 2).

Discussion and Learning Points: TTS is an acute and transient cardiomyopathy triggered by stressful events (exaggerated myocardial exposure to catecholamines). Characterized by apical left ventricle akinesia with compensatory hyperkinesis of the rest of the myocardium, in the absence of coronary artery stenosis or rupture of atheromatous plaques. Mortality-rate up to 8%, total-recovery up to 95%, recurrence up to 11%. Currently, myocardial abnormalities in the context of hypoglycemia are not studied and TTS may be a key factor in the increased cardiovascular morbimortality observed in previous studies focused on diabetic patients.

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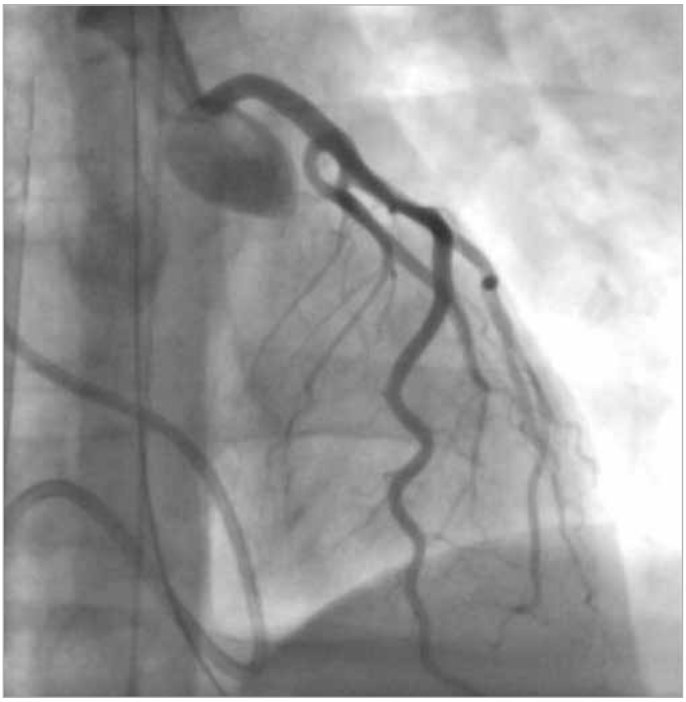
406 Figure 1.



406 Figure 2.

407 - Submission No. 2395

HYPERTHYROIDISM DUE TO GESTATIONAL TROPHOBLASTIC DISEASE (GTD)

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Case Description: 50-year-old woman, history of 2 full-term pregnancies (no abortion), hypertension, morbid obesity, with finding of hyperthyroidism in context of nervousness. Last menstruation 4 months ago. Complementary tests: TSH 0.03 (0.4-5 µUI/mL), FT4 22.85 (11-22 pmol/L), FT3 7.82 (3.10-6.80 pmol/L), TSI 0.92 (<2UI/mL), TPO<60 UI/mL. Normal biochemical test. Thyroid ultrasound: slightly enlarged thyroid, homogeneous echo structure, globally increased vascularity. No nodules or pathological adenopathies. Thyroid scintigraphy: diffuse increased uptake (Figure 1). Thiamazole 5mg/12h was prescribed. Two months later, she consults for metrorrhagia and abdominal pain. Abdominal-pelvic ultrasound: 14x12cm hyper-vascularized endometrial mass invading myometrium (Figure 2). Endometrial biopsy: chorionic decidual tissue.

Clinical Hypothesis: Hyperthyroidism could be due to an overproduction of human chorionic gonadotropin (hCG).

Diagnostic Pathways: hCG 154059 (<2.0UI/L). Abdominal-pelvic CT-scan: large endometrial thickening with neoplastic appearance. Total hysterectomy plus double adnexectomy was performed. Pathology study: invasive complete mole-type GTD. In subsequent reviews, progressive clinical and analytical improvement, stable after suspending thiamazole, with undetectable hCG.

Discussion and Learning Points: Thyrotoxicosis is characterized by tissue exposure to excess thyroid hormone. A rare entity is hyperthyroidism due to overproduction of hCG that appears in GTD. GTD is characterized by trophoblastic epithelium hyperplasia, hCG usually >200IU/mL and metrorrhagia as the most frequent symptom. If there is no metastatic disease, curative treatment is tumor excision. Antithyroid drugs are prescribed prior-to-surgery to achieve euthyroidism. A broad differential diagnosis of hyperthyroidism is crucial, including hCG hyperproduction, especially if history of previous pregnancy. A subgroup corresponds to self-limited hyperthyroidism, but those associated with GTD must be diagnosed and treated appropriately since prognosis depends on it.

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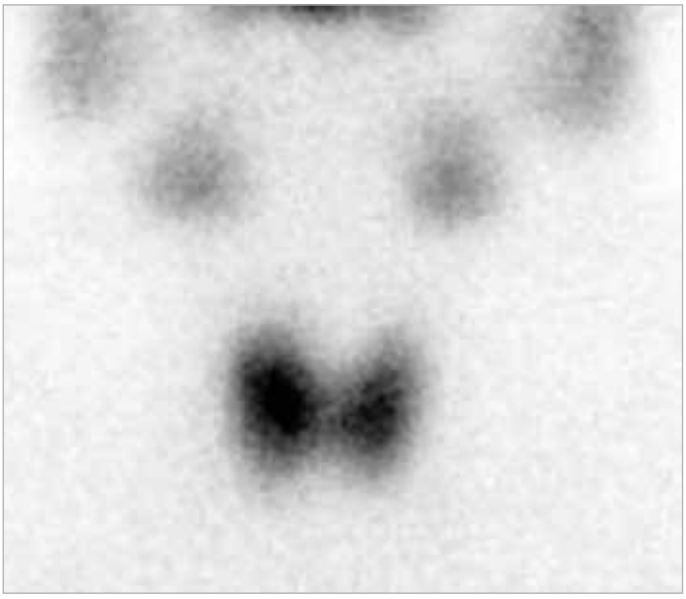
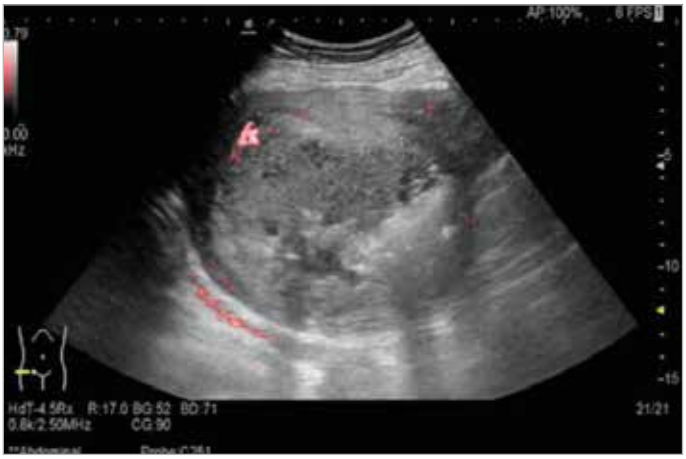


407 Figure 1.



407 Figure 2.

408 - Submission No. 2396

ADEFOVIR-INDUCED OSTEOMALACIA AND HYPOPHOSPHATEMIA

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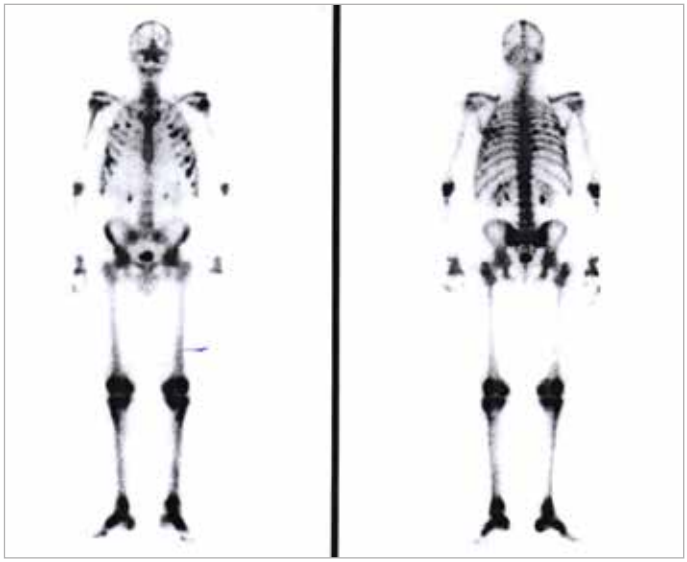
Case Description: 53-year-old male, history of hypertension and chronic hepatitis B, treated with candesartan 16 mg/day and adefovir 10 mg/day (for 5 years), referred for pathological fractures, myalgias and hypophosphatemia. Normal physical examination except pain on palpation in the thoracic-spine and right costal-arches. Additional tests: phosphorus 1.8 mg/dl (2.2-4.7), vitamin-D 16 ng/ml (20-50), alkaline-phosphatase 218 U/l (45-129), PTH 38 pg/ml (10-65), uric-acid 2.5 mg/dl (3.4-7). Tubular phosphate reabsorption: 47% (normal >80%). Normal cFGF-23. Antinuclear antibodies and HLA-B27 negative. Chest X-ray: non-displaced rib fractures (sixth and eighth right arches). Bone scintigraphy: uptake foci in rib cages and sacroiliac (Figure 1). Dorsal-column MRI: fracture-subsidence in T5-T6-T7. Normal scintigraphy (IN-111-octreotide).

Clinical Hypothesis: Suspected hypophosphatemic osteomalacia secondary to adefovir.

Diagnostic Pathways: Progressive clinical and analytical improvement after adefovir discontinuation. At 3 months, phosphorus 2.7 mg/dl (without supplementation) and normalization of tubular phosphate reabsorption.

Discussion and Learning Points: Osteomalacia is characterized by a mineralization deficit of bone organic matrix, related to alterations in vitamin-D or phosphorus, drugs, tumors and genetic diseases, producing non-specific symptoms (proximal muscle pain and weakness; bone fractures). The most characteristic radiological alterations are pseudo fractures or Looser-Milkman lines, sometimes visible on X-ray and scintigraphy, which can evolve into complete fractures. A broad differential diagnosis of hypophosphatemia is crucial. Adefovir is an antiretroviral drug indicated for chronic-hepatitis-B in adults, which can damage the proximal-renal-tubule, producing hypophosphatemia, hypouricemia, proteinuria and glycosuria, described even with low doses of 10 mg/day. Hypophosphatemic osteomalacia occurs with low phosphorus, elevated alkaline-phosphatase and normal calcium, PTH and vitamin-D.



408 Figure 1.

DOI: 10.12890/2023_V10Sup1

409 - Submission No. 2403

RECLASSIFICATION OF TYPE 1 DIABETES MELLITUS INTO MONOGENIC DIABETES WITH AN ATYPICAL PRESENTATION. TOWARDS A PRECISION MEDICINE IN DIABETES

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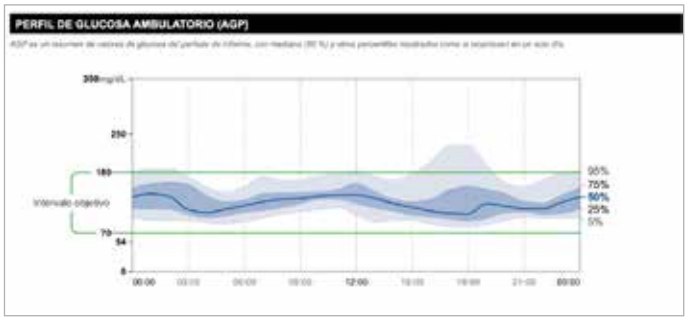
Case Description: 28-year-old woman, history of diabetes mellitus (DM) with etiology still unknown, diagnosed 16 years ago by oral-glucose-overload and treated with insulin from the beginning. Father and grandfather with DM2. She discontinued insulin therapy due to low-zero insulin requirements for 4 years, negative autoimmunity, and conserved C-peptide. Genetic study of MODY 2 and 3 was negative. Metformin and iDPP4 were started for 10 years, with acceptable metabolic control (HbA1c≈7%) and progressively lower C-peptide (stabilized at 0.50 ng/mL). Pregnancy in 2020 with progressive worsening of glycemic control since postpartum (HbA1c 9.3%, C-peptide 0.40 ng/mL): insulin was restarted (bolus-basal regimen) and Flash-Glucose-Monitoring (FGM) was implanted because of suspicion of insulinopenia due to DM1, with clear improvement (Glucose-Management-Indicator 6.6%, Time-in-Range 84%, glucose-variability 28%).

Clinical Hypothesis: Another unstudied subtype of monogenic diabetes is suspected.

Diagnostic Pathways: Complete genetic panel of monogenic diabetes: heterozygous mutation in exon-1 of the KCNJ11-gene (Glu229Lys), pathogenic for the most frequent subtype of permanent neonatal monogenic diabetes (NPDM). Switch from insulin therapy to sulfonylureas was made, controlled by FGM. Glimepiride 1mg/day was started, maintaining slow-acting insulin, and suspending fast-acting insulin. In the following review, glycemic control improved: Glucose-Management-Indicator 5.7%, Time-in-Range 95%, glucose-variability 23% (Figure1).

Discussion and Learning Points: Monogenic diabetes is highly underdiagnosed, and treatment is not optimized in these patients. Thanks to the genetic panel, our patient could be correctly diagnosed and treated, improving her glycemic control and her quality of life. Her mutation is mainly associated with neonatal diabetes and therefore clinical suspicion was very low. The correct genotyping of diabetes brings us closer to "precision medicine".



409 Figure 1.

410 - Submission No. 2394

EFFECT OF THE NIGHT SUPPRESSION TEST WITH 1 MG OF DEXAMETHASONE (NUGENT) ON BASAL GLYCEMIA IN PATIENTS WITHOUT PRIOR DIAGNOSIS OF DIABETES MELLITUS (DM)

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Background and Aims: Nugent test is a screening test used for the diagnosis of Cushing's syndrome and to study functionality in adrenal incidentaloma (AI). The aim is to determine how Nugent test effects on basal glycemia, since it could cause false positives if we use the glycemia, the day after the test, as a screening for DM.

Methods: Descriptive study that analyzes the data of 296 patients who were studied for an AI throughout the year 2021. Patients were classified according to previous DM diagnosis, HbA1c, and basal glycemia after the Nugent test. The influence of 1mg-dexamethasone on glycemia is analyzed to determine the validity of this parameter as a diagnostic criterion for DM.

Results: Results are shown in Table 1. Of the 296 patients analyzed, 155 had no previous DM, of which 75 patients had normal basal glycemia (<100 mg/dl) and 80 altered basal glycemia: 70 in the prediabetes range (100-125 mg/dl) and 10 in the diabetes range (≥126 mg/dl) (Table 1). In patients without known diabetes with abnormal basal glucose levels (n=80), 39 had normal HbA1c level (<5.7%) and 41 also had altered HbA1c levels.

Conclusions: Approximately half (51.6%) of the patients without known DM presented altered glucose levels after the Nugent test, but only 26.4% had also altered HbA1c values. Thus, taking dexamethasone may have an influence on the fasting glucose value, so we should not use it as a screening test for DM or preDM.

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	HbA1c<5,7%	HbA1c 5,7-6,5%	HbA1c≥6,5%
Glycemia <100mg/dl	65	10	0
Glycemia 100-125 mg/dl	39	29	2
Glycemia ≥126mg/dl	0	10	0
IL-6>24	2.70	2.64	3.93
CTBoD>50%	3.52	20.32	4.43

410 Table 1. Patients without prior DM (n=155)

411 - Submission No. 1493

SOLUBLE RECEPTOR FOR ADVANCED GLYCATION END-PRODUCTS (SRAGE) IN PREDICTION OF DIABETIC KIDNEY DISEASE WITHIN A 7-YEAR FOLLOW-UP

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Background and Aims: sRAGE represents a modern biomarker of endothelial changes and acts as a decoy molecule neutralizing RAGE ligands and reducing intracellular harmful cascades. The aim of this longitudinal study was to evaluate sRAGE in respect of diabetes control and renal functions within 7 years.

Methods: In total, 62 persons (33 with Type 1 diabetes /T1DM/ aged 46±13 years, 29 with Type 2 diabetes /T2DM/ aged 60±11 years) were enrolled. Routine biochemical parameters, glycated hemoglobin (HbA_{1c}), sRAGE and albumin-creatinine ratio (ACR) were measured in all subjects.

Results: Diabetes control expressed by HbA_{1c} improved significantly within 7 years (T1DM: 63±9 vs. 74±15 mmol/mol, p<0.0001; T2DM: 57±11 vs. 66±21 mmol/mol, p<0.01), while a decrease in glomerular filtration rate (eGFR) (T1DM: 87±16 vs. 94±16 ml/min, p<0.0001; T2DM: 73±19 vs. 83±15 ml/min, p<0.001) and an increase in albuminuria positivity (ACR>2.5 mg/mmol) (T1DM: 21 vs. 9 %; T2DM: 34 vs. 24 %) were observed. The new onset of diabetic kidney disease (DKD: eGFR<60 ml/min a/o ACR>2.5 mg/mmol) was present in 15 % (T1DM) and 28 % (T2DM) of patients. sRAGE increased significantly in T2DM (1030±257 vs. 906±266 nmol/l, p<0.01), but not in T1DM (1112±384 vs. 1093±471 nmol/l, ns). sRAGE increase in T2DM was mainly observed in patients newly developing DKD. However, no association between sRAGE and eGFR was present.

Conclusions: Our study showed that even improvement of diabetes control could not prevent from worsening of renal functions in diabetes. sRAGE can be an interesting marker for assessment of endothelial dysfunction, however it is not convenient for prediction of renal complications in diabetes.

412 - Submission No. 2058

THE OTHER SIDE OF THE COIN - A CASE REPORT OF EUGLYCEMIC DIABETIC KETOACIDOSIS ASSOCIATED WITH SGLT2 INHIBITORS

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Case Description: A 51-year-old Caucasian male with a personal history of schizophrenia, epilepsy (since childhood), Type 2 Diabetes Mellitus (T2DM), dyslipidemia, parkinsonism, and benign prostatic hyperplasia, presented to the Emergency Department (ED) with mutism and abdominal pain. Chronically medicated with sodium valproate, lorazepam, aripiprazole, biperiden, zuclopenthixol, acetylsalicylic acid, metformin, empagliflozin + metformin, dulaglutide, atorvastatin, finasteride and tamsulosin. At admission, the patient was unresponsive, normotensive, tachycardic and apyretic. On physical examination he showed signs of abdominal pain. At the admission he presented hyperglycemia (198 mg/dL) and ketonemia (2.9 mmol/L).

Clinical Hypothesis: Diabetic ketoacidosis (DKA), iatrogenic effects of psychiatric medication, stroke.

Diagnostic Pathways: Blood gases revealed metabolic acidemia, pH 7.335, pCO_2 35.2 mmHg, HCO_3 12.3 mmol/L, anion gap 24.7 mmol/L and hyperlactacidemia 2.4 mmol/L. Blood tests revealed acute renal injury (creatinine 1.4 mg/dL, urea 48.7 mg/dL), sodium 148 mmol/L. Urine analysis showed glycosuria and ketone bodies. Thoracic x-ray and CT-scan were normal.

Discussion and Learning Points: The multidimensional benefits of sodium-glucose cotransporter 2 (SGLT2) inhibitors on the cardiovascular and renal system of patients with T2DM are remarkable. Nevertheless, they are not innocuous particularly due the increased risk of DKA, which increases even more when taken along with metformin. DKA induced by SGLT2 inhibitors is atypical, as the glucose levels are generally mildly elevated (<200 mg/dL), called euglycemic DKA. With the increasing use of this drugs there is a likelihood of an increase in the number of this complication. Hence, it is crucial that physicians get aware of these (rare) complication to avoid late diagnosis or misdiagnosis and promote the appropriate treatment on time.

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413 - Submission No. 2213

MYXEDEMA COMA - A RARE PRESENTATION OF HYPOTHYROIDISM NOWADAYS? EMERGENCY DEPARTMENT DIAGNOSIS

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Case Description: Myxedema coma is defined as severe hypothyroidism leading to decreased mental status, hypothermia, and other symptoms related to slowing of function in multiple organs. It is a medical emergency with a high mortality rate. We present the case of a 58-year-old male patient, with a history of type 2 diabetes, diabetic nephropathy, dyslipidemia, morbid obesity, hypertension and arrhythmia. Usually medicated with dapagliflozin, metformin, allopurinol, acetylsalicylic acid, amiodarone, ramipril, amlodipine, omeprazole, bromazepam and ferrous sulfate. Admitted to the hospital due to asthenia, adynamia, hypothermia, mucocutaneous pallor and hypotension. Investigated at emergency department, where was detected severe bradycardia (24 beats per minute). Analytically with immeasurable thyroid-stimulating hormone (TSH) and low serum T4 (thyroxin). Was started precocious therapy with levothyroxine and hydrocortisone in association with isoproterenol and vasopressor treatment with noradrenaline. Because of multi organ dysfunction, transferred to the Intensive Care Unit (ICU) where was submitted to pacemaker implantation, hemodialysis, and intubation. Due to a favorable evolution in the ICU, transferred to the Internal Medicine ward for continued care and treatment. Myxedema coma is an endocrine emergency that should be managed aggressively as the mortality rate is high, ranging from 30 to 50 percent.

Clinical Hypothesis: Hypopituitarism; adrenal insufficiency; chronic venous insufficiency; lipedema; lymphatic filariasis; cardiac insufficiency; liver failure; renal insufficiency.

Diagnostic Pathways: At clinical presentation: blood test including TSH, free thyroxine (T4), cortisol; ECG and ultrasound screening.

Discussion and Learning Points: Myxedema coma is an endocrine emergency that should be managed aggressively as the mortality rate is high, ranging from 30 to 50 percent.

414 - Submission No. 989

OFF-LABEL USE OF SUBCUTANEOUS SEMAGLUTIDE FOR WEIGHT MANAGEMENT

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Background and Aims: In 2019 subcutaneous semaglutide 1-mg was registered in Israel for the treatment of diabetes. Recognition of its effect on weight has led to its use as an off-label treatment for obesity, which is allowed under a unique designated authorization granted by the Israel Ministry of Health. This study aimed to understand the practice and the experience gained from it.

Methods: A 27-items questionnaire was disseminated to physicians who prescribed semaglutide 1 mg for weight loss utilizing an authorized off-label path.

Results: 127 physicians filled-out the questionnaire: 51% family physicians, 28% endocrinologists, and 21% internists. As for pretreatment requirements, in the absence of diabetes, 30% requested a minimal BMI of 30 kg/m^2. Additional requirements were documented lifestyle-change effort (67%) and prior weight loss medication use (13%). Half regard calorie restriction and 23% regard physical activity as requirements for weight loss while on therapy. As for dose, most (78%) start with a 0.25 mg weekly injection, 57% double it monthly and all others recommend doubling when side-effects subside. 43% set a personal weight loss goal while 26% limit it to 10% of initial weight. Less than 50% discuss treatment duration with their patients and 52% of subjects discontinue therapy in the first 3 months. Main reasons for discontinuation were price, lack of effect and fear of long-term side-effects.

Conclusions: The diverse approaches regarding off-label utilization of semaglutide for weight reduction highlight the necessity to guide physicians and standardize treatment regimen.

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415 - Submission No. 2147

PELLAGRA: THE DISEASE OF THE 3 D'S

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Case Description: 57-year-old patient, integrated in a precarious socio-economic context, presented with abdominal pain, diarrhea and confusion. He had erythematous and pigmented skin lesions in the photo exposed areas.

Clinical Hypothesis: The association of symptoms with skin lesions was suggestive of pellagra.

Diagnostic Pathways: It was not possible to measure N-methylnicotinamide (Niacin), but there was a significant improvement in the skin lesions and in the neurological status after supplementation with B-complex vitamins. The diarrhea symptoms were also resolved.

Discussion and Learning Points: Niacin deficiency is rare in developed countries, often presenting as a clinical triad of dementia, diarrhea and dermatitis.

416 - Submission No. 1715

PHEOCHROMOCYTOMA CRISIS

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Case Description: The authors present the case of a 54-year-old man, with hypertension, dyslipidemia and a smoker. The patient was admitted with 3 days of vomiting, palpitations, disorientation and new onset of fever. Physical exam revealed hypertension of 182/105mmHg, tachycardia (139 bpm), fever, normal RR and saturation, with signs of dehydration. On neurological examination, he is alert, confused, without neurological foci and signs of meningeal irritation. Analytically AKI with creatinine of 2.4 mg/dl and leukocytosis. EKG revealed new AF. In the ER he develops tachycardia (240 bpm) with instability, needing pharmacologic cardioversion. It was assumed SIRS secondary to presumptive infectious process.

Clinical Hypothesis: It was assumed SIRS secondary to presumptive infectious process.

Diagnostic Pathways: A cranial tomography and lumbar puncture were performed, which were normal, and a thoracoabdominal-pelvic tomography revealed a 48 mm right adrenal nodule. Empirical antibiotics were started after septic screening. The patient had a rapidly favorable clinical and analytical evolution within 24 hours. Septic screening came negative and urinary and plasma fractionated metanephrines and catecholamines were normal. Exploring the clinical history, the patient reports several episodes of tachycardia and profuse sweating in the previous couple of months. Due to is high probability of pheochromocytoma we decided to repeat the urinary fractionated metanephrines and catecholamines, the results are adrenaline >6179 nmol/d and noradrenaline >2188 nmol/d, which confirms the diagnosis. The patient was them submitted to surgery with success

Discussion and Learning Points: We present a case of pheochromocytoma with first presentation of a pheochromocytoma crisis. Although the first metanephrines and catecholamines were initially negative, when in high suspicion they should be repeated.

417 - Submission No. 957

ADHERENCE TO THE MEDITERRANEAN DIET INCREASES ATTAINMENT OF LDL-CHOLESTEROL TARGET VALUES: RESULTS FROM THE «PERSEAS» 5-YEAR EPIDEMIOLOGICAL STUDY IN ELAFONISOS ISLAND, GREECE

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Background and Aims: PERSEAS (Prospective Evaluation of vascular Risk Surrogates: the Elafonisos Area Study) is an epidemiological prospective study that assessed the physical course of lifestyle habits and cardiovascular disease in Elafonisos Island, Greece during a 5-year follow-up period. This analysis aims to define the relationship between adherence to the Mediterranean Diet and lipid profile in the PERSEAS cohort.

Methods: PERSEAS included 612 individuals (77% of the Island's population, mean age 53±19years). Adherence to the Mediterranean Diet was measured by the Mediterranean Diet Score (MetDs). Seven-day diet records were created to assess whole-grain, fruits/vegetables, fish/poultry, red meat, dairy and olive oil consumption. Capillary blood samples were obtained to measure lipid profile. The Hellenic Atherosclerosis Society

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guidelines (2021) were used to determine attainment of LDL-target values. Use of statins was recorded.

Results: During the PERSEAS study, LDL-target value was attained by 30% (n=184) of the participants in the 1st-year and by 35% (n=214) in the final-year of the study (p=0.04). The use of statins increased by 12% (18% in the 1st-year vs. 30% in the final-year). As expected, increased use of statins was associated with the higher-odds of LDL-target attainment in the final-year (OR 1.13, 95%CI 1.07-2.19). MetDs significantly increased during the PERSEAS study (26±4 vs. 31±4 in the final-year, p<0.001). Increased MetDs was independently associated with higher-odds of LDL-target (OR 1.47, 95%CI 1.22-2.17).

Conclusions: Better adherence to the Mediterranean Diet increased the subnormal LDL-target attainment in the PERSEAS cohort independently of the use of statins. Easily adapted lifestyle changes may reduce cardiovascular burden in rural populations.

418 - Submission No. 719

SERUM SCLEROSTIN LEVEL IS POSITIVELY ASSOCIATED WITH ENDOTHELIAL DYSFUNCTION MEASURING BY DIGITAL THERMAL MONITORING IN PATIENTS WITH TYPE 2 DIABETES

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Background and Aims: Sclerostin and dickkopf-1 (DKK1), extracellular inhibitors of the canonical Wnt/β-catenin signaling pathway, have been associated with vascular aging and atherosclerosis. This study assessed the correlation between sclerostin or DKK1 concentrations and endothelial function measured by vascular reactivity index (VRI) in patients with type 2 diabetes mellitus (T2DM).

Methods: Fasting blood samples were collected from 100 patients with T2DM. Endothelial function and VRI were measured via digital thermal monitoring test. Circulating sclerostin and DKK1 levels were measured using enzyme-linked immunosorbent assays. VRI values <1.0, 1.0–1.9, and >2.0 indicated poor, intermediate, and good vascular reactivity.

Results: Of the patients, 32 (32.0%) had good, 38 (38.0%) had intermediate, and 30 (30.0%) had poor VRI, respectively. Significant between-group differences were noted in patients with older age (p = 0.030), higher levels of serum HbA1C (p = 0.011), urinary albumin-to-creatinine ratio (UACR, p = 0.042), and sclerostin (p < 0.001) and lower systolic blood pressure (p = 0.019), diastolic blood pressure (p < 0.001), and prevalence of hypertension (p = 0.018). Multivariable forward stepwise linear regression analysis noted that diastolic blood pressure (β = 0.294, p < 0.001), log-HbA1C (β = −0.235, p = 0.002), log-UACR (β = −0.342, p < 0.001), and log-sclerostin level (β = −0.327, p < 0.001) were independently associated with VRI values in patients with T2DM.

Conclusions: Serum levels of sclerostin, but not DKK1, negatively correlated with VRI and independently predict endothelial dysfunction in patients with T2DM.

419 - Submission No. 199

NON INTERVENTIONAL WEIGHT CHANGES ARE ASSOCIATED WITH ALTERATIONS IN URIC ACID LEVELS

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Background and Aims: Uric acid (UA) is an emerging cardiovascular risk factor. Obesity is associated with higher UA levels. We aimed to assess whether non interventional modest weight changes affect UA levels.

Methods: This is a retrospective analysis of subjects referred to annual medical screening. Body mass index (BMI) and UA were measured annually. Patients were divided according to the change in BMI between visits: reduction of > 5% ("large reduction"), reduction of 2.5-5% ("moderate reduction"), reduction of < 2.5% or elevation of < 2.5% ("unchanged"), elevation of 2.5-5% ("moderate increase") and elevation of > 5% ("large increase"). The primary outcome was the change in UA between visits.

Results: The final analysis included 19,183 subjects. Mean change in UA (mg/dL) was -0.21, -0.04, +0.04, +0.12 and +0.19, for "large reduction", "moderate reduction", "unchanged", "moderate increase" and "large increase", respectively (p < .01). The proportion of patients with > 10% rise in UA progressively increased with the relative change in BMI (17.1%, 20.6%, 23.3%, 27.2%, and 33.1% for "large reduction", "moderate reduction", "unchanged", "moderate increase", and "large increase", respectively, p < .01). Compared to the "unchanged" group, the odds ratio for UA rises of > 10% was 0.68, 0.85, 1.22 and 1.61 for "large reduction", "moderate reduction", "moderate increase", and "large increase" groups, respectively (p < .01).

Conclusions: Even modest non-interventional weight changes are associated with alterations in UA levels.

420 - Submission No. 183

DELAYED PRESENTATION OF HEMICHOREA IN DIABETIC STRIATOPATHY

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Case Description: A 70-year-old Asian female was newly diagnosed with type 2 diabetes mellitus complicated by diabetic ketoacidosis when she presented with lethargy and confusion.

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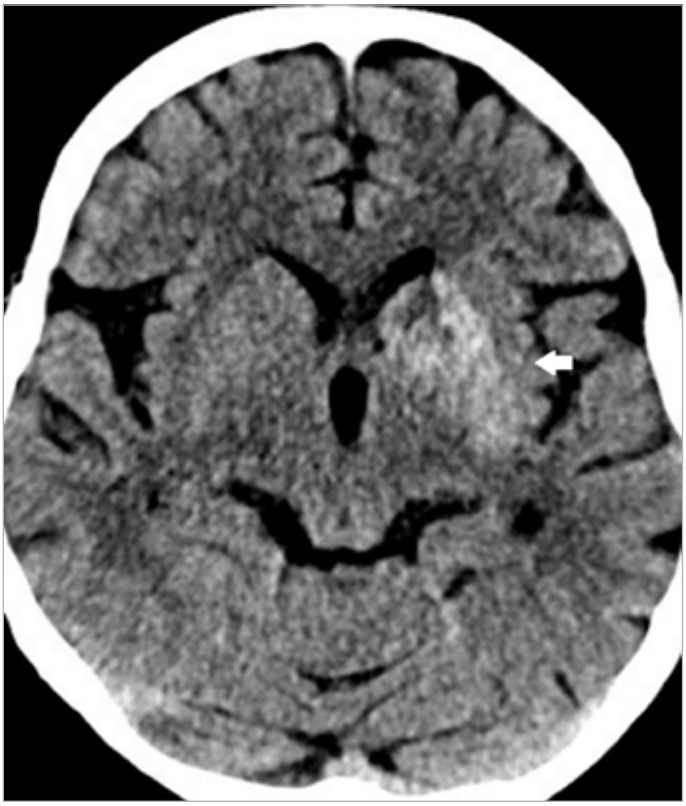
Computed tomography and magnetic resonance imaging of the brain performed for the patient showed incidental isolated radiological features of diabetic striatopathy, even though she did not have any hyperkinetic movements. After intensive glycemic control, the patient paradoxically developed a delayed presentation of hemichorea two weeks later.

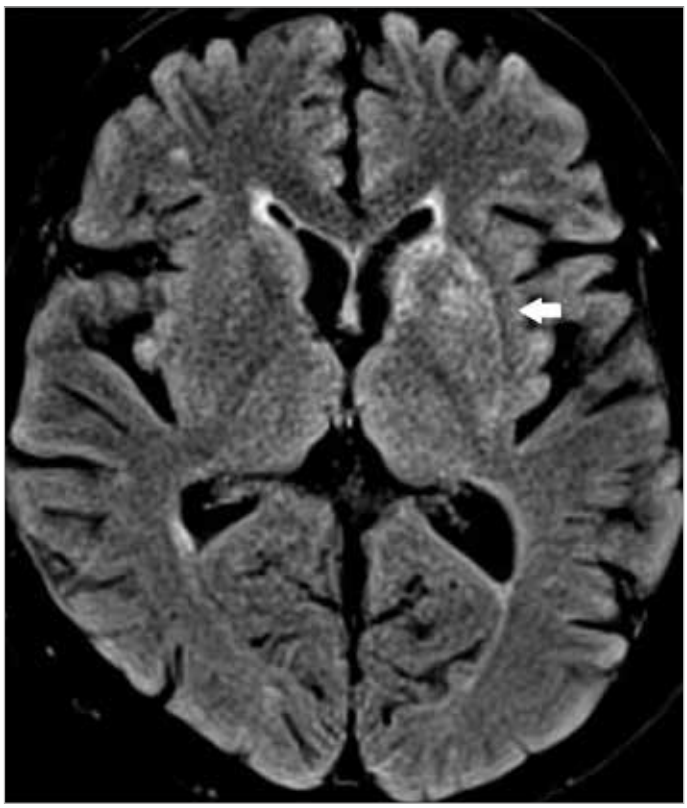
Clinical Hypothesis: Cerebrovascular accidents such as intracranial hemorrhage, acute infarct; metabolic causes such as diabetic ketoacidosis, hypothyroidism, Wilson's disease, toxins, malignant and infectious diseases

Diagnostic Pathways: Clinical history, physical examination, computer tomography (figure 1) and magnetic resonance imaging of the brain (figure 2-3), continued follow up with presentation of further symptoms and progressive signs

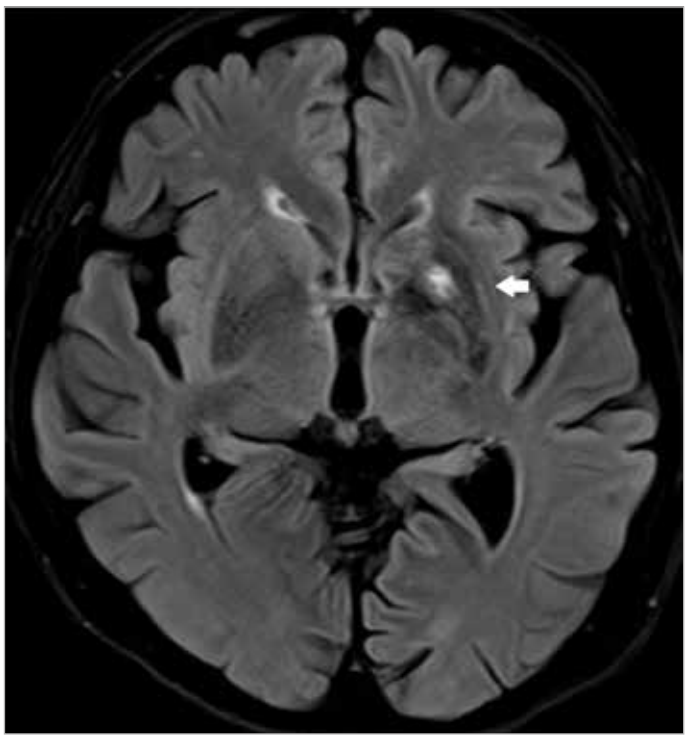
Discussion and Learning Points: Diabetic striatopathy is a rare condition associated with poorly controlled diabetes that can present as hyperkinetic movements. There can be clinical-radiological dissociation with neuroimaging abnormalities that can precede hyperkinetic movements, prompting for heightened awareness of this condition in susceptible patients. Pathological findings in diabetic striatopathy suggest the contributing role of vascular microangiopathy, similar to changes seen in proliferative diabetic retinopathy. In order to avoid precipitating hyperkinetic movements, a less intensive diabetic control could be considered for asymptomatic patients with isolated radiological features of diabetic striatopathy. This is especially important in patients who are at higher risk of the condition.



420 Figure 1.



420 Figure 2.



420 Figure 3.

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AS07. GASTROINTESTINAL AND LIVER DISEASES

421 - Submission No. 346

INFECTIOUS MONONUCLEOSIS-LIKE SYNDROME CAUSING SEVERE CHOLESTATIC DISEASE

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Case Description: A 24-years old college student, with no past medical history, is transferred to our department from an urban hospital, where he was hospitalized for a mixed type of hepatocellular injury. He does not take any medication, but he consumes 2-3 high-energy drinks per day to keep him awake for studying. Physical examination reveals icterus, maculopapular rash and hepatosplenomegaly. Lymphadenopathy was absent. At the time he was admitted to our department the liver enzymes were as follows; AST 105 IU/L, ALT 203 IU/L, gGT 200 IU/L, ALP 191 IU/L, TBIL 10.43 mg/dl, DBIL 8.81 mg/dl. No liver mass, or gallbladder cystic obstruction was visualized on abdominal ultrasound. Further laboratory work-up for hepatotropic viral and infectious agents came up positive for CBV (PCR CMV). Protein electrophoresis, peripheral immunophenotype were not pathological. Testing for HIV was negative.

Clinical Hypothesis: TBIL reached 22.12 mg/dl and liver biopsy was performed to rule out autoimmune causes despite negative serum antibodies tests.

Diagnostic Pathways: The histology showed a few periportal inflammatory cells with no fibrosis, consistent with an infectious or drug-induced cause. There was no sign of chronic hepatitis.

Discussion and Learning Points: The patient received conservative treatment with ursodeoxycholic acid. TBIL returned to normal limits and liver enzymes followed after a period of 2 weeks. Cholestatic disease due to primary CMV infection is a rare presentation that is characterized by hepatosplenomegaly, lymphopenia and absence of lymphadenopathy.

Reference:

Kage M, et al. Infantile cholestasis due to cytomegalovirus infection of the liver. A possible cause of paucity of interlobular bile ducts. Arch Pathol Lab Med. 1993 Sep;117(9):942-4.

422 - Submission No. 253

AN UNCOMMON CAUSE OF ABDOMINAL OBSTRUCTION

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Case Description: Case of a 54-year-old male, inmate, presents with intractable emesis and abdominal discomfort. The patient reports 8-10 episodes/day of gastric content vomiting that eventually turned bilious for the past 2 weeks. Furthermore, he refers to having epigastric discomfort associated with fatigue, anorexia, and weight loss. The physical exam revealed hyperactive bowel sounds and a peri-umbilical mass with no tenderness to palpation or guarding.

Clinical Hypothesis: The patient was admitted due to intestinal obstruction.

Diagnostic Pathways: Abdominal CT showed an exophytic soft tissue mass arising from the mid ileum that measured approximately 4.5x5.3x4.7 cm causing a partial high-grade small bowel obstruction. He underwent percutaneous biopsy with a pathology report resulting in a spindle cell lesion, high risk, most consistent with GIST. Immunohistochemistry was only positive for C-KIT with a mitotic rate >5/5 mm^2. The patient had surgical excision of jejunal mass via small bowel resection and was discharged on tyrosine kinase inhibitor. At 6 months follow-up, the patient was found disease free.

Discussion and Learning Points: Gastrointestinal Stromal Tumors (GISTs) are rare neoplasms representing only 1% of all primary GI tumors. Yet they are the most common mesenchymal tumor (80%) of the GI tract originating at any site from the esophagus to the anus. Therefore, having a wide range of presentations from asymptomatic to signs of acute abdomen. Early detection of these tumors requires a high level of suspicion hence the necessity of additional investigation to improve the prognosis and survival rates in this population.

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423 - Submission No. 1344

ACUTE PERICARDITIS ASSOCIATED WITH ACUTE SEVERE HEPATITIS B

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Case Description: A 32-year-old man was admitted to the hospital for investigation of acute icteric hepatitis. No medical history. Physical examination: jaundice of conjunctivae and skin, hepatomegaly. On the 21st day of hospitalization, the patient developed a low-grade fever and pain in the left anterolateral chest wall with repolarization disturbances on the ECG. Transthoracic echocardiogram revealed a moderate amount of pericardial effusion. He received empiric antimicrobial therapy with ampicillin-sulbactam. NSAIDs were not admitted because of the acute hepatitis. The fever and the pericardial effusion were gradually resolved.

Clinical Hypothesis: Acute pericarditis could be an extrahepatic manifestation of acute hepatitis B.

Diagnostic Pathways: Laboratory tests: AST= 2345 IU/L, ALT= 3578 IU/L, ALP= 270 IU/L, γGT= 318 IU/L, total bilirubin= 48 mg/dl, (direct= 28 mg/dl), HBsAg(+), HBeAg(+), anti-HBs(-), anti-HBc(+), IgM-anti-HBc(+). HBV-DNA (PCR): $1.28x10^8$ copies/ml. Molecular analysis of the virus revealed genotype D and absence of mutations in the pre-core/core region (wild type). ANA, AMA, ASMA, anti-LKM: negative. Thyroid hormones values: normal. MRCP: thickening of the wall and septa of the gallbladder, without dilation of intrahepatic and extrahepatic bile ducts. Antibodies for Coxsackie A, B, chicken pox, immunological tests and the Mantoux skin reaction: negative.

Discussion and Learning Points: Most adult patients with acute hepatitis B are self-healed and do not require treatment with antiviral drugs. Acute HBV infection may be associated with a serum sickness-like reaction. Literature references of acute pericarditis related to HBV infection are few and have to do with either cases after vaccination or cases of patients undergoing hemodialysis.

424 - Submission No. 2398

INFESTATION BY TAENIA SOLIUM AS A CAUSE OF RECURRENT HYPONATREMIA IN A PSYCHIATRIC PATIENT. AN INTERESTING CASE

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Case Description: A 54-year-old patient with schizophrenia was hospitalized 3 times at the Internal Medicine Clinic of the Athens Psychiatric Hospital with symptomatic hyponatremia (serum Na = 122-127 mEq/l). The patient's psychiatric treatment was modified on the assumption that it was causing the fall in serum sodium levels as CNS imaging and other appropriate workup were negative. Despite the interventions, the patient complained of headache and nausea and diarrhea.

Clinical Hypothesis: The main cause of hyponatremia in Psychiatric patients are iatrogenic since Psychiatric medications provoke hyponatremia as a common side effect. In any case less frequent causes of low sodium serum levels must be investigated, especially in Psychiatric patients.

Diagnostic Pathways: Microscopic examination of feces revealed parasite eggs and the presence of tape was confirmed by PCR.

Discussion and Learning Points: Hyponatremia is a frequent finding in psychiatric patients that leads to hospitalization and modification of treatment. A common cause is the side effects of antipsychotic drugs that are blamed as major factors in the syndrome of inappropriate secretion of antidiuretic hormone. Psychogenic polydipsia and the interaction of other drugs sometimes contribute to a different degree. Other, less frequently overlooked causes are chronic latent infections mainly of the gastrointestinal tract (GI).

425 - Submission No. 2117

IF IT'S NOT A HEPATIC COMA...

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Case Description: Female, 61-year-old, liver cirrhosis viral C and toxic etiology, admitted in the hospital with ascites, anasarca and cognitive problems, starting for 2 days, when the patient was returning from a weekend in a winter resort. Low platelets, low albumin, mild leukocytosis and low prothrombin time. Despite the treatment and the improvement of the results of blood test, the state of the patient became aggravated. She became unresponsive, blood pressure = 85/45 mmHg, heart rate 55-60/min, SaO_2= 95% (atmospheric air), blood sugar 75-90 mg/dl, serum sodium130 mEq/l. Normal echocardiogram, temperature 35.5-36.0°C.

Clinical Hypothesis: The neurologist suspected a stroke, thinking of possible coagulation impairment. The stroke was confirmed by brain

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computed tomography scan. We check the dynamic of ammonia level, but after 3 days of treatment became almost normal, so we cannot explain the cause of the persistent deep coma.

Diagnostic Pathways: Searching for a cause of deep coma, we check the thyroid function and fix the correct diagnostic-myxedematous coma (TSH elevated and low fT4 and fT3). After the treatment, the situation of the patient has improved markedly, became conscious and responsive.

Discussion and Learning Points: Don't forget to check the levels of fT4, fT3, TSH and ATPO in the patient with liver cirrhosis, especially with virus C and also take the possibility for a cold exposure to trigger the myxedematous problems, various grades until coma.

426 - Submission No. 387

WILKIE SYNDROME OR SUPERIOR MESENTERIC ARTERY SYNDROME AS ABDOMINAL PAIN CAUSE

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Case Description: 15-year-old woman without important medical history, presented abdominal pain and vomiting during months with progressive oral intolerance. Normal physical examination and mild malnutrition on laboratory tests.

Clinical Hypothesis: Differential diagnosis of bowel obstruction.

Diagnostic Pathways: Endoscopy capsule: slight distension of duodenum and jejunum. Normal CT angiography and MRI enterography. Barium EGD transit showed a partial filling defect in the third portion of duodenum, with proximal dilatation: suggests Wilkie's syndrome. After discussing the case with surgery, conservative management was initially decided with nasojejunal tube nutrition, placed by endoscopically. After the failure of medical treatment, surgery: duodenojejunostomy and later laparoscopy + appendectomy + cecopexy due symptoms recurrence.

Discussion and Learning Points: Wilkie's or superior mesenteric artery syndrome is an unusual cause (0.013-0.3% population) of upper intestinal obstruction, caused by compression of the third portion of duodenum due to narrowing of the space between the superior mesenteric artery and aorta. It is more frequent in women (66%) between 10 and 39 years old (75%), and of asthenic constitution (80%). It is suggested that may be due to loss of perivascular adipose tissue after periods of hypermetabolism or malnutrition. Complex diagnosis, in many cases late, may cause serious complications. Gold standard for its diagnosis is CT, although in our case was barium EGD transit provided us most information. Diagnostic criteria, aortomesenteric angle ≤ 25° and aortomesenteric distance ≤8 mm. Conservative treatment is recommended before considering surgery, laparoscopic duodenojejunostomy is the choice. However, some authors defend resection of the third portion of duodenum, considering it a motility disorder rather than a true mechanical obstruction.

427 - Submission No. 970

VASCULAR ANOMALY AS AN UNCOMMON CAUSE OF LOWER GASTROINTESTINAL BLEEDING

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Case Description: 81-year-old male with a medical history of normochromic normocytic anemia in the transfusion range related to gastrointestinal bleeding. In March 2022, he suffered several melenic stools in 24 hours. Blood analysis revealed anemia in the transfusion range and iron deficiency with no data of hemolysis. An upper digestive endoscopy was performed, in which only gastric polyps were observed as a possible cause of anemia, which were resected. After a period free of melenic stools, he was admitted again for the same reason, accompanied by anemia, night fever and weight loss.

Clinical Hypothesis: A body-CT scan was performed without objectifying the cause of bleeding, so the possibility of a vascular anomaly was raised as an infrequent cause of lower gastrointestinal bleeding.

Diagnostic Pathways: A vascular lesion was visualized with a new upper digestive endoscopy at the level of the lesser curvature compatible with Dieulafoy's lesion, which was finally treated with adrenaline + endoscopic clips.

Discussion and Learning Points: Dieulafoy's lesion consists of bleeding from exposure to the entire superficial mucosa of a dilated aberrant submucosal artery. The consumption of toxic substances and comorbidities are found in up to 90% of patients. Patients usually remain asymptomatic, but may show acute episodes of upper gastrointestinal bleeding, in the form of melenic stools, hematemesis, hematochezia, or iron deficiency anemia. The most common location of bleeding is the proximal gastric area, although it can occur in any area of the digestive system. With proper diagnosis and treatment, mortality decreases to 8%; however, the difficulty lies in early detection, as occurred with our patient.

428 - Submission No. 453

LIVER FAT ACCUMULATION IS A BETTER PREDICTOR OF CORONARY ARTERY DISEASE THAN VISCERAL FAT

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Background and Aims: Liver and visceral fat accumulation are increasingly associated with metabolic syndrome. The individual contribution of liver and visceral fat accumulation to CAD is not clear. This research study the association between liver and visceral fat accumulation, insulin resistance, atherosclerosis, and coronary artery disease.

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Methods: Patients with excess visceral fat (visceral fat area >330±99 cm^2), patients with non-alcoholic fatty liver disease and control group were studied. Coronary artery disease was defined as a stenosis of >50% as measured by cardiac CT. Fatty liver was defined by liver minus spleen density ≥ -10, early atherosclerosis by intimal-media thickness of the carotid artery >7 mm in men; >0.65 mm in women, by Doppler ultrasound. Visceral fat area was defined by CT (>330±99 cm^2). Biomarkers of insulin resistance (HOMA), CRP and oxidant-antioxidants status (MDA and paraoxonase) were measured.

Results: Patients with high liver fat or high visceral fat showed higher prevalence of coronary plaques (50% (P<0.001), 38% (p<0.01), respectively vs 25% in the control group, higher prevalence of coronary stenosis (30% (P<0.001), 22% (P<0.01) vs 11% in the control group), higher intimal thickening (0.98±0.3 (P< 0.01), 0.86±0.1 (P<0.01) vs 0.83± 0.1 in the control group), higher HOMA (4.0±3.0 (P<0.005), 3.0±1.0 (P<0.001) vs1.5±1.2 in the control group, and higher triglyceride levels (196.8±103 (P<0.005), 182.6±90.87 (P<0.005) vs 145±60 in the control group). Multiple logistic regression showed that fatty liver predicts coronary artery disease (OR 2.7, 95%CI 2.3-4.9, P<0.001) independent of visceral fat accumulation (OR 2.01, 95%CI 1.2-2.8, P<0.001).

Conclusions: Liver fat accumulation is a strong independent risk factor for CAD.

429 - Submission No. 1993

SEVERE ALCOHOLIC HEPATITIS - NEW INDICATION FOR EARLY LIVER TRANSPLANTATION, EXPERIENCE IN OUR CENTRE

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Case Description: Severe alcoholic hepatitis is the most aggressive form of alcohol associated liver disease with high short-term mortality (30 days – 20 to 50%). The only recommended treatment are corticosteroids, but they improve only 30-day survival and nearly half of patients do not respond to this therapy. Unfortunately, we do not have alternative treatment option. Early liver transplantation in selected group of patients can improve survival significantly, but it is still controversial topic in many transplant centers.

Clinical Hypothesis: Here, we present case of 44-year-old man with known cirrhosis caused by alcohol, admitted to our department due to acute onset of jaundice and ascites. We evaluated this condition as acute decompensation of cirrhosis, acute-on chronic liver failure grade 2 with precipitating moment – severe alcoholic hepatitis.

Diagnostic Pathways: We started with corticosteroids (CS) after antibiotic treatment of dental focus. After 7 days of CS treatment, we calculated Lille model, patient was evaluated as non-responder and we stopped CS. We decided then to proceed to experimental therapy – fecal microbiota transplantation after patient gave us informed consent. Unfortunately, clinical condition of our patient was worsening. In regard of the patient´s first episode of SAH we considered early liver transplantation and we put this patient on a waiting list. After 2 months from admission, liver transplantation was realized with non-complicated postoperative course and patient was discharged home in a few weeks.

Discussion and Learning Points: To conclude, early liver transplantation could be a rescue therapeutical option in selected group of patients with severe alcoholic hepatitis.

430 - Submission No. 2227

SALMONELLA HEPATITIS

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Case Description: A 62-year-old man seeks the emergency department referring recent onset (for the last 3 days) of jaundice, abdominal pain, nausea, anorexia. The patient denied fever, recent travels, diarrhea, weight loss. The blood tests performed revealed a normal white cell count and c-reactive protein and cytocholestasis and hyperbilirubinemia (bilirubin, total 12.40; bilirubin, direct: 8.80; aspartate aminotransferase: 537, alanine aminotransferase: 1286; gamma-glutamyl transpeptidase:495; alkaline phosphatase: 220). The abdominal ultrasound and CT did not reveal hepatic or biliary abnormalities, but showed adenopathies in the hepatic hilum, celiac and lumbo-aortic regions.

Clinical Hypothesis: The diagnosis of Salmonella hepatitis was put forward.

Diagnostic Pathways: Recent viral infection (Viral hepatitis A, B, C, D, E, CMV, EBV) and autoimmune diseases (anti-gp210; anti LC1, anti-SLA/LP, anti -Sp100; ASMA antibodies negative) were excluded. The R. WIDAL test was positive for *Salmonella* typhi H (1/320). The patient started antibiotic (ciprofloxacin) and supportive therapy, with improvement in symptoms and marked decrease in bilirubin, AST and ALT.

Discussion and Learning Points: Hepatitis is a rare complication of salmonella infection. The possible associated factors for development of salmonella hepatitis are virulence of the organisms, delayed treatment, and poor general health of the patients. The pathogenesis of severe hepatic involvement in salmonella infection may be multifactorial and includes endotoxin, local inflammatory and/or host immune reactions. Clinical jaundice, hepatomegaly and moderate elevation of transaminase levels are common findings. The prognosis is usually good as salmonella hepatitis responds well to a specific antibiotic therapy.

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431 - Submission No. 248

MEDIASTINITIS DUE TO ESOPHAGEAL FOREIGN BODY

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Case Description: 84-year-old male with a history of hypertension, PLD, DM2, permanent atrial fibrillation anticoagulated with Edoxaban, severe COPD and ischemic heart disease with stent in the proximal and middle right circumflex artery, TTE with EF 45%. He came to the emergency room for dysphagia to solids of 4 weeks of evolution. Good tolerance to liquids, although in recent days she had difficulty in ingesting her usual treatment. Retrosternal stabbing pain that has been increasing. Afebrile at home. No hyporexia, no weight loss, no abdominal pain, no nausea, or vomiting. The patient states that this clinic started during a previous admission for chest pain to study.

Clinical Hypothesis: As clinical hypothesis, a neo formative process at esophageal level, a peptic stenosis secondary to gastroesophageal reflux disease, a neo formative process in mediastinum with extrinsic compression of the esophagus, an esophageal candidiasis were proposed as the most frequent causes.

Diagnostic Pathways: He was admitted to the Internal Medicine ward and a gastroscopy was performed, showing esophageal laceration secondary to a blister with significant adjacent esophagitis, and the blister was removed during the endoscopy. A thoracic CT scan was performed showing diffuse esophageal thickening with striation of the periesophageal fat, no extraluminal bubbles suggesting macroscopic perforation; changes compatible with mediastinitis secondary to foreign body esophagitis.

Discussion and Learning Points: Esophagitis secondary to a foreign body is relatively frequent, being rarer the ingestion of a cut blister during hospitalization. Treatment is based on removal of the foreign body, empirical antibiotic therapy and parenteral nutrition. In this case, the patient evolves favorably and can be discharged home.

432 - Submission No. 211

PATIENT WITH ULCERATIVE COLITIS UNDER BIOLOGICAL THERAPY AND APPEARANCE OF DERMATOPATHY

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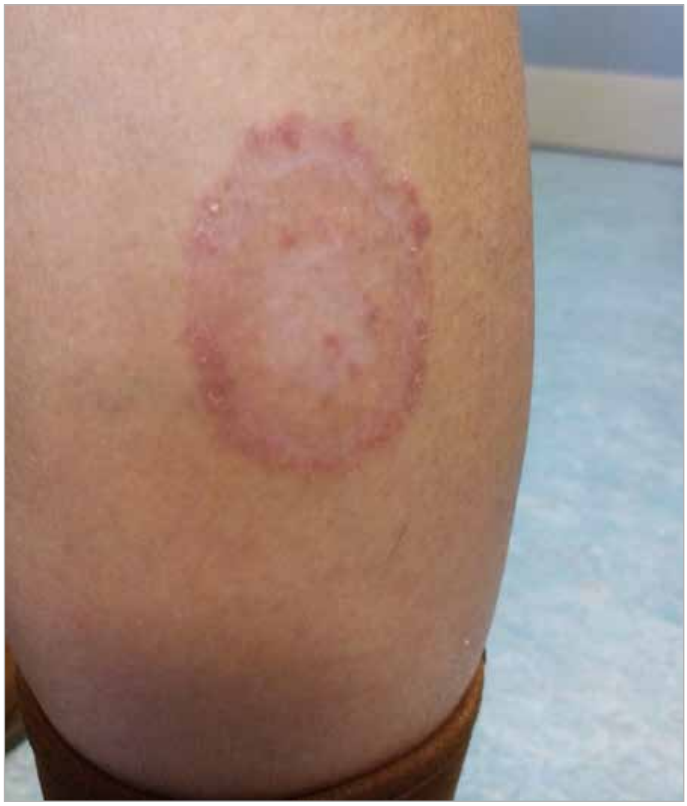
Case Description: Ulcerative colitis can often show extraintestinal skin manifestations (erythema nodosa, pyoderma, Sweet's syndrome, aphthous stomatitis) some of which are considered pathognomonic (pustular dermatitis, vegetative pyostomatitis) that may lead to a change in medication. Granuloma annulare is a skin disease of unknown etiology, it is usually diagnosed clinically and often does not require treatment because it resolves naturally. The patient should be screened for underlying diabetes mellitus. We present the case of a 64-year-old patient with ulcerative colitis in remission for 32 months under golimumab who developed a 4 cm ring-shaped erythematous plaque with a raised border consisting of choroidal papules and mild pruritus (Image 1). Initially evaluated by a private dermatologist and thought to be a herpes infection, he was treated with oral valaciclovir without responding. He was reevaluated by a hospital dermatologist with a diagnosis of granuloma annulare, and prednisolone was given. The patient showed a clear and gradual improvement of the lesion which subsided leaving a discolored spot (Image 2). There was no need to stop the biological treatment because the damage is not systemic. A glycemic test was performed which was negative. He also reported no perceived injury, insect bite, or viral infection. In conclusion, the accurate diagnosis of skin lesions by medical specialists in patients with IBD and their distinction from extraintestinal manifestations of inflammatory bowel disease is important so that their treatment is targeted and does not affect the treatment of patients with biologics.

Clinical Hypothesis: IBD and dermatopathy.

Diagnostic Pathways: Dermatological examination.

Discussion and Learning Points: Skin lesions in IBD are not always extra-intestinal manifestations.



432 Figure 1.

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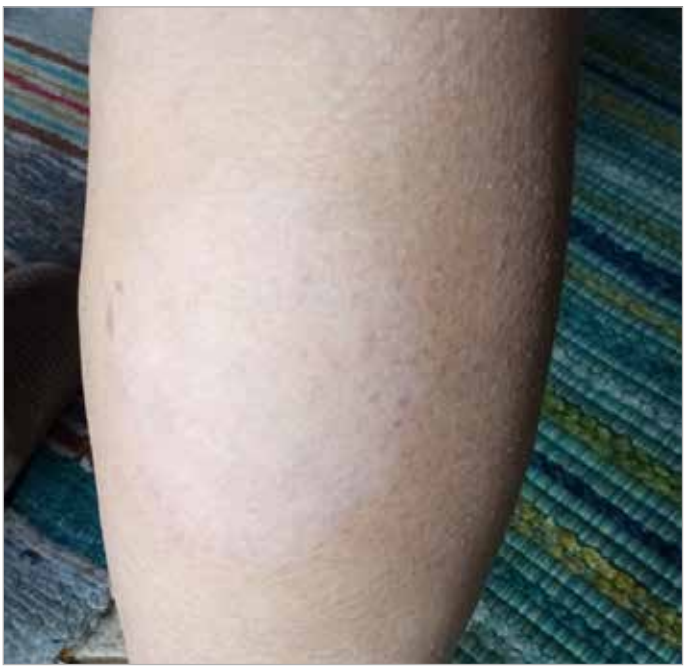

432 Figure 2.

433 - Submission No. 212

INTESTINAL LYMPHOMA PRESENTING AS GASTROINTESTINAL BLEEDING

Nikolaos Chrysanthos

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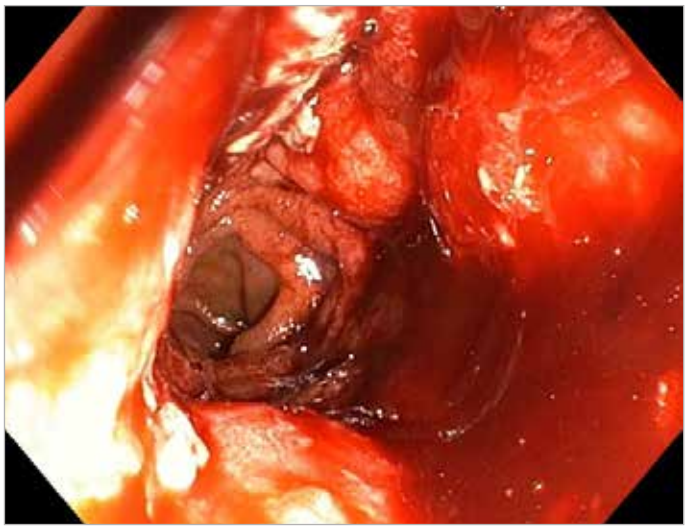
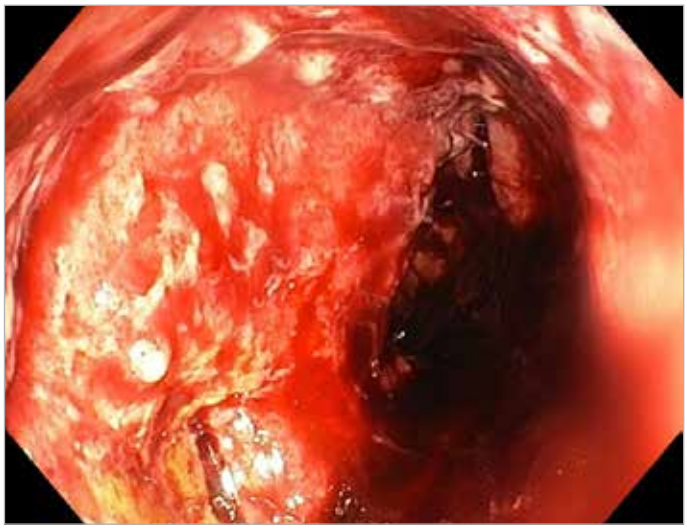
Case Description: Severe Crohn's disease (CD) often appears in young adults with diarrhea, abdominal pain, and increased inflammatory markers. Intestinal lymphoma can affect any age and show itself with abdominal pain, ileus, and increased inflammatory markers. Distinction is often difficult but critical since the patients undergo different treatment. We present a case of a young patient who was admitted to the Hospital due to abdominal pain, fever and increased inflammatory markers. Laboratory tests revealed leukocytosis and elevated CRP. CT scan revealed significant thickening of the ileocecal valve and terminal ileum. He underwent an emergency ileo-colonoscopy which revealed a severely edematous and friable ileocecal valve with easy catheterization by the endoscope (Figure 1). The mucosa of the terminal ileum was intensely edematous, friable and hemorrhagic to a depth of about 10 cm (Figure 2). Ileal mucosa more central to the lesion revealed no pathology (Figure 3). Multiple biopsies were obtained which showed extensive infiltration by non-Hodgkin lymphoma of B-cell origin with partial features of diffuse large B-cell lymphoma (DLBCL, NOS) of non-germinal center cell origin in the Hans classification. The patient showed significant elements (clinical, imaging and endoscopic) which could be related to a primary diagnosis of CD or a neoplasm. The elements pointed towards a neoplasm in relation to CD were the absence of a diarrheal syndrome, the relatively small increase in inflammatory markers and the imaging picture of the neoplasm. Therefore, the biopsy is a critical factor for the diagnosis and treatment.

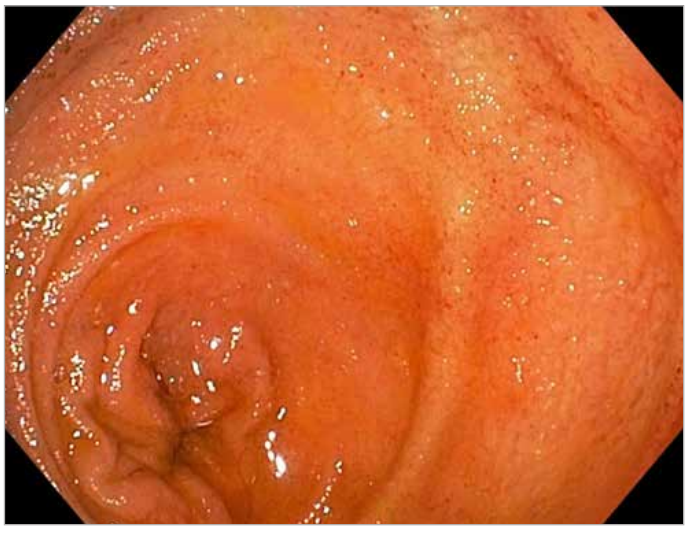
Clinical Hypothesis: Lymphoma and bleeding.
Diagnostic Pathways: Colonoscopy.
Discussion and Learning Points: Biopsy is essential.



433 Figure 1.



433 Figure 2.



433 Figure 3.

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434 - Submission No. 810

PROGNOSTIC STRATIFICATION MODEL WITH FULLY AUTOMATED APPROACH OF MACHINE LEARNING COMBINED WITH DEEP LEARNING IN NAFLD PATIENTS TO FORECAST THE ONSET OF MAJOR CARDIOVASCULAR EVENTS

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Background and Aims: Growing evidence indicates that the presence of NAFLD increases cardiovascular (CV) morbidity and mortality. Coronary arteries disease (CAD) is detected by coronary CT, moreover CT is used also for the determination liver steatosis. The aim of our study was to perform a prognostic's stratification risk of presence of CAD with a combined ML/DL approach in NAFLD patients.

Methods: Our retrospective study analyzed clinical data and CT images of 401 patients (217 males and 184 females), who underwent coronary CT between 2017 and 2021. Hounsfield Unit (HU), Agatston score, Fib-4 score were used to measure radiodensity, calcium score (CS) and the degree of fibrosis, respectively. Fully automated algorithms were trained with clinical data, among them the best were Random Forest and XGBoost for ML, while Fully Convolutional Network and Long short-term memory for DL.

Results: We performed a binary classification to compare the most used ML (XGBoost, RF) and DL (FCN, LSTM) algorithms for clinical data. Our algorithms predicted absent and severe CAD with a mean accuracy of 96% and a mean specificity of 97%. After using a multiclassification approach our algorithms were able to distinguish patients in 5 classes from healthy patients to patients affected by NAFLD and CVD, with a mean accuracy of 87% and a mean specificity of 86% for ML/DL. To improve the performance of this prediction models, we are integrating them with DL algorithms for liver CT images (e.g., 3D-UNet).

Conclusions: Our integrated ML/DL approach could be used in practice to flag NAFLD patients at high risk of CVD.

435 - Submission No. 1424

AUTOIMMUNE HEPATITIS TRIGGERED BY CYTOMEGALOVIRUS INFECTION

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Case Description: A 42-year-old woman without an underlying condition presented in emergency department with non-bloody diarrhea and arthralgias in both hands for two weeks. Fatigue and loss of appetite were also reported. On physical examination psoriasis plaques were found on her left elbow. The rest of a thorough multisystem examination was not remarkable. Laboratory workup showed marked elevations in alkaline phosphatase (380 U/L) alanine aminotransferase (270 U/L) aspartate aminotransferase (128 U/L) total bilirubin (4.6 mg/dL) and gamma glutamyl transferase (234 U/L) as well as a decrease in albumin (2.5 g/dL) and platelets (128/mm^3). Increase in PT/INR (1.8 nmol/L) was also noted.

Clinical Hypothesis: She was admitted to our inpatient unit for further investigation of abnormal liver function tests.

Diagnostic Pathways: Increased serum IgG levels and anti-smooth muscle actin antibody were found with significant titers (1:640). Cytomegalovirus serology was positive for the diagnosis of acute infection. Serologic tests for hepatitis B, C, A, and HIV were not detectable. Levels of ceruloplasmin, alpha-1 antitrypsin, iron and ferritin were normal. Trans jugular liver biopsy showed interface hepatitis with dense plasma cell-rich lymphoplasmacytic infiltrates.

Discussion and Learning Points: In the current clinical case the authors present what it appears to be an autoimmune hepatitis triggered by cytomegalovirus infection. The patient started prednisolone and valganciclovir with good results. Autoimmune hepatitis is a rare disease that especially affects women and can be a challenge in diagnosis due to its variable clinical presentation, in fact one third of the patients presents with cirrhosis at the time of diagnosis.

436 - Submission No. 770

UNEXPECTED DIAGNOSIS IN A PATIENT WITH MULTIPLE CO-MORBIDITIES DURING THE COVID-19 PANDEMIC

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Case Description: We present the case of a 54-year-old patient, smoker, and alcohol drinker, from a disadvantaged environment who was admitted urgently due to the progressive worsening of the general condition of approx. 4 months. The examinations reveal a pulmonary nodule, negative COVID-19 test, severe microcytic hypochromic anemia, malnutrition. Despite the adapted treatment, the evolution in the next 48 hours is

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unfavorable, with alimentary/bilious vomiting, fever, agitation. We perform a gastroscopy and an urgent abdominal CT examination and it is diagnosed as a 2 stages perforated gastric ulcer.

Clinical Hypothesis: The initial presentation without significant digestive symptoms initially made the diagnosis difficult, the patient being uncooperative, mentally limited and in an altered general state.

Diagnostic Pathways: Corroborated interdisciplinary consultations (gastroenterology, surgery, ICU) succeeded in the timely identification of an extremely serious and life-threatening pathology, which allowed quick and efficient surgical intervention. During hospitalization, the patient shows asthenia, fatigue, multiple diarrheal stools, which is why another SARS-CoV-2 PCR test with a positive result is collected and transferred to the red zone.

Discussion and Learning Points: I presented the case of a malnourished patient, who neglects his health and is hospitalized through the Emergency ward in an Internal Medical clinic with polymorphous symptoms that initially mask a major surgical emergency - Acute surgical abdomen. The increased attention of the doctor who admitted the case and a more thorough clinical/imaging examination would have allowed early diagnosis and admission directly to a surgical department. Cooperation between specialties makes possible the right diagnosis and the medical intervention necessary to save this patient's life.

437 - Submission No. 2199

RECURRENT NON-SPECIFIC ABDOMINAL PAIN: THE IMPORTANCE OF SUSPECTING ATYPICAL PATHOLOGY

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Case Description: An 83-year-old male with history of colonic polyposis and ulcerative pancolitis without clinical activity nor active treatment for at least 5 years. He was admitted to the hospital for study after going to Emergencies up to 6 times due to a recurrent postprandial epigastric pain of months of evolution with associated weight loss, heartburn and fear of eating.

Clinical Hypothesis: The first clinical hypothesis was neoplasia, but diagnostic tests had to be performed first to confirm it.

Diagnostic Pathways: Endoscopic studies showed gastroduodenitis and computed tomography revealed a decrease in the caliber of the origin of the celiac trunk with an imprint on the upper edge due to the low insertion of the arcuate ligament. With the clinical hypothesis of median arcuate ligament syndrome (MALS) a Doppler ultrasound of the celiac trunk was performed in which a significant increase in flow velocity and flow inversion were observed confirming MALS. After surgical treatment was performed, epigastric pain episodes were less intense and less frequent with a better food intake.

Discussion and Learning Points: Compression of the celiac trunk can happen secondary to low insertion of the arcuate ligament, this being an anatomical variation in the 10-24% of people. It causes no symptoms in 76-90% of cases since collateral vessels can be generated, but it also can cause the aforementioned syndrome. Diagnostic test of choice is ultrasound after ruling out more common pathologies. The treatment is the division of the ligament and surgical excision of the constricting fibers. If it is not effective revascularization with by-pass could be indicated.

438 - Submission No. 1379

SEVERE TREATMENT-REFRACTORY HYPOKALEMIA AFTER HIP FRACTURE SURGERY

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Case Description: The patient is a 71-year-old woman with a notable prior pertrochanteric left-femur fracture, treated with surgery a month earlier. The patient seeks medical advice due to increasing bowel habits, up to 5 daily liquid stools. The patient also presents feebleness and episodes of paroxysmal tetany. Laboratory tests reveal severe hypokalemia (1.5 mEq/l). An abdominal scan using computed tomography shows an overall distention of the large-bowel loops without colonic obstruction.

Clinical Hypothesis: The tentative diagnosis suggests the development of an adynamic ileus of non-obstructive origin (Ogilvie's syndrome) with chronic course.

Diagnostic Pathways: A stool test returning negative results. A colonoscopy is recommended to rule out possible oncological, inflammatory bowel and coeliac disease. A study for neuroendocrine neoplasia resulted negative. The patient presents hypokalemia even after substantial potassium injection and refractoriness to neostigmine and decompressive colonoscopy treatment. Finally, a surgical procedure consisting of subtotal colectomy is used to favorably resolve the hypokalemia condition.

Discussion and Learning Points: Ogilvie's syndrome is a functional disorder of the normal large-bowel transit characterized by a colonic distension of non-mechanical origin. It is apparently related to a past episode of traumatism and subsequent surgery, and to a cardiac- or a neurological-related pathology. A dysfunction of the autonomic nervous system is a potential cause of this entity at the pathophysiological level, with 41% of cases presenting diarrhea along with a possible increase of potassium fecal losses. The medical treatment consists of

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acetylcholinesterase inhibitors and decompressive colonoscopy, preserving surgery for cases with acute complications or treatment-refractory patients, as in the case presented in this report.

Reference:

[1]Dalekos GN et al. Lessons from pathophysiology: Use of individualized combination treatments with immune interventional agents to tackle severe respiratory failure in patients with COVID-19. Eur J Intern Med. 2021 Jun; 88: 52-62. doi: 10.1016/j.ejim.2021.03.026.

439 - Submission No. 1113

OUTCOMES OF PATIENTS WITH CHRONIC LIVER DISEASE HOSPITALIZED WITH COVID-19 PNEUMONIA: A SINGLE GREEK CENTER EXPERIENCE

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Background and Aims: Infection by SARS-CoV-2 may lead to pneumonia and respiratory distress syndrome. Pre-existing liver disease and especially cirrhosis, predispose to severe coronavirus disease 2019 (COVID-19) and adverse outcomes. We aimed to describe the course of patients with liver disease, that were hospitalized in the Infectious Disease Unit of the Department of Medicine at the University Hospital of Larissa with COVID-19.

Methods: 55 patients with chronic hepatopathy (31 men; 56.3%), with median age of 62 years (range 16-87 years) were admitted at the Infectious Disease Unit (February 2020-June 2022).

Results: Chronic HBV infection, autoimmune hepatitis and alcoholic liver disease were the most frequent underlying liver disorders (40%, 18.2% and 14.5% respectively). Three patients had hepatocellular carcinoma and 3 had a history of orthotopic liver transplantation. 20 patients were already cirrhotic (7 with Child-Pugh Score C). 38/55 patients (69.1%) received immune intervention according to the treatment algorithm established by our center since the beginning of the pandemic[1]. 35/38 in the immune intervention group (92.1%) recovered and were discharged, compared to 10/17 (58.8%; p=0.003) who were excluded from intervention mainly due to advanced liver disease. Presence of Child-Pugh Score C correlated with increased mortality (HR 6.89, 95% CI 1.641-28.994; p=0.008).

Conclusions: COVID-19 patients with chronic hepatic disease represent a distinct population, with significant heterogeneity regarding the underlying entity, clinical manifestations, and final outcome. In our cohort, patients with advanced hepatic disease, irrespectively of its origin, had higher mortality rates. Prompt individualized treatment with immune intervention associated with favorable outcomes.

440 - Submission No. 528

MIXED NEUROENDOCRINE NO-NEUROENDOCRINE NEOPLASM (MINEN) OF THE PANCREAS, A VERY RARE CASE

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Case Description: A 63-year-old patient presented to our department with abdominal discomfort and weight loss. A CT of the abdomen showed a tumor of the left upper quadrant. Exploratory laparotomy was performed. Intra-operatively, the tumor was found to arise from the pancreas, infiltrating the greater curvature of the stomach and the spleen, so total gastrectomy, subtotal pancreatectomy and splenectomy were performed. Frozen section biopsy indicated pancreatic NET. Histopathology revealed a pancreatic MiNEN, of the amphicrine type. Chromogranin-synaptophysin stained positive. 11 dissected lymph nodes were free of disease. The patient underwent adjuvant chemotherapy. Three years later, the patient is deceased.

Clinical Hypothesis: MiNENs are separated into three types, composite, combined and amphicrine neoplasms. In composite tumors, the components exist in separate areas while in combined MiNENs, they are intimately and diffusely admixed. In the amphicrine type, which is extremely rare, the exocrine and endocrine component are present in the same tumor cell. Pancreatic MiNENs are very rare and as of today only about 20 cases have been reported.

Diagnostic Pathways: Pancreatic MiNENs are usually clinically silent for a long time. Tumors tend to be very large when symptoms are present. Diagnostic investigations include the assay of the substances secreted, CT, MRI, endoscopic ultrasound, and procedures such as endoscopies and biopsies.

Discussion and Learning Points: MiNENs are rare tumors. Nevertheless, their incidence has been increased over the past few years, mainly because of the development of immunological techniques. it is important to enhance our understanding of these tumors so that we diagnose them at an early stage and that we reach a consensus for the best therapeutic choices.

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441 - Submission No. 531

A RARE CASE OF A PRIMARY PANCREATIC YOLK SAC TUMOR

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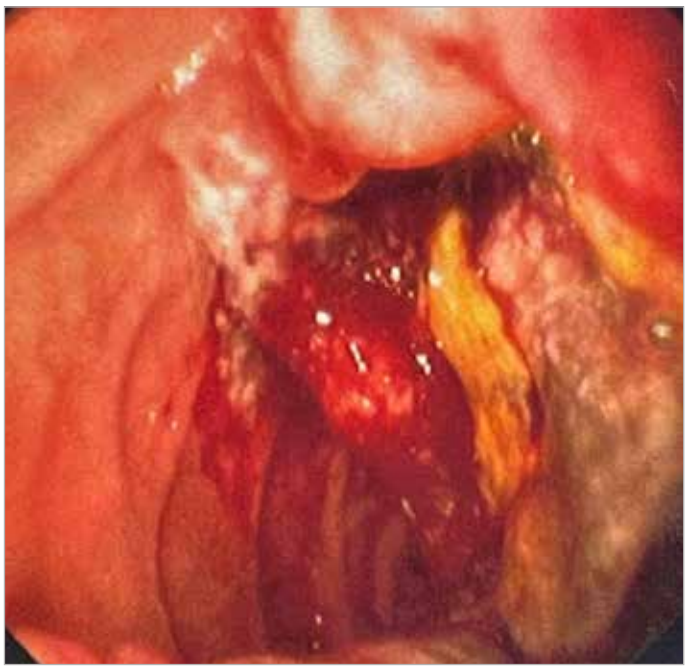
Case Description: A 33-year-old male presented with abdominal pain and weight loss. Blood tests showed obstructive jaundice and elevated AFP. CT revealed a 5 cm mass of the pancreatic head. Endoscopy showed an ulcerated lesion in the duodenum. Whipple's procedure was performed. Histopathology revealed cells with characteristic Schiller-Duvall bodies. Immunohistochemical staining was positive for PLAP, AFP, CK8.18, and galectin-3. Ki-67 was positive in 60-70%. The diagnosis of a yolk sac tumor was established. No other primary lesion than the pancreatic tumor was found. That being the case, the tumor was considered as a primary pancreatic yolk sac tumor. The patient underwent adjuvant chemotherapy. On follow-up there is no sign of recurrence.

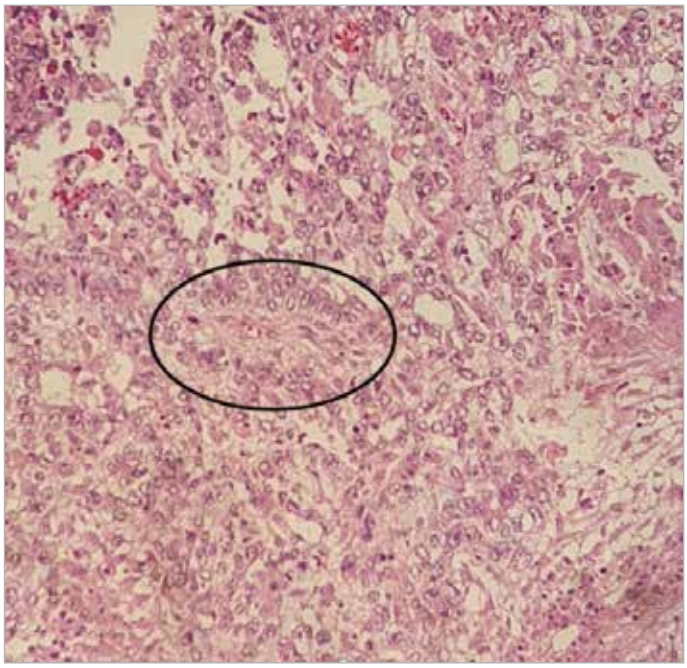
Clinical Hypothesis: Primary YSTs occur in the testis or ovary. Only 3-5% arise in a variety of midline extragonadal sites. Pancreatic YSTs are rare. They coexist with other types of cancer, like adenocarcinomas. Genome analyses have shown that TP53 and KRAS are the most frequently mutated genes. To our knowledge, primary YSTs of the pancreas are extremely rare, with very few cases reported.

Diagnostic Pathways: Preoperative diagnosis of YSTs is difficult. A rise in AFP serum levels is present. There is no study on YSTs' CT features. Endoscopic ultrasonography guided FNA provides an effective diagnostic modality (Figure 1). Histopathology provides definitive diagnosis (Schiller-Duvall bodies) (Figure 2). Immunohistochemistry is important.

Discussion and Learning Points: YST of the pancreas is a rare entity. High serum AFP levels could lead to diagnosis of extragonadal YST. Physicians should be aware of this tumor so that they may choose the optimal treatment when a YST is highly suspected.



441 Figure 1.



441 Figure 2.

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442 - Submission No. 1932

AUTOIMMUNE HEPATITIS (AIH) IN GREECE: FIRST RESULTS FROM THE HELLENIC AUTOIMMUNE LIVER DISEASES STUDY GROUP OF HELLENIC ASSOCIATION FOR THE STUDY OF THE LIVER (HASL)

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[on behalf of the Hellenic Autoimmune Liver Diseases Study Group of HASL]

Background and Aims: AIH is an acute or chronic inflammatory disease of the liver, affecting people from all ethnic groups irrespective of age and sex. The Hellenic Autoimmune Liver Diseases Study Group of HASL was established in 2016, aiming to evaluate patients' characteristics, treatment practices and outcome, determine the unmet needs of patients, and develop and implement improved treatment approaches.

Methods: We included data from 691 patients (518 females, 75%; mean age: 47.5 years) who were recorded in our database till 11/2022.

Results: There was a mean delay till diagnosis of 26.8±60 months. One fifth of patients (20.4%) were initially evaluated by physicians other than Internists/General practitioners, Gastroenterologists or Pediatricians. At first evaluation, 441/691 (63.3%) patients were asymptomatic, 149/691 (21.6%) had general symptoms, while only 102/691 (14.8%) had icteric hepatitis. Extrahepatic autoimmune diseases were diagnosed in 34%. Cirrhosis was present in 153/691 (22.1%), with decompensation in 41/153 (26.8%). During follow-up, 541/691 (78.3%) received corticosteroids, 278/691 (40.2%) azathioprine and 282/691 (40.8%) mycophenolate mofetil (MMF). In 72/691 (10.4%) patients, immunomodulatory treatment changed between azathioprine and MMF. At last evaluation (n=587 patients), 81.6% had complete biochemical response (CBR) on treatment, 13.5% insufficient response, 2.4% relapse and 2.4% no-response.

Conclusions: AIH is frequently misdiagnosed because of its heterogeneity, resulting in diagnosis delay and increased cirrhosis incidence. Approximately 1/5 of patients did not achieve CBR on treatment suggesting the need for strict follow-up and potential new therapies. Large databases will aid better understanding and management of AIH in Greece.

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443 - Submission No. 1739

SIGNIFICANCE OF ANTIMITOCHONDRIAL ANTIBODIES IN AUTOIMMUNE HEPATITIS (AIH): RESULTS FROM THE INTERNATIONAL AIH GROUP

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[On behalf of the IAIHG]

Background and Aims: Antimitochondrial antibodies (AMA) are specific markers for the diagnosis of primary biliary cholangitis (PBC) but can also be found occasionally in patients with autoimmune hepatitis (AIH). The present large multicenter cohort study assessed the prevalence and significance of AMA in AIH-patients.

Methods: 123 AMA-positive AIH-patients were investigated and compared with 711 age-matched AMA-negative AIH-patients and 69 patients with AIH/PBC variant.

Results: AMA prevalence in AIH-patients was 5.1% (range: 1.2%-11.8%). AMA-positivity was associated with female sex (p=0.031) in AMA-positive AIH-patients but not with symptoms, liver biochemistry, bile duct injury on liver biopsy, disease severity at baseline and response to treatment compared to AMA-negative AIH-patients. Patients with AIH/PBC variant were characterized by the presence of PBC-related symptoms (p=0.033), higher levels of AST (p=0.045), ALT (p=0.037), γ-GT (p<0.001), ALP (p<0.001), and IgG (p<0.001) but not with disease severity compared to AMA-positive AIH-patients. Regarding liver histology, AIH/PBC variant patients were characterized by the presence of at least one feature of bile duct damage (p<0.001). Response to immunosuppressive treatment was similar among groups. From AMA-positive AIH patients only those with evidence of non-specific bile duct injury had higher risk to progress to cirrhosis (HR=4.314, 95%CI: 2.348-7.928; p<0.001). During follow-up, AMA-positive AIH-patients had higher risk to develop histological bile duct injury (HR 4.654, 95%CI 1.829-11.840; p=0.001).

Conclusions: AMA presence is relatively common among AIH-patients, but their clinical significance seems important only when they co-exist with non-specific bile duct injury at the histological level. Therefore, a careful evaluation of liver biopsy seems of utmost importance in these patients.

444 - Submission No. 910

PRESENCE OF MYOSTEATOSIS ADJUSTED FOR DRY BODY MASS INDEX IS INDEPENDENTLY ASSOCIATED WITH LOW SKELETAL MUSCLE MASS AND ADVANCED STAGE OF LIVER CIRRHOSIS

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Background and Aims: Myosteatosis is defined as increased fat infiltration in skeletal muscle and implies impaired muscle quality. It has been included in the recent sarcopenia criteria (European Working Group on Sarcopenia in Older People, EWGSOP-2). The

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aim was to assess the prevalence of myosteatosis and investigate its association with muscle mass, strength, frailty and severity of liver cirrhosis (LC).

Methods: Computed-tomography software was used to assess skeletal muscle index (SMI) and myosteatosis. Myosteatosis was defined as muscle radiodensity at L3 <41 HU for patients with dry body mass index (BMI)<24.9 kg/m^2 and <33 HU for those with ≥25 kg/m^2. Frailty was diagnosed using liver frailty index (LFI).

Results: 162 consecutive patients were included [67.9% male, MELD 12 (IQR 7-16), 64.8% with decompensated LC, 43.2%, 24.1% and 32.7% with alcoholic, viral and other etiology, respectively]. The 75.9% had myosteatosis, 45.1% sarcopenia and 30.2% frailty. In univariate analysis, age (p=0.029), SMI (p<0.001), MELD (p=0.027), Child-Pugh score (p=0.003), grip strength (p=0.003) and LFI (p=0.001) were associated with the presence of myosteatosis. In multivariate analysis, after adjusting for age, sex, MELD, SMI and LFI, only low SMI appeared to be associated with myosteatosis [OR 0.930 (95%CI 0.881-0.982), p=0.009] (multivariate 1) while after adjusting for age, sex, Child-Pugh, SMI and LFI, low SMI [OR 0.929 (95%CI 0.879-0.981), p=0.009] and Child-Pugh [OR 1.315 (95%CI 1.037- 1.666), p=0.024] were associated with myosteatosis (multivariate 2).

Conclusions: Impaired muscle quality was evident in the majority of cirrhotics. The presence of myosteatosis was independently associated with low SMI and advanced LC.

Reference:

Bhanji, R.A., et al. Myosteatosis and sarcopenia are associated with hepatic encephalopathy in patients with cirrhosis.Hepatol Int 2018; 12: 377–386.

445 - Submission No. 404

MYOSTEATOSIS ADJUSTED FOR DRY BODY MASS INDEX IS A NEGATIVE PROGNOSTIC FACTOR IN PATIENTS WITH LIVER CIRRHOSIS

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Background and Aims: Myosteatosis is defined as increased fat infiltration in skeletal muscle and implies impaired muscle quality. Although it has been included in the recent sarcopenia criteria as suggested by the European Working Group on Sarcopenia in Older People (EWGSOP-2), further research is required exploring myosteatosis' impact on cirrhotic patients' prognosis. The aim was to investigate the prognostic value of myosteatosis in a group of patients with cirrhosis.

Methods: Computed tomography (SliceOmaticV4.3 software) was used to assess muscle mass via skeletal muscle index (SMI) and myosteatosis. Myosteatosis was defined as muscle radiodensity at the third lumbar vertebrae level <41 HU for patients with dry body mass index (BMI) <24.9 kg/m^2 and <33 HU for those with ≥25 kg/m^2. Patients' demographics, laboratory parameters and mortality over 12 months follow up were recorded.

Results: 162 patients [67.9% male, MELD 12 (7-16)] were included. The 75.9% of the patients had myosteatosis. All the patients had 6-month and 73.5% had 12-month follow up. After assessing Kaplan-Meier survival curves at 3, 6 and 12 months, patients with myosteatosis displayed increased mortality (Log rank p=0.043, p=0.008 and p<0.001, respectively). In multivariate analysis, (after adjustment for gender and low SMI) age (HR 1.045 95%CI 1.01-1.08, p=0,01), MELD score (HR 3.89 95%CI 1.94-7.82, p<0.001) and the presence of myosteatosis (HR 8.16 95%CI 1.07-61.33 p=0.041) emerged as independent, negative prognostic factors.

Conclusions: Patients with myosteatosis showed increased 12-month mortality. Myosteatosis is an independent negative prognostic factor in patients with liver cirrhosis.

446 - Submission No. 1205

SUBACUTE HEPATIC FAILURE (SHF) IN A PATIENT WITH DRUG-INDUCED AUTOIMMUNE HEPATITIS: A RARE SYNDROME

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Case Description: A 46-years-old man was admitted to the Internal Medicine Department due to acute icteric hepatitis. He received amoxicillin-clavulanate a month ago and creatine formulations for muscle growth. He drinks no alcohol. Clinically, jaundice of the skin and conjunctiva without hepatosplenomegaly was characteristic. Laboratory testing revealed elevated liver enzymes and cholestasis. Laboratory testing for viral hepatitis, autoimmune causes, and genetic liver diseases (e.g., Wilson) showed no culprit. Liver ultrasound and the triplex of hepatic veins and splenic axis was normal.

Clinical Hypothesis: The patient underwent a liver biopsy which revealed a liver parenchymal with severe lesions of acute hepatitis. Necroinflammatory foci were surrounded by plasma cells, emperipolesis, and formation of rosettes. It was considered appropriate to start oral cortisone.

Diagnostic Pathways: A few days after discharge and 10 weeks after the onset of jaundice, the patient is readmitted to the clinic due to stage II encephalopathy and development

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of ascites. Laboratory findings revealed prolonged INR and hyperammonemia. However, a significant drop in transaminases and bilirubin was observed. The patient received high doses of methylprednisolone, lactulose and diuretic therapy with gradual response. After a long hospitalization he was discharged on oral cortisone and azathioprine.

Discussion and Learning Points: SHF is defined as the development of ascites or encephalopathy 8 to 10 weeks after the onset of jaundice and acute hepatitis. Drug-induced seronegative AI triggered SHF. Although literature data highlight the high mortality rates of this syndrome without liver transplantation, our patient responded to immunosuppressive treatment.

Reference:
Dhawan PS, Desai HG. Subacute hepatic failure: diagnosis of exclusion? J Clin Gastroenterol. 1998 Mar;26(2):98-100.

447 - Submission No. 1718

NOT YOUR TYPICAL OSTEOMYELITIS, A RARE PRESENTATION OF METASTASIS IN YOUNG FEMALE PATIENT

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Case Description: 36-year-old female without medical history who arrived with one month history of posterior neck pain that radiated to her right ear. Associated symptoms included recurrent right ear infections refractory to oral antibiotics, oropharyngeal dysphagia, hoarseness and poor oral intake. No known family history of cancer. Benign physical exam. Laboratories with leukocytosis, hypochromic microcytic anemia; elevated alkaline phosphatase, hypoalbuminemia, and normal liver function tests. Serological HIV and Hepatitis profile were negative. Head and Neck CT revealed posterior nasopharynx asymmetrical nodular fullness with extension and invasion of clivus consistent with osteomyelitis for which patient was started on broad spectrum IV antibiotic therapy. However, patient deteriorated developing aphasia, right cranial nerve abducens paresis and right true vocal cord paresis. Head and neck CT angiography revealed right cavernous sinus thrombosis requiring full dose anticoagulation but developed acute abdominal pain with decreased levels of hemoglobin without any visible bleeding source.

Clinical Hypothesis: Osteomyelitis of skull base.

Diagnostic Pathways: Abdominopelvic CT remarkable for distal sigmoid high rectum large peri colonic mass measuring 9.5x7.3x7.9cm with extensive metastatic disease. Brain MRI with clivus metastatic lesion. Liver percutaneous biopsy pathological examination confirmed adenocarcinoma of colon. Serologic markers with elevated carcinoembryonic antigen, negative cancer antigen-19-9 and cancer antigen-125.

Discussion and Learning Points: Statistical data reports an incidence of 12% of colorectal cancer among people under 50 years old in the United States. In younger population colorectal cancer, presents in a clinically advanced and biologically more aggressive disease. Therefore, close attention to alarming and atypical symptoms in this population should warrant low threshold for early colonoscopy screening as in this patient.

448 - Submission No. 239

CONSTITUTIONAL SYNDROME AND PANCREATIC NEUROENDOCRINE CARCINOMA

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Case Description: Patient aged 61 years. Admitted for symptoms of 7 months of evolution consisting of vomiting and weight loss. She presented with erythematous-violaceous lesions in both pretibial regions, which were pruritic. Physical examination revealed a large abdominal mass and pruritic and indurated erythematous-violaceous lesions in both pretibial regions.

Clinical Hypothesis: A CT scan of the body showed a metastatic liver and a mass in the pancreatic tail. Laboratory tests showed elevated cholestasis enzymes and a lipase level of 1256. A punch of pretibial lesions was performed with anatomy compatible with pancreatic panniculitis. A PET-CT scan with FDG-F18 was completed, in which no uptake was observed in any of the lesions.

Diagnostic Pathways: This led us to the possibility of a neuroendocrine tumor, and we requested an octreoscan, which revealed findings compatible with metastatic disease with the presence of somatostatin receptors of mild intensity in the pancreatic lesion and intense activity in liver metastases. A liver biopsy was requested for histological study, which confirmed the diagnosis of large cell neuroendocrine carcinoma, suggestive of pancreatic origin.

Discussion and Learning Points: Neuroendocrine tumors are a heterogeneous group of neoplasms. They are diagnosed between the fifth and sixth decade with equal gender distribution. Chromogranin A and pancreatic polypeptide measurement is recommended for diagnosis and CT, MRI, ultrasound/CT are used for biopsy of lesions. In addition to somatostatin receptor scintigraphy, PET-CT with radiotracers related to somatostatin receptors has been added to help in staging. Surgical resection is the treatment of choice. In cases not amenable to intervention, there are locoregional or systemic treatment.

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449 - Submission No. 388

ASSESSMENT OF ETIOLOGICAL FACTORS IN HEPATOCELLULAR CARCINOMA PATIENTS DURING THE LAST DECADE

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Background and Aims: Hepatocellular carcinoma (HCC) is the most common primary malignant liver tumor and one of the leading causes of cancer-related mortality worldwide. Improving our knowledge about HCC, we assessed patients in the last decade for their relationship with HCC's underlying etiology, duration of the chronic liver disease, and liver function status.

Methods: 199 patients (153 men, 46 women) with biopsy or MRI (magnetic resonance imaging) proven HCC were enrolled in 2010 and 2020. Cirrhosis and portal hypertension were defined according to the radiologic imaging and endoscopic findings.

Results: Demographic and etiologic characteristics of patients are shown in Table 1. Median age at diagnosis was 62 years (IQR 50-90). Median follow-up time was 36 months. 177 patients (88%) had cirrhosis, and 127 (64%) patients presented with portal hypertension. Majority of the patients were Child-Pugh A with 69% (number of 138), median Meld-Na score was 9 (IQR 6-27). A higher prevalence of Hepatitis B (50%, number of 99), Hepatitis C (20%, number 39), and Non-alcoholic steatohepatitis (NASH) (9%, number of 18) were observed for etiologic assessment. Chronic liver disease had existed for 120 months (IQR: 12-840) at the time of HCC diagnosis. 45% of the patients with viral hepatitis had not received antiviral treatment. A sustained viral response (SVR) couldn't be achieved in 92% (number of 132) of those treated.

Conclusions: Presence of chronic liver disease and failure to SVR was the leading cause of the HCC development with cirrhosis. Prevalence of NASH for HCC increased following viral hepatitis and became one of the major problems.

Age	*Ort±Ss*	62,77±11,05
	Median (Min-Maks)	63 (50-90)
Gender	**Male**	153 (76,9)
	Female	46 (23,1)
Etiology	**Idiopathic**	17 (8,5)
	HBV	112 (56,2)
	HCV	49 (24,6)
	Alcohol	3 (1,5)
	NASH	18 (9,0)
CHİLD-Pugh	**A**	138 (69,3)
	B	44 (22,1)
	C	17 (8,5)
MELD-Na	*Median (Min-Maks)*	9 (6-27)
Liver Fibrosis	**Normal**	22 (11,1)
	Cirrhosis	177 (88,8)
Portal Hypertension		127 (63,8)
HBV Treatment	**Non-treatment**	51 (45,5)
	Treatment	61 (54,5)
HCV Treatment	**Non-treatment**	22 (44,9)
	Treatment	27 (55,1)
SV Response	**No**	138 (92,0)
	Yes	12 (8,0)
Chronic Liver Disease Duration	*Median (Min-Maks)*	120 (12-840)

449 Table 1.

450 - Submission No. 177

CO-EXISTENCE OF MULTIPLE SCHWANNOMAS AND GASTROINTESTINAL STROMAL TUMORS OF THE STOMACH: A DIAGNOSTIC CHALLENGE

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Case Description: A 68-year-old female presented with a 10-year history of abdominal discomfort. Prior medical history was unremarkable except for bilateral adrenal macronodular hyperplasia. Physical examination was within normal limits.

Clinical Hypothesis: Hence, a computer tomography (CT) of the abdomen was performed. It revealed four hypodense, solid lesions in the stomach with a maximum size of 2.5 cm in lesser curvature, greater curvature, and fundus (Panels a and b).

Diagnostic Pathways: Endoscopic ultrasound demonstrated multiple lesions that appeared to originate from the muscularis propria (Panels c and d). Lesions had heterogenous inner and calcifications that were highly suspicious for gastrointestinal stromal tumors (GIST). Eventually, laparoscopic radical total gastrectomy was performed. Two of the four lesions had diffused and strong cytoplasmic c-kit/CD117 staining with the immunohistochemical analysis, consistent with the GIST (Panels e and f). However, the other two lesions showed elongated spindle-shaped cells and peripheric lymphoid aggregates only positive for S-100 (Panels g and h). These findings were compatible with schwannoma.

Discussion and Learning Points: GIST, the most common mesenchymal neoplasms affecting the gastrointestinal tract, is usually present as a single mass. On the other hand,

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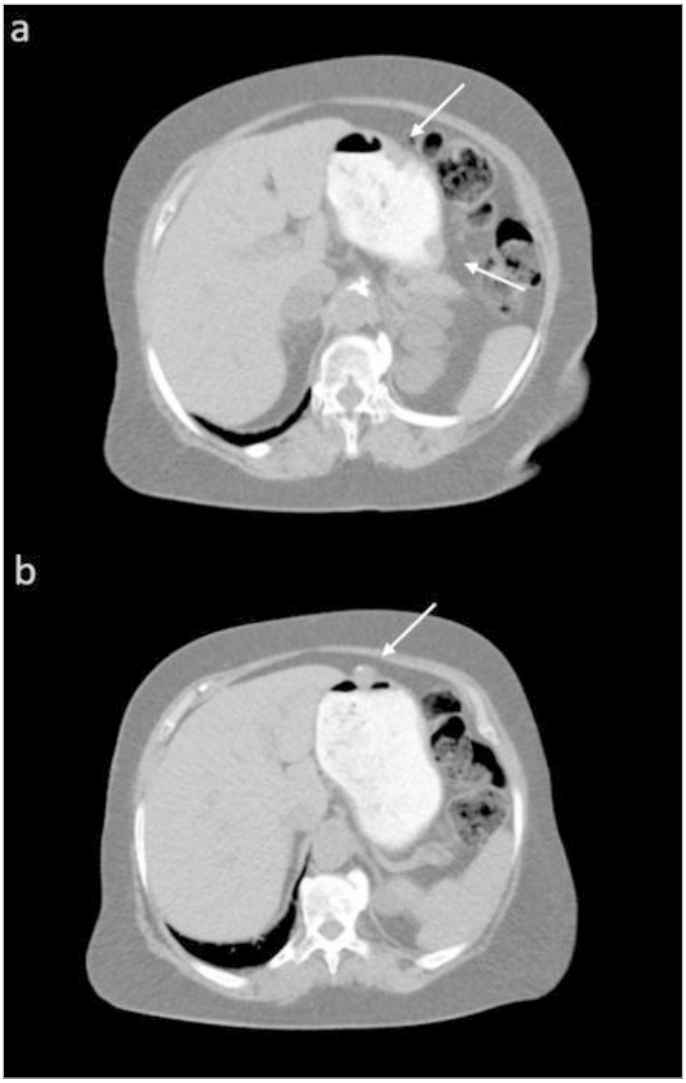
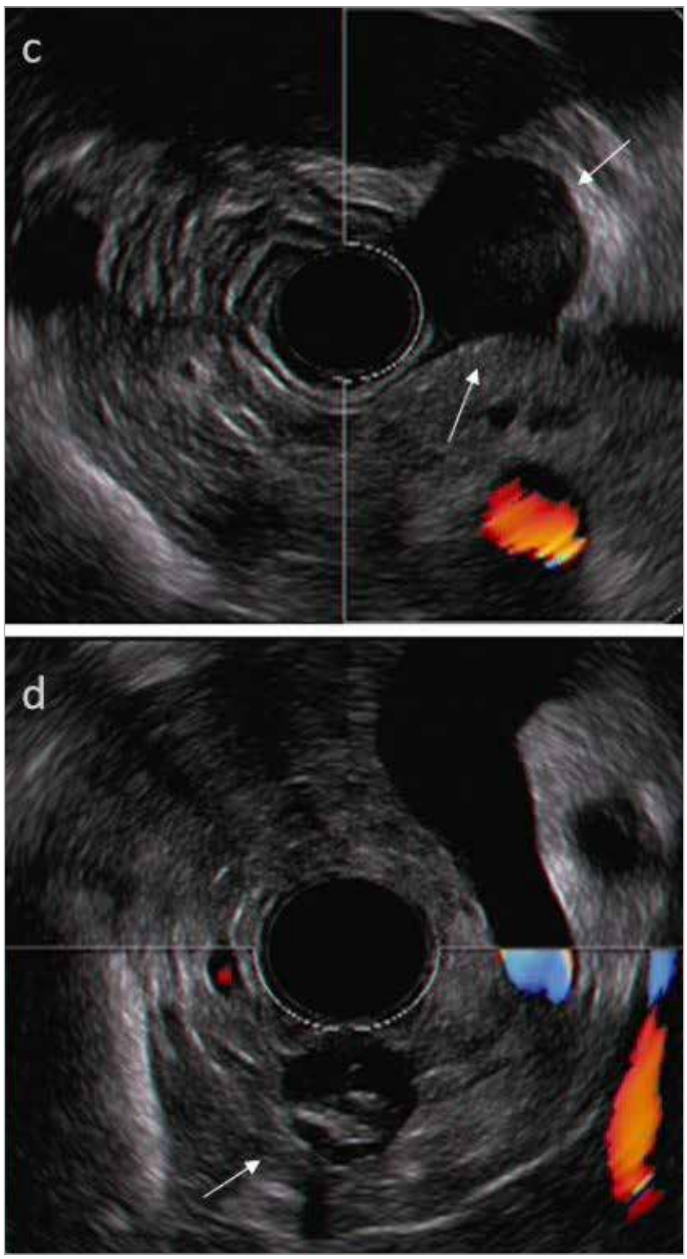
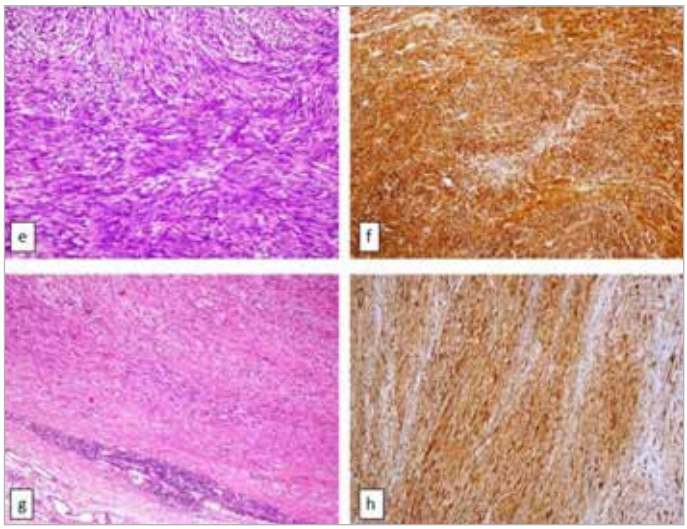
gastrointestinal schwannomas are rare. Definitive diagnoses of GISTs and gastric schwannomas require detailed pathological and immunohistochemical examination. Co-occurrence of these lesions has not been reported before yet.



450 Figure 1.



450 Figure 2.



450 Figure 3.

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451 - Submission No. 1958

THREE-DIMENSIONAL PLASMONIC CLUSTER FOR ULTRASENSITIVE SURFACE-ENHANCED RAMAN SCATTERING TOWARD STOMACH CANCER DIAGNOSIS

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Background and Aims: One of the most prevalent malignancies, gastric cancer, is increasingly affecting both gender younger globally. The majority of conventional diagnostic techniques are uncomfortable and invasive, injuring people. Among non-invasive approaches, surface-enhanced Raman scattering (SERS) is an ultrasensitive molecular monitoring method with amplified Raman scattering signals from trace amounts of analytes near plasmonic nanostructures. However, research on developing a cancer diagnosis system that is simple to fabricate, highly sensitive, inexpensive, and uniform has not yet been proposed.

Methods: Here, we propose a fast and accurate advanced diagnostic platform using a small amount of non-invasively collected biological samples to diagnose gastric cancer using machine learning-based surface-enhanced Raman scattering. Our approach uses 3D plasmonic clusters prepared with a micropipette using 3D printing technology. The Au nanoparticles and biological samples are mixed to increase the number of interactions between hot spots of Au nanoparticles and molecules. The biological molecule condenses in the 3D plasmonic cluster, which delivers a strong electromagnetic field amplification, leading to Raman enhancement. For cancer diagnosis, biological samples were collected from 50 gastric cancer patients and 70 healthy participants.

Results: The deep learning model was trained and tested with SERs signal data for classifying gastric cancer patients and healthy participants. Notably, the model successfully predicted with up to 92% accuracy.

Conclusions: These results show that the combination of non-invasive analysis and deep learning has considerable potential as a strategy for early-stage diagnosis.

452 - Submission No. 2002

A SEVERE IDIOSYNCRATIC DRUG-INDUCED LIVER INJURY TO METAMIZOLE

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Case Description: A 25-year-old overweight Caucasian female (BMI 29.6 Kg/m^2), without prior medical background or allergies, underwent hallux valgus surgery and had taken metamizole 575 mg twice daily for two weeks. She denied other drugs or supplements. One week after metamizole's discontinuation, she noticed generalized pruritic erythematous maculopapular rash, nausea and vomiting, recurring to the Emergency Department. She was subfebrile, hypotensive (78/58 mmHg), tachycardic (120 bpm), with diffuse abdominal pain and painful hepatomegaly. Abdominal CT scan with angiography showed heterogeneous diffuse steatosic hepatomegaly. Blood analysis with hyper eosinophilia (7500 cells/µL), C-reactive protein 392.40 mg/L, GGT 262 U/L, TGO 485 U/L and TGP 690 U/L. She never presented acute liver failure.

Clinical Hypothesis: Based on the temporal relationship with metamizole and the absence of other findings in the complementary study, we considered the diagnosis of drug induced liver injury (DILI) to metamizole.

Diagnostic Pathways: Liver biopsy showed marked steatosis, infiltration of lymphoplasmacytic cells and eosinophils, sinusoidal eosinophil occlusion, portal and lobular hepatitis, without autoimmune stigmas. We assumed DILI with hyper eosinophilia secondary to an idiosyncratic immune-allergic response and started prednisolone 0.5 mg/kg/daily. She had a complete clinical and analytical response, with no further episodes after slow tapering and discontinuation of prednisolone.

Discussion and Learning Points: We report a case of presumed metamizole induced DILI with hyper eosinophilia. This is a rare condition mediated by unpredictable immune-allergic mechanisms that develop among individuals under treatment at recommended doses. We highlight this case for its rarity, particular findings, namely the marked hyper eosinophilia, and to raise awareness to DILI secondary to metamizole.

453 - Submission No. 153

LIVER BIOMARKERS AND METABOLIC SYNDROME - A RETROSPECTIVE STUDY

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Background and Aims: The correlation between metabolic syndrome (MetS) and increased liver biomarkers has been shown in numerous studies. At the same time, recent research has drawn attention to non-alcoholic fatty liver disease (NAFLD) as a possible phenotypic result of MetS, for the diagnosis of which the SGOT/SGPT Ratio has been proposed. Herein, we study the liver biochemical markers in subjects with MetS.

Methods: We studied a group of 77 patients (38 men and 39 women) who met the three laboratory criteria for the diagnosis of MetS

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included in the US National Cholesterol Education Programme Adult Treatment Panel III (NCEP ATP III, fasting glucose >100 mg/dL, triglycerides >150 mg/dL and HDL <40 mg/dL for men and <50 mg/dL for women).The control group consisted of 63 people (31 men and 32 women) which met none of the aforementioned criteria. The data were extracted from the laboratory database of our hospital. The statistical test used for these populations was the independent samples t-test with unequal variances. We analyzed the following liver biomarkers: aspartate aminotransferase (AST/SGOT), alanine aminotransferase (ALT/SGPT), gamma-glutamyl transferase (GGT) and the SGOT/SGPT ratio.

Results: The results of the statistical analysis are presented in Table 1. No significant between-group difference was observed for SGOT, whereas GGT was found elevated in MetS patients in both men and women (p-value<0.05). The SGOT/SGPT ratio was found decreased both in men(p-value<0.05) and women (p-value<0.001). Finally, SGPT was found to be increased in men with MetS (p-value<0.05).

Conclusions: Our study suggests that liver biomarkers GGT, SGPT and SGOT/SGPT ratio could potentially be used to predict MetS in women. In men, GGT appears to be able to serve this purpose.

MEN AND WOMEN				
	SGOT	SGPT	GGT	SGOT/SGPT
p value	0,964	0,267	**0,007**	**0,010**
Median H	19,00	16,50	14,00	1,14
Median D	20,00	22,00	22,00	0,88
Average H	22,54	23,27	19,88	1,16
Average D	22,62	27,40	29,11	0,99
SD H	11,52	21,90	16,42	0,37
SD D	10,19	21,46	22,87	0,43
MEN				
	SGOT	SGPT	GGT	SGOT/SGPT
p value	0,786	0,909	**0,044**	0,843
Median H	21,00	22,50	21,00	0,87
Median D	21,00	23,50	28,00	0,88
Average H	25,29	30,77	26,28	1,04
Average D	24,42	30,00	38,51	1,02
SD H	15,12	29,42	17,32	0,41
SD D	10,35	24,48	28,52	0,53
WOMEN				
	SGOT	SGPT	GGT	SGOT/SGPT
p value	0,592	**0,007**	**0,008**	**0,000**
Median H	18,00	15,50	12,00	1,30
Median D	20,00	21,00	19,00	0,88
Average H	19,88	16,25	13,96	1,28
Average D	20,87	24,87	19,97	0,95
SD H	5,44	5,35	8,17	0,29
SD D	9,85	18,00	9,01	0,32
H: Healthy				
D: with MetS				
SD: Standard Deviation				

453 Table1.

454 - Submission No. 191

A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL TO EVALUATE THE EFFECTS OF MULTI-STRAIN SYNBIOTIC IN PATIENTS WITH FUNCTIONAL DIARRHEA AND ELEVATED FECAL CALPROTECTIN LEVELS

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Background and Aims: It is currently unknown which symbiotic is beneficial for patients with which diseases, especially those with functional diarrhea (FDr) with elevated fecal calprotectin levels. The aim of this study was to evaluate effects of symbiotic on bowel symptoms, fecal calprotectin levels, fecal microbiota, and safety in FDr patients with elevated fecal calprotectin levels.

Methods: Forty patients were randomly assigned to either a symbiotic group or a placebo group. A total of 20 subjects in the symbiotic group and 19 subjects in the placebo group completed this study (8 weeks). Changes in FDr symptoms, fecal calprotectin levels, and gut microbiota were assessed during the intervention period.

Results: At 4 and 8 weeks, the number of bowel movements tended to increase in the symbiotic group, with a significant increase in the number of formed stools rather than loose stools (p-value < 0.05). In addition, bowel movement satisfaction was significantly increased in the symbiotic group, but not in the placebo group. Intestinal flora analysis revealed that Lactobacilli at order level was increased only in the symbiotic group at the end of the intervention. On the other hand, at week 8 of the intervention, log-transformed fecal calprotectin levels were significantly decreased in the symbiotic group, although the amount of change was not significantly different from that of the placebo group.

Conclusions: These findings suggest that intake of multi-strain symbiotic for 8 weeks can improve gut symptoms and intestinal microenvironment of FDr patients with elevated fecal calprotectin levels.

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455 - Submission No. 808

PROSPECTIVE STUDY EVALUATING THE EFFECT OF DULAGLUTIDE (GLP1-A) AND EMPAGLIFLOZIN (SGLT2-I) ON FATTY LIVER IN PATIENTS WITH TYPE 2 DIABETES, AFTER ONE YEAR OF TREATMENT

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Background and Aims: A significant percentage of patients with type 2 diabetes (T2DM) present with fatty liver with a dynamic of progression to severe liver disease. Our aim is to evaluate the potential benefit of newer antidiabetic drugs in the treatment of hepatic steatosis in T2DM patients.

Methods: 112 patients were included in this prospective observational study. Patients were split into three groups: a) optimal therapy, apart from GLP1-a/SGLT2-i (CONTROL-group); b) empagliflozin (SGLT2-group) in addition to prior therapy, and c) additional dulaglutide (GLP1-group). The parameters evaluated on day 0 (t0) and one year later (t12) were: liver steatosis (MRI-PDFF), FLI-score, Shear wave elastography (SWE), BMI and HbA1c. We present the results of an interim analysis of 72 patients (SGLT 2:21, GLP 1:19, CONTROL: 28, SGLT 2+ GLP 1:4).

Results: An improvement in hepatic fat fraction in the SGLT2-group between t0 (median= 9.23%) and t12 (median= 6.87%) was observed (p=0.019). In contrast, there was no significant difference in the other groups. No statistically significant difference emerged regarding SWE. A significant decrease of BMI was observed in all groups, but significant reduction in HbA1c was found only in the SGLT2-group (p=0.0045), with a decreasing trend in the GLP1-group. Finally, FLI-score decreased in all groups: SGLT2-group (p=0.0235), GLP1-group (p=0.008) and CONTROL-group (p=0.033).

Conclusions: The addition of GLP1-a and/or SGLT2-i to the treatment of T2DM are potential solutions in the treatment of NAFLD. In the present study, the use of dulaglutide did not appear to improve fatty liver, after 1 year of treatment, despite the reduction in BMI and HbA1c, in contrast to the administration of empagliflozin, the addition of which, offered statistically significant benefits.

456 - Submission No. 2001

A CASE REPORT OF A GIANT HEPATIC INFLAMMATORY ADENOMA IN A YOUNG WOMAN THAT PRESENTED AS SPONTANEOUS INTRA-HEPATIC HEMATOMA

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Case Description: 33-year-old woman presented with right upper quadrant pain, lasting for 24 hours and getting worse by breathing. She has a history of liver focal nodular hyperplasia (FNH) diagnosed 10 years ago, without undergoing a routine follow-up. In the past she has received oral contraceptive pills for polycystic ovary syndrome. Blood tests showed elevated inflammatory markers and impaired liver biochemistry. An abdominal Computed Tomography (CT) scan was performed that revealed a giant heterogeneous hepatic tumor with clear boundary, measuring 19x14 cm. Previous imaging studies from 10 years ago revealed that the mass was getting bigger. An abdominal MRI depicted an intra-hepatic hematoma. She started treatment with ciprofloxacin and metronidazole resulting in a remarkable improvement of her symptoms and inflammatory markers.

Clinical Hypothesis: The presentation favored a complicated hepatocellular adenoma (HCA).

Diagnostic Pathways: Surgical resection was the only additional therapeutic and diagnostic option. Perioperative images showed a grayish yellow tumor with a complete fibrous capsule, and varying degrees of hemorrhage and necrosis. Pathology examination revealed that the mass was an inflammatory adenoma, a subtype of HCA.

Discussion and Learning Points: HCA usually are asymptomatic entities, and their diagnosis remains challenging. Both the development and the enlargement of an HCA has been associated with estrogen exposure. Rarely, it may present as acute right abdominal pain and a potential hemorrhage, rupture or torsion of the vascular pedicle must be excluded. Special attention must be given in patients with a history of a benign liver mass and the use of oral contraceptive pills.

457 - Submission No. 252

ULTRASONOGRAPHY IS TOOL OF CHOICE TO DETECT FRANTZ'S TUMORS (SOLID PSEUDOPAPILLARY PANCREATIC NEOPLASIA)

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Background and Aims: Solid-pseudopapillary pancreatic neoplasms (SPN) mostly affect young asymptomatic women.

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Early detection ensures timely removal before malignant transformation. Since >10% of Germans undergo abdominal ultrasonography (US) every year, we prospectively investigated detection rate and typical US-features.

Methods: In our outpatient-clinics, patients undergo standardized pancreatic ultrasonography. We analyzed 26 patients (3 male, age range 9-65) with proven SPN. Ultrasound was performed and documented by M.L. (20 years sonography experience, >10000 examinations), using Siemens-S3000 and GE-E10s systems with curved and linear transducers. For contrast-enhanced ultrasonography 1.5-2.4 mL Sonovue was applied. The lesion was continuously scanned, and cine-loops recorded. We recorded skin-to-tumor-distance (STD) for ultrasound and MRI/CT to estimate the compression used, and the time-until-tumor detection (TTD).

Results: 22 tumors (range 15-95 mm) were visible by upper abdominal cross section, 3 translienal,1 by both. Location: 13 tail, 6 corpus, 7 head. Mean time to detection was 1:15 min (0:00-3:58), mean skin-to-tumor distance (STD) 35.5 mm (12-58). The ratio of CT-STD and US-STD was 1.8 (1.1-3.2). The SPN was seen in all patients who underwent ultrasonography, resulting in a 100% detection rate. Of the 26 lesions 7 were solid, 15 solid with intratumoral cysts, and 4 predominantly cystic with marginal solid tissue. On CEUS, tumors contrasted after an average of 16 sec (range 1-23). Here of 16 SPN 12 were isoechogenic,3 hypoechogenic,1 hyperechogenic.

Conclusions: Ultrasound detects SPN quickly and reliably. Frantz's tumors are round or oval shaped, predominantly solid lesions, often with cystic parts, characterized by sharp defined margins. To optimize the visibility of the pancreas, the distance to the aorta should be compressed by half. Thorough compression is the key to success.

458 - Submission No. 519

EFFECTS OF GUT MICROBIOTA METABOLITES ON THE INTESTINAL EPITHELIAL CELL VIABILITY, BARRIER FUNCTION, IL-8 SECRETION, AND TRIGLYCERIDE ACCUMULATION IN CELL MODELS OF IBD AND NAFLD

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Background and Aims: Intestinal barrier damage leads to inflammatory bowel disease (IBD) and non-alcoholic fatty liver disease (NAFLD). Gut microbiota metabolites have a regulatory effect on the intestinal epithelium and on the liver. The aim was to study the effects of microbial metabolites in IBD and NAFLD cell models.

Methods: For IBD model, cell line CaCo-2 was exposed to IL-1β and dextran sodium sulfate (DSS) and assessed for cell viability, cell monolayer permeability, and IL-8 synthesis. HepG2 hepatocarcinoma cells were used as NAFLD model. Cell viability, lipogenesis, and IL-8 production were evaluated.

Results: DSS reduced the viability of CaCo-2 cells by 25%, while butyric, indole propionic, and a combination of propionic, butyric, valeric, and caproic acids significantly increased viability by 23%, 13%, and 24%, respectively. IL-1β increased the secretion of the proinflammatory cytokine IL-8, while butyric, valeric, propionic acids, indole, histidine and the combination of indole, propionic acid, and histidine significantly reduced IL-8 secretion by 29%, 24%, 21%, 17%, 20%, and 55%. IL-1β added to Caco-2 cells 2.3-fold significantly increased the permeability of the cell monolayer, while butyric, propionic, valeric acids, and indole reduced the permeability by 57%, 47%, 15%, and 21%. None of the metabolites reduced cell viability in the NAFLD model. Indole propionic acid significantly reduced triglyceride accumulation and IL-8 secretion by 20% and 17%; valeric acid reduced lipogenesis by 20%; histidine reduced IL-8 secretion by 22%.

Conclusions: Microbial metabolites positively affected the cell viability and barrier function, suppressed inflammation, and reduced liver triglyceride accumulation. Supported by RSF, No. 20-65-47026 .

459 - Submission No. 1802

MULTITARGET THERAPY WITH THIOTRIAZOLINE THE PATIENTS WITH NON-ALCOHOLIC STEATOHEPATOSIS AND CARDIOVASCULAR RISK FACTORS. THE RESULTS OF THE TRIGON-1 OBSERVATION PROGRAM

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Background and Aims: The multicenter Observational program TRIGON-1 initiated by the Gastroenterology Scientific Society of

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Russia (GSSR) aimed to study the comorbidity mechanisms of non-alcoholic steatohepatitis and predictors of cardiovascular diseases (CVD) and effect of multi-organ therapy with thiatriazoline (morpholinium-methyl-triazolyl-thioacetate).

Methods: Patients with non-alcoholic steatohepatitis and predictors of CVD development who received thiatriazoline monotherapy observed during two months course. The formation of mechanisms of comorbidity of NAFLD and CVD occurs at the early stages of the development of these sufferings. Under the thiatriazoline monotherapy, a significant decrease in cytolysis and cholestasis enzymes was obtained: a decrease in ALT was 14% on the 30th day of treatment and 32% on the 60th day of treatment, a 9% and 19% decrease in g-GTP, 2% and 7% of ALP respectively. Fatty liver index (FLY) had a significant decrease in dynamics from 71.65 at the beginning of the treatment to 63.81 on the 60th day of treatment.

Results: Positive dynamics of clinical manifestations and significant decrease in the intensity of pain dyspeptic and asthenic syndrome were noted. Lipid profile improvement was obtained due to significant decrease in CHOL by 6.7% by the end of treatment; LDL by 15.2% and TRIG by 13.5%. Cholesterol/HDL ratio significantly decreased by 25.8% from 4.03 to 2.99 by the end of treatment. A significant decrease in Intima-media thickness (IMT) by 3.9% and QT interval by 10.9% was obtained on the 60th day of treatment.

Conclusions: Course monotherapy with drug multiple organ action - thiatriazoline in patients with NAFLD improves liver health and reduces the risk of CVD.

460 - Submission No. 1991

PLACENTAL EXTRACTS IN THERAPY OF MODERATE-TO-HEAVY COVID-19 WITH INVOLVEMENT OF LIVER AND OTHER ORGANS

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Background and Aims: The severe course of COVID-19 damages multiple organs, especially liver and requires use of certain pharmacological agents. V.P. Filatov Foundation team using modern proteomics methods studied the clinical use of peptide composition of human placenta hydrolysates (HPH) in various pathologies, including viral infections. Our aim was to assess the improvement in patient condition with a severe form COVID-19 when using HPH Laennec (Japan Bioproducts).

Methods: Patients with a long, stagnant COVID-19 course were monitored (n=30). Depending on the severity, HPH used for 3–10 days (6 ml per 350 ml of 0.9% NaCl solution, iv, cap.) until a stable remission was achieved.

Results: HPH usage was characterized by improvement of liver dysfunction (as judged by great diminution of ALT, AST levels) and lower risk of cytokine storm (attenuation of ferritin, C-RP, increase in %lymphocytes from below 25% up to norm). The use of Laennec resulted in a positive clinical dynamic, a decrease in ferritin levels (in men by -386 μg/L, in women by -80 μg/L; p=0.039), increase blood oxygenation to the normal range (p=0.0029), and a decrease in damaged lung area according to CT (on average, -10%; p=0.0027). All patients who took HPH recovered within 3–15 days after the start of HPH administration and discharged with a negative SARS-CoV-2 virus test.

Conclusions: The inclusion of HPH Laennec in the comprehensive treatment of patients with severe COVID-19 significantly facilitates the condition. First of all, Laennec should be used in patients with existing liver pathologies, type 2 diabetes mellitus, coronary heart disease, including against the background of elevated ferritin levels.

461 - Submission No. 484

A RARE CAUSE OF ABDOMINAL PAIN: COMBINED AORTO-MESENTERIC SYNDROME

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Case Description: A 36-year-old woman with left dorso-lumbar pain that migrates towards the epigastrium with postprandial exacerbation. It is also associated with abdominal distension. She referred similar episodes since 2014. She was admitted previously to another center for abdominal pain and weight loss, interpreted as biliary colic and underwent cholecystectomy without pain improvement. Gastroscopy was normal. US and abdominal-pelvic CT-scan only showed pelvic varicose veins. Examination and tests: BMI 16. Pain on epigastrium palpation. Analytical study without findings. H. pylori antigens was negative. Also, negative pregnancy test. Urine sediment showed microhematuria.

Clinical Hypothesis: Initially, US pyelocaliceal dilatation/lithiasis was ruled out. The pelvic varicose veins led us to consider other diagnoses.

Diagnostic Pathways: POCUS showed a dilated left renal vein (LRV) distal to the aorto-mesenteric clamp (image-1A) with weak flow and an acute aorto-mesenteric angle (image-1B). The tests performed on previous admission were discussed with Radiology, suspecting aorto-mesenteric clamp (image-2). However, given the absence of sagittal slices, a new CT-scan was recommended.

Discussion and Learning Points: Nut-cracker syndrome (NCS)

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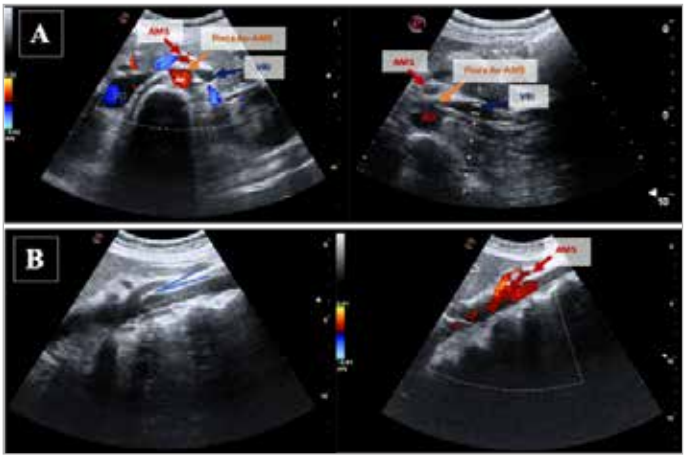
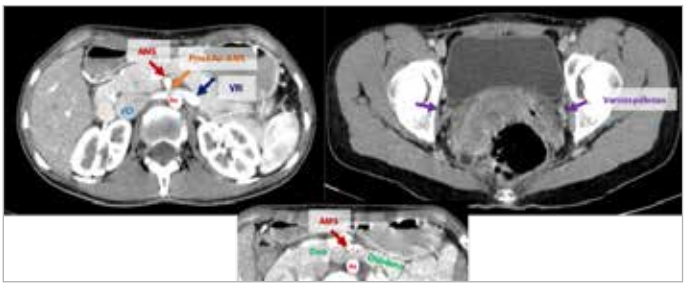
is a pinching of the LRV between the superior mesenteric artery (SMA) and the aorta, presenting a wide clinical spectrum. In SMA syndrome (Wilkie's syndrome), the 3rd duodenal portion is compressed, causing postprandial abdominal pain and secondary weight loss. SMA syndrome and NCS are rare entities with similar etiological mechanisms, but their joint occurrence is even more uncommon. It requires high clinical suspicion. POCUS may support our suspicion but must be confirmed with CT or MRI. Treatment is conservative (weight gain), and in those with persistent symptoms, endovascular approaches with stenting and/or surgery.



461 Figure 1.



461 Figure 2.

462 - Submission No. 1109

THE HAND THAT STOPPED THE BLEEDING

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Case Description: A 72-year-old man with no alcohol habit. Personal history of permanent atrial fibrillation in treatment with dabigatran. He was transferred to the Emergency Department due to dizziness and palpitations. Blood pressure was 84/53 mmHg. Digital rectal examination was compatible with melena. Analysis revealed a hemoglobin of 5.7 g/dL without thrombocytopenia and prothrombin time of 63%.

Clinical Hypothesis: Upper gastrointestinal bleeding in which we had to make a decision regarding the reversal of anticoagulation in a hemodynamically unstable patient.

Diagnostic Pathways: Anticoagulation reversal was done with intravenous administration of idarucizumab 5 g, transfusion and perfusion of omeprazole. A first upper gastrointestinal endoscopy showed a clot in gastric fundus that could not be dislodged. Twelve hours later, hemoglobin persisted at 6.5 g/dL, so another 2 concentrates were transfused. Another endoscopy was performed 72 hours later with a Dieulafoy lesion in gastric body, treated by hemostatic injection and five clips. He did not externalize bleeding again. On the fifth day of admission, low molecular weight heparin was started. After ten days of admission, she was discharged from the hospital, restarting dabigatran with no new major bleeding to date.

Discussion and Learning Points: Dieulafoy's lesion is a rare cause of generally severe gastrointestinal bleeding, secondary to the presence of a persistent caliber vessel in the submucosal layer, difficult to diagnose due to the small size of the erosion and the appearance of the non-pathological mucosa that covers it. This case illustrates how a correct indication for the use of idarucizumab rescued the patient from a life-threatening situation when the initial endoscopic measures were not sufficiently decisive.

463 - Submission No. 1199

LIVER LESIONS AFTER BREAST REDUCTION SURGERY IN A LONG-TERM BREAST CANCER SURVIVOR - THE DIFFICULTIES OF DISTINGUISHING NECROTIC TUMORS AND ABSCESSES IN IMAGING

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Case Description: A 55-year-old female patient was admitted because of weakness, dyspnea and leg edema for 2 weeks. The patient stated that she had breast carcinoma 16 years ago and had recently undergone breast reduction. A hypopyon of the right eye occurred two days before admission. Laboratory chemistry revealed fulminant acute renal failure. CT scan revealed pleural effusions and indistinct hepatic and pulmonary lesions, the former suspicious for necrotizing tumors or abscesses.

Clinical Hypothesis: The relevant differential diagnoses were liver metastases and liver abscesses. To be on the safe side, treatment with ceftriaxone and metronidazole was started.

Diagnostic Pathways: B-mode ultrasound showed lesions with different morphology/appearance. Most lesions were hypoechoic with an anechoic center. Others seemed to be solid with hyperechoic center and hypoechoic margin. CEUS showed segmental hyperemia and hyper perfusion of the edge of the lesions ("rim-sign"). The centers of the lesions did not show any perfusion. During late phase, we could observe a loss of contrast intensity in the marginal area (Figure 1). CEUS revealed central necrosis but could not distinguish between abscess and necrotic metastasis. Therefore, we performed biopsy of the marginal area. As there was no malignancy detectable, sonographically guided

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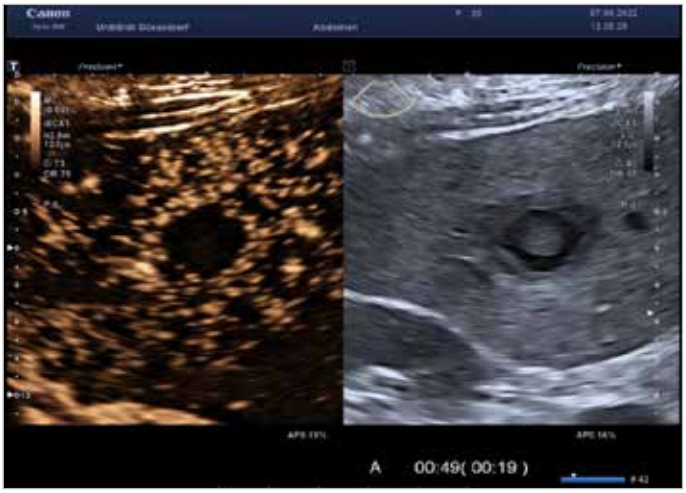
abscess drainage was established. Streptococcus intermedius was detected. Transesophageal echo, gastroscopy and colonoscopy were unremarkable. Renal function normalized due to antibiotic and fluid therapy.

Discussion and Learning Points: The definitive diagnosis of liver abscesses was considered from the beginning and adequately treated. However, for imaging differential diagnosis between abscess and necrotic tumor/infected necrosis is hard to achieve. Sonographically guided puncture is a readily available tool if imaging is inconclusive.



463 Figure 1.

464 - Submission No. 755

CHRONIC INTESTINAL PSEUDO-OBSTRUCTION

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Case Description: A 83-year-old woman with a history of diabetes, Parkinson's disease and limitations on activities of daily living, was admitted in the hospital with abdominal distension and constipation.

Clinical Hypothesis: Chronic intestinal pseudo-obstruction in the context of diabetic dysautonomia, Parkinson disease and prolonged immobilization.

Diagnostic Pathways: A CT scan revealed bowel distension (right colon distended by 10 cm) with no image of obstruction and a normal rectum sigmoidoscopy.

Discussion and Learning Points: Chronic intestinal pseudo-obstruction is characterized by signs and symptoms of an intestinal mechanical obstruction without an anatomical lesion that causes the obstruction. It can be secondary to Parkinson's disease, diabetes, autoimmune diseases, paraneoplastic syndromes, or infections. The treatment consists of dietetic modification, prokinetic medication, and stomach decompression with a nasogastric tube.

465 - Submission No. 906

PNEUMATOSIS CYSTOIDES INTESTINALIS – INCIDENTAL FINDING OR DIAGNOSIS?

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Case Description: A 50-year-old female, presenting with symptomatic chronic microcytic anemia due to iron-deficiency, under oral iron supplementation and with the need for red blood cell concentrate transfusions in the past. She also had rectal bleeding for the past 3 years without hemodynamic instability, chronic obstipation, and occasional diffuse abdominal pain. Furthermore, the patient had a human immunodeficiency virus 1 (HIV-1) infection under antiretroviral therapy (BIC/FTC/TAF), with undetectable viral load and a TCD4 count of 261/mL on the last infections disease appointment, and chronic obstructive pulmonary disease (COPD) treated with bronchodilators. Additionally, the patient was an active smoker and intravenous drug user, medicated with 50 mg methadone.

Clinical Hypothesis: The main possible diagnosis was rectal or colonic carcinoma, due to the long history of iron-deficient anemia, rectal bleeding and constipation. Moreover, one could also consider the possibility of intestinal lymphoma as the patient was HIV positive.

Diagnostic Pathways: Both an upper gastrointestinal endoscopy and colonoscopy were done. The upper gastrointestinal endoscopy showed a hiatus hernia and hemorrhagic gastropathy of the body and fundus. Also, the colonoscopy showed diffuse wall fragility and multiple cystic-looking polypoid lesions with air escaping after the biopsies were done. The diagnosis of hemorrhagic gastropathy and pneumatosis cystoides intestinalis was determined.

Discussion and Learning Points: Pneumatosis cystoides intestinalis (PCI) is a rare disease, not often thought of, that may result in hemodynamic instability, with colonic perforation, intestinal necrosis and peritonitis. The patient had two illnesses commonly associated with PCI: HIV infection and COPD. Fortunately, this case had a benign, favorable, uncomplicated development under conservative treatment.

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466 - Submission No. 2088

AN UNCOMMON AND POTENTIALLY FATAL FORM OF VALPROATE-INDUCED ACUTE LIVER FAILURE

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Case Description: A 45-year-old female was admitted in the ER with abdominal pain and jaundice. The patient suffered from sporadic migraines but had no other medical conditions or chronic medication. She denied any recent alterations in her diet, contact with toxic compounds or recent travels outside the country. Twenty-eight days before, the patient started treatment with valproate, due to recurrent migraine crisis. In the ER, she presented a marked jaundice of the skin and sclera, with abdominal pain in the right hypochondrium. She was nauseated and with slurred speech but presented no significant motor neurological alterations.

Clinical Hypothesis: Treatment with valproate was immediately discontinued, and etiological investigation was directed towards infectious, toxic or autoimmune causes of acute liver failure.

Diagnostic Pathways: Bloodwork disclosed elevation of transaminases along with severe coagulopathy. Abdominal ultrasound findings were compatible with hepatitis. The patient was admitted and promptly referred to the liver transplantation team. Treatment with acetylcysteine, vitamin K, rifaximin, and lactulose was initiated. All infectious and autoimmune serological studies were negative. A transjugular hepatic biopsy was performed, revealing histopathological features of toxic hepatitis, compatible with valproate-induced hepatotoxicity.

Discussion and Learning Points: The patient presented gradual clinical improvement, without the need for transplantation. Hence, we present a case of valproate-induced acute liver injury, which usually has its onset within 1 to 6 months of starting valproate. Although the most common form of valproate toxicity develops as hyperammonemia with minimal or no evidence of hepatic injury, this case illustrates how important it is to consider valproate as a cause of acute, and potentially fatal, liver failure.

467 - Submission No. 1988

DILATATION OF THE BILE DUCT: NO LITHIASIS OR TUMOUR

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Case Description: An 84-year-old man with a personal history of arterial hypertension, chronic ischemic heart disease, ankylosing spondylitis, and cholecystectomy. He presented with abdominal pain after eating without nausea or vomiting. Physical examination revealed hemodynamic stability and distended abdomen, no evidence of abdominal irritation. The rest of the physical examination showed no alterations of interest. Laboratory tests: liver profile alteration with predominantly cholestasis pattern. No elevation of acute phase reactants.

Clinical Hypothesis: Bile duct obstruction.

Diagnostic Pathways: Complementary images examinations and results: Abdominal CT: Dilated intrahepatic bile duct with choledochus up to 2 cm. Cholangio MRI: Dilatation of the intrahepatic and extrahepatic bile duct. Dilated common bile duct with a calibre of up to 11mm, no repletion defects are observed in its interior and distally it presents a sharp stenosis. Diverticulum in the second duodenal portion, approximately 2 cm long. Echoendoscopy: uniformly dilated extrahepatic bile duct (up to 14mm in hepato-choledochal), with normal wall appearance, without lithiasic images inside, leading to a complex diverticulum at papillary level

Discussion and Learning Points: The diagnosis of Lemmel's syndrome represents a real challenge, as it is necessary to rule out other more prevalent etiologies before diagnosis. Treatment of this syndrome is not justified in asymptomatic cases but, in the presence of symptoms, sphincterotomy by ERCP is the treatment of choice. In the clinical case, abdominal pain was self-resolving and did not present subsequent symptoms, so it was decided not to operate. The syndrome requires a high index of suspicion, hence the importance of knowing about this case and keeping this diagnosis in mind.

468 - Submission No. 2011

ACUTE PANCREATITIS DURING THE YEAR 2021: DIFFERENCES FOUND BY SEX IN OUR CENTRE

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Background and Aims: The incidence of acute pancreatitis in Spain has been estimated at 72 cases per 100,000 patients/year, the main etiologies being biliary (lithiasis) and alcoholic. Our aim is to describe the etiology in our center by age and sex.

Methods: Retrospective descriptive observational study. Patients admitted to Internal Medicine in the Complejo Asistencial de Segovia during the year 2021 were analyzed, obtaining the data from the Jimena IV electronic medical record.

Results: A total of 85 patients (excluding readmissions) were obtained, of which 43 were female and 42 male. By age group, pancreatitis is more frequent in older group in women and 31-60 years in mean (Table 1). The most frequent causes are lithiasis, the second etiology in women is unknow (Figure 1) and alcohol in men (Figure 2).

Conclusions: 1. The most frequent etiology in both sexes is lithiasis, with unknown etiology being the second most frequent

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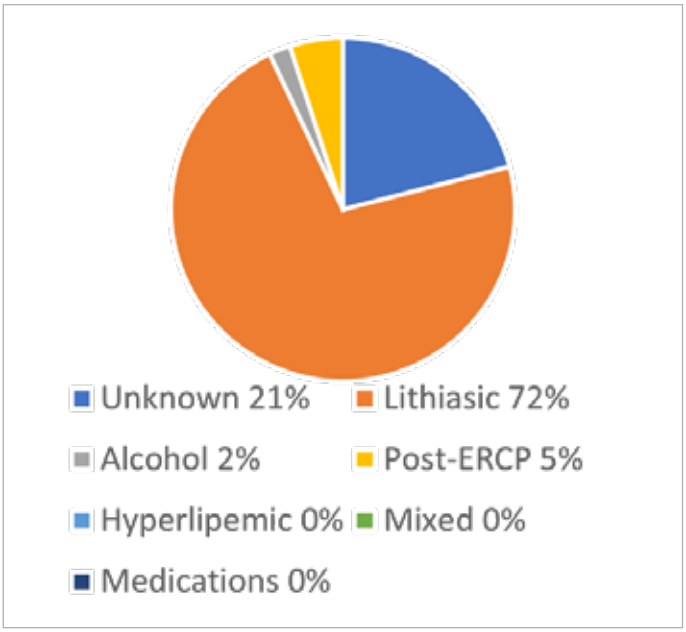
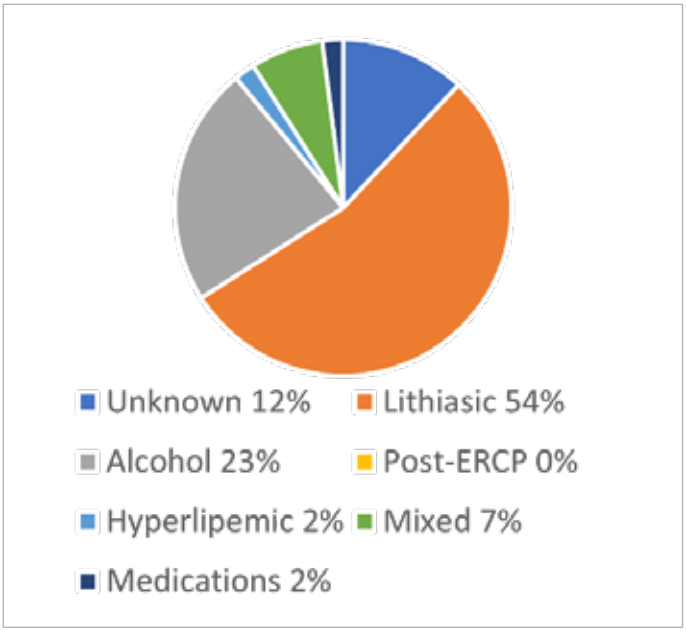
in women and alcohol in men. 2. In our center, acute pancreatitis develops later in life in women.

Age group				
Sex	0-30	31-60	61-80	>81
Female	0%	20,9%	6,9%	41,9%
Male	7,1%	42,9%	33,3%	16,7%

468 Table 1.



468 Figure 1. Female



468 Figure 2. Male

469 - Submission No. 2020

ETIOLOGY OF ACUTE PANCREATITIS DURING THE YEAR 2021 AND PERFORMANCE OF CHOLECYSTECTOMY

Heysa Estefany Mencía Chirinos, Sara Muñoz Alonso, Marta Álvarez Muñoz, Paula Goicoechea Núñez, José Alonso De Los Santos, Ismael Herrero Lafuente, Daniel Monge Monge, Sonia Martin Rodriguez

Complejo Asistencial de Segovia, Internal Medicine, Segovia, Spain

Background and Aims: In 85% of pancreatitis an etiology can be established. In the present study, our aim is to describe the epidemiological and etiological characteristics of patients diagnosed with acute pancreatitis admitted during the year 2021 and their inclusion in the surgical waiting list or cholecystectomy during the first 6 months after the episode.

Methods: We conducted a descriptive, cross-sectional study of patients with a diagnosis of acute pancreatitis (AP) admitted to the Internal Department of the Hospital General de Segovia from January 1 to December 31 2021. Data were collected from the Jimena IV electronic medical record programme. Readmissions and those whose final diagnosis during admission was not AP were excluded, for a total of 85 cases. Tables were drawn up according to the variables age, sex, etiology, performance of cholecystectomy and reason for non-cholecystectomy (Tables 1-3).

Results: However, when segmented by sex, the highest percentage of female patients is found in the >80 years age group with 41.9%. Of these, 40% had not undergone cholecystectomy, of which 38.1% we do not known the reason and 33.3% were due to high surgical risk.

Conclusions: 1. The most frequent cause is biliary, with cholecystectomy being performed during the first 6 months only half of the cases. 2. The main reason for non-intervention is the high surgical risk. 3. In a significant percentage of cases, the reason for non-intervention is not reflected and leaves the question of whether or not these patients should benefit from this treatment.

	Female		Male		Total	
	Cases	%	Cases	%	Cases	%
<35 years	0	0,0%		7,1%		3,5%
35 - 64 years		30,2%	21	50,0%		40,0%
65 - 80 years		27,9%		26,2%	23	27,1%
>80 years		41,9%		16,7%	25	29,4%
Total	43	100,0%	42	100,0%	85	100,0%

469 Table 1.

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Aetiology	Cases	Percentage
Unknown		16,5%
Lithiasic		62,4%
Alcoholic		12,9%
Post ERCP		2,4%
Hyperlipemia	1	1,2%
Medicines	1	1,2%
Mixed TG and Alc		3,5%
Total	85	100,0%

469 Table 2.

	Female		Male		Total	
	Cases	%	Cases	%	Cases	%
Unknown		23,1%	5	62,5%	8	38,1%
High surgical risk		53,8%	0	0,0%		33,3%
Surgery appointment pending		15,4%		25,0%		19,0%
Rejected by patient	1	7,7%	1	12,5%		9,5%
Total		100,0%	8	100,0%	21	100,0%

469 Table 3.

470 - Submission No. 1129

A "SEVERE" GILBERT SYNDROME

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Case Description: A 70-year-old woman with obesity, former smoker, dyslipidemia, pre-diabetes, presented in the emergency department after 3 episodes of hematemesis. At admission she was hemodynamically stable, with mild anemia (10.3 g/dL), hyperlactacidemia (4.4 mmol/l), International Normalised Ratio 1.4. Analytical reassessment showed a decrease in hemoglobin (Hb 7.7 g/dL) and the upper digestive endoscopy showed esophageal varices type Ia (Forrest classification).

Clinical Hypothesis: The diagnosis of hypertensive upper digestive bleeding was assumed, in a patient without knowledge of liver disease.

Diagnostic Pathways: The hepatic biopsy showed cirrhosis. After a deep etiological study and the development of persistent mild cholestasis and hyperbilirubinemia, the only alterations found were a homozygous $A(TA)_7TAA$ mutation on UDP-glucuronosyltransferase (UGT1A1) gene and heterozygous Glu288Val (Pi*S/M) mutation on serpin 1 gene.

Discussion and Learning Points: The hyperbilirubinemias are a group of diseases characterized by alterations in the bilirubin metabolism pathway. Gilbert syndrome is a disease characterized by mild hyperbilirubinemia caused by mutations in the UGT1A1 gene. It is a benign condition. Alpha 1 anti-trypsin (AAT) deficiency is an inherited disease characterized by mutations in the serpin 1 gene. The lungs and the liver were the most affected. The homozygous Pi*Z allele (severe AAT deficiency) or a heterozygous Pi*Z are the genotypes the most associated with AAT deficiency. There's no described cases of severe Gilbert syndrome or Pi*S/M genotype associated with AAT deficiency in literature. With this clinical case we want to show that a combination of a benign mutations may causes an addition of dysfunctions and promote a development of a severe disease.

471 - Submission No. 2115

SYSTEMIC MANIFESTATIONS OF INFLAMMATORY BOWEL DISEASE: THROMBOEMBOLIC DISEASE

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Case Description: A 48-year-old male with a history of Crohn's disease was admitted for persistent rectorrhagia despite outpatient treatment with antibiotics and corticosteroids. Intravenous treatment with high-dose steroids and infliximab was started, associating thromboprophylaxis.

Clinical Hypothesis: Moderate-severe flare-up of cortico-refractory Crohn's disease.

Diagnostic Pathways: Intestinal ultrasound showed nonspecific pancolitis, portal thrombosis and ascites. A rectosigmoidoscopy and a body computed tomography (CT) were therefore performed, confirming severe pancolitis with venous thrombosis of the entire splanchnic area, leading to hepatic and intestinal infarctions, along with pulmonary thromboembolism of the left lower lobe. Anticoagulation was initiated. Several coagulation factors and thrombophilia studies were performed, showing no abnormal results. The patient had a favorable evolution during admission, with resolution of inflammation and thrombosis in control CT after treatment. Three months later, our patient maintained anticoagulation with edoxaban, with no new complications.

Discussion and Learning Points: Inflammatory Bowel Disease (IBD) behaves as a systemic disease with hypercoagulability. Thrombotic events can thus occur, presenting a higher incidence

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than the general population and increased morbimortality. Most of these events befall during active phases of the disease but may nevertheless happen during clinical stability. Moreover, some clinical factors increase the thrombotic risk including the presence of severe intestinal disease, hospitalization and immobilization, dehydration, central catheters, and treatment with corticosteroids or tofacitinib. Despite the evidence on the benefit of thromboprophylaxis in patients hospitalized for an IBD outbreak, currently available literature shows that scarcely 65% patients receive it.

472 - Submission No. 136

THE CHANGING SCENARIO OF CELIAC DISEASE: HOW DID THE PATIENTS CHANGE BETWEEN THE LAST TWO DECADES?

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Background and Aims: During the last decade, knowledge about Celiac Disease (CD) improved not only among CD specialists, but also among both general physicians and non-medical population. This may have led to changes in the scenario of CD. The aim of our study is to evaluate those changes, comparing the population of patients with CD diagnosed in the decade 2000-2009 and patients with CD diagnosed in the subsequent decade.

Methods: We retrospectively analyzed a population of 359 prospectively enrolled patients with CD and we divided the population in two groups according to the decade of diagnosis (159 patients in the 2000-2009 group and 200 patients in the 2010-2019 group). Comparisons were made between those groups.

Results: In the 2010-2019 group we found higher age-at-diagnosis (41.6 median age, range 16.3-75.3, vs 37.3 median age, range 16.1-71.2, p=0.023) and greater frequency of male patients (27.5% vs 15.7%, p=0.010). There was a similar rate of asymptomatic patients in the two groups (27% vs 20%, p=0.131), while the group 2000-2009 showed higher prevalence of both low ferritin blood levels (52.8% vs 38.0%, p=0.006) and osteopenia (58.5% vs 44.5%, p=0.011).

Conclusions: Patients presenting with CD in the last decade were medially older and more frequently male, this may reflect the more accurate knowledge about the incidence of CD in those populations. The lower prevalence of malabsorption manifestation may, on the other hand, represent a tendency to recognize milder form of CD.

473 - Submission No. 39

EVOLUTION OF BONE MASS DENSITY AND FRACTURE RISK IN PATIENTS WITH CELIAC DISEASE

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Background and Aims: Our aim was to evaluate the long-term evolution of metabolic bone disease and risk of fracture in patients with celiac disease (CD).

Methods: We searched our database for patients who had : 1) abnormal values at the index DEXA (performed <12 months after CD diagnosis); 2) subsequent DEXAs performed every 2-3 years; 3) a total follow-up length > 10 years after the index measurement. Longitudinal evolution of DEXA scores and predictive indexes (FRAX and DeFRA), as well as prevalence of osteoporotic fractures are reported.

Results: Amongst 107 eligible patients (median age 43 years, females 82.2%) the index measurement showed osteoporosis in 26.2% at lumbar spine and 5.6% at total hip. Z-scores improved at both sites at the first follow-up, continuing to increase at lumbar spine and remaining stable at total hip. T-scores had similar changes at the first follow-up, then slightly declined after a median observation time of 7.5 years. Twelve patients (11.2%) had fractures at spine (n=8), hip (n=2) and wrist (n=2) during the 10-year follow-up. All fractured patients had either osteoporosis at index measurement or other risk factors for fractures. Both FRAX and DeFRA were able to capture high-risk patients.

Conclusions: A strict follow-up could be recommended in patients with osteoporosis or elevated risk of fracture according to FRAX or DeFRA. On the contrary, patients with osteopenia and no additional risk of fracture had stable DEXA values overtime and could repeat scans after a longer time (allowing a better allocation of resources).

474 - Submission No. 337

LIVER MASS IN A CIRRHOTIC PATIENT; IS IT ALWAYS HCC?

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Case Description: A 69-year-old male patient with a past medical history of HBV-NASH cirrhosis, presented to the emergency department due to RUQ pain and fever. CT of the abdomen revealed a 9 cm hyper-enhanced mass on the right lobe of the liver with satellite focal lesions with rapid washout of the contrast material. Accompanying portal vein thrombosis with vascularization suggestive of a paraneoplastic cause was also

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demonstrated. Ascitic fluid paracentesis ruled out SPB. Further blood tests displayed abnormal LFTs, with a dominant cholestatic pattern and an AFP wnl.

Clinical Hypothesis: Specialized imaging differential considerations raised HCC high in the differential diagnosis.

Diagnostic Pathways: Liver biopsy of the main mass disclosed a low differentiation grade neoplasm, with increased cell proliferation (Ki-67), expressing CD31 (100%) and other markers indicating a vascular origin. A diagnosis of primary hepatic angiosarcoma (PHA) was made.

Discussion and Learning Points: PHA is an extremely rare cause of liver neoplasms (0.1-2%). Less than 200 cases are described annually in the literature. Environmental factors including vinyl chloride, arsenic, anabolic steroids and radiation have been implicated. It shares not only similar clinical signs and symptoms with HCC but imaging findings too. Because the prognosis is extremely poor in late stages of disease and the treatment plan is different than that of other primary hepatic tumors, liver biopsy is mandatory.

Reference :

Chaudhary P, et al. Primary hepatic angiosarcoma. Eur J Surg Oncol. 2015 Sep;41(9):1137-43.

475 - Submission No. 339

THE THERAPEUTIC CRITERION OF CORTICOSTEROIDS FOR THE DIAGNOSIS OF A SERO-NEGATIVE AUTOIMMUNE HEPATITIS

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Case Description: A 54-year-old lean woman, was admitted to our department due to low grade fever, fatigue and musculoskeletal pain involving the cervical and shoulder zone. She consumed regularly herbal tea. Initial laboratory tests showed mild elevated liver enzymes (ALT:AST / 3:1). The initial work up excluded infectious causes of hepatitis; HAV, HBV, HCV, HEV, CMV, EBV, HSV. She referred no alcohol consumption. Extensive imaging studies of the liver were negative for structural lesions or gallbladder liver disease. Iron and copper studies were wnl. Antibodies for autoimmune liver disease (ANA, Anti-ds-DNA, RF, ASMA, AMA, LKM, SLA, LC1) were ordered and the results came out negative. Quantitative measurement of immunoglobulins displayed mild hyperglobulinemia.

Clinical Hypothesis: Could the consumption of herbal tea trigger an autoimmune hepatitis?

Diagnostic Pathways: Liver biopsy was the diagnostic modality of choice. The histology demonstrated mildly expanded portal spaces due to fibrosis and chronic inflammatory lesions characterized by the presence of a few plasmacytes and eosinophils. Due to the ongoing liver damage, treatment with corticosteroids was initiated as a therapeutic criterion. The liver enzymes were doubled down. When the prednisolone was fast tapered, the ALT levels raised again further supporting the diagnosis of autoimmune hepatitis. The patient is now receiving low-dose corticosteroids and azathioprine. Follow up displayed full remission of laboratory findings.

Discussion and Learning Points: AH is a clinicopathological entity where its diagnosis is established after exclusion of other hepatitis causes, existence of compatible histological findings and consideration of patient's clinical condition.

Reference :

McFarlane IG. The relationship between autoimmune markers and different clinical syndromes in autoimmune hepatitis. Gut 1998;42:599-602.

476 - Submission No. 1378

HEPATOTOXICITY ELICITED BY THE PLANT HELIOTROPIUM EUROPAEUM

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Case Description: A 73-year-old Cypriot male with previous medical history of paroxysmal atrial fibrillation and hyperlipidemia was admitted due to ascites, appetite loss, nausea and jaundice. The patient was not alcoholic. Initial evaluation showed abdominal distention, jaundice and palmar erythema with decreased breathing sounds at the right lung base.

Clinical Hypothesis: Differential diagnosis of portal hypertension.

Diagnostic Pathways: Laboratory abnormalities including normocytic anemia, thrombopenia, conjugate hyperbilirubinemia, INR prolongation, increased GGT level were noted. Serology for hepatotropic viruses, AMA and antibodies for autoimmune hepatitis was negative. Ceruloplasmin and a1-antitrypsin were within normal limits. Transthoracic echocardiography was unremarkable. Paracentesis of the ascitic fluid indicated portal hypertension and the cytology was negative for malignant cells. Abdominal MRI-MRCP revealed small pleural effusion on the right side, ascitic fluid, no liver abnormalities, and no thrombosis of portal vein. A gastroscopy showed small caliber esophageal varices and portal hypertensive gastropathy. Liver biopsy was performed which indicated drug induced hepatitis. Thereafter, the patient admitted consuming the plant *Heliotropium europaeum*, daily for the past year, collecting it from the mountains.

Discussion and Learning Points: The ingestion of pyrrolizidine alkaloids containing plants (like *Heliotropium europaeum*) results in liver damage in the form of hepatic veno-occlusive disease and pulmonary arterial hypertension, which once developed, are irreversible and eventually lethal.

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477 - Submission No. 507

ETIOLOGIC INVESTIGATION OF PATIENTS PRESENTED WITH PRIMARY HEPATOCELLULAR CARCINOMA (HCC)

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Background and Aims: Patients with chronic hepatitis may develop cirrhosis and subsequently have a risk to develop hepatocellular carcinoma (HCC). The risk for HCC development varies among different etiologies of chronic liver injury. The aim of the present study was to investigate the etiology of chronic liver disease in patients who were diagnosed with primary HCC.

Methods: In the present study there were included all patients who presented with primary HCC, in two liver centers, the last decade. All patients underwent virology assessment for the etiology of liver disease (HBV, HCV, HBV/HDV), as well as immunology test, and the amount alcohol use was also evaluated.

Results: In total 120 patients with HCC were enrolled in the present study. Mean age was 62.5 (range= 54-84) and the majority of them were males (M/F= 77/42). Regarding the etiology of chronic liver disease we observed : HBV infection in 32 (26.6%) patients, alcoholic liver disease (ALD) in 24 (20.0%), chronic hepatitis C in 27 (22.5%), 8 (6.6%) patients had HBV infection and ALD, 8 (6.6%) chronic HCV infection and ALD, 18 (15.0%) patients had cryptogenic cirrhosis (presumably non-alcoholic steatohepatitis, NASH), and 3 (2.5%) patients without a history of chronic liver disease.

Conclusions: The results of the present study showed that the main etiologies for HCC were HBV infection, HCV infection, and alcohol abuse. A significant number of patients develop HCC in the presence of NASH cirrhosis. On the contrary patients with autoimmune chronic liver diseases have a low risk for HCC development.

478 - Submission No. 1040

RARE CASE OF FULMINANT HEPATIC FAILURE TREATED WITH DIURETICS

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Case Description: We present the case of a 56-year-old man with coronary heart disease, cardiac failure (EF: 45%) and newly diagnosed atrial fibrillation. He was admitted due to painless jaundice (TBil: 60 mg/dl, directBil: 40 mg/dl) with lethargy together with increased levels of aminotransferases and cholestatic enzymes and prolonged prothrombin time (INR 5). He had recently had an episode of syncope, attributed to atrial fibrillation with rapid ventricular response (RVR), after which apixaban and carvedilol were initiated. No alcohol abuse, fever, recent travel, or modification of chronic medication were reported.

Clinical Hypothesis: Fulminant hepatic failure due to shock liver (ischemic hepatitis) resulting from atrial fibrillation with RVR in the setting of congestive hepatopathy due to chronic right heart failure.

Diagnostic Pathways: The patient underwent computed tomography of the chest and abdomen with no evidence of hepatic-biliary tree pathology or thrombosis. Testing for viral or autoimmune hepatitis was negative. A transthoracic echocardiogram revealed severe heart failure with low ejection fraction (EF: 25%), right ventricular dilatation and pulmonary hypertension. The patient was treated with intravenous furosemide, landiolol, as well as spironolactone per os and subcutaneous enoxaparin, leading to evident gradual clinical and laboratory response (TBil: 8mg/dl, directBil: 6mg/dl, INR:1.3).

Discussion and Learning Points: Congestive heart failure is one of the frequently overlooked causes of cholestasis. Fulminant hepatic failure due to an underlying cardiac disease is a diagnosis that should always be excluded in patients with heart failure-or relevant medical history-presenting with jaundice.

479 - Submission No. 1919

RISK FACTORS AND PROGNOSTIC SCORES ASSOCIATED WITH HEPATOCELLULAR CARCINOMA DEVELOPMENT IN PATIENTS WITH HEPATITIS B VIRUS: AN OBSERVATIONAL, RETROSPECTIVE STUDY

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Background and Aims: Hepatitis B virus (HBV) infection constitutes a common cause of hepatocellular carcinoma (HCC) development. The identification of HCC development risk factors and the comparison of prognostic scores are essential for early diagnosis and prognosis. The aim of this observational, retrospective study is to evaluate clinical risk factors associated with HCC in HBV.

Methods: Seven hundred seventy consecutive adults (n=770)

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[mean age: 48 (range:36-61)] with HBV, referred to our outpatients' Hepatology clinic between 01/1993 and 09/2020, were evaluated. Clinical data were examined as potential HCC risk factors and 5 prognostic scores were compared.

Results: Forty-five patients (4.8%) presented HCC, whereas 725 did not. HCC patients were older (p<0.001 CI: 1.071-1.178), were mainly male (p=0.001 CI: 2.326-28.644), had increased cirrhosis rate at baseline (p<0.001 CI: 4.448-33.017), and alcohol abuse (p=0.036 CI: 1.056-5.216), presented elevated platelets (p<0.001 CI: 1.004-1.014), body mass index (p<0.711 CI: 0.96-1.03) and HBV DNA (p<0.448 CI: 0.795-1.261) compared to non-HCC patients. The prognostic scores, core promoter mutations and cirrhosis (GAG-HCC) (Area=0.911 CI: 0.856-0.967), PAGE-B (Area=0.856 CI: 0.798-0,915), CU-HCC (Area=0.753 CI: 0.664-0.841), fibrosis-4 (FIB-4) (Area=0.769 CI: 0.690-0.847), risk estimation for hepatocellular carcinoma in chronic hepatitis B (REACH-B) (Area=0.804 CI: 0.736-0.871) were compared by ROC curve. Kaplan Meier Analysis was only used to GAG-HCC and PAGE-B scores (both p<0.001 in high score for HCC occurrence).

Conclusions: Most patients who developed HCC were older men, with liver cirrhosis, history of alcohol consumption and lower values of platelets. GAG-HCC and PAGE-B scores appear to be reliable prognostic factors for the evaluation of HCC development risk in HBV patients.

480 - Submission No. 1615

BOWEL PREPARATION AS A CAUSE OF SEIZURE

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Case Description: A 59-year-old man with hypertension presented to the hospital with confusion and garbled speech. He was doing bowel preparation for colonoscopy. During the physical examination, he had an episode of clonic seizures of the upper extremities that was aborted with benzodiazepines. On investigation, he was found to have serum sodium of 119 mmol/L, potassium of 2.3 mmol/L and glucose of 116 g/dL.

Clinical Hypothesis: We considered that the patient has neurological symptoms related to bowel preparation-induced severe acute hyponatremia.

Diagnostic Pathways: A brain computerized tomography showed no signs of bleeding or other acute brain injuries. There was no history of seizures or alcohol consumption, electrocardiogram was normal and all other lab tests were normal. He was treated with slow intravenous infusion of hypertonic saline and potassium supplementation. Complete neurological recovery and normalization of serum sodium and potassium levels occurred in 48 hours.

Discussion and Learning Points: The are few cases of seizures associated to bowel preparation. The seizure activity is assumed to be caused by the electrolyte disturbances associated with the medications. In this case, hyponatremia can be due to salt loss secondary to diarrhea and excessive free water ingestion. The authors pretend to emphasize that, bowel preparation, notwithstanding usually safe, may be associated with severe complications.

481 - Submission No. 1267

IGG4-RELATED SCLEROSING CHOLANGITIS

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Case Description: A 47-year-old man has presented with jaundice and dark urine for the past 2 days. He had no fever, abdominal pain, or weight loss. He had no notable epidemiological, personal or family history. Constants were normal. He had skin jaundice and abdominal examination was normal.

Clinical Hypothesis: The finding of a painless jaundice of acute onset makes us think of an acute hepatitis or a neoplasm as the most frequent causes.

Diagnostic Pathways: Analysis showed elevated liver enzymes and bilirubin (AST 100 U/L, ALT 234 U/L, GGT 127 U/L, AP 383 U/L, bilirubin 10 mg/dL). Abdominal ultrasound did not show alterations. Magnetic resonance cholangiography and CT observed dilation of the intrahepatic bile duct and supra-pancreatic common bile duct, with collapse and enhancement of the walls of its intrapancreatic portion, with a slightly edematous pancreas. Echoendoscopy revealed a dilated intrahepatic and extrahepatic bile duct, with increased echogenicity of the common bile duct wall with a decrease in caliber until it became imperceptible in its distal area, and an enlarged pancreatic head and uncinate process. IgG4 in blood was normal. Prednisone was started. Bilirubin normalized in the following 4 weeks. Corticosteroids were discontinued at 9 months and there have been no relapses.

Discussion and Learning Points: IgG4-related sclerosing cholangitis typically affects men between 50-70 years. Diagnosis is based on the combination of characteristic imaging findings (long stenosis of bile ducts), elevated IgG4 levels (normal in 10-40%), coexistence of IgG4-related diseases (autoimmune pancreatitis in 90%), histopathological findings, and response to steroid treatment. Corticosteroid treatment is highly effective in achieving remission.

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482 - Submission No. 2358

HEPATIC ANGIOSARCOMA: COMPLEX DIAGNOSIS

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Case Description: 71-year-old man referred from private clinic with an ultrasound finding of ''17 cm right hepatic lobe mass'', without fever or dysthermic sensation. The abdominal palpation was normal without pain or palpable masses, Blumberg and Murphy negative.

Clinical Hypothesis: Blood test with normal renal function and ionogram (CKD-EPI formula 92 mL/min), normal liver profile excepting Gamma glutamyl transferase 109 U/L. Tumoral markers were normal excepting CA 19.9 with 46.8 U/mL. Microcytic anemia (hemoglobin 11.7 g/dL, hematocrit 38.2 %) with thrombocytopenia (platelets 97,000 cels/dl). CT thoracic-abdominal scan with intravenous contrast was performed finding peripheral micronodules in the lower lobes and laminar atelectasis in the middle lobe, and sub centimetric mediastinal adenopathies. Hepatic steatosis with a large lesion of 13.5 cm x 14 cm is visualized, mostly hypodense with a solid pole in its medial region, well defined with a fine capsule. Retroperitoneal adenopathies up to 20 mm with pathological appearance. These date were confirmed with liver MRI that suggests the possibility of a hydatid cyst versus more aggressive behavior.

Diagnostic Pathways: Three biopsies were performed, two with necrotic fibrin material inadequate for diagnosis was obtained, forcing a partial hepatectomy with the diagnostic of hepatic angiosarcoma.

Discussion and Learning Points: Angiosarcoma hepatic is a rare tumor (0.1-2% of primary liver tumors), but is the most common malignant liver mesenchymal tumor. It most frequently affects males between the sixth and seventh decades of life. It is a difficult entity to diagnose that is performed postmortem (35% of cases). Most are idiopathic, although there are cases secondary to exposure to certain products and diseases (hemochromatosis or neurofibromatosis).

483 - Submission No. 368

RADIOLOGY IS THE KEY

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Case Description: 74-year-old male with one week constipation and vomiting of two days, with obstructive ileus diagnosis. Mucocutaneous jaundice at physical exam, without dehydration or hypoperfusion, with epigastrium mass palpation adhered to deep planes. Blood test was performed with microcytic hypochromic anemia, without others hematological alteration, and normal coagulation tests. Normal hepatorenal function and ionogram. Thoracic and abdominal plain X-ray were performed, finding small and large intestine displacement due to omental fatty hyper density, without evidence of air-fluid levels, image of delayed emptying with gastric chamber dilation. Finding gastric neoplasm with lymph node, peritoneal and hepatic metastases at CT abdominal scan. A mamelonized ulcerated and friable lesion with neoplastic appearance at antrum, multiple biopsies were performed.

Clinical Hypothesis: Location is the most important factor determining the origin of an abdominal mass. Intraperitoneal masses that arise from the bowel, mesentery, or omentum are usually cystic and mobile. Ultrasonography is the initial diagnostic tool that allows to differentiation of solid versus cystic lesions. CT scanning has become the study of choice by surgeons because of its utility for extent of local disease, metastases and the character of the lesion.

Diagnostic Pathways: Algorithm for palpable abdominal masses is predominantly based on the ACR Appropriateness Criteria, that suggest an initial radiographic evaluation, or US for lesions that are difficult to evaluate with radiography.

Discussion and Learning Points: Following the algorithm and diagnostic considerations of the ACR Appropriateness Criteria for palpable abdominal wall masses is recommend initial evaluation with US. In addition, contrast-enhanced CT or MRI without and with contrast material enhancement are considered usually appropriate.

484 - Submission No. 2092

SEVERE STEATOSIS MIGHT IMPACT FIBROSIS PROGRESSION IN PATIENTS WITH VARIOUS CHRONIC LIVER DISEASES

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Background and Aims: Nonalcoholic fatty liver disease (NAFLD), the commonest liver disease affecting about 25% of the general population, can concur with other chronic liver diseases (CLDs). As the impact of NAFLD on other CLDs is obscure, we aimed to assess characteristics of patients with various CLD with and without NAFLD using Vibration-Controlled Transient Elastography (VCTE) with Controlled Attenuation Parameter (CAP), a non-invasive method that simultaneously evaluates liver fibrosis and steatosis.

Methods: Clinical and laboratory data from 218 patients with various CLD, including 132 patients (60 males) with severe

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steatosis (S3-CAP >280 dB/m) and 86 patients (28 males) with no/mild steatosis (S0-S1-CAP <248 dB/m) were analyzed. There was no difference in the distribution of CLDs (HBV, HCV, PBC/PSC, AIH) amongst the two groups. Patients with alcoholic liver disease were excluded.

Results: There was significant correlation between LSM and CAP measurements (r=0.196, p=0.04). Even though there was no difference in the percentage of cirrhotic patients between the two groups, S3 patients had significantly higher LSM (p=0.003) compared to S0-S1 patients. S3 patients had higher BMI (p<0.001), higher ALT (p<0.001], lower HDL (p<0.001), higher triglyceride levels (p<0.001), had more frequently hypertension (p<0.001) and were more often using statins (p=0.02) compared to S0-S1 patients. Amongst S3 patients, 85.1% fulfilled metabolic associated fatty liver disease (MAFLD) criteria.

Conclusions: Severe steatosis might impact fibrosis progression in patients with various CLDs. Severe steatosis is linked to MAFLD in the majority of patients. Our data emphasize the need for more cautious assessment of CLD patients with severe steatosis during follow up.

485 - Submission No. 1578

AUTOIMMUNE HEPATITIS AND ELEVATED CA125 LEVELS - A CASE REPORT

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Case Description: Autoimmune hepatitis is a form of chronic hepatitis usually associated with other autoimmune conditions. It can also possibly lead to liver cirrhosis. CA125 levels can be elevated in ovarian cancer, as well as liver cirrhosis.

Clinical Hypothesis: This case not only highlights the clinical features of the disease, but also emphasizes an unusual significant rise in CA125 levels. We herein report a case of a 54-year-old female patient admitted to our department with abdominal distension, depigmentation of the dorsal side of the hands and asthenia that started appropriately 2 months earlier.

Diagnostic Pathways: Laboratory tests revealed increased liver function tests and an altered coagulation profile. Based on raised levels of antinuclear antibodies, IgG and undetectable hepatitis virus antibodies, a diagnosis of type I autoimmune hepatitis was made. Imaging confirmed the presence of liver cirrhosis. Increased levels of TPO and TSH confirmed the association with Hashimoto's thyroiditis. Two weeks after specific treatment for liver cirrhosis, the patient presented with abdominal distension, asthenia and scleral jaundice. Labs showed significantly high levels of CA125, thus, an ovarian tumor was suspected. Hence, diagnostic laparoscopy with right adnexectomy was performed.

Discussion and Learning Points: According to the histopathological examination, this atypical rise in CA125 levels turned out to be a benign condition, namely a lipoma of the Fallopian tube. Elevated CA125 levels can be found in liver cirrhosis, this being a unique feature of this clinical case, together with sudden onset and late diagnosis of liver cirrhosis.

486 - Submission No. 897

AUTOIMMUNE HEPATITIS (AI) AND SCLEROSING CHOLANGITIS (SC) IN A MIDDLE-AGED MAN; IS IT ALWAYS AN OVERLAP SYNDROME?

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Case Description: A 53-years-old man is presented to the internal medicine department with the diagnosis of AI. A month ago, he visited the liver outpatient clinic due to fatigue and loss of appetite. Laboratory evaluation displayed elevated liver enzymes and according to the results of further work-up; immunologic profile (high titers of ANA and IgG) and liver biopsy, the diagnosis of AI was made. The patient was admitted to our clinic in order to be treated with high doses of methylprednisolone because the disease was in flare; AST and ALT exceeding 1000 IU/L. Past medical history was significant for type 1 diabetes mellitus, while his mother and sister were diagnosed with SLE and RA, respectively. A strong predisposition to autoimmunity in all family members was obvious.

Clinical Hypothesis: Cholestatic enzymes and TBIL were also substantially elevated. AI is mainly characterized by increased transaminases. Hence, in the fields of further investigation MRCP was ordered.

Diagnostic Pathways: Multiple strictures scattered along the length of the entire biliary tree (both intra and extrahepatic) were noted, a radiographic finding characteristic of PSC. Ulcerative colitis, a condition associated with PSC, was ruled out after colonoscopy was performed.

Discussion and Learning Points: The overlap PSC-AI syndrome is most often described in young adolescents. This middle-aged patient had concomitant SC due to inflamed hepatic parenchyma causing strictures in biliary tree. Hence, SC was secondary to AI and not a primary disease itself, warding off the possibility of an overlap syndrome.

Reference:

Rust C, Beuers U. Overlap syndromes among autoimmune liver diseases. World JGastroenterol. 2008 Jun 7;14(21):3368-73.

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487 - Submission No. 2063

SURGICAL TREATMENT OF RUPTURED UMBILICAL HERNIA IN DECOMPENSATED CIRRHOTICS: INTERIM ANALYSIS IN A PROSPECTIVE STUDY

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Background and Aims: Umbilical hernias (UH) are serious complication in the course of cirrhosis with ascites. The safety of surgical repair is unclear in this context. Our aim was to study the outcomes of cirrhotic patients submitted to emergency surgical repair of UH.

Methods: Prospective study of cirrhotic patients with ascites and ruptured or strangulated UH. Baseline characteristics, laboratories, medical treatment, type of surgery as herniorrhaphy, hernioplasty with/without mesh, bowel resection were registered. Type of anesthesia, postoperative complications and outcomes were collected.

Results: Sixteen decompensated cirrhotic patients (81.25% male), median age 58 years (41-77), median MELD 17 (11-39) with ruptured or strangulated UH were included. Cirrhosis etiology was ALD in 10, viral 2, (ALD+HCV) 2, 1 AIH, and 1 NASH. Of those operated under local anesthesia 9 (56%) all submitted to herniorrhaphy, those under GA hernioplasty with bowel resection as appropriate. All patients received i.v. antibiotics and human-albumin. Deaths within 1 month in 2 (12.5%) due to HRS-MOF (1), liver failure (1), within 6 months 7 (43.7%) due to sepsis-liver failure-MOF (4), variceal bleed (2) and HRS (1). The median survival was 6 months (range, 0.4-48). No significant association was found between type of anesthesia or surgery and overall survival.

Conclusions: Surgery for complicated UH is associated with significant morbidity and mortality in cirrhotic patients with ascites. Optimal diuretic management, TIPS or liver transplantation could mitigate the risk of this serious complication.

488 - Submission No. 1051

PATIENTS WITH ACUTE ADULT-ONSET STILL'S DISEASE & SEVERE ACUTE HEPATITIS: A PROSPECTIVE CASE SERIES

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Case Description: Adult-onset Still's disease (AOSD) is rare systemic inflammatory disorder of unknown etiology and pathogenesis. Hepatic involvement varies, ranging from asymptomatic transaminasemia to acute liver failure, a rare yet life-threatening complication.

Clinical Hypothesis: Prospective study of three cases with a primary diagnosis of AOSD, who were admitted to hospital with symptoms of fever, rash and severe acute hepatitis.

Diagnostic Pathways: The diagnosis was made based on Yamaguchi criteria. Extensive laboratory tests and liver biopsies were performed for all patients.

Discussion and Learning Points: Two women, aged 34 (history of Hashimoto's disease & psoriasis) and 52 (hypertension, osteoporosis) and a man, aged 57 (heart disease, dyslipidemia) were studied. The patients' initial clinical picture was characterized by fever, lymphadenopathy, and severe acute hepatitis (ALT >3.000 u/l) with liver failure (BIL >10 mg/dl, mild-moderate prolongation of INR), but without accompanying encephalopathy. Ferritin levels of all patients were >35,000 ng/ml. Routine virology and immunology tests came back negative. Histologically there was dilatation of portal tracts, mild microvesicular degeneration and biliary hyperplasia. The inflammatory infiltrate consisted of lymphocytes, mast cells, eosinophils and neutrophils. In the centrilobular area there was hepatocellular damage, microvascular congestion and inflammatory cells. All 3 patients were treated with IV corticosteroids (1 mg/kgBW) with rapid response to treatment followed by tapering. The current maintenance therapy given is cyclosporine (1 patient) and Anakinra–human interleukin-1 receptor antagonist (2 patients). All 3 patients appear to be in excellent general condition, featuring complete disease control and normal liver tests. AOSD may present with severe acute hepatitis, shown both in lab tests and histologically. Early diagnosis followed by immediate immunosuppressive therapy has excellent results.

489 - Submission No. 1438

LIVER RESECTION FOR NON-MALIGNANT, NON-ADENOMA SOLID LIVER LESIONS: INDICATIONS, PATHOLOGICAL CONFIRMATION AND LONG-TERM FOLLOW-UP

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Case Description: Benign liver lesions (BLL) are frequent imaging findings. Although the indications of resection for liver adenomas are clear, surgical intervention is seldom needed for all rest solid benign lesions.

Clinical Hypothesis: We have performed a retrospective registration of all patients, who have been offered a surgical resection for BLL from 01/2010 to 12/2020.

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Diagnostic Pathways: Lesion features, histological verification, its concordance with the preoperative diagnosis and long term postoperative course have been registered.

Discussion and Learning Points: Six patients (five females, one male) with median age of 41 years (31-47) have been studied. All females presented with lesions in the right liver lobe, while the male subject had a lesion in segment I-IV. Lesion dimensions varied from 4.7 cm to 20 cm. Main reasons for surgical resection were pressure effect on adjacent structures and organs (n=3), worrisome features in MRI (n=2), preoperative radiological diagnosis of adenoma (n=1). Surgical approach in female patients consisted in right hepatectomies in four of them, while the fifth underwent a liver wedge resection. The male patient was treated with atypical resection of segments I-IV. One case of persistent postoperative bile leakage has been successfully treated by ERCP. Pathological examination of six specimens revealed the presence of focal nodular hyperplasia (FNH) in one case, cavernosus hemangioma with partial thrombosis in three cases, epithelioid angiomyolipomas (EAML) in two cases. No recurrence of EAML has been observed after follow-up of 18 and 36months respectively. Surgical resection represents a feasible, safe radical treatment for BLL. Evaluation of such lesions requires a multidisciplinary approach. Surgical treatment should take place in high volume centers.

490 - Submission No. 1607

MALIGNANT ASCITES AS THE INITIAL MANIFESTATION OF AN UNCOMMON NEOPLASM

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Case Description: A 62-year-old male, with medical history of arterial hypertension, umbilical herniorrhaphy for incarcerated hernia and alcohol abuse, was admitted with symptoms of nausea, vomiting, fever and the perception of gastric distention within the previous four days. On exam he was hypotensive, with ascites and lower limb edema. Laboratory examination with elevation of inflammatory parameters. Hospital admission was decided for further investigation.

Clinical Hypothesis: Acute decompensation of chronic liver disease; Bacterial Peritonitis; Hepatic cancer.

Diagnostic Pathways: Laboratory results of peritoneal fluid drainage were compatible with an exudate with isolation of Escherichia coli. The abdominal tomography revealed an abscessed stenotic lesion in the duodenum-jejunal transition and peritoneal carcinomatosis. An upper gastrointestinal endoscopy was performed, and the biopsy of the lesion revealed a duodenal adenocarcinoma.

Discussion and Learning Points: Based on these findings, the diagnosis of a secondary bacterial peritonitis associated with a duodenal adenocarcinoma was established. After antibiotic therapy and duodenal stenting, the patient improved and was referred to oncology. Ascites is a pathological accumulation of fluid in the peritoneal cavity, usually associated with portal hypertension, which may be a secondary manifestation of another pathology, namely intra-abdominal malignant neoplasia. Malignant ascites is a sign frequently found in clinical practice in malignant gastrointestinal pathologies, such as duodenal adenocarcinomas. Because it is related to a poor prognosis, a rapid diagnosis is important to control symptoms and for a correct therapeutic choice.

491 - Submission No. 1134

LIVER INJURY INDUCED BY THE ASSOCIATION OF LAMOTRIGINE AND SERTRALINE IN AN ADULT FEMALE WITH RECURRENT MAJOR DEPRESSION: A CASE REPORT

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Case Description: We present the case of a young adult female with recurrent major depression that, after dose remodulation of antidepressant therapy with lamotrigine and sertraline, experienced abdominal pain with evidence of acute liver failure (ALF) secondary to liver injury. Liver damage went into remission after antidepressant therapy was discontinued.

Clinical Hypothesis: These findings appear to be attributable to Drug-induced Liver Injury (DILI) caused by the interaction between lamotrigine and sertraline. DILI is a common cause of ALF and can be induced by several drugs. Lamotrigine has been reported to induce liver toxicity that has been hypothesized to depend upon immune-mediated mechanisms.

Diagnostic Pathways: Our hypothesis is strongly supported by the close temporal relationship between the re-modulation of antidepressant therapy and elevation of transaminases followed by the rapid decline in liver enzymes after both lamotrigine and sertraline were withdrawn, the high score at the Naranjo Probability Scale and the histological examination consistent with DILI.

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Discussion and Learning Points: The case we report highlights the likelihood of DILI with secondary ALF due to the association between lamotrigine and sertraline through dose-dependent and not immune-mediated mechanisms. This harmful effect is not yet well documented in the literature; it deserves further clinical research as this combined therapy is commonly used among individuals with mental health disorders. We hereby recommend caution when prescribing lamotrigine in association with sertraline, especially at high dosages.

492 - Submission No. 1542

REACTIVATION OF HEPATITIS B IN A 40-YEAR-OLD WOMAN WITH METASTATIC BREAST CANCER UNDER EVEROLIMUS

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Case Description: A 40-year-old woman, with a history of metastatic porogenic breast carcinoma, came to the emergency room complaining of febrile diarrheal syndrome. She reported that she was receiving everolimus for breast cancer for the past 4 months. The laboratory testing revealed elevation of liver enzymes. The patient reported a previous positive testing for Australian antigen. No new screening was done before starting everolimus.

Clinical Hypothesis: The possible diagnosis was the reactivation of hepatitis B after the therapy with mToOR inhibitor.

Diagnostic Pathways: A liver/biliary ultrasound showed no evidence of dilation or stone and an abdominal CT ruled out hepatic vein thrombosis. Laboratory testing revealed positive HBsAg, with positive IgG anti-Hbc antibody and negative anti-Hbs. She was immediately started resuscitation therapy with entecavir and lamivudine. HBV DNA was positive $2.16x10^9$, while HDV RNA was negative. The patient gradually developed hepatic encephalopathy, thrombocytopenia, jaundice. Due to metastatic breast cancer liver transplantation was not an option and she died 2 weeks later.

Discussion and Learning Points: Everolimus has been added to the quiver of treatment options for breast cancer patients since 2009. Clinicians should be aware of the possibility of HBV reactivation during everolimus treatment and screening for hepatitis B and prophylactic antiviral treatment should be considered.

References

[1]Hepatitis B reactivation related to everolimus, SemaSezginGöksu et al, World J Hepatol. 2013

[2]Safety, Efficacy, and Patient Acceptability of Everolimus in the Treatment of Breast Cancer, Laurence Lousberg ,Breast Cancer (Auckl). 2016

493 - Submission No. 1332

PSEUDOMEMBRANOUS COLITIS FOLLOWING HELICOBACTER PILORY ERADICATION WITH THE BISMUTH-BASED QUADRUPLE THERAPY

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Case Description: A 84-year-old woman with a history of chronic gastritis and Helicobacter pylori (HP) infection, who had undergone eradication with a 10-day course of bismuth-based quadruple therapy (bismuth subcitrate, metronidazole, tetracycline, omeprazole) 1 month ago, was admitted due to fever and episodic watery diarrhea for the last week, with no know epidemiological context.

Clinical Hypothesis: The hypothesis of acute diarrhea from an infectious cause was posed, and fluid therapy and adequate nutrition were promptly commenced.

Diagnostic Pathways: The laboratory tests showed a significant elevation of inflammatory parameters and hypokalemia. Microbiological stool analysis yielded negative for virus and parasites, but positive for Clostridium difficile. Thoraco-abdominopelvic computed tomography (CT-TAP) scan was performed, revealing stratified thickening from the terminal ileum through the entire colon up to the rectum, suggesting ileocolitis from an infectious nature. Erosions and whitish plaques adhering to the mucous membranes of the cecum and ascending colon were visualized on colonoscopy, and toxigenic *Clostridium difficile* was isolated. A 10-day course of oral vancomycin was started with good response to treatment and favorable outcome.

Discussion and Learning Points: The first-line therapy for HP infection is the bismuth-based quadruple therapy, which is widely used in our clinical practice. Antibiotic-associated colitis is a potential complication of this treatment, albeit rarely described in the literature for this regimen. A high index of suspicion for the diagnosis must prevail, especially in patients presenting with significant episodic or prolonged diarrhea following HP eradication treatment.

494 - Submission No. 1759

THE CORRELATION BETWEEN LIVER FIBROSIS AND CARDIOVASCULAR RISK IN DIABETIC PATIENTS

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Background and Aims: Patients with metabolic syndrome can develop non-alcoholic fatty liver disease (NAFDL), which can progress from steatosis to fibrosis. The cardiovascular disease risk is high in diabetic patients. Our aim was to study if there is any correlation between the liver fibrosis and the cardiovascular risk

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at the diabetic patients with metabolic syndrome.

Methods: We studied 47 diabetic patients with metabolic syndrome hospitalized in the Diabetes Department from the Sibiu County Hospital, Romania, for three months. At them, we have calculated the cardiovascular risks using the UKPDS risk engine. The liver fibrosis was non-invasively assessed using the Forns index which depends on age, gamma-glutamyl transpeptidase, cholesterol and HDL-cholesterol. A value < 4.2 excludes liver fibrosis and a value > 6.9 is a predictor for significant fibrosis The results were statistically analyzed using the Pearson index of correlation (r).

Results: The medium age was 59.23±12.65 years, and the medium diabetes duration was 10.65±6.16 years. 12.76% of the patients had type 1 and 87.24% had type 2 diabetes. A tight linear correlation was found between the liver fibrosis index and the 10 years risk of developing coronary heart disease (r=0.4568), fatal coronary heart disease (r =0.3502), stroke (r=0.3072) and fatal stroke (r=0.5913).

Conclusions: Our findings suggest that liver fibrosis in diabetic patients with metabolic syndrome is well correlated with the risk of developing cardiovascular diseases. The clinical impact of NAFLD on cardiovascular risk deserves particular attention because of the growing number of patients with NAFLD.

495 - Submission No. 1994

TOTAL AND INDIVIDUAL PBC-40 SCORES ARE RELIABLE FOR THE ASSESSMENT OF HEALTH-RELATED QUALITY OF LIFE IN GREEK PATIENTS WITH PRIMARY BILIARY CHOLANGITIS

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Background and Aims: Primary biliary cholangitis (PBC) has been long associated with impairment of various aspects of health-related quality of life (HRQoL) with substantial differences among populations. This study evaluated for the first-time the HRQoL in Greek PBC patients in conjunction with patients' clinical and laboratory parameters.

Methods: We analyzed prospectively collected data regarding HRQoL by using the PBC-40 and SF-36 questionnaires in 374 Greek PBC patients and 131 age- and sex-matched non-PBC controls.

Results: The PBC-40 questionnaire is a reliable tool for HRQoL assessment in Greek PBC patients (Cronbach's α>0.7 for all domains). Implementation of PBC-40 and SF-36 demonstrated significant impairment of HRQoL in Greek PBC patients compared to controls (p<0.001 for all comparisons). Emotional dysfunction, social impairment and fatigue (100%, 80.5% and 78%, respectively) were amongst those with the highest, while cognitive dysfunction (32%) with the least impact on quality of life. Fatigue was associated with female sex (p=0.02), longer disease duration (p=0.01), presence of cirrhosis (p=0.02) and positivity for PBC-specific ANA (p<0.05), while social dysfunction with increased age (p<0.001), longer disease duration (p<0.001) and presence of cirrhosis (p=0.004). Living in urban areas was linked to impaired social function (p=0.04), cognition (p=0.02), fatigue (p=0.04) and increased total PBC-40 score (p=0.01).

Conclusions: Implementation of PBC-40 and SF-36 revealed impaired HRQoL in Greek PBC patients with fatigue, social and emotional dysfunction exerting the highest impact. However, total, and individual PBC-40 scores were lower than previously reported. Deranged HRQoL was associated with severity of liver disease and presence of PBC-specific ANA.

496 - Submission No. 1670

OGILVIE'S SYNDROME ASSOCIATED WITH SEVERE HIPOKALAEMIA: A CASE REPORT

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Case Description: We present the case of a 91-year-old female patient who was admitted at the emergency department with prostration, abdominal distension and constipation after a period of diarrhea. On admission, the patient had a distended, tympanized and tender abdomen with diminished bowel sounds.

Clinical Hypothesis: Ogilvie's syndrome due to severe hypokalemia was assumed.

Diagnostic Pathways: Laboratory tests revealed severe hypokalemia (1.9 mmol/L). Simple abdominal radiography showed an exuberant colon, while computerized tomography revealed distension mainly of the sigmoid colon, reaching a maximum diameter of 120 mm, with no signs of mechanical obstruction. The patient started potassium replacement with a very slow recovery since diarrheal dejections resumed after placing the enteroclysis tube. Given the failure of the conservative approach, it was decided to administer neostigmine with gradual resolution of the patient's symptoms and normalization of the potassium values.

Discussion and Learning Points: Ogilvies's syndrome, or colonic pseudo-obstruction, is characterized by massive dilation of the colon without mechanical obstruction or toxic megacolon. The precise mechanism of this syndrome is not yet fully understood, but it is thought that the etiology is multifactorial and runs via autonomic dysregulation of the colon. It is more frequently associated with constipation, but some patients may present

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secretory diarrhea and consequent hypokalemia due to increased colonic hypersecretion of potassium. These last patients are more complicated to treat as they respond less to conservative treatment. If this condition is left untreated, it may lead to bowel perforation or ischemia. Early recognition and appropriate treatment may reduce the risk of complications and limit mortality and comorbidity.

497 - Submission No. 1370

PREDICTORS, SEVERITY AND ASSOCIATE FACTORS OF ACUTE PANCREATITIS: A TERTIARY HOSPITAL'S EXPERIENCE

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Background and Aims: The aim of this study was to assess predictors, severity and associate factors, as well as the association of different classification systems of severity among patients with AP.

Methods: A retrospective case series study was conducted during March 2021-March 2022. We observed 150 patients with AP presented at our clinic and enter the data analysis such variables as: baseline characteristics, laboratory findings and calculated scores of some known severity's classifications. Patients were graded into mild, moderately and severe acute pancreatitis based on Revision of the Atlanta Classification (RAC). Ordinal logistic regression was used to model the relationship between the ordinal variable (RAC categories) and abovementioned explanatory variables.

Results: Women with AP have a higher average age than men with AP (62.5 vs 57.5), respectively, $p<0.05$. The alcoholic etiology in males prevails in 100% of cases, while the biliary etiology is more common in females (64.2% to 35.8% in males), $p<0.001$. One unit increase in CT Severity Index (CTSI) and Bedside Index for Severity in Acute Pancreatitis (BISAP) would result in in 0.968 and 0.430 times increase in the ordered log-odds of being in a higher RAC classification category. Also, the ordered logit for the presence of Systemic inflammatory response syndrome (SIRS) (vs. non present) was 2.98 higher. Conversely, one unit increase in saturation level, decrease the ordered log-odds by about 0.4 times.

Conclusions: CTSI or BISAP, the presence of SIRS and saturation levels are significantly associated with RAC, without excluding the discussion itself on the predictive value of laboratory findings, such as glycemia, azotemia and creatinine.

498 - Submission No. 672

THE UTILITY OF NON-INVASIVE MARKERS OF FIBROSIS IN CHRONIC HEPATITIS B RECEIVING TENOFOVIR DISOPROXIL FUMARATE

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Background and Aims: This study aimed to assess the utility of non-invasive markers of fibrosis and their performance in predicting virological response in chronic hepatitis B patients treated with TDF in Albania, an endemic area of HBV infection.

Methods: 69 newly treated CHB patients, mean age 45.7±11.7(during 2015-2020), were assessed for biochemical and virological response at baseline and after 12, 24, 48 and 60 months following the TDF treatment. Were divided into partial VR and complete VR groups according to HBV DNA levels at the 48th week of TDF treatment. AST/ALT, AST to platelet ratio index (APRI), the age-spleen-to-platelet ratio index (ASPRI), platelet count to spleen diameter (PC/SD), fibrosis-4-index (FIB-4), fibrosis index (FI) and King's score, were evaluated at baseline and longitudinally. The diagnostic performance of "non- invasive predictors" for the CVR and PVR were assessed by sensitivity and specificity values obtained from the receiver operating characteristics procedure.

Results: Among all non-invasive markers, only FIB-4 decreased significantly from baseline to week 240 of TDF treatment (2.1±1.8 vs.1.34±0.6, $p<0.001$). At the 48th week of TDF treatment 58 patients had CVR. PC/SD was a strong predictor of CVR for a cut-off value of 1176, with a sensitivity of 82%, a specificity of 100% and a proportion of area under the curve (AUC) of 82%. Furthermore, the AUC of ASPRI, FI, AST/ALT, King's Score, FIB-4 and APRI ranged from 17% to 69%. None of the non-invasive markers turned out to be a useful predictor of CVR.

Conclusions: Our findings indicated that PC/SD might be useful tool for initial prediction of virological response in CHB patients treated with TDF.

499 - Submission No. 1024

HERPES, WHERE DID YOU GO NOW? AN UNEXPECTED INFECTION

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Case Description: Acute liver failure is characterized by acute liver injury, hepatic encephalopathy, and increased prothrombin time. This case reports a 40-year-old woman, with a history of bariatric surgery and thyroid cancer that was submitted to thyroidectomy and supplemented with levothyroxine. In the emergency room, the patient presented epigastric pain, nausea,

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vomiting, and fever for four days. She denied recent travels, consumption of herbal products, new drugs, and contact with animals. At admission, her physical exam and laboratory tests were all clear. An abdominal and pelvic CT scan ruled out any surgical complications, and an upper gastrointestinal endoscopy excluded a gastric band obstruction but revealed esophagitis and erosive duodenitis. During hospital stay, the patient maintained fever and developed a psychomotor retardation. Blood tests showed evolution to acute liver failure with an increasing elevation of liver enzymes with a hepatocellular pattern [aspartate transferase: 4889 U/L, alanine transaminase: 1373 U/L, alkaline phosphatase: 433 U/L, Lactate dehydrogenase: 6451 U/L] and altered coagulation tests.

Clinical Hypothesis: Due to a suspicion of viral hepatitis or central nervous system infection, intravenous acyclovir was started empirically.

Diagnostic Pathways: A transjugular liver biopsy confirmed the diagnosis of herpes simplex type 1 hepatitis. A 21-day treatment was then completed with clinical and laboratory improvement.

Discussion and Learning Points: Disseminated disease with severe acute hepatitis is a rare complication of herpes infection, especially in immunocompetent patients. Although the absence of specific findings to the diagnosis, this viral infection should always be considered in cases of fulminant idiopathic hepatitis - especially as early treatment is related to a better prognosis.

500 - Submission No. 336

PORTAL HYPERTENSION AS A DOUBLE-SIDED COIN; CIRRHOTIC VERSUS NON-CIRRHOTIC

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Case Description: A 53-year-old male patient, with a newly diagnosis of alcoholic hepatitis–cirrhosis, is admitted to the internal medicine department due to diffuse abdominal pain. A month ago, he was hospitalized at another hospital because he developed icterus and ascites. The diagnosis of cirrhosis was made by the presence of portal hypertension; ascitic fluid and esophageal varices, as well as the increased liver stiffness on elastography. At the recent hospitalization, ascitic fluid paracentesis showed lymphocytosis with no microorganisms and abdominal imaging revealed hepatosplenomegaly. Venous thrombosis or lymphadenopathy were absent. At the time of admission, the patient had completed a 28-day course of prednisolone for the treatment of alcoholic hepatitis. However, after discontinuation of corticosteroids the patient deteriorated clinically, while he developed serious thrombocytopenia and cholestasis that could not be explained.

Clinical Hypothesis: Diffuse abdominal pain in the above patient could be attributed to splanchnic vein thrombosis, malignancy or acute on chronic liver failure that may be triggered by an infectious cause.

Diagnostic Pathways: No imaging findings suggestive of cirrhosis were visualized on portosplenic Doppler. Transjugular liver biopsy displayed T-cell hepatosplenic lymphoma without cirrhosis.

Discussion and Learning Points: Portal hypertension accompanying massive splenomegaly should raise suspicion for non-cirrhotic causes and increased liver stiffness could be a finding of infiltrative diseases.

Reference:

Wu MM, et al. Noncirrhotic portal hypertension due to peripheral T-cell lymphoma, not otherwise specified: A case report. World JClin Cases 2022; 10(26): 9417-9427

501 - Submission No. 347

HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS; A RARE MANIFESTATION OF DISSEMINATED VISCERAL LEISHMANIASIS

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Case Description: A 47-year-old woman, presented to the ENT emergency department of our hospital due to epistaxis. The patient was in mild distress and cachectic. For the last six months, the patient refers relapsing and remitting episodes of fatigue and high-grade fever, as well as significant weight loss. Nonetheless, due to low socioeconomical background, she did not ask medical attention. Further examination revealed hepatosplenomegaly and labs displayed remarked pancytopenia and hypergammaglobulinemia. Serum ferritin levels were extremely high (53,000 ng/mL).

Clinical Hypothesis: The differential diagnosis narrowed among hematological (e.g., leukemia) and infectious causes (e.g., visceral leishmaniasis).

Diagnostic Pathways: Bone marrow smear and biopsy were performed that displayed numerous leishmania. Hence, amphotericin B was administered. A day later, the patient deteriorated; prolonged coagulation time and elevated liver enzymes were compatible with acute hepatic failure. On clinical examination the patient lost consciousness and respiratory hypoxia developed. Extensive CT imaging showed intra-alveolar hemorrhage. Unfortunately, our patient passed away a few hours later. The liver and respiratory involvement along with high serum ferritin levels were indicative of hemophagocytic lympho-histiocytosis (HLH).

Discussion and Learning Points: This syndrome is analogous to hemophagocytic syndrome that accompanies autoimmune

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diseases. However, when the underlying etiology is an infectious agent, as in this case, then it is called HLH. The prognosis is very poor even if immediate therapy is not delayed. Etoposide, dexamethasone, and ultimately HSCT are the mainstem of HLH's treatment.

Reference:
George MR. Hemophagocytic lympho-histiocytosis: review of etiologies and management. J Blood Med. 2014 Jun 12;5:69-86.

502 - Submission No. 2422

A RARE ETIOLOGY OF ACUTE PANCREATITIS

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Case Description: Non-steroidal anti-inflammatory drugs play a key role in the treatment of Inflammatory spondyloarthropathies. In general, these drugs constitute a very rare etiology of acute pancreatitis. We present the case of a 50-year-old woman who started etoricoxib 90 mg daily for inflammatory spondyloarthropathy. About two months later, she went to the Emergency Department for abdominal pain that had been going on for four days. Analytically with an increase in amylase (369 U/L) and lipase (1003 U/L) and an ultrasound with a suggestion of pancreatic inflammation, without other alterations, namely lithiasis. No history of alcohol consumption. With suspension of the drug, there was complete analytical and symptom resolution.
Clinical Hypothesis: Thus, the diagnosis of etoricoxib-induced acute pancreatitis was assumed.
Discussion and Learning Points: Cases of drug-induced acute pancreatitis account for less than 2% of all cases, requiring great clinical suspicion. Only one case of acute pancreatitis induced by etoricoxib has been described worldwide. This case, the first described in Portugal, reinforces the importance of considering etoricoxib as a possible cause of acute pancreatitis.

503 - Submission No. 2425

A RARE CAUSE OF BOWEL OBSTRUCTION: SCLEROSING ENCAPSULATING PERITONITIS

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Case Description: Sclerosing Encapsulating Peritonitis (SEP) is characterized by a fibrotic membrane that partially or completely encapsulates the small intestine, which can cause intestinal obstruction. We present the case of an 81-year-old male patient, with a history of colostomy, who went to the Emergency Department (ER) with abdominal pain, vomiting and constipation with a 1-month evolution. No other relevant personal background. A painful abdominal swelling was observed on physical examination. Abdominal Computed Tomography (CT) showed signs of intestinal obstruction with a cocoon of adherent loops of the small intestine. He underwent lysis of intestinal adhesions and was discharged. The following month, he returned to the ER with the same abdominal condition and underwent an abdominal CT scan that showed a mesenteric sac surrounding and enclosing the loops of the small intestine.
Clinical Hypothesis: A diagnosis of idiopathic SEP was presumed, and prednisolone was started.
Diagnostic Pathways: The intestinal obstruction was successfully treated with conservative measures and low dose of prednisolone (10 mg/day). Subsequently, the intestinal occlusion after recurred of the condition, and tamoxifen was started, with improvement of symptoms and no further obstructions in the following year.
Discussion and Learning Points: SEP is a rare condition and there are some known secondary causes, but many cases are idiopathic, making diagnosis challenging. Although the diagnosis is clinical, abdominal CT is an important diagnostic tool. Because of the high morbidity and mortality associated, a high clinical suspicion is necessary and this case, profusely illustrated, reviews the main causes of SEP and highlights the importance of knowing the main therapeutic strategies.

504 - Submission No. 1965

CONTROLLED ATTENUATION PARAMETER (CAP): EVALUATION OF THE NEW POSSIBILITIES OF MODERN HEPATIC ELASTOGRAPHY (FIBROSCAN®)

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Background and Aims: FibroScan® has proved a useful tool in non-invasive estimation of liver fibrosis. Another, recently developed, elastographic technique called Controlled Attenuation Parameter (CAP) promises non-invasive measurement of liver fat content independently of underlying liver stiffness. Aim of this study was to assess the diagnostic accuracy of both elastographic parameters in patients with biopsy-proven non-alcoholic steatohepatitis (NASH).
Methods: Consecutive NASH patients were evaluated with elastography performed with FibroScan® mini 430+ (M/XL probes), by a single operator and according to recommendation guidelines. Liver Stiffness Measurement (LSM) and CAP were simultaneously measured in kPa and dB/m, respectively. Histologic assessments were performed by a single pathologist and included NASH staging according to Kleiner classification.
Results: 24 fibroscans from 20 patients were analyzed. Baseline patient characteristics: 8 male/12 female, age 49.9±14.4 years-old, BMI 30.1±4.4 kg/m^2, AST 42 U/L (IQR 33-62), ALT 66 U/L (IQR 57-87), γGT 116 U/L (IQR 71-185), PLTs 239 x10^9/L (IQR 186-266). Histology: hepatic steatosis grades were S0: 1 (5%),

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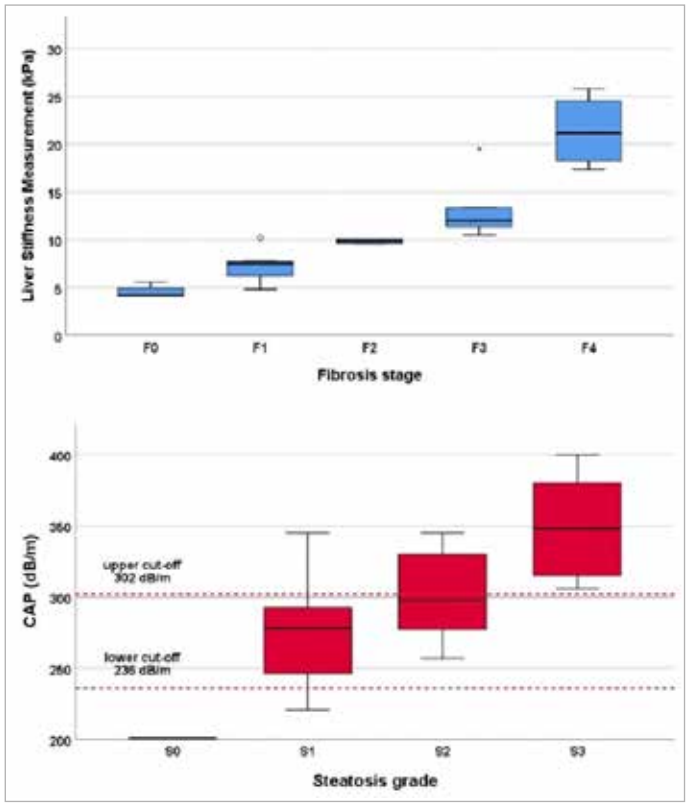
S1: 8 (40%), S2: 4 (20%) and S3: 7 patients (35%), while fibrosis stages were F0: 4 (20%), F1: 7 (35%), F2: 2 (10%), F3: 4 (20%) and F4: 3 (15%). LSM was 10.8±6.1 kPa and correlated with fibrosis stage (p<0.001), while CAP was 306±52 dB/m and was found to correlate with grade of hepatic steatosis (p<0.001) [Figure 1]. AUROC were 0.911 (95%CI 0.795-1) and 0.850 (95% 0.668-1), respectively.

Conclusions: Modern FibroScan® with CAP is a reliable method in assessing non-invasively and simultaneously both hepatic steatosis and fibrosis, and, thus, a useful tool in the management of patients with NASH.



504 Figure 1.

505 - Submission No. 2054

LEIOMYOSARCOMA, A PECULIAR HEPATIC TUMOR

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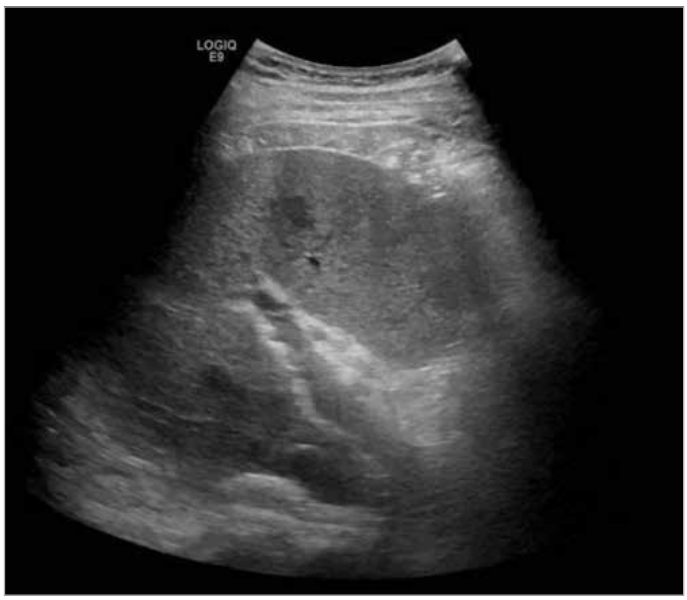
Case Description: A 77-year-old patient with no relevant past medical history, presented to the emergency department with a 24 h history of fever (39°C). She also presented with choluria but no acholia or weight loss. On examination, she was noted to have a mild hepatomegaly and a temperature of 37°C.

Laboratory tests showed elevated transaminases (GOT 394 U/L; GPT 544 U/L), elevated direct bilirubin (3.95 mg/dl) and coagulation alteration (PT 49% INR 1.63).

Clinical Hypothesis: Based on the US findings, the most likely diagnosis was most likely hepatic metastases.

Diagnostic Pathways: A CT scan, colonoscopy, gastroscopy, PET-CT and cholangio-MR were performed. Colonoscopy and gastroscopy showed no findings. The biopsy showed hepatic leiomyosarcoma. The patient is currently under palliative treatment.

Discussion and Learning Points: This tumor arises from smooth muscle cells of the vascular components, the bile ducts or the round ligament. The liver leiomyosarcoma is an extremely rare type of liver tumor (0.1-1%). At onset, (40-50 years) patients are usually asymptomatic. The main symptom is constitutional syndrome. Hepatomegaly is frequent. Analytically, bilirubin, transaminases and AP may be elevated. Tumor markers are not usually elevated. Echographically it appears as a hypoechogenic tumor (Figure 1) and in CT as a hypodense mass with central necrosis and peripheral enhancement (Figure 2). It may be an avascular mass or with pathologic peripheral neovascularization. MRI shows a heterogeneous area hypointense in T1 and hyperintense in T2 with possible encapsulation (Figure 3). The treatment of choice is hepatectomy with safety margins. Although these tumors are usually diagnosed at an advanced stage, enucleation followed by chemotherapy is usually performed, with a survival of 3.3 years.



505 Figure 1.

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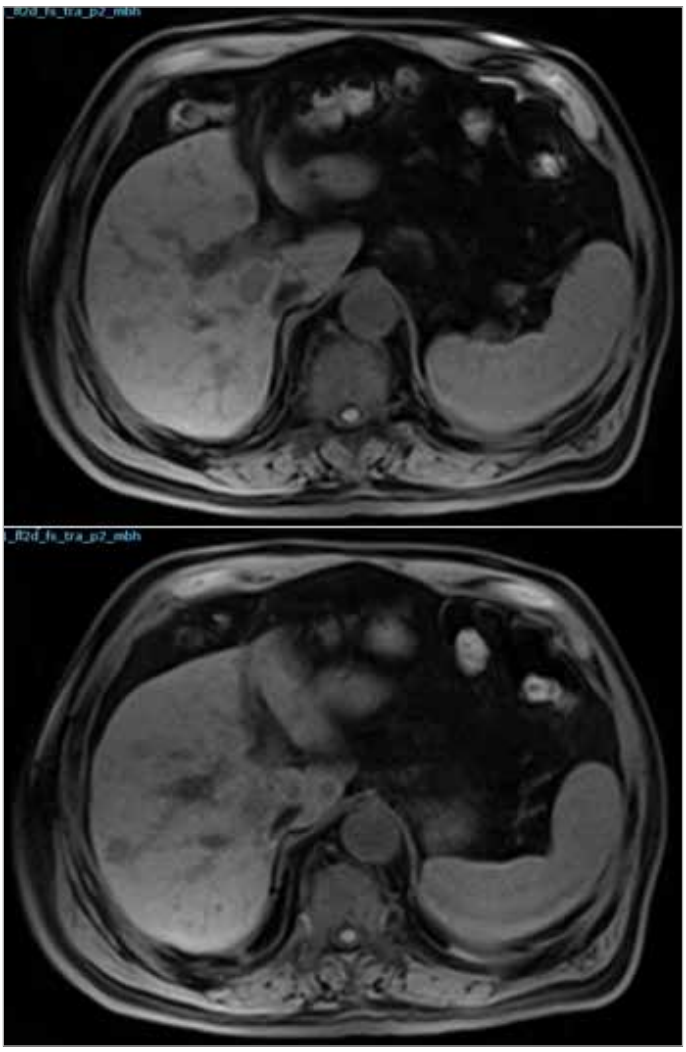

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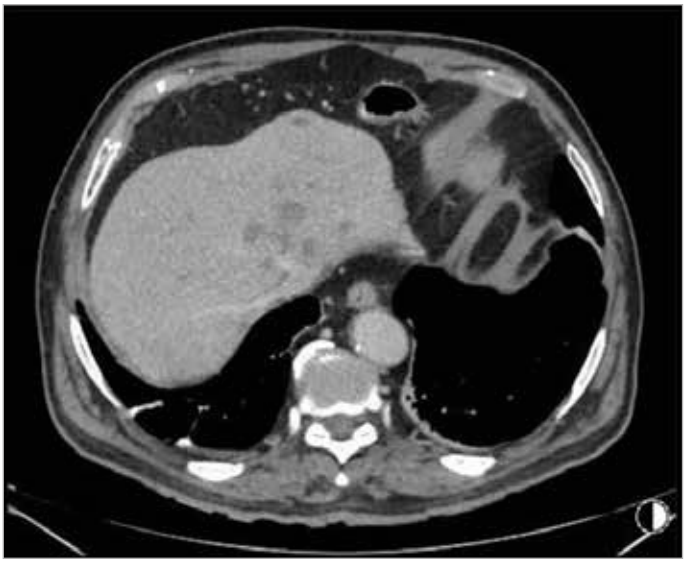
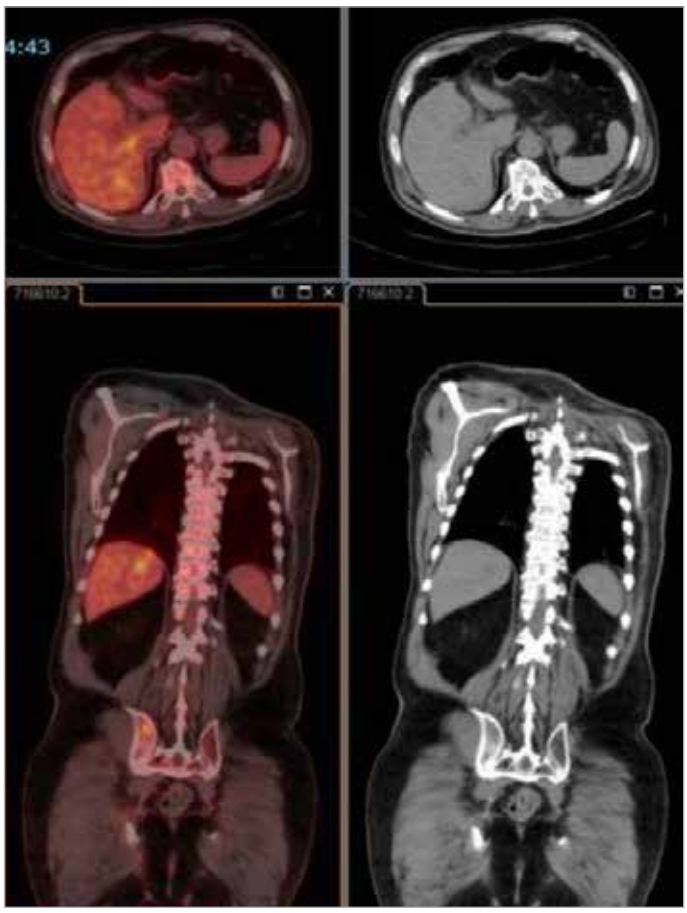


505 Figure 3.



505 Figure 4.

506 - Submission No. 914

MADELUNG AND ALCOHOL USE DISORDER: A STRONG RELATIONSHIP

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Case Description: A 54-year-old man presented to the emergency department with hallucinosis and delirium tremens within 24 hours in a patient with severe alcohol habits. The patient was found to have a symmetric lipomatosis in the cervical and inguinal region growing up for four months.

Clinical Hypothesis: The hypothesis were lymphadenopathy, metastatic head and neck carcinoma and thyroid masses.

Diagnostic Pathways: During hospitalization, thyroid function was unchanged, and the autoimmune study was negative. An ultrasound scan of the neck revealed a "palpable swelling visible in the right laterocervical region, a formation of a lipomatous appearance measuring about 5x1cm was observed" and on magnetic resonance imaging of the neck: "Lipid content prevails in the anterior and lateral cervical slope bilaterally, more prominently on the right, but it is a relatively diffuse lipid accumulation, without lipoma that can be distinguished by this imaging method". Assumed Madelung's disease currently without airway compromise.

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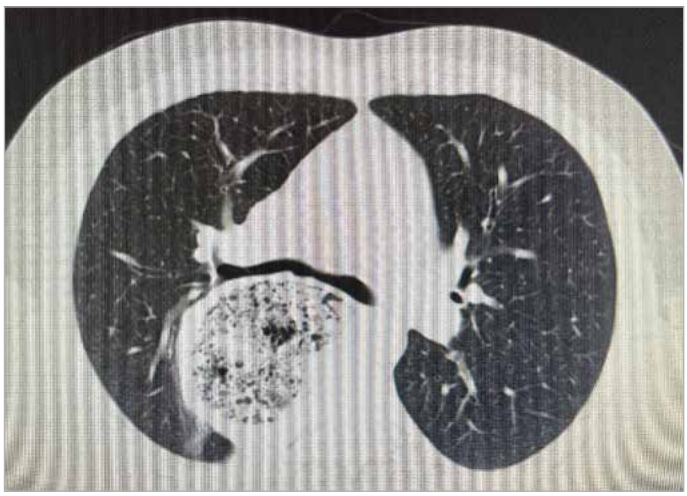
Discussion and Learning Points: This presentation, also known as Madelung's disease a rare condition that is characterized by multiple symmetric and nonencapsulated fatty masses. Madelung's disease is more common in middle- aged men of Mediterranean origin. Deformities and compressive symptoms are indications for treatment. The etiology of Madelung's disease has not been established, but alcohol consumption might serve as a predisposing or aggravating factor. The diagnosis can made by clinical features and imaging studies. Treatment is palliative and consists mainly of removal of fatty tissue by surgical resection or liposuction and by injection lipolysis. The patient was treated surgically but partial recurrence after treatment as infection or necrosis of the tissue around is common.



507 Figure 1.

507 - Submission No. 2289

AN UNUSUAL CAUSE OF DYSPNEA

Ana Sofia Silva, Andreia Mandim, Raquel Oliveira, Maria Eduarda Martins

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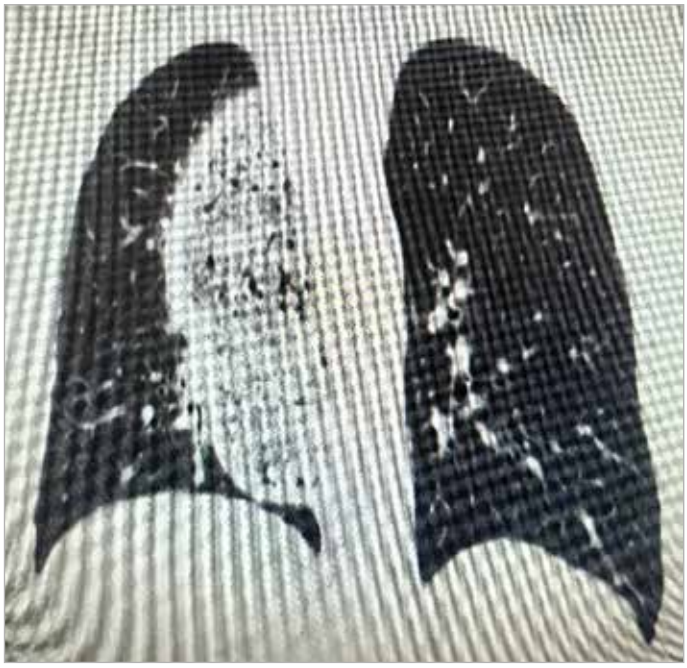
Case Description: A 28-year-old man with history of achalasia submitted to pneumatic balloon dilatation of the lower esophageal sphincter, presented with progressive dyspnea in the previous 2-3 weeks, associated with cough and occasional nausea/vomiting. Physical exam showed diminished respiratory sounds in the right hemithorax with wheezing and gurgling sounds.

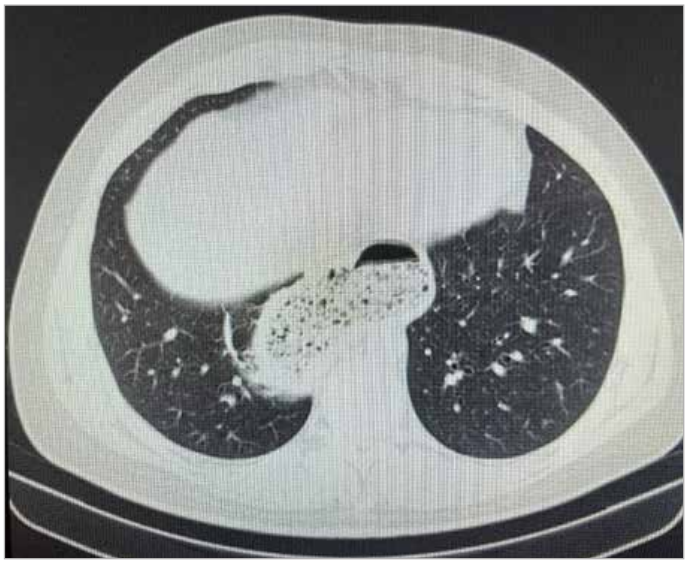
Clinical Hypothesis: Distended esophagus causing tracheal compression; respiratory tract infection.

Diagnostic Pathways: Laboratory results, including arterial blood gas were unremarkable. Chest CT (Figures 1-3) showed a distended esophagus and gastric distension extended to the right hemithorax with anterior compression of trachea and main bronchi, there was no evidence of pneumonia. Urgent referral to gastroenterology was made.

Discussion and Learning Points: Achalasia is an idiopathic motility disorder of the esophagus. Respiratory symptoms of achalasia are often secondary to regurgitation and aspiration/ pneumonia. Tracheal compression with airway obstruction is a very rare complication of achalasia that can lead to respiratory distress, therefore it should be promptly identified and treated appropriately. If symptoms persist despite several attempts at pneumatic dilation, surgical myotomy or peroral endoscopy myotomy should be considered.



507 Figure 2.



507 Figure 3.

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508 - Submission No. 2284

METHIMAZOLE INDUCED LIVER INJURY

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Centro Hospitalar Póvoa de Varzim/Vila do Conde, Serviço de Medicina Interna, Vila do Conde, Portugal

Case Description: A 79-year-old male presented with jaundice, choluria and acholia for 3 days. One month earlier he started treatment with methimazole 5 mg id for hyperthyroidism. Consumption of other medications/supplements, sexual risk behavior and history of abroad travelling was denied. Clinical exam showed jaundice. There were no signs of hepatic encephalopathy. Laboratory results showed elevated transaminases, GGT, ALP, hyperbilirubinemia, with an R Factor of 3.5 which suggests a mixed pattern of liver injury (hepatocellular and cholestatic). Abdominal CT was normal.

Clinical Hypothesis: Drug induced liver injury (DILI) by methimazole, autoimmunne hepatitis (AIH), viral hepatitis.

Diagnostic Pathways: Methimazole was immediately discontinued. Infectious causes were excluded with negative serologies. Anti-Ro52 and anti-LC1 were positive, with remaining autoimmune study negative. He developed fever and pruritus, elevation of transaminases >25 times upper limit and total bilirubin 17.69 mg/dL, without clinical or laboratory evidence of hepatic failure. Liver biopsy revealed portal inflammation predominantly composed of lymphocytes with rare plasma cells and eosinophils, interface hepatitis and canalicular perivenular cholestasis compatible with acute cholestatic DILI. Follow up after 4 weeks of drug discontinuation showed normalization of hepatic enzymes and bilirubin.

Discussion and Learning Points: DILI has different patterns of presentation and mimic other liver diseases such as AIH and viral hepatitis, making diagnosis challenging. Methimazole has been associated with transient, asymptomatic elevations in transaminases, but rarely can cause clinically apparent liver injury. The onset is usually within 2 to 12 weeks of starting and the pattern is typically cholestatic or mixed. A good prognosis is expected since most patients recover after discontinuation of the drug.

509 - Submission No. 2189

PYODERMA GANGRENOSUM (PG) AS A FIRST PRESENTATION OF ULCERATIVE COLITIS

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Hospital Vila Franca de Xira, Internal Medicine, Vila Franca de Xira, Portugal

Case Description: A 46-year-old woman presented to hospital with large, painful ulcerating lesions and boils, in the lower extremities with a week evolution. They had been treated with systemic antibiotics without any response. As medical history she reported intermittent periods of diarrhea for the last 3 years, frequent oral thrush, lethargy and anorexia. On physical examination, multiple pustular lesions and several deeper ulcers with purple undermined edges and yellow discharge were noted in both legs.

Clinical Hypothesis: Differential diagnosis initially was infective ulceration such as Staphylococcus or Leishmaniosis, or an inflammatory skin condition.

Diagnostic Pathways: Blood tests revealed microcytic anemia (hemoglobin 7.6 g/dL), hypoalbuminemia (22 g/L) and elevated C reactive protein of 950 mg/L. Skin biopsy revealed a deep suppurative dermatitis with a dense neutrophilic/lymphocytic infiltrate, which supported the diagnosis of PG. Following the diagnosis of PG and given the history of weight loss, low albumin and diarrhea, a colonoscopy was done with endoscopic evidence of ulcerative colitis, histologically confirmed. Treatment with oral steroids was initiated as well as regular moist wound dressings, with good response of the skin lesions. For the ulcerative colitis it was also started mesalamine with benefits.

Discussion and Learning Points: PG is a cutaneous ulcerative disorder of unknown etiology. It is an autoinflammatory non-infectious neutrophilic dermatosis. In inflammatory bowel disease (IBD), 40% of patients develop an extraintestinal manifestation, but PG is reported in only 3% patients in ulcerative colitis. PG can follow independent course to that of the IBD. Unlikely most reported cases, in this case, PG was the manifestation leading to the diagnosis of an underlining ulcerative colitis.

510 - Submission No. 278

INTRAVENOUS ALBUMIN FOR SPONTANEOUS BACTERIAL PERITONITIS AND RENAL DYSFUNCTION IN PATIENTS WITH CIRRHOSIS

Marilena Stoian

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Background and Aims: Current clinical guidelines for albumin use in decompensated cirrhosis recommend the use of intravenous albumin infusions for management of ascites-related symptoms and paracentesis (removal of ascitic fluid) and for the management of SBP, renal dysfunction and variceal bleeding. Routine albumin use is not recommended for the management of non-SBP infections. The aim of this review is to improve our understanding of the effects of albumin use in cirrhosis by reviewing the currently available evidence and quantifying the effectiveness of intravenous albumin therapy to prevent specific cirrhosis complications, spontaneous bacterial peritonitis (SBP) and renal dysfunction.

Methods: Long-term albumin administration to patients with decompensated cirrhosis improves survival, prevents complications, eases the management of ascites and reduces hospitalizations, thus being cost-effective.

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Results: The 2012 AASLD Guidelines recommend that patients with ascitic fluid PMN counts greater than or equal to 250 cells/mm^3 and clinical suspicion of SBP, who also have a serum creatinine >1 mg/dL, blood urea nitrogen >30 mg/dL, or total bilirubin >4 mg/dL should receive intravenous albumin (1.5 g/kg) within 6 hours of detection and 1.0 g/kg on day 3.
Conclusions: The use of intravenous albumin in addition to antibiotics in the treatment of patients with SBP and concomitant azotemia or hyperbilirubinemia is a lifesaving intervention of critical importance in the emergency department Variant results indicate that further investigations are needed, aiming at confirming the beneficial effects of albumin, clarifying its optimal dosage and administration schedule and identify patients who would benefit most from long-term albumin administration.

511 - Submission No. 25

HEPATOCARCINOGENESIS IN CHRONIC HEPATITIS C PATIENTS WITH OBESITY AND ALCOHOLIC TYPE

Marilena Stoian

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Background and Aims: To investigate whether obesity is a risk factor of hepatocarcinogenesis in chronic hepatitis C patients.
Methods: We analyzed the incidence of hepatocellular carcinoma among patients with HCV infection Between 2002 and 2022, a total of 1365 patients who were positive for HCV, negative for HBsAg, and without HCC were followed up .They were divided into four groups according to BMI; BMI <18.5, n=107; 18.5≤BMI<25, n=980; 25≤BMI<30, n=251; 30<BMI, n=27 .The cumulative incidence rates of HCC were compared, considering age, sex, alcohol intake, and liver function in multivariate analysis.
Results: There were 698 male and 667 female patients with the median age of 60 year (range 15-85). The follow –up period was 16.1+3.1 years, amounting to a total observation period of 8326 person-years. HCC developed in 371 patients, showing cumulative incidence rates of 10.8%, 20.3%, and 38.9% at 3, 5 and 10 years, respectively. The incidence rates differed significantly among the BDI groups (p=0.007 by the long rank test). Univariate analyses showed that older age, male, comorbidity with diabetes mellitus, heavy alcohol intake, low albumin concentration, high AST level, low platelet count, and high AFP concentration were significant risk factors of HCC. Adjusting for these factors, multivariate Cox proportional hazard regression showed that obesity was an independent risk factor of HCC, with a hazard ratio of 1.795 (95% CI: 1.074-3.000; p=0.0260) when 25≤BMI<30 and 3.210 (95%CI: 1.469-7.016, p=0.0035) when 30 <BMI as compared to the patients with BMI <18.5.
Conclusions: Obesity is an independent risk factor of hepatocarcinogenesis among chronic hepatitis C patients.

512 - Submission No. 1143

COVID-19 INFECTION IN PATIENTS WITH GASTROINTESTINAL DISEASES, THE EXPERIENCE OF A TERTIARY CENTER IN TIRANA

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UHC Mother Teresa, Gastrohepatology, Tirane, Albania

Background and Aims: Observing the impact of pandemic COVID-19 on digestive diseases, in patients hospitalized at the Department of Gastroenterology-Hepatology in "Mother Teresa" UHC, Tirana, Albania.
Methods: A retrospective study, January 2020-December 2021. 42 cases, >18 years, positive for COVID-19 infection by RT-PCR assays of nasopharyngeal swab specimens. Severity of infection by COVID-19 was evaluated on hematological/biochemical parameters, blood oxygenation/need for oxygen, radiological data on pulmonary CT imaging.
Results: 1.6% of the hospitalized cases were positive for the infection. 21% vaccinated at the diagnosis. Mean age 60.05±15.008 (SD) years. The group of age with more patients (48.8%) was 41-60 years. Infected males were higher than women (p<0.001). Most of the patients came from urban area, more than a half from the capital. Frequencies of the digestive diseases were: cirrhosis 31.7%, pancreatitis 21.9%, alcoholic liver disease 21.9%, gastrointestinal hemorrhage 19.5%, digestive cancer 14.6%, biliary diseases 7.3%, IBD 2.4%, other digestive diseases 4.8%. Fever (90%) and fatigue (78%) were the dominant clinical signs at the diagnosis. Biochemical and hematological parameters showed elevation of AST, ALT, (AST>ALT, p<0.001) and bilirubin in all the patients. Creatinine levels were higher in the fatality cases. Patients with hepatic cirrhosis had more severe form of COVID-19, lower blood oxygenation and needed treatment by oxygen therapy (p<0.05). Death rate was 12%. A strong correlation was found between the need for oxygen therapy and deaths (p<0.001) and between characteristic findings for COVID-19 in pulmonary CT imaging and low blood oxygenation (p<0.003).
Conclusions: COVID-19 infection affects significantly patients with chronic digestive diseases.

513 - Submission No. 1435

HEPATIC INVOLVEMENT IN RENDU-OSLER DISEASE

Nadjib Abdelghafour[1], Nabila Slimani[2], Nesrine Aitsaid[3], Meriem Lebdjiri[2], Amel Mammeri[2], Amar Tebaibia[2]

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Case Description: Rendu-Osler disease (ROD) is a rare autosomal dominant genetic disorder characterized by multiple telangiectasias. The basic lesion is a dilation of the distal vessels, resulting in cutaneous-mucosal hemorrhages. Its severity is

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due to visceral arteriovenous malformations (AVM) with deadly complications, which should be systematically detected.

Clinical Hypothesis: We admitted a 49-year-old female with a history of PAH labelled as autoimmune, a family and personal history of chronic anemia due to recurrent epistaxis; she was referred to us for exploration of a chronic liver disease. On clinical examination: pallor and frank icterus, telangiectasias on the face, lips, tongue, and nasal mucosa objectified by nasofibroscopic examination. The cardiopulmonary examination revealed dyspnea stage III NYHA. Palpation of the abdominal area revealed hepatomegaly.

Diagnostic Pathways: Hypochromic microcytic anemia with collapsed serum iron, cholestasis, hepatic cytolysis, and low PT were revealed. CT-angiography showed hepatic focal nodular hyperplasia (FNH) and multiple arteriovenous fistulas. MRI highlighted a sclerosing cholangitis. Echocardiography was in favor of a high probability PAH, confirmed by a right-catheterization. Fulfilling 4/4 of the Curaçao criteria our patient was diagnosed with ROD with various liver damages: HNF, AVM (complicated by PAH due to hyper flow) and secondary sclerosing cholangitis. After cessation of hepatotoxic treatments and introduction of ursodeoxycholic acid, a clear improvement in the liver balance was observed.

Discussion and Learning Points: Hepatic involvement is frequent and potentially serious in ROD. It should be investigated at diagnosis and during follow-up in order to delay deadly complications.

514 - Submission No. 1067

A LESSON FOR ABDOMINAL PAIN: A CASE OF CHILAIDITI'S SYNDROME

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Case Description: A 70-year-old man was referred for pre-operative evaluation due to nausea, chronic constipation and abdominal pain. Insignificant past medical history. Physical examination revealed tachycardia, tachypnea without signs of an acute abdomen. Laboratory findings were unremarkable, but chest radiograph showed the presence of air below the right diaphragm with consideration of abdominal perforation. However, an abdominal CT-scan revealed a loop of colon interpositioned between the liver and right hemidiaphragm with no evidence of bowel perforation. These findings suggest Chilaiditi's syndrome. Elective surgery was deferred. His abdominal pain resolved completely within seven days with conservative management with laxative. A follow-up after one week reveals normal abdominal CT-scan.

Clinical Hypothesis: Presence of air under the right diaphragm associated with abdominal pain usually leads to surgical emergency.

Diagnostic Pathways: Without typical symptoms and signs, radiograph with abdominal CT-scan is vital for the diagnosis of Chilaiditi's syndrome.

Discussion and Learning Points: Chilaiditi's syndrome, although a rare condition, has important clinical ramifications. It is rarely considered as a differential diagnosis for patients who present with abdominal pain. The etiology can be congenital or acquired. In our case, chronic constipation may contribute for predisposition. The best imaging modality for diagnosis is abdominal CT-scan which carries benefit of ruling out bowel perforation. Conservative management should be attempted first in management of Chilaiditi's syndrome. If repeat imaging shows failure of resolution or if ischemia is suspected, surgical treatment is indicated.

515 - Submission No. 833

DIAGNOSTIC TOOLS FOR A CHALLENGING PERITONITIS: TRUST THE GOOD OLD ONES

Elena Butera, Theodora Metsovitis, Alberto Tosoni

Fondazione Policlinico Universitario "A. Gemelli" IRCCS, Department of Internal Medicine, Rome, Italy

Case Description: A 41-year-old woman was admitted to the hospital with new onset ascites and splenomegaly.

On admission, vital signs were normal and physical examination showed slight diffuse abdominal pain with no signs of peritonitis. Laboratory studies were significant for anemia, slight increase in inflammation indices, total bilirubin of 3.3 mg/dL, total leukocyte count of 30.000/mm^3 with increased neutrophils. During the hospitalization she developed fever and sporadic episodes of hematochezia. Blood and urine cultures were negative.

Clinical Hypothesis: Ascitic fluid was sterile, but analysis findings fulfilled Runyon's criteria (total protein >1 g/dL, glucose <50 mg/dL, LDH > upper limit of normal for serum), suggesting a form of Secondary Peritonitis (SP) with an ascitic total leukocyte count >10000 cells/mm^3.

Diagnostic Pathways: Serial imaging studies resulted negative for intra-abdominal source of infection. After abrupt worsening of clinical condition, she has been diagnosed of splanchnic venous congestion with small bowel micro-perforation requiring emergency surgical intervention. Finally, blood exams revealed a JAK2-positive myeloproliferative disorder as the cause of her prothrombotic state.

Discussion and Learning Points: Distinction between SP and SPB is crucial because mortality rate approaches 100% if treatment does not include emergency laparotomic intervention. Despite development of advanced imaging techniques, the nature of this condition still makes diagnosis challenging in short time. Our case is exemplary of the relevance of diagnostic algorithm based on Runyon's clinical criteria (1984). To date, only five studies have identified indicators of SP or SBP, focusing on cirrhotic patients. Further studies are needed to find early markers in order to help clinicians making prompt diagnosis preventing complications.

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516 - Submission No. 784

COMPARISON OF SMEDA LT-P1 AND FIBROSCAN FOR STAGING FIBROSIS AND STEATOSIS IN PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD): A SINGLE CENTER PROSPECTIVE STUDY

Eleni-Myrto Trifylli[1], Konstantinos Papanikolopoulos[1], Evangelos Koustas[1], Melanie Deutsch[2], Nikolaos Papadopoulos[1]

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Background and Aims: Liver stiffness measurement (LSM) with transient elastography is an accurate method for staging liver fibrosis. The controlled attenuation parameter (CAP) algorithm implemented in the FibroScan (FS) system has become an effective clinical tool in liver steatosis quantification. The LT P1 (LT) has been introduced as a new device based on the TE technique equipped with an equivalent to CAP ultrasound attenuation parameter (UAP) for liver steatosis estimation. This study aimed to compare the performance of the LT device with the established FS in LSM and steatosis assessment in patients with nonalcoholic fatty liver disease (NAFLD).

Methods: We prospectively enrolled twenty non-diabetic patients with NAFLD (M/F: 9/11, mean age: 50.8±9.8), diagnosed by an echo-bright liver in the ultrasound scan. All patients were evaluated for LSM and steatosis with both FS (FibroScan® Mini+ 430, Echosens, France) and LT (LT P1, SMEDA Medical Co., Ltd, China) devices.

Results: Mean LSM was 6.5±2.1 kPa and 7.3±2 kPa for the FS and the LT device, respectively. LSM correlated well between FS and LT with a correlation coefficient (r) estimation of 0.73. Bland-Altman analysis revealed a mean difference of both measures of -0.8 kPa. In addition, the mean CAP was 289.2±53.5 dB/m, and the mean UAP was 266.9±68.4 dB/m. CAP and UAP correlated well with an r of 0.7. Moreover, Bland-Altman's analysis revealed a mean difference of both measures of 22.3 dB/m.

Conclusions: The LT is a valuable diagnostic device for diagnosing liver fibrosis and steatosis with good diagnostic accuracy, which was comparable with that of the FS.

517 - Submission No. 650

HEPATIC ECHINOCOCCAL CYST MASQUERADING AS INTRAHEPATIC CHOLANGIOCARCINOMA: A CASE REPORT

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Case Description: A 76-year-old male patient presented with a seven-days history of fever episodes up to 39ºC with rigors. He was icteric with mild right upper quadrant tenderness. Laboratory evaluation revealed hyperbilirubinemia (12.41 mg/dl), elevated alkaline phosphatase (286 IU/L), gamma-Glutamyl transpeptidase (186 IU/L), and C-reactive protein levels 13.5 mg/dl (n.v <0.5 mg/dl). Abdominal ultrasound revealed an isoechoic, non-obstructive heterogenic mass with around 4 cm diameter, with irregular margins in the left hepatic lobe, which did not present hypervascularity on color doppler sonography. Computed tomography (CT) revealed a heterogeneous density lesion 4cm in diameter, accompanied by dilation of the intrahepatic biliary ducts.

Clinical Hypothesis: Acute cholangitis was strongly favored, and treatment with piperacillin/tazobactam has been initiated with a great response. Echinococcosis serology was negative. CA 19-9 levels were determined to be as 8100 U/ml, while the magnetic resonance imaging (MRI)/magnetic resonance cholangiopancreatography (MRCP) revealed an irregular target-like heterogenic lesion (4x2.8 cm) accompanied by dilation of the central and regional intrahepatic biliary ducts, regional lymphadenopathy, suggestive of intrahepatic cholangiocarcinoma (ICC).

Diagnostic Pathways: A CT-guided biopsy demonstrated several hyperplastic cholangiocytes and a small number of atypical glandular cells with a moderate degree of nuclear pleomorphism, and an abundant fibro-collagenous stroma, implying the presence of adenocarcinoma. Finally, the patient underwent a left segmental hepatectomy. The final pathology surprisingly revealed an echinococcal hepatic cyst of 2.8 cm in diameter.

Discussion and Learning Points: Hepatic echinococcal cyst may mimic liver neoplasm on radiological evaluation. Moreover, Echinococcus cysts may synthesize closely related molecules, which could interfere with the measurement and interpretation of CA 19-9 concentration.

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518 - Submission No. 59

IMPACT OF BIOLOGIC ERA ON CLINICAL FEATURES AND COLECTOMY RATE OF ULCERATIVE COLITIS; ASSESSMENT OF 22 YEAR IN A TERTIARY REFERRAL CENTER COHORT

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Background and Aims: We aimed to evaluate the impact of biological therapy era on patient characteristics, colectomy-related factors, and colectomy rates in our 22-year ulcerative colitis (UC) cohort.

Methods: Our UC cohort was retrospectively evaluated. Biological therapy in UC was reimbursed in our country in 2009, whereas its use has been more frequent in our center since 2012. We selected two subgroups considering 2012 as a turning point in the pre- and post-biological era: patients whose follow-up finished before 2012 and with follow-up starting at/after 2012.

Results: Among 1058 patients with a mean follow-up of 4 years, 35% had pancolitis, and half of the group needed steroids at some point. The frequency of steroid unresponsiveness was 4% and dependence was 28%. For the whole group: 38% of patients received immunomodulatory therapy and 20% received biologics. Before 2012, biological therapy was less than 1% but increased up to 25% after 2012. The total colectomy rate was 5.8% and disease activity-related colectomy was 4.8%. Colectomy rate was 6% (n=28) before 2012 and 2.7% (n=23) after 2012 ($p<0.001$). Failing to achieve mucosal remission, a best-achieved CRP >3 mg/L under maximal treatment, steroid dependency, steroid unresponsiveness, and an increased number of steroid-needing relapses per year were found to be independently associated with colectomy.

Conclusions: Although achieving mucosal remission and/or CRP <3 mg/L was associated with a reduced risk of colectomy in the entire cohort, the incidence of colectomy in the biological era was particularly reduced. Besides the effect of biological therapy, treatment methods applied in each period and smoking cessation may also have affected this result.

519 - Submission No. 1030

FALSE POSITIVE HEPATITIS B SURFACE ANTIGEN IN A PATIENT WITH EPSTEIN-BARR VIRUS INFECTION: A CASE REPORT

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Case Description: Through this case report, we would like to address the relationship between nonspecific positive Hepatitis B surface antigen and Epstein-Barr virus infection.

Clinical Hypothesis: In our case a 20 years-old male was admitted to the ER because of high fever and throat pain. His symptoms had started a week ago and his medical history was free. Blood samples were taken with lymphocytosis and increased transaminases as results. Splenomegaly (18 mm) and hepatomegaly was revealed.

Diagnostic Pathways: A diagnostic work up was started to differentiate hepatitis and the results was positive for Epstein-Barr virus IgM antibodies as also Hepatitis B surface antigen with no other findings from Hepatitis B panel, except from antibodies to hepatitis B surface antigen (HBsAg: positive, AntiHBc: negative, HBeAg: negative, HBeAb: negative and antiHBs: positive).

Discussion and Learning Points: False positive hepatitis B surface antigen has been described in patients with heterophilic antibodies, such as patients with Epstein-Barr Virus infection. Other reasons are the presence of tumors, transfusions or systemic diseases. Interpretation of isolated positive hepatitis B surface antigen should be done carefully in patients with EBV infection.

520 - Submission No. 1091

DEVELOPMENT OF LIVER CIRRHOSIS IN SICKLE CELL DISEASE: A RARE CASE

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Case Description: Sickle cell disease is a group of hemoglobinopathies characterized by a single amino acid substitution in the beta-globin chain. In sickle cell anemia, liver damage may occur secondary to vascular pathologies due to recurrent sickling, hepatitis infections and iron accumulation due to frequent transfusions, cholestatic processes due to gallstones.

Clinical Hypothesis: A patient with sickle cell anemia and liver cirrhosis is presented here.

Diagnostic Pathways: A 56-year-old female patient with a known diagnosis of sickle cell anemia, admitted with nausea, abdominal

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pain and jaundice. Her transaminase and bilirubin levels were elevated. Viral hepatitis serologies were found negative. Iron parameters were normal. Autoimmune markers were negative. In MRI scans contour and dimensions of the liver were normal, hepatosteatosis was observed in the parenchyma and the biliary tract and vascular structures were normal. Fibroscan revealed F4 fibrosis (median 25 kPa). A liver biopsy was performed on the patient and chronic fibrotic processes based on vascular pathologies and obstructions due to sickling in the sinusoids were observed. Steatosis, viral hepatitis, bile stasis or autoimmune pathologies were not found. Blood tests and serological findings did not show any other pathology that would be responsible for liver cirrhosis, except for sinusoidal obstructions caused by sickling. Liver cirrhosis secondary to recurrent hypoxic ischemic processes was considered in the patient. Regular use of hydroxyurea was recommended. Frequent hemogram follow-up was planned to avoid hypoxia.

Discussion and Learning Points: In conclusion, it should be kept in mind that cirrhosis may develop in patients with sickle cell anemia due to primary disease involvement, not secondary causes.

521 - Submission No. 163

MCKITTRICK-WHEELOCK SYNDROME, MORE MORTAL THAN A RARE DISEASE

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Case Description: We present the case of a 61-year-old man with no known allergies or CVRF, with a history of chronic alcoholism, hyperuricemia with gouty crises, and anxious-depressive syndrome who consulted for symptoms of diffuse abdominal pain related to persistent constipation without passing stool for 5 days. With conserved intake for liquids and solids, he reported no diarrheal stools but significant amounts of mucus for months.

Clinical Hypothesis: Severe metabolic disturbances associated with CNS dysfunction. Villous adenomas.

Diagnostic Pathways: - Clinical exploration: No dehydration of skin or mucous membranes. Abdomen distended, not painful. Inguinal hernia of 10 cm to the left. Hydroaerial noises present. Rectal examination negative for melena. A soft tumor was palpated close to the pectin line, not fixed to adjacent planes and not frankable. Lower limbs with superficial varicose veins and signs of venous insufficiency. - Complementary tests: glucose 140 mg/dl, creatinine 4.38 mg/dl, urea 163 mg/dl, sodium 114 mEq/L, potassium 3.6 mEq/L, CRP 4.2, hemoglobin 13.6 g/dl, hematocrit 40.7%, Leukocytes 18,530/mm^3, normal values in hemostasis and coagulation studies. Urine analysis: sodium less than 20, osmolarity 300 mOsm/kg. Abdominal CT: distended rectal ampulla with rectosigmoid endoluminal mass and normal caliber colic frame repleted with stool.

Discussion and Learning Points: - Evolution: ionic reposition and fluid therapy with good response. Intestinal pseudo-intestinal obstruction controlled with enemas. Subsequent surgical treatment. Colorectal villous adenomas are benign epithelial tumors but with potential malignant degeneration. If they are larger, they tend to secrete more and produce cAMP and E2 prostaglandin-mediated diarrhea. The management of hydroelectrolytic complications is essential.

522 - Submission No. 423

AUTOIMMUNE HEPATITIS: A DIAGNOSIS TO REMEMBER IN ACUTE LIVER FAILURE

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Case Description: An 83-year-old woman with no history of liver disease or alcohol consumption, medicated with nitrofurantoin 100mg for two years, was admitted to the Emergency Department with two weeks evolution of orthostatic hypotension, nausea, choluria, jaundice, and peripheral edema. On admission, she was jaundiced, with no encephalopathy. Laboratory results presented AST 978 U/L, ALT 492 U/L, alkaline phosphatase 149 U/L, total bilirubin 15.1 mg/dL, direct bilirubin 10.2 mg/dL, INR 2.1, MELD-Na of 27. Abdominopelvic CT angiography showed signs of chronic liver disease, portal hypertension, and splenomegaly, and excluded portal vein thrombosis and bile duct alteration. The remaining study highlighted immunoglobulin-G 4134 mg/dL, ESR 80 mm/hour, diminished C4, negative hepatitis viruses, positive ANA 1:1280 (fibers suggestive of actin), and positive ASMA 1:320.

Clinical Hypothesis: Autoimmune hepatitis; toxic hepatitis by nitrofurantoin.

Diagnostic Pathways: Given the severity of presentation and presumed autoimmune etiology, treatment with prednisolone 60 mg/day was initiated after transjugular liver biopsy, with progressive resolution of liver failure. The biopsy showed lesions of chronic hepatitis with signs of activity, compatible with autoimmune hepatitis (AIH). The withdrawal plan of prednisolone was continued in association with azathioprine, with normalization of transaminases. Nitrofurantoin was suspected as a possible trigger since this association is described in the literature.

Discussion and Learning Points: AIH is a rare chronic inflammatory liver disease. It usually has an insidious onset with nonspecific symptoms, however, it may rarely present as acute hepatitis or fulminant liver failure. In case of high clinical suspicion, we shouldn't wait for analytical and histological confirmation to start treatment and it should be referred for liver transplantation in case of unfavorable evolution.

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523 - Submission No. 224

SILDENAFIL IN EMERGENCY TREATMENT OF BILIARY COLIC: A PILOT RANDOMIZED CONTROLLED TRIAL

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Background and Aims: Sildenafil was reported to have an inhibitory effect on both gallbladder contraction and biliary pressure of the sphincter of Oddi. We hypothesized that a single oral dose of sildenafil might counteract the smooth muscle spasm and decrease the intra-ductal and sphincteric pressures to relieve the pain of biliary colic and facilitate the release of impacted stones. We aimed to assess the pain-relieving effect of a 25 mg oral Sildenafil dose in comparison to an oral 20 mg ketorolac dose in adult patients presenting with biliary colic.

Methods: Twenty consecutive patients presenting with moderate to severe biliary colic were randomly assigned to receive one Sildenafil 25 mg tablet or two ketorolac 10 mg oral tablets. A four-point verbal rating scale (VRS) and 100 mm Visual pain analog score (VPAS) of pain severity was measured before treatment and then at 30 and 60 minutes after the dose intake.

Results: Treatment success, defined as a reduction of VRS, 60 minutes after dose intake from moderate and severe to mild or none was similar (9/10) in both treatment groups. Significant reductions of VPAS at 30 and 60 minutes were noted in both groups. The reduction in VPAS after 60 minutes from dose intake was significantly greater in the Sildenafil group (83.16%) than the ketorolac group (79.34%) (p=0.033).

Conclusions: A single oral dose of sildenafil 25 mg might be safe and effective for the relief of biliary colic. Further studies are needed to confirm its value, particularly for patients who cannot tolerate or show inadequate response to analgesics or opiates

524 - Submission No. 232

ILEUM PERFORATION CAUSED BY TUBERCULOSIS IN 32-YEAR-OLD MAN

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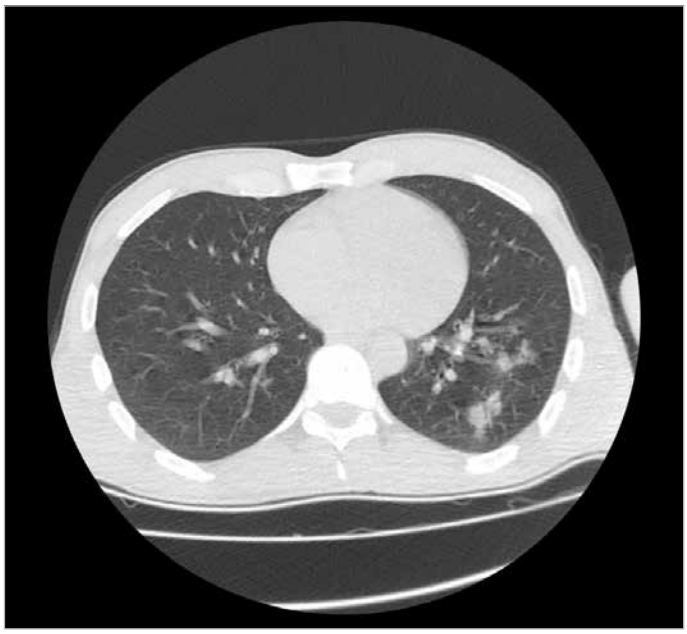
Case Description: Here we describe the case of a 32-year-old man; with no medical history who presented in the emergency room with severe abdominal pain. The pain was accompanied by nausea, vomiting, fever and night sweats. The symptoms began approximately 5 weeks ago. During this period, the patient lost approximately 10 kg of weight.

Clinical Hypothesis: Since he had fever and night sweats, we assumed that he might have a malignant lymphoma, solid cancer, or an infection such as tuberculosis (TB). He had abdominal pain and weight loss which were suggesting an inflammatory bowel disease.

Diagnostic Pathways: The patient underwent colonoscopy. Granulomatous inflammation was observed, however differentiation between Crohn's disease and TB could not be established. A lesion compatible with tuberculosis was detected in chest X-ray. Significant wall thickening at the level of the ileum, cecum and ascending colon which is more prominent in the terminal ileal segments and TB-compatible budding tree appearance in the lungs supported the diagnosis of TB. After initiating anti-TB treatment, the patient had ileum perforation and he was operated. CD68 and CD163-histiocytes were detected in pathology specimens.

Discussion and Learning Points: It is difficult to differentiate intestinal tuberculosis and Crohn's disease, but the distinction can be established by looking through clinical, endoscopic, pathological and radiological signs. Detecting TB lesion on chest X-Ray or CT is helpful for diagnosis, as in our case. M. tuberculosis is expected to cause disease in immunosuppressed patients. The only risk factor in our patient was smoking. Smoking is a predisposing factor for TB and cessation should be advised.



524 Figure 1.

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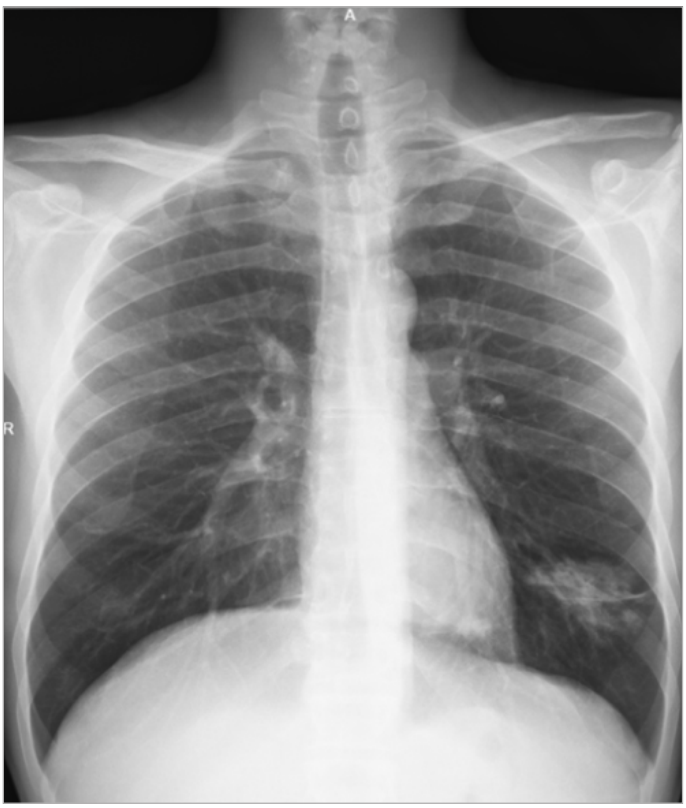
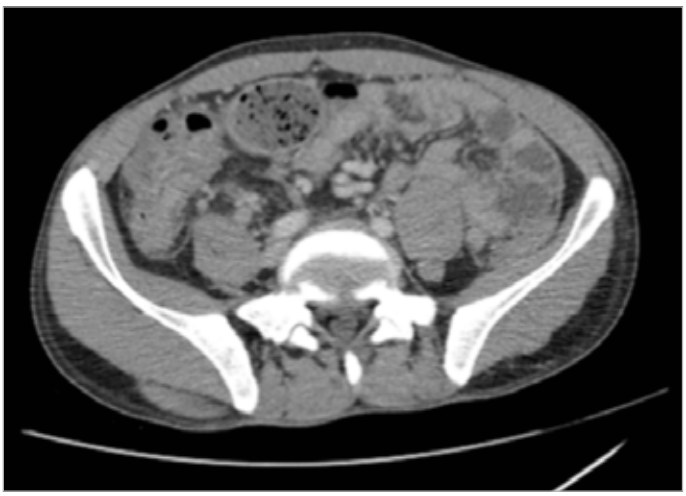


524 Figure 2.



524 Figure 3.

525 - Submission No. 1743

NMR-BASED METABOLIC SIGNATURE: AN IMPORTANT TOOL FOR THE DIAGNOSIS AND STUDY PATHOGENESIS OF AUTOIMMUNE HEPATITIS

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Background and Aims: Metabolomics are used to predict, diagnose, and monitor metabolic disorders but altered metabolic signature has been shown in diverse diseases, including autoimmune diseases. However, the metabolic profile of autoimmune hepatitis (AIH), has not been investigated in depth. We investigated the metabolic signature of AIH and its significance as a diagnostic tool.

Methods: Plasma samples metabolites from 50 AIH patients at diagnosis, 43 healthy controls (HC), 72 patients with primary biliary cholangitis (PBC), and 96 patients with chronic viral hepatitis (CVH) were analyzed by ^{1}H NMR spectroscopy on a 500 MHz Bruker Avance DRX spectrometer. Sixty-three metabolites were quantified, and metabolic pathway analysis was performed.

Results: Multivariate analysis revealed that AIH could be differentiated from HC and from each of the disease control groups ($p < 0.001$). A panel of 14 metabolites could differentiate AIH from disease control groups in total (PBC+CVH) with a sensitivity of 0.97 and a specificity of 0.92. Ten distinct metabolic pathways were altered in AIH compared to disease control groups in total. When AIH and PBC signatures were compared, the metabolic pathway of branched-chain amino acids (BCAAs), methionine, alanine-aspartate-glutamate, and that of metabolites associated with gut microbiota were significantly different between them ($p < 0.01$).

Conclusions: Given that ^{1}H NMR spectroscopy does not need much sample handling, is highly reproducible and with low cost, it could be a promising novel tool for the diagnosis and study of the pathogenesis of AIH.

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526 - Submission No. 1751

RESPONSE TO TREATMENT AND OUTCOME OF PATIENTS WITH AUTOIMMUNE HEPATITIS AND NON-ALCOHOLIC FATTY LIVER DISEASE

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Background and Aims: Non-alcoholic fatty liver disease (NAFLD) and steatohepatitis (NASH) affect 17-46% of western countries. We investigated the prevalence and clinical significance of NAFLD/NASH or the components of the metabolic syndrome (MetS) in autoimmune hepatitis (AIH) patients, in a large multicentric cohort.

Methods: Data from AIH patients from 6 academic centers (Greece, Canada, Japan, Germany, The Netherlands, and Spain) were evaluated. The presence of NAFLD/NASH in liver biopsy, components of the MetS, clinical and laboratory parameters were recorded.

Results: 640 patients [474 females, age at diagnosis 49 (4-87) years; follow-up 78 (1-521) months] were included. NAFLD had 146 (22.8%) patients, AIH/NAFL 115 (18%), AIH/NASH 31 (4.8%). Patients with AIH/NAFLD were older, had more frequently obesity, hypertension, type 2 diabetes mellitus (T2DM), less frequently acute presentation and SLA/LP positivity, lower AST, ALT and ALP levels than AIH-only patients ($p<0.05$ for each). AIH/NASH patients had more frequently cirrhosis at diagnosis ($p=0.036$). Response to treatment did not differ between groups. Cirrhotic patients with AIH/NAFLD had higher frequency of decompensation compared to AIH-only patients ($p<0.05$). Patients with T2DM and dyslipidemia had increased hazard of disease progression ($p<0.05$ for each).

Conclusions: The prevalence of NAFLD in AIH patients is similar to the general population. NASH/AIH signifies a more severe disease, while NAFLD/AIH may indicate a worse prognosis in patients with cirrhosis. T2DM and dyslipidemia in AIH patients are associated with dismal parameters of outcome. Our findings suggest that NAFLD presence or even components of MetS in AIH patients may affect prognosis, so closer follow-up of such patients is warranted.

527 - Submission No. 1769

LONG-TERM RESULTS OF MYCOPHENOLATE MOFETIL VS. AZATHIOPRINE USE IN INDIVIDUALS WITH AUTOIMMUNE HEPATITIS

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Background and Aims: Background & Aims We have shown previously that mycophenolate mofetil (MMF) might be used as first-line treatment instead of azathioprine (AZA) in individuals with autoimmune hepatitis (AIH). Herein, we present our long-term prospective data on response and outcome after first-line therapy with MMF in treatment-naïve individuals with AIH.

Methods: During the 21 years of the study, 292 individuals with AIH were included (females: 213; median age: 59 [17–85] years). Patients received either prednisolone 0.5–1 mg/kg/day alone (n=19) or in combination with AZA 1–2 mg/kg/day (n=64) or MMF (n=183). The tapering schedule of prednisolone was identical between groups. We assessed the response rates and outcomes between the AZA and MMF groups.

Results: The MMF group had lower non-response ($p=0.02$) and higher complete biochemical response (CBR) rates at 12 months ($p<0.05$) and the end of follow-up ($p = 0.03$) than the AZA group. Treatment change was more frequent in the AZA group ($p<0.001$), mostly because of intolerance. MMF was proven safe (serious complications 3.8 vs. 18.8%; $p=0.0003$). MMF-treated patients were more frequently eligible to stop immunosuppression according to the guidelines ($p<0.05$). Cirrhosis at diagnosis, age at diagnosis >60 years, and longer disease duration were independent predictors of liver-related mortality.

Conclusions: MMF seems an efficient alternative first-line treatment for AIH, bearing lower non-response at 4 weeks and higher CBR rates at 12 months and the end of follow-up than AZA. In addition, MMF was proven safe, leading more frequently to the eligibility for stopping immunosuppression.

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AS08. GERIATRICS AND MULTIMORBIDITY

528 - Submission No. 206

DEPENDENCY AND FRAILTY STUDY IN INTERNAL MEDICINE PATIENTS

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Background and Aims: Although most patients in internal medicine may be elderly and pluri-pathological patients, there are notable differences between them. The purpose of this study is to examine the characteristics of those patients: the reasons for their hospitalization, level of dependency on admission and, through this, to be able to provide them with integrated care.

Methods: A descriptive observational study was conducted for one month. Four questionnaires were filled, two to assess patient's independence: Barthel (baseline activities of daily living) and Lawton-Brody (instrumental activities); Pfeiffer to assess cognitive ability and to stratify them in terms of frailty, Frail questionnaire.

Results: 162 patients were included, with a mean age of 82.1±11.6 years. Almost one in four, 24.07%, were admitted for exacerbation of an underlying disease; 35.19% were admitted for infections; 22.22% for other reasons such as general syndromes under study or social problems; and 18.52% for acute illnesses. Almost three out of four patients had moderate or greater dependency for basal activities of daily living, meaning that they need a caregiver for most of the day. In addition, more than half needed help for more complex activities. Interestingly, despite physical dependence, almost two thirds have preserved higher functions, although one in five has severe cognitive impairment.

Conclusions: Our patients present an earlier and more severe physical deterioration than cognitive deterioration, which leads us to believe that they could benefit from physical strengthening programs to slow down the worsening of their physical condition and its consequences.

529 - Submission No. 825

ANALYSIS OF THE ASSOCIATION BETWEEN THE PRESENCE OF COGNITIVE IMPAIRMENT AND PLURIPATHOLOGY WITH MORTALITY DURING ADMISSION AND AVERAGE STAY IN PATIENTS HOSPITALIZED IN INTERNAL MEDICINE

María Sabina Gimeno Mingueza, Paula Aragones Pequerul, María Del Mar García Andreu, Martín Gericó Aseguinolanza, Ánxela Crestelo Vieitez, Pablo Sampietro Buil, Teresa Romeo Allepuz, Jesús Díez Manglano

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Background and Aims: To determine whether there is an association between cognitive impairment and the presence of pluri-pathology with mortality during admission in patients hospitalized in Internal Medicine at a second level center.

Methods: Prospective analytical-descriptive study included patients hospitalized for any reason at our center between January 24 and April 7, 2022. They were excluded if they refused to participate, had delirium or were unable to complete the questionnaire. The Short Portable Mental State Questionnaire was conducted for all patients, as well as Ollero's criteria for pluri-pathologic patient (PPP), mortality during admission and duration of admission.

Results: 209 participants were included. 47.4% of patients met criteria for multi-pathological. The median of errors in the SPMSQ questionnaire was higher in PPPs ($p<0.001$). Among patients with moderate cognitive impairment, 78.1% were PPP compared to 21.9%, who were not ($p<0.001$). The statistics showed differences between PPPs and non-PPPs with moderate or severe cognitive impairment ($p<0.05$), 82.1% of the patients who missed five or more questions in the questionnaire were multi-pathological. Although total errors on the Pfeiffer questionnaire appeared to have positive association with mortality during admission, it was not statistically significant.

Conclusions: Patients with moderate-severe cognitive impairment were pluri-pathological in 82.1% of cases. There is no association between mortality during hospitalization and the presence of pluri-pathology and between mortality with a higher number of errors on the Pfeiffer questionnaire. Studies with a larger number of patients are needed to obtain more robust conclusions.

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530 - Submission No. 1450

ANALYSIS OF THE ASSOCIATION BETWEEN THE PRESENCE OF MALNUTRITION AND POLYPATHOLOGY WITH MORTALITY DURING ADMISSION AND AVERAGE STAY IN HOSPITALIZED PATIENTS IN INTERNAL MEDICINE

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Background and Aims: Determining association between poly-pathology and malnutrition with mortality during admission and its duration in patients hospitalized in Internal Medicine.

Methods: Analytical-descriptive prospective study, patients hospitalized in our center between January and April (2022), were included. Exclusion criteria: refusing to participate, delirium, or inability to complete questionnaires. MNA test (Mini Nutritional Assessment) and Nutritional Control Scale (CONUT) were performed, as well as sociodemographic data, background, Ollero's criteria for poly-pathological patients (PPP), mortality during admission and its duration.

Results: 179 participants. Mean age was 76 years (SD 13.5), 91 (51.2%) were women and 84 (47.4%) met criteria for PPP. Only 65 (36.7%) patients in MNA test and 25 (14.3%) in CONUT scale had normal nutritional status. According to MNA, non-PPP patients more frequently presented a normal nutritional status, so that 78 (44.1%) weren't poly-pathological and their nutritional status was normal. However, Chi-Square analysis didn't show differences between PPP and non-PPP who presented moderate or severe malnutrition on CONUT (5-12 points) (p=0.151) nor in those who had malnutrition according to MNA (0-7 points) (p=0.853). Multivariate linear regression showed association between length of admission with poly-pathology and nutritional status (measured with MNA and CONUT) (R= 0.307, p<0.05). Logistic regression analysis showed significant association between nutritional status (on both scales) and mortality during admission (MNA, B=-256, p<0.05; CONUT, B=0.235, p<0.05). No association was found between poly-pathology and mortality.

Conclusions: Malnutrition is prevalent in the recruited sample. Poly-pathology and malnutrition were associated with longer hospital stay. Higher scores on CONUT scale, as well as lower scores on MNA test, were associated with higher risk of mortality during admission. No association was found between poly-pathology and mortality.

531 - Submission No. 1535

RELIABILITY OF PERFORMING A BRIEF SCREENING FOR THE ASSESSMENT OF MALNUTRITION IN THE POLYPATHOLOGICAL PATIENT

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Background and Aims: Carrying out a brief screening test (2 questions) through the selection of the most representative questions of the MNA test (Mini Nutritional Assessment) that allows ruling out the presence of malnutrition in poly-pathological patients (PPP) in a simple way.

Methods: Analytical-descriptive-prospective study, patients hospitalized in our center between January and April (2022) were included. Exclusion criteria: refusing to participate, delirium, inability to complete questionnaires. MNA test was performed, as well as background and Ollero's criteria for PPP. Specificity (E), sensitivity (S), positive predictive value (PPV) and negative predictive value (NPV) were analyzed for each question of MNA and for each combination of two questions, as well as concordance with the complete test (kappa index), considered gold standard.

Results: 209 participants. Mean age was 76 years (SD 13.5), 107 (51.2%) were women and 99 (47.4%) met criteria for PPP. Question B (Have you lost weight involuntarily...?) shows high S (100%) and NPV (100%), values that we found similarly in question A (Has food intake decreased...due to loss of appetite, digestive problems or difficulties chewing or swallowing? S=85.7%, NPV 95.6%). Question D (Has the patient suffered psychological stress or acute illness...?) offers the highest agreement (k= 0.374) with high E (72.4%) and NPV (95.5%). Combination of questions B and D showed the highest agreement (k=0.553) as well as specificity 85.1% and NPV 96.1%. Selected questions (B and D) showed higher concordance in PPP group (0.564 vs. 0.545 in non-PPP) as well as specificity (87.8 vs. 82.6% in non-PPP) (p<0.001).

Conclusions: Selected questions (B and D) presented the highest NPV and concordance, with similar values in PPP group, so they are considered appropriate for PPP. This allows establishing a brief screening test so that, if the patient answers "No" to both questions, we can rule out the presence of malnutrition, being necessary to complete MNA in other cases.

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532 - Submission No. 546

FRAILTY ASSESMENT IN VERY ELDERLY INPATIENTS AT INTERNAL MEDICINE

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Background and Aims: To analyze the prevalence of frailty and related factors in elderly patients hospitalized in an Internal Medicine service.

Methods: Observational prospective study of all patients aged ≥85 years admitted to Internal Medicine for a year. Demographic characteristics and clinical features were evaluated. As a part of the integral geriatric assessment, many scales were performed in the main spheres approach (Charlson, PROFUND, Barthel, Pfeiffer, Yesavage, MNA-SF). We chose the FRAIL scale to determine frailty.

Results: A total of 454 patients were included, of whom 240 were women (52.9%). Mean age was 89.03 years (SD 3.14). Most patients lived at home (70.1%) with a caregiver (75.8%) and external treatment control (60.1%). Most prevalent comorbidities were hypertension (89.2%), dyslipidemia (60.7%) and heart failure (51.3%). One third (163 patients, 35.9%) were classified as frail. Almost a third (29.5%) had at least moderate dependence according to Barthel. More than half of the patients (56%) had cognitive impairment according to Pfeiffer. Age was not related to the presence of frailty (p=0.96) or sex (p=0.63), nor was it related to the cognitive impairment (p=0.17). However, frailty was related to physical activity according to Barthel (p<0.0001), nutritional status according to MNA (p<0.0001), presence of depression according to Yesavage (p<0.001) and the presence of comorbidities according to the PROFUND (p=0.001) and Charlson (p<0.001) index, respectively.

Conclusions: In our registry, age was not related to frailty but with comorbidities and many significant factors (functional, mental and emotional domains). In order to effectively address frailty in the elderly we need to perform a multidimensional approach.

533 - Submission No. 855

ANALYSIS OF NONAGENARIAN PATIENTS ADMITED TO AN INTERNAL MEDICINE SERVICE

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Background and Aims: Longevity is determined by biological, ecological, phycological, social and cultural factors. Spanish population is one of the longest (life expectancy 80,4 male and 85.7 female). We aim to describe the characteristics of our nonagenarian patients (NP) admitted to an acute unit, as well as their comorbility, fragility and their mortality rate.

Methods: Observational retrospective study in NP admitted for the first trimester in 2022, with ages between 90 and 108. Data is obtained through the digitized clinical history and analyzed using SPSS 25.0. Comorbidity is measured using Charlson Comorbidity Index (CCI) and death rate is recorded. Dependance is measured with Barthel index (BI).

Results: Our sample includes 213 NP admitted (70% woman). Among comorbidity factors we find out 81% AHT, 26.3% DM-II, 13% COPD, 59.6% CHF, 40% AF and 39.4% dementia. CCI average is 3.2 (standard deviation 2.3) whose range is 1 to 14. Besides, 67.1% are dependent according to BI. The main hospitalization's reasons are infectious pathology (26.3%), CHF (23%) and COVID-19 (16%). Hospital mortality is 35.2% (37.5 male, 34.2 female). 64.8% are discharged home.

Conclusions: The longevity in Spain brings a growth of NP admitted. There is a clear predominance of female sex and patients with Charlson index >3. The main diseases income are infectious pathologies, followed by cardiological and COVID-19. Most of the patients are discharged home.

534 - Submission No. 1592

BASELINE CHARACTERISTICS OF THE PATIENT HOSPITALIZED IN THE INTERNAL MEDICINE UNIT; DIFFERENCES BETWEEN PLURIPATHOLOGICAL AND NON-PLURIPATHOLOGICAL PATIENTS. A DESCRIPTIVE-ANALYTICAL STUDY

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Background and Aims: Analyze the prevalence of chronic and progressive problems such as malnutrition, depression, loss of functional capacity and cognitive impairment in hospitalized patients in Internal Medicine in a second level center and, specifically, in the group of pluri-pathological patients (PPP).

Methods: Analytical-descriptive cross-sectional study, patients hospitalized for any reason in Internal Medicine of our center between January 24 and April 7, 2022. They were excluded if they refused to participate in the study or were not able to complete all the questionnaires. The MNA (Mini Nutritional Assessment) test was performed and Yesavage, Barthel index and SPMSQ questionnaire (Short Portable Mental State Questionnaire) to all patients, as well as sociodemographic and personal history data were collected. The Qualitative variables were analyzed with Chi Square and non-parametric quantitative variables using U of Mann Whitney.

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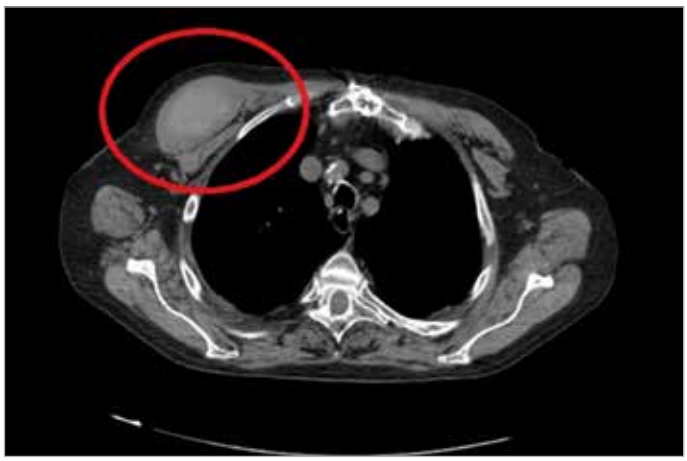
Results: 209 participants were included. Their mean age was 76 years, 107 (51.2%) were women and 99 (47.4%) met criteria for pluri-pathological patients. Only 77 participants had a normal nutritional status according to the MNA test. The median of the Barthel Index was 95 and 122 participants had some degree of dependency. The Pfeiffer Questionnaire showed that 76 patients had some level of cognitive impairment. The most prevalent condition was heart disease, present in 81 patients. Among participants suffering from established depression, 7 were PPP and 4 (36.4%) were not (p<0.001).

Conclusions: The prevalence of hospitalized PPPs is high; they are patients with greater comorbidity and worse baseline situation, suffering more frequently depression, functional dependence, and cognitive impairment.



535 Figure 1.

535 - Submission No. 288

SPONTANEOUS PECTORALIS HEMATOMA

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Case Description: Male, 81 years old. Under enoxaparin therapy for atrial fibrillation. On the third day of hospitalization, the medical team noticed a hematoma in the right anterolateral region of the chest, without associated trauma.

Clinical Hypothesis: Spontaneous pectoralis major muscle hematoma.

Diagnostic Pathways: Ultrasound revealing: intramuscular fluid collection in the pectoralis major muscle, measuring 11x8x6 cm, septate and with echogenic vegetation formations, translating fibrin septation and clots. Chest CT (Figure 1): Thickening of the right pectoralis major muscle is observed due to the presence of a hematoma measuring approximately 11 cm in length, 6 cm in craniocaudal extension and 3 cm in thickness. Progressive reduction in hematoma dimensions after discontinuation of anticoagulation, cryotherapy, and local compression.

Discussion and Learning Points: Although rare, the hemorrhagic effect of anticoagulants should be considered, especially in the elderly, due to interactions drugs and changes in metabolism associated with polypharmacy or hepatorenal insufficiency.

536 - Submission No. 1054

AN UNUSUAL DIAGNOSIS OF ACROMEGALY IN FRAILTY CLINIC

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Case Description: Acromegaly is a clinical syndrome resulting from excessive secretion of Growth hormone. Mean age of onset is 40 years old making it relatively rare in the elderly population1. We describe a case where a diagnosis of acromegaly was made in an 81-year-old lady who was referred to frailty clinic for investigation of recurrent falls. Our patient described 3 falls in the last year after which she could not get up without help. Her medical history was significant for hypertension, type 2 diabetes, and osteoarthritis. At presentation, it was noted that she had course facial features, large hands, and widely spaced teeth. She also had signs consistent with proximal myopathy. Further questioning revealed a gradual change in her appearance and voice and her shoe size had increased by 3 sizes over 5 years.

Clinical Hypothesis: Our hypothesis was that acromegaly associated proximal myopathy was contributing to her falls.

Diagnostic Pathways: Investigations revealed an elevated IGF1 (245 nanograms/L) which prompted an oral glucose tolerance test. This showed failure of growth hormone suppression consistent with a diagnosis of acromegaly. MRI pituitary with contrast showed a pituitary microadenoma.

Discussion and Learning Points: This case highlights how falls can be caused by unusual pathologies. Acromegaly is rarely diagnosed in the elderly but has significant morbidity associated with it1. In our case, the proximal myopathy and arthropathy associated with acromegaly was a significant contributing factor to her falls and posed a risk to her functional independence.

References:

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537 - Submission No. 1931

ANALYSIS OF MORTALITY IN GERIATRIC PATIENTS ADMITTED TO AN INTERNAL MEDICINE WARD

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Background and Aims: The population is getting longer and longer and this increases the complexity of our patients. We want to identify risk factors that influence mortality in these patients.

Methods: Prospective descriptive study which consecutively collected patients admitted from May 9, 2022 until reaching n=100.

The variables analyzed were age, sex, reason for admission, mean hospital stay, use and types of restraints, degree of dependence (Barthel scale), cognitive level (Pfeiffer scale), risk of falls (Downton), risk of ulcers (Braden) and frailty index. Statistical analysis was made by SPSS 22.0.

Results: Of the 100 patients included, 23 died during their admission. Fifty-two percent were women, and the mean age was 88 years. The main reasons for admission are shown in Table 1. In the deceased group, 48% had total dependency (Barthel), 65% had severe cognitive impairment (Pfeiffer), the mean frailty index was 7 (severely frail) and the mean Braden score was 15 (low risk of pressure ulcers). The mean length of stay was 9 days in both groups.

Conclusions: Patients admitted for urinary tract infection die less (9% in deaths group vs 22%, with p<0.0001), possibly because they are asymptomatic bacteriuria lacking real clinical significance. Patients with respiratory infection die more (35% vs. 22%, although not significant), possibly due to aspiration pneumonia, which translates into greater fragility, cognitive deterioration and worse prognosis.

Reason for admission	Discharges	Deaths
Respiratory infection	22%	35%
Heart failure	20%	22%
Urinary tract infection	22%	9%

537 Table 1.

538 - Submission No. 692

CONSIDERATIONS ABOUT DIAGNOSIS AND TREATMENT OF ANEMIA

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Background and Aims: The objective is to analyze the inpatients with anemia, especially the diagnosis and the recommendations.

Methods: An observational study was conducted in our hospital. The inclusion criteria were being admitted during October 2022 and suffering anemia.

Results: 101 inpatients were included, with the following characteristics: median age 82 years-old (range between 26 and 97 years old), 56 were men and 45 were women, and 16 passed away during admission. Internal Medicine was the specialty with most inpatients (65%). There were 24 patients with dementia and 28 with dysphagia. The Barthel index showed moderate or severe dependence in 50%. The laboratory tests showed median hemoglobin of 10.8 g/dL (3.8 - 14.6) and mean corpuscular volume of 88 fl (55.8 – 102 fl). The main reasons for admission were infectious diseases in 50 and problems related to cancer in 24. Anemia was known before the admission in 65%, it was studied in 20%, the test was dismissed in 5% for the severity of the illness, and it was ignored in 10% for unknown reasons. Regarding the anemia treatment, 19 patients received intravenous iron, 13 folic acid, 5 intramuscular cyanocobalamin and 5 erythropoietin. A blood transfusion was necessary in 16 patients. Discharge summary included the diagnosis of anemia only in 36%, treatment with intravenous iron in 50% and blood transfusion in 60%.

Conclusions: The inclusion of the diagnosis and the treatment of anemia in the discharge summary could be improved.

539 - Submission No. 1288

ASSOCIATION BETWEEN THE PRESENCE OF PLURIPATHOLOGY AND FUNCTIONAL DEPENDENCE WITH MORTALITY DURING ADMISSION AND AVERAGE STAY IN HOSPITALIZED PATIENTS IN INTERNAL MEDICINE

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Background and Aims: To determine whether there is an association between functional dependence and the presence of

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pluri-pathology with mortality during hospitalization and average stay in patients hospitalized in Internal Medicine.

Methods: Prospective analytical-descriptive study. Patients hospitalized for any reason in our Internal Medicine service between January 24 and April 7 2022 were included. They were excluded if they refused to participate in the study, had delirium or were unable to complete the questionnaire. The Barthel Index (BI) was performed on all patients, as well as sociodemographic data, personal history, Ollero's criteria for pluri-pathological patients (PPP), mortality during admission and duration of stay.

Results: 209 patients were included. Their mean age was 76 years (SD, 13.5), 107 (51.2%) were women and 99 (47.4%) PPP. The median (IQR) of BI was 95 (43) and 122 (58.4%) patients had functional dependence. In PPP, median (IQR) of the BI was 70 (50), lower than those non-PPP, with 100 (21) ($p<0.001$). Chi-squared test showed higher prevalence of PPP in those who had BI lower than 60 points (65.4%) ($p<0.05$). Multivariate tests showed no association between the duration of the hospitalization with the presence of pluri-pathology or functional dependence; however, logistic regression showed a significant negative association between mortality during admission and higher BI (B=-0.17, $p<0.05$).

Conclusions: Dependent patients (BI lower than 60 points) are more frequently pluri-pathological. A higher BI exerts a protective effect on mortality during the stay. No association was found between pluri-pathology and functional dependence with the length of hospital stay.

540 - Submission No. 245

DOES THE NUTRITIONAL STATUS OF THE ELDERLY PATIENT MATTER?

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Background and Aims: The prevalence of malnutrition in hospitalized patients aged ≥85 years conditions their evolution. We evaluate malnutrition and the factors related to the nutritional status of these patients.

Methods: Prospective observational study including patients aged ≥85 years admitted to Internal Medicine between March 2021-February 2022 who underwent Mini-Nutritional-Assessment (MNA) during admission. Sociodemographic, clinical and analytical characteristics, functional, cognitive, mood and frailty assessment scales, dynamometric grip strength, treatment, hospital stay, and in-hospital mortality were collected. Differences were evaluated according to nutritional status.

Results: Of 360 patients, 192 were female (53.3%) and the mean age was 89 years (SD=3.1). Of these, 96 patients (26.7%) had normal nutritional status, 191 (53.1%) were at risk of malnutrition and 73 (20.3%) were malnourished. Malnutrition was more frequent in women ($p=0.004$), frail ($p<0.001$) and comorbid ($p=0.01$) but was not associated with age ($p=0.13$). It was associated with living in a nursing home ($p=0.002$). Malnutrition was related to greater functional impairment ($p=0.009$); it was not related to Pfeiffer-score ($p=0.08$) nor to presence of delirium ($p=0.219$) during admission but was related to history of dementia ($p=0.003$) and anxiety-depression ($p=0.006$) and worse Yesavage-score ($p=0.014$). Metastatic neoplasia ($p=0.005$), pressure ulcer ($p=0.006$), deafness ($p=0.039$) and hip fracture ($p=0.005$) were more frequent in malnourished patient. Malnourished patients performed physical activity less frequently ($p=0.001$). The strength evaluated by dynamometry was lower without reaching statistical significance ($p=0.097$). Number of readmissions was significantly higher in the malnourished ($p=0.01$). There were no mortality differences.

Conclusions: Three out of four hospitalized patients aged ≥85 years have altered nutritional status and a fifth are malnourished. Malnutrition is more frequent in female, frail, comorbid patients with a history of cognitive impairment, presence of functional and mood impairment and more inactive.

541 - Submission No. 228

ANALYSIS OF THE CHRONIC USE OF PSYCHOTROPIC AND NARCOTIC DRUGS IN PATIENTS ADMITTED TO INTERNAL MEDICINE

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Background and Aims: Description and prevalence of psychotropic and narcotic drug use in patients admitted to Internal Medicine. To determine the relationship between their use, sex, risk factors, anxious-depressive syndrome and/or cognitive impairment.

Methods: Systematic review of 100 patients.

Results: 46% were men and 54% women, with a history of hypertension (76%), diabetes (29%), dyslipidemia (49%), heart disease (12%), fibrillation (35%), pulmonary disease (24%), anxious-depressive syndrome (14%) and cognitive impairment (22%, of which 6 were mildly, 6 moderately and 10 severely impaired). Of these, 33% were taking benzodiazepines, 19% antidepressants, 8% opiates, 8% neuroleptics, and 6% hypnotics. 86% of patients do not have anxiety or dementia, of whom 48% are male and 52% female. Of these, 26.7% take benzodiazepines, 7% neuroleptics, 1.2% hypnotics, 9% antidepressants and 1% opiates. Of the patients who did have cognitive impairment and/or anxious- depressive syndrome, 71% were women. Of these, 71% were taking benzodiazepines, 14% neuroleptics, 7% hypnotics, 29% opiates and 78% antidepressants. Within this group, 43% had dyslipidemia, 71.4% hypertension, 28.6% diabetes, 100% heart disease, 28.6% pulmonary disease and 14.3% had cognitive impairment.

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Conclusions: Women take more psychotropic drugs, and the prevalence of anxious-depressive disorder is higher. A not inconsiderable percentage with no history of previous anxious-depressive pathology or cognitive impairment take psychotropic drugs. Most patients taking psychotropic drugs are poly medicated. There is ample evidence to support the fact that psychotropic drugs are among the most and worst used. Correct prescribing in the elderly is important, as they are frequently poly-medicated, and the frequency of adverse reactions is high.

542 - Submission No. 1873

DEVELOPMENT OF OPHTHALMIC DISEASE DIAGNOSIS SYSTEM BASED ON THREE-DIMENSIONAL PLASMONIC CLUSTERS

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Background and Aims: Traditionally, two strategies have been used to improve the detection sensitivity: increasing the sensitivity and increasing the collection efficiency. Various types of receptors with excellent performance are being developed to increase the collection efficiency. However, for complex materials such as patient-derived samples, the strategy of adsorbing specific targets cannot work effectively.

Methods: Here, we propose a fabrication technique for squeezing and packing both target materials and plasmonic nanoparticles based on the rapid evaporation process in meniscus femtolitre volumes. Additionally, as a proof-of-concept, we demonstrate an innovative diagnostic platform capable of diagnosing glaucoma with sub-microliter patient-derived samples. Fine control of evaporation-induced micron 3D printing is used to fabricate target molecule-enriched 3D nanostructures.

Results: Our diagnostic platform exhibits prominent peaks as it provides a high density of hotspots, focused target molecules, and broadband resonance modes. This unique signal enables the diagnosis of glaucoma with the help of artificial neural networks with 95.89% accuracy.

Conclusions: This 3D superstructure platform guarantees both high sensitivity and high diagnostic accuracy and is expected to significantly reduce the time and cost required for diagnostic research.

543 - Submission No. 392

CARDIAC FRAILTY: QT INTERVAL PROLONGATION AND 1-YEAR MORTALITY IN OLDER ADULTS ADMITTED TO THE ACUTE GERIATRICS DEPARTMENT

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Background and Aims: We have studied the association between QT interval prolongation and 1-year mortality in older adults admitted to the acute Geriatrics department.

Methods: A retrospective cohort study. Medical charts were reviewed of all consecutive older adults admitted to one acute Geriatrics department in tertiary medical center in a 15-months period. Age, gender, chronic co-morbidities, functional status, corrected QT (QTc) interval length upon admission according to the Bazett's formula, and 1-year all-cause mortality rates were recorded. QTc interval ratio was calculated by dividing the actual QTc interval by the pathological QTc interval (450 msec in males, 470 msec in females), and then it was divided into quartiles - the upper three quartiles (study group) were compared to the lower quartile (control group) representing a cutoff of 414 msec in males and 432 msec in females.

Results: Included were 526 patients: 334 (63.5%) females, mean age 84.0±7.0 years. Mean admission QTc interval length was 446.6±34.2 msec, and 388 (73.7%) patients were included in the study group. Overall, 147 (27.9%) patients died within one year: 120 (30.9%) in the study group and 27 (19.6%) in the control group (Kaplan-Meier Log-rank p=0.009). Cox regression analysis showed an association between the upper three quartiles of the QTc interval and 1-year mortality (HR 1.60, 95%CI 1.03-2.48, p=0.034) independent of age, gender, chronic co-morbidities, and functional status.

Conclusions: QT interval prolongation is associated with 1-year mortality in older adults admitted to the acute Geriatrics department. Moreover, lower cutoffs should be used in this population in order to define QT interval prolongation.

544 - Submission No. 1145

ETIOLOGY OF ANEMIA AND IMPACT OF AGE IN PATIENTS ADMITTED IN A MEDICAL WARD OF A TERTIARY CENTER

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Background and Aims: Anemia is a relatively common cause for admission in a medical ward. Furthermore, prevalence of anemia in older patients is increasing, especially after the rise of oral anticoagulant prescribing. We examined the etiology of anemia and the impact of age patients admitted in a medical ward of a tertiary hospital.

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Methods: This retrospective cohort study included all patients admitted to the Internal medicine department of the University Hospital of Heraklion, Greece, with a diagnosis of anemia from July 2018 through September 2022. Demographics, clinical characteristics, laboratory, and gastrointestinal endoscopic characteristics were recorded.
Results: Four hundred and eight patients were evaluated, 52.2% (n=213) of them were over the age of 80 and 52.5% were females (n=214). The median hemoglobin concentration was 7.1g/dl (6.3-7.8g/dl). In the older group heart failure was presented in 61.6% (n=130), atrial fibrillation in 35.2% (n=75) and chronic kidney disease in 33.7% (n=146). On gastroscopy and colonoscopy, abnormal findings in the older group were found in 68.5% (n=61) and 83% (n=44), respectively. On etiological evaluation, anemia was a result of iron deficiency in 62.5% (n=255), nutritional deficiency in 18.4% (n=75), and gastrointestinal loss in 45.3% (n=185). No differences were found between the two study groups, except for the case of multifactorial anemia, that was more frequent in the older age group in 37.1% vs 27.7% in the younger group.
Conclusions: Higher incidence of multifactorial anemia were found in patients over 80 years old. Otherwise, etiology of anemia was similar in the two age groups.

545 - Submission No. 259

CLINICAL FEATURES OF OLDER PATIENTS WITH ARTERIAL HYPERTENSION AND A HISTORY OF FALLS

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Background and Aims: To assess the clinical features of outpatients aged 60 years and older with hypertension, depending on the history of falls.
Methods: 38 outpatients (35F) with hypertension were included and divided into group 1 (history of falls in the last year), n= 27, aged 73±7 years; group 2 (without a history of falls), n=11, aged 71±7 years. General physical examination, assessment of fear of falling (short scale for assessing fear of falls), mobility (test "Get up and go"), probable frailty, or cognitive impairment (MoCA - test) were performed.
Results: Only female (p=0.030) had a history of falls, among whom 22% were single. In the group 2 all patients lived with their families (p=0.230). Body mass index over 30 kg/m^2 was in 41 and 36% of patients in group 1 or 2 (p=0.909), respectively. Systolic blood pressure (BP) was 138±10 and 141±8 mmHg (p=0.320), diastolic BP - 83±9 mmHg and 86±2 mmHg, in group 1 or 2 (p=0.460), respectively. Osteoporosis (p=0.350), diabetes (p=0.320), chronic kidney disease (p=0.890), probable frailty (p=0.444) non-significant predominated in group 1. Increased fear of falls was detected in 55 and18% of patients (p=0.023), in group 1 or 2, respectively. Functional mobility was reduced in 81 and 64% of patients (p=0.452), cognitive impairment was detected in 74 and 64% of patients (p=0.804) in group 1 or 2, respectively.
Conclusions: Female with hypertension and a high fear of falls are at risk of developing falls, which should be taken into account when the measures to prevent falls are developed at the primary care.

546 - Submission No. 722

THE OCCURRENCE OF GERIATRIC SYNDROMES, DEPENDING ON THE LEVEL OF EDUCATION IN CENTENARIANS LIVING IN MOSCOW

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Background and Aims: To assess the occurrence of geriatric syndromes depending on the level of education of centenarians living in Moscow.
Methods: The study included 50 patients (40 F) aged 90 to 99 years (93±2 years). Frailty was assessed by the basis of the Short Physical Performance Battery, sensory impairment - by the answers received to the question about vision or hearing loss, sarcopenia - by the SARC-F questionnaire, and dynamometry, the risk of malnutrition - by the MNA scale. Information about education was obtained from the centenarians themselves and their relatives. Centenarians with secondary education were included in group 1 (n=26), higher education and academic degrees – in group 2 (n=24).
Results: The study included 50 patients (40 F) aged 90 to 99 years (92.8±2.31 years). Complaints and anamnesis were collected and examined in all patients. Frailty was assessed by the basis of The Short Physical Performance Battery, sensory impairment - by the answers received to the question about vision or hearing loss, sarcopenia - by the SARC-F questionnaire (Strength, Assistance with walking, Rise from a chair, Climb stairs, Fall) and dynamometry, the risk of malnutrition - by the Mini Nutritional Assessment scale. Information about education was obtained from the centenarians themselves and their relatives. Centenarians with secondary education were included in group 1 (n=26), higher education and academic degrees – in group 2 (n=24).
Conclusions: The most common geriatric syndromes were sensory impairment, frailty and sarcopenia, the occurrence of which did not depend on the level of education of centenarians.

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547 - Submission No. 1711

EFFECTS OF COGNITIVE TRAINING SYSTEM ON COGNITIVE FUNCTION IN PATIENTS WITH ALZHEIMER'S DISEASE

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Background and Aims: The computerized cognitive training system could change the cognitive function of patients with Alzheimer's dementia. We newly developed CAVE system device with mixed reality in which the patients performed pre-designed cognitive and daily tasks in a simulated real-life environment within a virtual space.

Methods: Eleven patient patients were recruited. Six AD patients were assigned to the CAVE system, and 5 AD patients were assigned to ComCog system. They received cognitive training through a total of 18 visits for 3 months. The cognitive function test and EEG were performed before and at the end of the training. Cognitive functions and psychological status were evaluated.

Results: Each patient was divided into responder/non-responder by the change of K-MMSE. Responder means a person whose personal score was maintained or improved before and after training. Five out of 6 AD patients in CAVE system were identified as Responder, and only 1 out of 5 AD patients in ComCog system were identified as responder. The EEG results showed the increased Theta Beta2 ratio only in CAVE system.

Conclusions: AD patients trained with CAVE system compared to ComCog system showed the better cognitive function. This study suggests that there is a possibility that the effect of cognitive function training may be observed under the conditions in which real life is implemented as a virtual environment.

548 - Submission No. 1228

INFLUENCE OF FRAILTY DEGREE ON LONELINESS

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Background and Aims: Loneliness has been found to be a significant predictor of metabolic, cardiovascular disease and emotional disturbs. Frailty also increases the risk of adverse health outcomes in the elderly. Discerning whether loneliness causes frailty or it's just a consequence of being frail remains still unclear. We aimed to evaluate the relationship between loneliness and frailty according to frailty degree.

Methods: Cross-sectional study of 64 geriatric patients admitted to the Internal Medicine Department (Frailty Unit) at a University Hospital of Barcelona during the year 2022. Participants were classified based on their Frail-VIG score. Baseline-measurements included data about functional, emotional, cognitive, and socio-economic status through an accorded protocol for complete geriatric assessment. Likewise, the presence of loneliness was screened by means of the UCLA scale. Measurements of association and correlations were performed.

Results: Out of 64 patients (53.1% male, 34.4% living alone), 53.1% was classified as initial frailty and 46.9% as intermedium degree. Loneliness was reported by 82.8% of patients. Out of patients with initial frailty, loneliness degree was described as moderated in 48.9% (vs 51.1% patients with intermedium frailty) and severe in 17.6% (vs none within intermedium frail patients), p=0.017. Mean value (SD) of UCLA scale within initial frailty was 25.7 (6.5) vs 29.5 (4.1) within intermedium frailty, p=0.007. Non-significant linear correlation was found between frailty and loneliness (r= 0.235; p=0.061).

Conclusions: The severity of loneliness shows an inverse relationship with frailty degree. Interventions addressed to loneliness should be specially considered within initial frail patients.

549 - Submission No. 1637

INAPPROPRIATE PRESCRIPTION OF ACETYLSALICYLIC ACID IN PATIENTS OVER 80 YEARS ADMITTED TO INTERNAL MEDICINE

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Background and Aims: Identify the inappropriate prescription of acetylsalicylic acid (ASA) in patients older than 80 years admitted to an Internal Medicine service applying STOPP/START criteria.

Methods: Observational, descriptive, retrospective study. The data has been obtained from the electronic medical record of patients in Internal Medicine of the General Hospital of Segovia during the period of time between May 30 and June 30, 2022. The variables studied were age, sex and whether or not they took ASA.

Results: Regarding the taking of ASA, 27.88% take it chronically, considering its prescription inappropriate, based on the STOPP/START criteria, in 55.17%. The inappropriate use of medications in the elderly patient can lead to increased morbidity and mortality. In many of the patients do not have what is included in the START criteria which, in relation to ASA, would be the presence of chronic atrial fibrillation when vitamin K antagonists, direct thrombin inhibitors or factor Xa inhibitors are contraindicated or a well-documented history of coronary, cerebral or peripheral vascular disease, a criterion that is met by 44.82% of the patients studied in chronic treatment with said medication.

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Conclusions: 1. The inappropriate prescription of medications in elderly patients leads to higher rates of adverse reactions and drug interactions 2. It is important to use tools such as the STOPP/START criteria that help us in clinical practice to identify the inappropriate prescription of drugs and be able to act accordingly. 3. More than half of the patients studied with chronic ASA intake (55.17%) did not meet the START criteria.

550 - Submission No. 289

LESS IS MORE

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Case Description: We present a female patient of 86 years with severe dementia who was completely dependent on her day-to-day life. She was admitted to Rio Hortega Hospital when her condition started to deteriorate. She had lost her appetite and did not want to eat. We suspected she had a urinary infection, so we started empirical antibiotic therapy and her health improved. However, we observed that she continued to refuse food. We talked to the family and suggested a temporary nasogastric tube to feed her. The family agreed. After a few hours, we noticed the nasogastric tube was in the right bronchial tree, so we withdrew it. We suspected she had aspiration pneumonia, so we commenced an antibiotic treatment. We placed a second nasogastric tube. We observed a large right pneumothorax in an x-ray. We spoke with the family, and we placed a pleural drainage tube. Despite the adopted measures, the patient died within hours.

Clinical Hypothesis: Aspiration pneumonia. Pneumothorax.

Diagnostic Pathways: Chest x-ray.

Discussion and Learning Points: The use of nasogastric tubes in elderly patients with dementia and dysphagia is controversial because it has not been proven to be successful at reducing the risk of pneumonia and improving survival or nutritional rate. There is also a high risk for the appearance of ulcers. Some scientific societies advise that enteral nutrition in patients with dementia is not the best solution. We observed that the placement of a nasogastric tube in a patient with advanced dementia and food refusal sparked a series of associated complications that precipitated the death of the patient.

551 - Submission No. 932

NONAGENARIANS AND COVID-19

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Background and Aims: Spanish population is one of the eldest in the world, with an average life expectancy of 83.3 years. The highest COVID-19 fatality rate has been observed in older patients, even if they were vaccinated. The purpose of this study is to describe the characteristics of the Spanish nonagenarian population hospitalized due to COVID-19, their comorbidity, frailty, and fatality rate during the sixth waves of the disease in Spain.

Methods: Through a retrospective study we studied clinical and epidemiological variables of nonagenarian patients with COVID-19. Data were collected from digitized clinical history. Comorbidity was assessed using Charlson Index (CI) and dependency using Barthel Index. Lethality was recorded. Data were analyzed using SPSS 25.0.

Results: 16% of nonagenarian patients admitted to our Service during the first quarter of 2022 suffered from COVID-19 (n=34), and their age average was 93.6 years (R 90-100). 79.4% were women. Most common comorbidities were hypertension (94.1%), heart failure (67.6%), atrial fibrillation (41.2%), DM2 (23.5%), COPD (14.7%) and dementia (38%). 70.5% of the patients were dependents, and 53% had a high comorbidity rate (CI>3). Hospital mortality rate was 38.2%.

Conclusions: This study reveals a considerable increase in the number of nonagenarian patients admitted for COVID-19. The majority are women, with a high degree of comorbidity, mainly due to cardiovascular conditions, which translates into a high mortality rate.

552 - Submission No. 757

HEART FAILURE IN HOSPITALIZED ELDERLY PATIENTS WITH DIABETES IS ASSOCIATED WITH INCREASED COMORBIDITY AND READMISSIONS

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Background and Aims: Aging and diabetes mellitus (DM) are strongly associated with deteriorating heart function. This analysis aims to record the comorbidities and the readmissions in elderly hospitalized patients with HF and DM.

Methods: We conducted a preliminary analysis of 303 patients

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with DM admitted to the Internal Medicine Department. The Katz index and Charlson Comorbidity Index (CCI) were used to assess the functionality (calculations performed based on the latest operational status) and comorbidity, respectively.

Results: The mean age of the patients was 80±8 years, the mean BMI was 27.4±5.3 kg/m2 and 51.5% were female. Regarding comorbidities, 56% of the patients had HF (n=169), 84.2% hypertension, 34.3% dementia while 45.9% had decreased daily functionality (Katz =0-3). A subgroup analysis of patients with HF showed that 33.1% of them had dementia, 44.4% low Katz-index (Katz =0-3) while 93.6% had CCI ≥5. Regarding the medication of this group, 21.9% were on angiotensin-converting enzyme inhibitors (ACEi), 37.3% on angiotensin receptor blockers (ARBs), 60.4% on b-blockers (BBs), 24.9 % on potassium sparing diuretics, 54.4% on loop diuretics and only 8.9% on sodium-glucose cotransporter-2 inhibitors (SGLT2i). The percentage of patients admitted for HF decompensation was 32.5% for patients with known HF and 3.8% without history of HF. Importantly, 55% of patients with DM and HF had at least 1 previous hospitalization and 64.1% of them experienced at least 1 readmission during the next 3 years.

Conclusions: Elderly patients with DM have a high incidence of HF and most of them will experience 1 or more readmissions during the next 3 years.

553 - Submission No. 1923

RESTRICTIONS. WHAT DO WE DO WITH OUR ELDERLY PATIENTS?

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Background and Aims: Restraints involve the violation of patients' fundamental rights. There are few studies that record their incidence. Our aim is to know the incidence and how they are applied in our environment in order to make the results known and promote change.

Methods: This was a prospective descriptive study of patients admitted to a geriatric ward. Admissions were collected from May 9 2022 until reaching n=100. We recorded whether any type of restriction was applied and the description of these restrictions. It was analyzed in the SPSS 22.0 database.

Results: Of the 100 patients, 45% were male and the mean age was 87 years, 45% had severe cognitive impairment (Pfeiffer) and 43% total dependence (Barthel). Mechanical restraint was applied in 56.5% of patients, pharmacological restraint in 4.3% and both in 30.4%. Of the patients with mechanical restraint, 87% were restrained with handrails. Pharmacological restraint was mainly with neuroleptics. In 60% of the cases the physician who made the indication was not recorded in the clinical history and in 81% there was no review record.

Conclusions: The percentage of restraints is high according to what has been published so far. There is a more indiscriminate use of handrails. It is necessary to develop and disseminate protocols for restraint in Internal Medicine, clearly defining its indications, the possible alternatives, the care plan and the supervision necessary to be able to apply it with guarantees.

554 - Submission No. 1486

TECHNOLOGY AS A TOOL FOR MANAGING CHRONICITY: PROPOSAL OF A MANAGEMENT MODEL FOR HOSPITAL-COMMUNITY PATHWAYS

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Background and Aims: In recent years, burden of complex patients in Internal Medicine Wards (IMW) is increased. To improve chronic patients management both during the acute and stable phase of disease, randomized wireless monitoring studies (WMS) are ongoing in Castelli Hospital IMW.

Methods: A portable wireless system allowing continuous, real-time vital sign monitoring and creation of a personalized alert system for each patient via a portable device was used both for inpatients and after discharge in poly-pathologic, frail patients admitted in IMW.

Results: Up to now WMS of inpatients (LIMS study) recruited 145 patients, outpatients recruited in Greenline Study were 126. During 2021 the total number of people discharged from IMW were 737. Out of these 130 were transferred to territorial structures (17%), in 80% long-term care-Hospice and 105 dead (14%) which represent 31% of the hospitalized. 30-day hospitalization rate was 12%. Activity data confirms the evidence from the LIMS study that end-stage disease represents more than 30% of the sample admitted in IMW and the majority of re-hospitalized patients are in the terminal stage of the disease.

Conclusions: WMS combined with activity data analysis suggests the need for a model of patient management that envisages the increase in field structures offering patients subacute care (antibiotic treatments, blood transfusions, infusion support and pain therapy) for the timely management of chronic patients in the terminal phase, for which treatment in IMW should be guaranteed only for acute phase management.

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555 - Submission No. 1902

THE COMPLEX EFFECT OF CHRONIC PAIN THERAPY ON DIAGNOSTIC IN CASE OF GERIATRIC MULTIMORBITY

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Case Description: 78-year-old women admitted to hospital with an acute reduction in general condition. She was partially somnolent, but rousable, partially agitated, no fever, no report about pain. Husband reports that the state of health has deteriorated within a week. Worth mentioning in anamnestic is a rheumatic disease treated by a permanently by steroids as antibody therapy must be stopped because of multiple infections. Joints, tendons and soft tissues are affected and so the patient needs a chronic pain therapy. This includes a combination of transdermal opiate and novaminsulfon. Side effect of the opiate therapy was obstipation though regularly use of laxatives. 12 years before she had a mild diverticulitis, but later no recurrence. There is an arterial hypertension, diabetes mellitus type 3 (induced by steroid therapy) and an osteoporosis, a mild anemia, during the last months several viral infections (Herpes). There is malnutrition and a frailty syndrome. There is polypharmacy. In the physical examination there was a hypotension (90/70 mmHg), tachycardia, exsiccosis, a bloated abdomen was noticed, agitation and defensive reactions during the abdominal examination.

Clinical Hypothesis: After the first examination an abdominal process was suspected, especially diverticulitis.

Diagnostic Pathways: Sonography confirmed the presumptive diagnosis. Abdominal computed tomography: acute abdomen by perforated and abscessed diverticulitis. Laboratory: inflammatory parameters increased, hemoglobin 10 mg/dl, creatine mild increased.

Discussion and Learning Points: The risk for diverticulitis is increased for geriatric patients, especially for recurrence, opiate induced obstipation was a further risk factor. The abdominal process was obscured by the combined pain therapy. It is important to think of the distorting effect of pain therapy, and polypharmacy in general on diagnostic.

556 - Submission No. 2055

HOSPITALIZED POLYPATHOLOGICAL PATIENTS: CLINICAL CATEGORIES AND COMPLEXITY CRITERIA

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Background and Aims: Poly-pathology, understood as the appearance of two or more chronic diseases in the same patient is increasing frequency in our society due to longer life expectancy and ageing population. Poly-pathology patients are a population with high resources consumption; therefore, the improvement of their health would optimize these resources and a more effective and efficient distribution would be achieved. Our objective is to determine the clinical categories and complexity criteria present in hospitalized poly-pathological patients.

Methods: A cross-sectional descriptive observational study was carried out in poly-pathological patients hospitalized in a medium-level hospital (250 beds) between October 2021 and April 2021. We evaluated the clinical categories and criteria of complexity taking as reference the categories present in the document of attention to poly-pathological patients published by the Ministry of Health in 2018.

Results: A total of 299 patients with a mean age of 78.79±10.20 years. 47.83% women and 52.17% men. Chronic kidney disease defined by glomerular filtration rate < 60ml/min (36.5%), ischemic heart disease (31.8%) and heart failure (24.1%) are the most prevalent. Among the criteria of complexity: extreme polypharmacy (10 or more active principles of chronic prescription) is the most prevalent (54.5%) followed by the presence of two or more hospital admissions in the previous 12 months (36.1%).

Conclusions: Kidney disease, ischemic heart disease and heart failure are the most prevalent clinical categories in our series of hospitalized poly-pathological patients. Polypharmacy and the presence of two or more admissions are the most prevalent complexity criteria.

557 - Submission No. 244

ARE THERE GENDER DIFFERENCES IN THE ELDERLY POPULATION? ANALYSIS OF A SINGLE CENTER REGISTRY

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Background and Aims: To analyze the existence of gender differences in an elderly population hospitalized in an Internal Medicine service.

Methods: Prospective cohort study including patients aged 85 years or older hospitalized in an Internal Medicine service. Medical history, Charlson index, functional (Barthel test), mental (Pfeiffer) and nutritional (MNA-SF) status, as well as mortality were collected. The characteristics between genders were compared. To determine association between gender and categorical variables It was performed by χ^2 test or Fisher's exact test and for quantitative variables It was used the Student-t test or Mann-Whitney U.

Results: A total of 475 patients were included, 223 men and 252 women with a higher mean age in the female gender (p=0.004). Likewise, the women presented a worse functional situation according to the Barthel index (p=0.001), a worse score in the Pfeiffer test (p<0.001), and a worse nutritional status (p<0.001) without significant differences in the Yesavage test. The most

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frequent pathologies were hypertension, dyslipidemia, heart failure, diabetes, and atrial fibrillation without significant differences between both sexes. Men more frequently presented diagnoses of COPD (p<0.001), ischemic heart disease (p<0.001) and solid neoplasia (p=0.004) while women more frequently had asthma (p=0.002) and depression (p<0.001) with a lower Charlson index score (<0.001). Mortality and readmissions did not differ significantly between the two groups.

Conclusions: Men presented more frequently COPD, ischemic heart disease and solid neoplasia, compared to diagnoses of asthma and depression that predominated in women. Although comorbidity was lower in women, the functional, mental, and nutritional situation was better in men. However, mortality and the number of readmissions did not differ between the sexes

558 - Submission No. 1998

RISK FACTORS FOR FALLS AMONGST OLDER PEOPLE

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Background and Aims: Several factors have been associated with falls among older adults. Objective was to assess factors associated with a history of falls in older adults needing hospitalization, including a frailty measure among the evaluated variables.

Methods: In 493 consecutively admitted elderly patients (48.5% women), median age 82 years old (IQR:75-88), patient characteristics were recorded. Comorbidities were assessed by using Charlson co-morbidity index (CCI), frailty by Clinical Frailty Scale (CFS), activities of daily living by Barthel Index (BI), and cognition by Global Deterioration Scale (GDS). CCI, CFS, GDS and BI were estimated for the premorbid patients' status. Parametric and non-parametric tests and multiple regression analysis were applied to identify the factors associated with falls.

Results: 111 patients (22.5%) reported a history of more than two falls in the previous six months. In univariate analysis the presence of hearing (χ^2=4.273 p=0.027) or behavioral problems (χ^2=17.721, p≤0.001), the presence of neurological diseases (χ^2=11.923, p=0.001) or polypharmacy (χ^2=8.208, p=0.003), antidepressants usage (χ^2=6.576, p=0.008), and higher CCI (U=17476.5, p=0.004), GDS (U=16224.0, p≤0.001), CFS (U=14491.0, p≤0.001) and age (U=16808.0, p=0.001), were associated with a history of falls. In multivariate analysis the factors that were associated highly with a history of falls were the premorbid frailty status (p=0.002, OR=1.252, 95% CI 1.088-1.439), the higher age (p=0.048, OR=1.032, 95% CI 1.000-1.064) and the presence of behavioral problems (p=0.012, OR=2.204, 95% CI 1.191-4.078).

Conclusions: Frailty assessment tools can help to identify older adults at risk and by taking preventive measures to decrease the incidence of falls.

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AS09. INFECTIOUS DISEASES

559 - Submission No. 859

A CASE OF RELAPSED NATIVE VALVE INFECTIVE ENDOCARDITIS CAUSED BY BURKHOLDERIA CEPACIA IN A PATIENT WITH END STAGE RENAL DISEASE

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Case Description: We report a young male with end stage renal disease on hemodialysis who developed dual valve endocarditis (mitral and aortic) secondary to *Burkholderia cepacia* on two different occasions being 6 months apart despite completing a full course of antimicrobial therapy according to sensitivity during the first episode. Given the diagnosis of acute left sided heart failure and failure of the initial antibiotics course, the patient underwent aortic valve replacement and mitral valve annual pericardial patch reconstruction with anterior mitral valve leaflet repair. A combination of four broad spectrum antibiotics was initiated and continued for a total of 8 weeks post-operatively. On follow ups the patient had negative cultures with no relapses.

Clinical Hypothesis: *Burkholderia cepacia* is rarely encountered in clinical settings especially in immunocompetent patients. Infective endocarditis with Burkholderia in native valves is a rare entity and dual valve involvement was never reported in literature to date. Treatment is challenging because of intrinsic resistance to many of the available antimicrobial agents.

Diagnostic Pathways: Transesophageal echocardiogram confirmed mitral valve vegetation with severe regurgitation and aortic vegetations with perforation of the non-coronary cusp. Blood cultures grew *Burkholderia cepacia* sensitive to ceftazidime, meropenem, minocycline and trimethoprim/sulfamethoxazole.

Discussion and Learning Points: Burkholderia is rarely associated with infective endocarditis of native valves, however, it is a possibility with poor prognosis and high antimicrobial resistance. Although at the time of the first presentation our patient had no indication for surgical intervention, the recurrence highlights that combination of antimicrobial and surgical treatment may improve the mortality outcomes in patient with serious Burkholderia endocarditis infection.

560 - Submission No. 256

INVASIVE PULMONARY FUSARIOSIS WITH SUPERIMPOSED HISTOPLASMOSIS IN A HEALTHY PATIENT

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Case Description: A 47-year-old man, non-smoker with history of myasthenia gravis in remission presents with worsening shortness of breath and sporadic episodes of fever over the course of 3 weeks. The patient claimed to have gone cave-exploring and worked as an air-conditioning technician. During the previous three years, he reports progressive dyspnea on exertion, fatigue, and a constant dry cough that required multiple hospitalizations. Clinical exam was remarkable for diffuse rales on bilateral lungs with resting hypoxia of 82-84%.

Clinical Hypothesis: Admitted under the clinical suspicion of fungal pneumonia.

Diagnostic Pathways: Laboratories showed no leukocytosis or neutropenia. Chest-x-ray revealed increased pulmonary markings and chest CT demonstrated diffuse bilateral ground-glass opacities with innumerable millimetric pulmonary nodules of unclear distribution. Extensive infectious, immunologic, and rheumatologic workups were negative however urine Histoplasma antigen was positive. Bronchoalveolar lavage (BAL) showed Fusarium species (FS) and *Histoplasma capsulatum* (HC) on cytology. Intravenous liposomal amphotericin B was given for 2 weeks followed by a long course of oral voriconazole resulting in marked improvement of symptoms.

Discussion and Learning Points: Pulmonary mycoses are usually seen in immunocompromised patients with high rates of morbidity and mortality, especially in endemic regions. However, after prolonged environmental exposure such as caves and air conduct, histoplasmosis and fusariosis, respectively, can develop regardless of the immunological status. Clinical and radiologic manifestations are non-specific thus making it a challenging diagnosis. Awareness of the patient's clinical and epidemiological history can lead to early diagnosis and prompt management. This case represents a novel and rare presentation of invasive pulmonary fusariosis with superimposed histoplasmosis in an immunocompetent host.

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561 - Submission No. 1158

INFECTION IN INPATIENTS AT AN ONCOLOGY SERVICE

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Background and Aims: Unlike profoundly immunocompromised hematologic patients, infection in solid organ tumors might be more related to tumor location and extension.

Methods: We carried out an observational cohort study including all patients admitted to Oncology at Hospital 12 Octubre in 2014 and 2015 (1137 patients).

Results: The types of tumor with the highest frequency of infection were non-small cell lung cancer (18.4%), breast (10.8%), colorectal (10.3%), and pancreas (8.1%). Comorbidity was similar in patients with and without infection. COPD patients had a significantly higher frequency of infection ($p<0.001$), especially respiratory ($p<0.001$). Infection at any location significantly increased hospital stay ($p<0.001$) from 7 days to 9, especially abdominal infection (13 days). The presence of a locally advanced neoplasm favored infection (odds ratio 2.49; 95% CI: 1.09-5.66; p=0.03). In the case of non-small cell lung cancer, respiratory infection predominated (33.8%), Of 248 patients admitted with lung cancer, 19.8% (49 patients) had pneumonia and 37.7% (49) of pneumonias occurred in these patients. Local infection was also favored by pancreas and biliary tract tumors (abdominal infection in 21.7% and 20.5%) and urinary tract neoplasms (urinary tract infection 18.6%). Catheter-associated infections predominated in colorectal (22%) and ovarian (15.3%) cancer. In breast cancer and febrile neutropenia, no location prevailed.

Conclusions: Patients with solid organ tumors acquire infections as a consequence of the tumor itself. Therefore, it is not uncommon for the location of the infection to be the same as that of the neoplasm.

562 - Submission No. 1620

STREPTOCCOCUS BOVIS IS BOTH CAUSE AND CONSEQUENCE

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Case Description: A 70-year-old man, with a personal history of ischemic heart disease; admitted after being diagnosed by fever of unknown origin. Physical examination showed fever and auscultation of heart with diastolic murmur in aortic focus. Laboratory tests with a slight increase in leukocytosis, ECG with signs of LVH. Chest X-ray: cardiomegaly. Serologies were negative and blood cultures (x2) were positive for *Streptoccocus bovis*.

Clinical Hypothesis: *S. bovis* forms part of the normal flora of the gastrointestinal tract and is the cause of approximately 15% of infectious endocarditis. In more than 30% of cases, there is a relationship between polyps-colorectal cancer

Diagnostic Pathways: Ecocardiography was performed, showing in the aortic valve a linear image of 0.95 very mobile with thickened free edge of 0.5x0.3 more consolidated, with regurgitation area of 4.22 cm^2, which occupies the entire outflow tract. Colonoscopy was requested to rule out an associated tumor, in which a 2 cm pedunculated polyp at 20 cm (AP: invasive carcinoma infiltrating the muscular mucosae). The evolution was favorable after starting empirical antibiotic therapy, with disappearance of fever, and after antibiogram, targeted treatment with ampicillin. The case was presented to General Surgery, which, indicated surgery.

Discussion and Learning Points: *S. bovis* forms part of the normal flora of the gastrointestinal tract and is the cause of approximately 15% of infectious endocarditis (mainly in the elderly). In more than 30% of cases, there is a relationship between polyps- colorectal cancer and endocarditis caused by this microorganism; hence the importance of performing a colonoscopy in these patients, in order to achieve an early diagnosis and avoid progression to infiltrative colorectal carcinoma.

563 - Submission No. 415

CHARACTERISTICS OF INFECTIOUS ENDOCARDITIS IN OUR HEALTH AREA

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Background and Aims: Infective endocarditis (IE) is an uncommon disease, which incidence is slowly increasing, affecting patients with older age and more comorbidities. Despite medical advances with the appearance of new antibiotics and new surgical techniques, there is a persisting high morbidity and mortality rate. Our aim was to determine the characteristics of patients admitted

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for IE in a tertiary hospital and estimate the cumulative incidence of acute intra-hospital mortality and during follow-up.

Methods: Observational, retrospective and unicentric study in patients diagnosed with infective endocarditis (IE) in a tertiary hospital. 470 cases of IE (January 2003-December 2018): 397 met the inclusion criteria: diagnosis of left endocarditis (aortic, mitral valve, both/several) according to the Duke or ESC2015 criteria, aged more than 18, excluding patients with right-sided endocarditis or patients with relapse/recurrence.

Results: 397 patients were included. 63% of IE was community-based and 34% associated with healthcare. 76.3% had an underlying medical condition, with a Charlson index greater than 2 points in 44.48%, with pneumopathy being more frequent (21.42%), type 2 diabetes mellitus (31%), chronic renal failure (15.4%) and ischemic heart disease (18.6%). 11.8% had the antecedent of previous manipulation, 31.9% catheter infection, and up to 7.12% had an event if endocarditis previously. 82.9% presented clinical complications, being heart failure (48.1%), renal deterioration (31.5%) and systemic embolism (30.2%). A 77.1% underwent surgery, of which 28.8% did not undergo surgery due to surgical risk. There were 120 in-hospital deaths (30.2%) and 22.2% during the five-year follow-up.

Conclusions: Left-sided endocarditis in our population preferably affects elderly people (≥65 years) and with high comorbidity. An increase in mortality has not been observed.

564 - Submission No. 2389

A RARE PRESENTATION OF ASPERGILLOSIS

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Case Description: We present the case of a 77-year-old woman previously diagnosed of arterial hypertension and autoimmune hepatitis. She was receiving treatment with ursodeoxycholic acid, azathioprine, prednisone and losartan. The patient complained of impaired language and weakness of the left lower limb in the latest 24 hours. Physical examination demonstrated claudication of the left lower limb accompanied by extensor plantar reflex. A CT scan revealed a right temporoparietal hypodensity. Blood tests showed leukocytosis, anemia, elevated lactate dehydrogenase and mild hyponatremia. Three days after admission, the patient presented convulsive crises, tetraparesis, dysarthria, generalized edema and respiratory failure.

Clinical Hypothesis: Differential diagnostics included cerebrovascular disease, brain tumor and central nervous system (CNS) infection.

Diagnostic Pathways: Magnetic resonance revealed multiple cortico-subcortical lesions with peripheral ring enhancement and perilesional edema. Cerebrospinal fluid evidenced hyperproteinorraquia. Microbiological studies turned out negative. Additionally, the patient was diagnosed with nosocomial pneumonia through a chest CT scan.

Due to the suspicion of septic emboli, the patient received 2 weeks of antibiotic therapy. However, the evolution was unfavorable progressing into a coma state and multiple organ failure that finally led to death. The final diagnosis was made through a necropsy that revealed the presence of disseminated infectious encephalitis and bilateral necrotizing pneumonia morphologically consistent with an infection caused by Aspergillus.

Discussion and Learning Points: CNS aspergillosis is a rare and opportunistic intracranial fungal infection. Histopathological and microbiological studies provide definitive diagnosis. Prognosis in immunosuppressed patients is unfavorable. Therefore, Aspergillus must be included in differential diagnosis of space-occupying lesions of the brain and early treatment with voriconazol must be started.

565 - Submission No. 1063

STAPHYLOCOCCUS AUREUS MENINGITIS DISGUISED AS SARS-COV-2 INFECTION

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Case Description: An 84-year-old woman, with diabetes and history of frontal head trauma in 2004 (with bone exposure, surgically intervened), was admitted for cervicalgia, myalgias and fever in the emergency department. After positive SARS-CoV-2 testing, she was discharged under symptomatic treatment. Four days later, she returned with cervicalgia, prostration and food refusal. At admission: Glasgow Coma Scale of 15, restlessness on the stretcher, no meningeal signs, tachycardic, with itchy frontal skin lesions. Laboratory findings revealed elevated inflammatory markers and acute on chronic kidney injury. Empiric ceftriaxone was started, after blood (BC) and urine (UC) cultures were collected.

Clinical Hypothesis: Altered mental status and cervicalgia suggested central nervous system infection, although other sites of infection needed to be excluded.

Diagnostic Pathways: Cranioencephalic computed tomography (CT) revealed lacunar infarctions. Lumbar puncture results (countless leukocytes) were consistent with meningitis, leading to adjustments in empiric antibiotic therapy. Further state of consciousness' deterioration implied intubation and Intensive Care Unit admission. A methicillin-sensitive *Staphylococcus aureus* (*S. aureus*) was later isolated in BC, UC and cerebrospinal fluid. The investigation to clarify focus of bacteremia was inconclusive (spinal and body CT without spondylodiscitis or other focus of infection; transesophageal echocardiogram without endocarditis).

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She revealed clinical improvement, after a pathogen-directed antibiotic course, presenting with periods of confusion and partial dependence at discharge.

Discussion and Learning Points: *S. aureus* is a rare pathogen of bacterial meningitis, with high mortality rate, often associated with head trauma or craniotomy. We present an uncommon case of hematogenous *S. aureus* meningitis, community-acquired, with favorable clinical course, despite its challenges.

566 - Submission No. 133

PARALYZED BY TUBERCULOSIS

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Case Description: A 59-year-old male, with history of tobacco dependence and alcohol abuse, was admitted due to non-traumatic lumbar pain and weight loss. Following the detection of new onset left pleural effusion and ascites, he was hospitalized for investigation. Diagnostic paracentesis and thoracocentesis revealed serum–ascites albumin gradient inferior to 1.1 and pleural fluid with increased adenosine deaminase activity (ADA), compatible with transudate. Spinal computed tomography (CT) showed lytic lesions on D12 vertebral body. The etiologic study proceeded in ambulatory, after pain management.

Clinical Hypothesis: Given the constitutional symptoms, malignancy was considered the main differential diagnosis (primary tumor, metastasis and multiple myeloma). Tuberculous spondylitis was thought secondarily, based on the increased pleural ADA.

Diagnostic Pathways: Magnetic resonance imaging (MRI) documented heterogenous abnormal signal of D12 vertebral body with cortical disruption. Thoracoabdominal-pelvic CT and endoscopy (upper and lower) revealed no suspicious lesions. Increased serum beta-2 microglobulin and hypercalcemia, as well as serum immunofixation with monoclonal component of immunoglobulin G Kappa, were highlights of the blood work performed. The patient was readmitted for pain management, while waiting for medulogram, developing lower limb paraparesis during it. Revaluation MRI revealed extension of bone destruction to D11 and spinal compression. Through biopsy of D12, Mycobacterium tuberculosis complex DNA was identified. Assuming tuberculous spondylitis, he completed tuberculostatic therapy and motor rehabilitation, with partial recovery of muscle strength.

Discussion and Learning Points: This clinical case is presented, because although tuberculous spondylitis is a rare condition in developed countries, it must be always considered as differential diagnosis in patients with local pain, systemic manifestations and neurologic deficits.

567 - Submission No. 1926

PERI-MYOCARDITIS -NOVEL COMPLICATION OF MONKEYPOX VIRUS

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Case Description: A 19-year-old male presented to Emergency Department with fever and papulovesicular rash over the face, limbs and pubic area for the last eight days. His past medical history was unremarkable. Next day, he developed pleuritic chest pain. Electrocardiogram (ECG) showed sinus rhythm with nonspecific repolarization abnormalities. Echocardiogram revealed normal size left and right ventricle with slightly reduced ejection fraction (EF) of 50-54%. Serum Troponin was markedly raised. Monkeypox virus PCR was positive. Cardiologist diagnosed him with peri-myocarditis as complication of Monkeypox virus. He was given stat dose of aspirin followed by colchicine till discharge. He had complete resolution of his chest pain shortly after the initiation of the treatment, with a steady decline in his troponin.

Clinical Hypothesis: Monkeypox virus causing peri-myocarditis.

Diagnostic Pathways: Serum troponin starting at 787 ng/L, peaking at 1029 ng/L 24 hours later, with steady decline after colchicine till 35 ng/L 96 hours later (normal values 0-14 ng/L).

Discussion and Learning Points: Our case of a healthy young adult with confirmed Monkeypox virus infection developed peri-myocarditis. We should have a high index of suspicion for peri-myocarditis when patient presents with clinical features, raised cardiac biomarkers and demonstrating complete medical recovery following management with NSAIDs.

568 - Submission No. 1281

WHEN THE ANSWER IS IN THE BLOOD

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Case Description: Infective endocarditis (IE) is an infectious disease of the heart tissue, mainly affecting heart valves and intracardiac devices. We present a case of a 71-year-old male with history of hepatic cirrhosis (alcoholic and MAFLD) esophageal varices, hepatocellular carcinoma, severe aortic stenosis, type 2 diabetes mellitus and arterial hypertension. Observed in the emergency room and hospitalized due to upper gastrointestinal (UGI) bleeding requiring transfusion, although no signs of acute hemorrhage were found on UGI endoscopy. On admission, elevated inflammatory parameters, motivating empirical therapy with ceftriaxone. Although urinalysis, chest X-ray and echocardiogram weren't suggestive of infection, an Enterococcus faecalis was isolated in blood cultures.

Clinical Hypothesis: Bacteremia of unknown origin.

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Diagnostic Pathways: Thoraco-abdominopelvic CT was performed, also not suggestive of an infectious process. After antibiotic switch to daptomycin, patient was transferred to a home hospitalization unit (HHU), with good clinical and analytical evolution. Persistently positive blood cultures motivated the performance of a new echocardiogram, which revealed several aortic valve vegetations, allowing the diagnosis of IE. Following multidisciplinary discussion, linezolid was initiated. After 40 days and multiple complications, although images still suggestive on echocardiogram, discharge was possible on moxifloxacin and rifampicin, when hemodynamically stable, in sustained apyrexia, with sterile blood cultures.

Discussion and Learning Points: Although this presents a case of IE in a high-risk patient with aortic stenosis, the chronology presented is rare, as it is generally endocarditis that causes bacteremia, not the opposite. This also emphasizes the value of HHU, which can permit the best care possible to patients not so stable or without a definitive diagnosis.

569 - Submission No. 1963

OROPHARYNGEAL SYPHILIS – THE IMPORTANCE OF RECOGNIZING THE RARE MANIFESTATION

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Case Description: A 61-year-old gentleman with unremarkable past medical history presented to a clinic with persistent oropharyngeal discomfort for 9 months. On physical examination, multiple, nontender, white spots were observed around soft palate, which were refractory to a trial of prednisolone 10 mg/day for 2 weeks. He was referred to our hospital for further evaluation and treatment of the ulcerative lesions. Repeated pharyngoscopy revealed white, erosive mucosa between bilateral anterior palatine arches as ''butterfly appearance.''

Clinical Hypothesis: Although he denied any sexual activities within the past year, the mucosal manifestation was highly suspicious of pharyngeal syphilis.

Diagnostic Pathways: Serology screening was significant for positive rapid plasma reagin (RPR) and *Treponema pallidum* hemagglutination assay (TPHA). Biopsy of the lesion ruled out malignancy. Following the result, he recalled having unprotected sex on a business trip 15 months prior to referral as well as spontaneous resolution of maculopapular rash over trunk and limbs. He was treated with amoxicillin 1500 mg/day for 4 weeks. The mucosal lesions disappeared successfully in a week, and he completed the treatment without any adverse events.

Discussion and Learning Points: Syphilis presents typically with initial urogenital or skin lesions and subsequent systemic manifestations. Oropharyngeal syphilis is a rare form of secondary syphilis, which can be the only presentation at some point. It should be noted that patients sometimes forget or may be reluctant to disclose the detailed sexual history regardless of the potentially negative outcome. Therefore, it is important to recognize the rare manifestation and include syphilis in differential diagnosis even when the obtained history is unclear.

570 - Submission No. 918

MEDITERRANEAN SPOTTED FEVER

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Case Description: A 61-year-old man with hypertension and dyslipidemia presented with a 1-week history of high-grade fever and diffuse maculopapular rash. He reported close contact with animals (cats, dogs and pigs) and drank water from the well. At admission, his blood pressure was 85/45 mmHg with a heart rate of 125 beats per minute. An eschar was found in his thigh.

Clinical Hypothesis: A tickborne disease was suspected.

Diagnostic Pathways: Laboratory tests revealed low platelet count, acute kidney injury, and marked elevation of inflammation markers, muscle enzymes and transaminases. Computed tomography had no signs of infection and transthoracic echocardiography excluded endocarditis. Lumbar puncture excluded central nervous system infection. He started aggressive resuscitation with fluids and empiric antibiotic therapy with ceftriaxone and doxycycline. Due to deterioration of his clinical status, he was admitted to the intensive care unit, where he underwent sedation, aminergic support and mechanical ventilation. Myocardial necrosis markers raised suspicion of myocarditis. Laboratory analysis for zoonosis revealed a positive serology for *Rickettsia conorii*. After two weeks of doxycycline, he had recovered from all organ dysfunctions and was discharged from hospital.

Discussion and Learning Points: Mediterranean spotted fever caused by *Rickettsia conorii* is endemic in countries adjacent to the Mediterranean Sea such as Portugal. It is transmitted by a dog tick and the presence of the eschar supports the diagnosis. It is usually a mild disease, but complications can occur with neurologic, cardiac, ocular and renal involvement, which can be fatal. It is essential to be aware of this condition for a rapid diagnosis and adequate treatment.

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571 - Submission No. 1230

PERSISTENT BACTEREMIA WITH BRUCELLA MELITENSIS

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Background and Aims: Presentation of the role of blood cultures for the diagnosis and
prognosis of patients with brucellosis.

Methods: A 77-year-old Greek female patient, with a history of arterial hypertension and dyslipidemia, presents with fever for 20 days, pain in the lumbar region and difficulty walking. The patient reported eating unpasteurized milk. Brucella antibodies and sero-reactivity to brucellosis were positive. Blood cultures isolated *Brucella melitensis*. A CT scan showed spondylodiscitis on L4-L5. She was treated with triple antibiotic therapy with rifampicin, doxycycline and gentamicin, then switched to trimethoprim/sulfamethoxazole.

Results: Due to persistent bacteremia, a transesophageal ultrasound was performed, which did not show any valvular vegetation. Blood cultures were negative after 15 days of antibiotics.

Conclusions: Brucellosis is the most common bacterial zoonotic disease with >500,000 new cases yearly worldwide[1]. Mediterranean regions show increased endemicity. The incidence is likely underestimated due to underreporting and misdiagnosis. It is highly contagious due to the low infectious dose and the multiple possible transmission routes. It often presents with generalized symptoms, with possible involvement of any organ. The diagnosis is established after isolation of the organism in blood cultures, biological fluids, tissues or with serological tests and a compatible clinical and epidemiological history. Blood cultures have varying sensitivity (15-70%) and when found positive it is an important tool in monitoring patients. Increased clinical suspicion is required in a patient with a relevant epidemiological history.

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CDC-Brucellosis Reference Guide: exposures, testing and, prevention. Clin Microbiol Infect 2011; 17: 756–762

572 - Submission No. 2124

POSSIBLE MISSED OPPORTUNITIES IN THE DIAGNOSIS OF HUMAN IMMUNODEFICIENCY VIRUS (HIV) IN PATIENTS WHO CONSULT THE EMERGENCY DEPARTMENT DUE TO A SEXUALLY TRANSMITTED DISEASE (STD)

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Background and Aims: The 47.6% of new HIV diagnoses in Spain are late diagnoses. Sexually transmitted diseases are one of the indicator diseases of HIV infection, associated with an undiagnosed HIV prevalence greater than 0.1%. Therefore, HIV serology is recommended to reduce late diagnosis.

Methods: We propose a retrospective, observational and descriptive study to identify possible missed opportunities for HIV infection diagnosis in patients who visit the Emergency Department due to symptoms suggestive of STD or contact with a person diagnosed with non-HIV STD. We included consecutive patients who attended the Emergency Department of a regional hospital in the period between 1st January 2018 and 1st February 2022, including 697 patients.

Results: Of the patients included, 85.1% of them were men (593/697), with a mean age of 40.28 years. The most frequent diagnosis of STD was epididymitis/orchitis (44.2%), followed by urethritis (15.1%) and genital herpes (14.5%). Among the patients included, only 14.9% (104/697) had HIV serology requested from the Emergency Department. Of those for whom serology was not requested in the Emergency Department, only 7.7% were requested said test in the follow-up by his Primary Care Physician or Specialist physician to whom he had been referred. The symptom for which HIV serology was most frequently requested was urethritis (43.3%), followed by genital herpes (11.5%). Of the 104 HIV serologies requested, only 2 were positive, one of them had previously consulted for urethritis on two occasions.

Conclusions: It is convenient to continue training in the early diagnosis of HIV, both in Emergency services and Primary Care.

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573 - Submission No. 482

TETANUS IN INTENSIVE CARE UNIT

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Case Description: An 84-year-old man with history of arterial hypertension and a dog bite 20 days ago was admitted to the Internal Medicine Clinic because of dysarthria, dysphagia, and difficulty opening the mouth. CT scan of the brain showed no abnormal findings.

Clinical Hypothesis: From the history, the clinical and neurological examination carried out, the diagnosis of tetanus was made.

Diagnostic Pathways: Antibiotics (metronidazole) and antitetanic serum (3000 iu) were administered, however the patient's clinical picture worsened and due to respiratory failure, the patient was intubated and transferred to the Intensive Care Unit. The patient remained sedated for 9 days. Upon awakening, he did not experience muscle spasms and was gradually weaned from mechanical ventilation.

Discussion and Learning Points: The diagnosis of tetanus is made solely on the basis of history and clinical findings. Cases of *Clostridium tetani* infection are now rare, but *Clostridium tetani* infection should always be included in the differential diagnosis as it leads to life-threatening respiratory failure.

574 - Submission No. 431

IMPACT OF ANTIBIOTIC TIMING ON MORTALITY FROM GRAM-NEGATIVE BACTERAEMIA IN AN ENGLISH DISTRICT GENERAL HOSPITAL: THE IMPORTANCE OF GETTING IT RIGHT EVERY TIME

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Background and Aims: There is limited evidence that empirical antimicrobials affect patient-oriented outcomes in Gram negative bacteremia. We aimed to establish the impact of effective antibiotics at four consecutive timepoints on 30-day all-cause mortality and length of stay in hospital.

Methods: We performed a multivariable survival analysis on 789 patients with *Escherichia coli*, *Klebsiella* spp. and *Pseudomonas aeruginosa* bacteremia. Antibiotic choices at the time of the blood culture (BC), the time of medical clerking and 24 and 48 h post-BC were reviewed.

Results: Patients that received ineffective empirical antibiotics at the time of the BC had higher risk of mortality before 30 days (HR = 1.68, 95% CI = 1.19–2.38, P = 0.004). Mortality was higher if an ineffective antimicrobial was continued by the clerking doctor (HR = 2.73, 95% CI = 1.58–4.73, P < 0.001) or at 24 h from the BC (HR = 1.83, 95% CI = 1.05–3.20, P = 0.033) when compared with patients who received effective therapy throughout. Hospital onset infections, 'high inoculum' infections and elevated C-reactive protein, lactate and Charlson comorbidity index were independent predictors of mortality. Effective initial antibiotics did not statistically significantly reduce length of stay in hospital (#2.98 days, 95% CI = #6.08–0.11, P = 0.058). The primary reasons for incorrect treatment were in vitro antimicrobial resistance (48.6%), initial misdiagnosis of infection source (22.7%) and non-adherence to hospital guidelines (15.7%).

Conclusions: Consecutive prescribing decisions affect mortality from Gram negative bacteremia

575 - Submission No. 958

FEBRILE SYNDROME. BEYOND COVID IN PANDEMIC TIMES

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Case Description: 52-year-old male with no known drug allergies. Poorly controlled type 2 diabetes in treatment with gliclazide, ertugliflozin, sitagliptin/metformin, insulin glulisine. Ten-day history of fever, with no clear infectious focus, odynophagia and diarrhea. He lived in a rural area (he referred to having been in the field stepping on humid areas in the previous days). On examination, he was febrile with a slight rash on her lower limbs. Blood tests with biochemistry, blood count and coagulation highlighted C-reactive protein 250 mg/L, procalcitonin 3.16 ng/mL, sodium 125 mEq/L, leukocytes 10,530/mm^3 and platelets 39,000/uL.

Clinical Hypothesis: Feverish symptoms without a clear focus over a week of evolution, accompanied by skin lesions with analytical data of hyponatremia, severe thrombocytopenia, renal failure and elevated CRP and procalcitonin, in an adequate epidemiological context, are some of the indicators that should make us suspect a febrile syndrome of intermediate duration.

Diagnostic Pathways: Leptospirosis was proposed as the main diagnosis, so a serology for the bacterium *Leptospira interrogans* was requested for confirmation, which was positive. Finally, the patient was treated with ceftriaxone 1g/24h with an adequate clinical-analytical response.

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Discussion and Learning Points: Leptospirosis is an infectious disease caused by the bacterium *Leptospira interrogans* and it is estimated that the global incidence of its severe form is more than one million per year. Generally, this zoonosis is related to rural areas and humid climates or stagnant waters. Although this infection encompasses a wide spectrum of clinical manifestations, most cases have common characteristics that allow a differential diagnosis with other infectious causes of intermediate duration febrile syndrome.

576 - Submission No. 2248

TIME CAPSULE: A WINDOW INTO THE PRE-ANTIRETROVIRAL HIV ERA

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Case Description: A 41-year-old HIV (human immunodeficiency virus) female patient, who has refused medication for approximately 20 years, presents to the emergency room (ER) with slurred speech, depressive humor, generalized muscle weakness and sore throat, beginning 3 weeks prior to admission.
Clinical Hypothesis: Acquired immunodeficiency syndrome (AIDS).
Diagnostic Pathways: Blood lab results revealed high HIV viral load (1,169,253 copies/mL), very low CD4 count (2 cells/mm^3) and hepatitis C [positive antibodies and RNA detection (13,567,029 UI/mL)]. Head CT scan showed no lesions so magnetic resonance imaging was performed, revealing findings compatible with HIV encephalitis and cytomegalovirus infection. Full-body CT scan showed mediastinal, retroperitoneal and mesenteric adenopathies. Cerebrospinal fluid was positive for cytomegalovirus (CMV) and Epstein-Barr virus (EBV). Acid-alcohol-resistant bacilli were identified in bone marrow samples. Esophagogastroduodenoscopy showed esophageal candidiasis. Previously described findings pointed to the following diagnosis: HIV and CMV encephalitis, disseminated tuberculosis and esophageal candidiasis. The patient was started on fluconazole, ganciclovir, dexamethasone, tuberculostatic drugs and prophylactic trimethoprim/sulfamethoxazole. After two weeks of treatment, antiretroviral drugs were started. Despite all therapeutic measures, the patient showed progressive deterioration of neurological status, ultimately culminating in death.
Discussion and Learning Points: Since the dawn of efficient antiretroviral drug therapy, the truly devastating capabilities of HIV seem to have been forgotten in developed countries where access to treatment is almost assured. This clinical case perfectly pictures the pre-antiretroviral reality and highlights the importance of close following of all HIV patients, since, albeit all scientific progress, there still exists a point of no return.

577 - Submission No. 1388

COMORBIDITY AND MORTALITY IN ENTEROCOCCAL INFECTIONS: A RETROSPECTIVE DESCRIPTIVE STUDY

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Background and Aims: Enterococci can cause infections such as bacteriemia, peritonitis, endocarditis, urinary tract, wound and device-related infections, with an increasing incidence. However, enterococcal sepsis is a poorly studied entity. The aim of this study is to describe and analyze factors that affect mortality in patients admitted to University Hospital Clínico San Carlos with a main diagnosis of enterococcal sepsis.
Methods: Retrospective study conducted on patients admitted to our center with a main diagnosis of sepsis by Enteroccus between January 2016 and August 2021 in the units of Infectious Diseases, Internal Medicine, ICU and the Emergency Department.
Results: A total of 99 patients were included. The mean age was 73 years, with an associated Charlson Comorbidity Index of 6. The most frequent comorbidities were hypertension (68%), diabetes mellitus (38%), chronic kidney disease (31%), malignancies (21%), COPD (19%), heart failure (17%) and cerebrovascular diseases (16%). The predominant locations of onset were urinary tract (58%), abdominal (16%), skin (11%) and respiratory tract (11%). Among patients, 56% had positive blood cultures for *Enterococcus faecalis* and 47% for *Enterococcus faecium*. Mortality was 29.5%. Of all deaths, 64% were a direct consequence of septicemia. Positive blood cultures were statistically associated with a higher in-hospital stay, 30-days and 6-months mortality ($p<0.05$). The same association was found in those with urinary or respiratory tract infections ($p<0.03$).
Conclusions: In our study, septicemia by Enterococcus is an entity with high mortality in those patients with positive blood cultures, chronic conditions and comorbidities, especially if sepsis is due to urinary or respiratory tract infections.

578 - Submission No. 823

THE RIGHT QUESTION, THE RIGHT DIAGNOSIS

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Case Description: A 70-year-old male patient consulted in emergencies relating malaise, unintentional weight loss, asthenia and hyporexia in the last three months. He had no significant medical background. Physical examination revealed hepatosplenomegaly and blood tests evidenced pancytopenia and elevation of C reactive protein. The patient lived in the countryside with his wife and three dogs.

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Clinical Hypothesis: Hematological neoplasm vs infectious disease.

Diagnostic Pathways: We initially direct the study to exclude a neoplasm with a blood test and an abdominal ultrasound. Hepatosplenomegaly was confirmed and a peripheral blood smear showed no disturbances. However, an infectious serology revealed IgM+IgG for Leishmania antibodies and polyclonal gammopathy was found in the blood test. Reinterrogating the patient, he narrated that one of his dogs had been sick and died a few months ago but he could't tell what happened. He denied fever or other infectious symptoms. A PCR blood test for Leishmania was performed, testing positive and confirming the diagnosis of visceral leishmaniasis.

Discussion and Learning Points: Visceral leishmaniasis (Kala-azar) is usually a subclinical infection but it can manifest as a clinical picture very similar to a hematological neoplasm: fever, weight loss, anorexia, pancytopenia and malaise. The epidemiological background is crucial in this situation to think about Leishmania, since otherwise they can be indistinguishable until the pathogen is observed in the histology. Treatment is based on liposomal B amphotericin B regimen infused during several weeks. Leishmania infection has to be considered always in patients with weight loss and pancytopenia with no apparent explanation.

579 - Submission No. 2179

UNCOMFORTABLE QUESTIONS: THE KEY

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Case Description: A 40-year-old woman consulted in emergencies due to pain in the right hypochondrium with nausea and fever for 2 days. In laboratory tests CRP 250 and leukocytes 25,490 with left shift were observed. Liver profile was normal. A pregnancy test was performed, which was negative, and an abdominal ultrasound revealed hepatorenal fluid. They notified the Internal Medicine team and when we interviewed the patient, she also refers us to possible risky sexual relations, dyspareunia and leukorrhea for 3 months.

Clinical Hypothesis: -Perihepatitis due to pelvic inflammatory disease: Fitz-Hurt-Curtis syndrome as the first option. -Less likely another infectious etiology or digestive pathology.

Diagnostic Pathways: Examination revealed a positive Murphy's sign and pain on cervical motion. Endocervical and vaginal exudates were extracted, finding *Mycoplasma genitalium* and *Mycoplasma hominis*. Abdominopelvic CT with contrast was performed visualizing hepatic capsule uptake and adnexal pelvic fluid.

Discussion and Learning Points: Our patient progressed favorably with suitable antibiotic treatment. In sexually active women with pain in the right hypochondrium we should consider perihepatitis due to PID since misdiagnosis could lead to unnecessary surgical interventions.

580 - Submission No. 985

HUNTING THE DIAGNOSIS

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Case Description: A 92-year-old male consulted in emergencies due to the appearance of erythema, vesicles and crusted lesions on the right side of the face that extended to the auricle and ipsilateral EAC. He did not have fever. He reported earache and sudden hearing loss in the right ear and examination revealed the impossibility of closing the right eye as well as deviation of the ipsilateral mouth corner. In blood test CRP 30 was observed, without elevation of other parameters. A cranial CT was performed without alterations.

Clinical Hypothesis: - Peripheral facial paralysis with probable optic zoster: Ramsay Hunt syndrome as the first option. - Less likely other infectious etiology such as Lyme disease, tumor or autoimmune origin.

Diagnostic Pathways: A physical examination was performed with the described findings and a neurological examination revealed right peripheral facial paralysis. The ophthalmologists performed campimetry by confrontation and eye fundus without relevant findings. Serology showed positivity for VZV.

Discussion and Learning Points: It is crucial to detect this disease to start early treatment with corticosteroids and antivirals, since after 72 hours the chances of complete recovery are reduced by up to 50%. In addition, half of patients may develop postherpetic neuralgia.

581 - Submission No. 665

EMPIRIC ANTIMICROBIAL USE IN A COVID-19 UNIT

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Background and Aims: Establishing a diagnosis of bacterial co- or super-infection in COVID-19 patients is challenging and initial decisions are empirical. Our study aims at describing antibiotic use patterns and consumption in a covid department.

Methods: We prospectively collected demographic, clinical and laboratory data of patients treated in our unit from 1/9/2020 to 31/12/2021. Logistic regression was used to investigate associations.

Results: We include1735 patients (43% females) with a mean

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age of 62.9±17 years. Empiric antibiotic treatment (EAT) was administered to 704/1735 (40.6%). Antimicrobial choices were ceftriaxone (50.2%), piperacillin/tazobactam (38%), ceftaroline (7.5%) and cefepime (4.2%), while 11.3% received azithromycin combination therapy. Across 5 trimesters we observed changes in antibiotic consumption: ceftriaxone (50%, 65%, 44%, 44%, 25%), ceftaroline (0-3% in the first 3 trimesters, 14.8%, 25%), azithromycin (7%, 7%, 14%, 18%, 9.5%). In multivariable analysis, age (OR 1.02, 95%CI: 1.01-1.03, p=0.001), CRP (OR 1.01, 95%CI: 1-1.01, p=0.002) and trimester (OR 1.5, 95%CI: 1.14-2.06, p=0.004) would predict EAT. Age (OR 1.05), trimester (OR 1.9), neutrophil count (OR 1.16), CRP (OR 1.01), fibrinogen (OR 0.99) and Charlson score (OR 1.8) were risk factors for antipseudomonal coverage. Choosing ceftaroline over ceftriaxone was only driven by trimester (OR 2.97, 95%CI: 1.6-5.52, p=0.001).

Conclusions: Azithromycin was unaffected by its removal from guidelines. EAT was driven by age and inflammation markers. Antipseudomonal medications were selected for older patients with increased comorbidities. The increase in ceftaroline use probably reflects that it was more frequently chosen during the Delta waves due to overall greater severity of illness.

582 - Submission No. 673

THE FIRST HUMAN OCULAR INFECTION BY DIROFILARIA REPENS IN MALLORCA, SPAIN. A CASE REPORT

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Case Description: We present a 54-year-old woman who is referred to the Ophthalmology clinic in January 2021 due to two weeks evolution of unilateral palpebral oedema. She smoked and had hypertension. She had frequent contact with a cat, a parrot, sheep, horses, chickens and doves, but had not travelled for years.

Clinical Hypothesis: The initial differential diagnosis included soft tissue infection, inflammatory disease (sarcoidosis, IgG4 disease or granulomatosis with polyangiitis…) and orbital tumor.

Diagnostic Pathways: After poor response to topical antibiotic and corticosteroid treatment a orbital MRI was performed, showing an intraorbitary extraconal lesion with inflammatory changes of the upper eyelid fat. A biopsy was performed in April 2021, showing inflammatory cells. A month later, a second MRI was performed showing a cystic lesion that was biopsied demonstrating two worms in the histological sample. The Spanish National Microbiology Center identified them as *Dirofilaria repens*. The patient remained asymptomatic and was discharged without further tests or treatment.

Discussion and Learning Points: Dirofilarial infections are vector-borne parasitic diseases caused by *Dirofilaria repens* and *Dirofilaria immitis*. Usual hosts are dogs. The primary vectors are Culicidae family mosquitoes. Humans are incidental hosts through third-stage larvae, deposited on the skin during the infected mosquito bite. For *D. repens*, more than 3.500 human cases were reported in Europe until 2016. At least twelve cases of subcutaneous/ocular dirofilariasis have been reported in Spain, none of those in Mallorca. There has been a growing number of cases of human dirofilariasis probably related to an increased spectrum of mosquito vectors due to climate change.

583 - Submission No. 824

Q FEVER

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Case Description: A 69-year-old male presented to the emergency department with fever, abdominal pain in the right hypochondrium, dysuria, and polyuria with a 5-day evolution. The patient had a medical history of aortic valvulopathy with biological prosthesis and paroxysmal atrial fibrillation. No remarkable findings on physical examination.

Clinical Hypothesis: Q fever with hepatic and neurological involvement.

Diagnostic Pathways: A workup comprising blood analysis revealed an increased C reactive protein, transaminases and alkaline phosphatase. Urine analysis with slight leukocyturia and negative nitrites. Blood cultures were collected, and he was started on cefuroxime and hospitalized. In the following 48 hours, he developed an acute confusional state with psychomotor agitation and later cognitive deterioration. A CT and magnetic resonance imaging (MRI) of the brain revealed no acute findings. An unsuccessful lumbar puncture was attempted. Abdominal ultrasound showed slight-moderate hepatomegaly. Anti-*Coxiella burnetii* phase II IgG/IgM and a low titer phase I IgG were positive. The remaining serological study was negative. Endocarditis was excluded by transesophageal echocardiography (TEE).

Discussion and Learning Points: Q fever is a worldwide zoonosis caused by *Coxiella burnetii*. It is a complex and polymorphic disease that can manifest itself in the acute form, with a mild to moderate course and benign prognosis, as in the persistent or chronic form of severe or potentially fatal evolution. This entity should be considered in the differential diagnosis of patients with fever and high levels of serum transaminases, regardless of the presence of abdominal pain and exposure to potentially infected animals, proving that it is necessary to maintain a high index of suspicion.

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584 - Submission No. 840

INOTROPES ADMINISTRATION IN PATIENTS WITH ACUTE INFECTIVE ENDOCARDITIS AND INDICATION FOR URGENT CARDIAC SURGERY: A PRELIMINARY, SINGLE CENTER EXPERIENCE

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Background and Aims: Heart failure (HF) is the most common complication of infective endocarditis (IE) and represents an indication for urgent/emergent cardiac surgery (UECS). IE patients with HF are often deemed unfit for UECS. A short-term support with inotropes could be an option. We reviewed our center experience with inotropes administration in IE with HF.

Methods: Between 2017 and 2021, 14 patients with acute IE and HF, who had an indication for UECS, received inotrope infusion. We analyzed baseline clinical conditions, laboratory results, vital parameters, echocardiography, inotrope administration and outcomes.

Results: Median age was 63 years [IQR 49–74] with median Charlson Comorbidity Index of 5 [3–7]. Most patients showed involvement of biological aortic prostheses (6; 42.8%). Most common causative pathogen was *Staphylococcus aureus* (6; 42.8%). 8 patients (57.1%) received enoximone, 5 (35.8%) levosimendan and 1 (7.1%) dobutamine, at median dosages of 4, 0.1 and 2 mcg/kg/min, respectively. Treatment stabilized or improved renal function, lactate levels, respiratory function, fluid status and functional class. Surgery was performed in 13 (92.9%). In-hospital mortality was 42.9%. Death was related to post-surgical complications in 6 of the 9 deceased cases, whereas only 1 patient died before surgery and during inotrope administration.

Conclusions: This is the first report of inotrope infusion outside the intensive care setting in patients with acute IE and an indication for UECS. Inotrope administration was well tolerated. Tachyarrhythmias were infrequent. Further studies are warranted to assess clinical efficacy and safety of inotropes in acute IE as a bridge to UECS.

585 - Submission No. 1454

INFECTIVE ENDOCARDITIS INVOLVING MITRACLIP© DEVICES: A SYSTEMATIC LITERATURE REVIEW

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Background and Aims: Progress of interventional cardiology has boosted the development of newer cardiac devices. These devices are perceived to be less prone to infections compared to traditional surgical prostheses, but little data are currently available. We reviewed current literature regarding the clinical characteristics, management, and outcomes of patients with MitraClip related infective endocarditis (IE).

Methods: We conducted a systematic review of PubMed, Google Scholar, Embase and Scopus between January 2003 and March 2022. Two authors (LB and MSR) independently reviewed identified studies, and those not complying with the study inclusion criteria were excluded. Data regarding clinical presentation, echocardiography, management, and outcome were collected.

Results: 25 cases of MitraClip-related IE were retrieved. The median age of patients was 76 [61–83] years with a median Euroscore of 41%. Fever was present in 60% of patients followed by signs and symptoms of heart failure (53.8%). IE occurred early in 19 (73%) cases with a median time between MitraClip implantation and IE symptom onset of 5 [2 – 19] months. *Staphylococcus aureus* was the major causative microorganism (42%). Surgical mitral valve replacement was needed in 52% of patients. A conservative medical approach was considered in the remainder. The overall in hospital mortality rate was 44% (surgical group: 38.4%; medical group: 54.5%; p=0.682)

Conclusions: Our results suggest that MitraClip related IE affects elderly, comorbid patients, is mostly due to *Staphylococcus aureus*, and despite the therapeutic approach chosen has often a poor prognosis. Clinicians must be aware of the frail baseline clinical conditions of affected patients.

586 - Submission No. 1688

PRIMUM NON NOCERE

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Case Description: A patient with Herpes Simplex II virus primary infection stands out. This was a 54-year-old woman with no relevant medical history, hospitalized for constitutional symptoms within the past 3 weeks. It started with a left inguinal adenopathy

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and maculopapular rash on the trunk and limbs, as well as myalgias and arthralgias. She attended the Emergency Department at the beginning of the symptomatology and was medicated with prednisolone 20 mg daily. Despite presenting resolution of the rash, other symptoms got worse, so she returned to the hospital. At this time, she also had dysuria, vaginal burning, leukorrhea and ulcerated and vesicular lesions in vulva.

Clinical Hypothesis: This case should alert to the possibility that the clinic was so exuberant due to the high-dose corticosteroid therapy initially instituted, and could be an example of iatrogenics.

Diagnostic Pathways: She was admitted in the nursery hospital with exuberant Systemic Inflammatory Response Syndrome and acute liver injury, with a pattern of predominantly cholestatic. Corticosteroid therapy was suspended and an exhaustive study of the patient's condition was carried out (searching for infectious and immunological causes), with immunoglobulin M serology and polymerase chain reaction for Herpes Simplex II positive, in a patient with no previous history. Treatment with intravenous acyclovir was started, with significant improvement after 5 days.

Discussion and Learning Points: Medicine is a challenging art, which requires maximum dedication and critical thinking about each patient and clinical situation we face. Often, the desire to help can lead to impulsive decisions. Each medical or attitude prescribed has adverse effects that should always be taken into account.

587 - Submission No. 1552

RARE ASSOCIATION BETWEEN TETANUS AND TUBERCULOSIS-CASE REPORT

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Case Description: Due to vaccination, generalized tetanus is rare nowadays, but with high mortality. The most common symptoms of infection with *Clostridium tetani* spores are stiffness in the jaw, abdominal muscles and lower limbs. We present the case of a 49-year-old female patient who presented in the emergency room with stiffness in the jaw muscle, neck area, and lumbar area followed by pain.

Clinical Hypothesis: During anamnesis, the patient recorded she had a puncture wound with a rusty nail 3 weeks prior to the presentation and is admitted to the internal medicine clinic. Serum investigations showed a rhabdomyolysis syndrome with CK over-detection rate and a high suspicion of pulmonary tuberculosis at the CT scan.

Diagnostic Pathways: An IgG antibody test for tetanus antitoxin comes positive so the patient is given human tetanus immunoglobulin and anti-tetanus serum in the intensive care unit. Under sedation and muscle relaxants, the patient presents a good evolution, but is transferred to pulmonology department, under ventilatory support, where tuberculosis is confirmed and anti-TB therapy in initiated. Under sedation and muscle relaxants, the opisthotonos, risus sardonicus and rhabdomyolysis syndrome is remitted, but drug-induced hepatitis because of the anti-TB drugs, with high transaminase values occurs. The evolution is favorable after changing the tuberculosis therapy, thereby the patient is extubated and transferred from intensive care to the pulmonology unit.

Discussion and Learning Points: The particularity of the case is the rarity of association tetanus-tuberculosis, in a middle age adult, the rapid progression with various complications of both diseases followed by a severe condition, but with a favorable evolution in the end.

588 - Submission No. 468

WHAT'S NEW ALSO WORKS: ULCERS AND VACUUM-ASSISTED CLOSURE THERAPY

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Case Description: A 72-year-old diabetic and hypertensive woman. Surgery for adenocarcinoma of the ascending colon by right hemicolectomy with ileocolic anastomosis. After surgery, a dark colored area appears, pasted in the sacral region. Upon discharge, he went to his Health Center for cures, but the evolution was torpid despite having started treatment with ciprofloxacin and amoxicillin/clavulanate after isolating multisensitive *Escherichia coli* in the culture. In the following days, he began with a fever and was admitted to our Unit.

Clinical Hypothesis: According to the clinic described, the diagnosis of grade IV ulcer is established.

Diagnostic Pathways: *Escherichia Coli*, *Streptococcus viridans* group and *Prevotella bivia* are isolated in the extracted culture. Antibiotic therapy with piperacillin/tazobactam was started in addition to surgical debridement. Once the infection is controlled, VAC therapy is started with excellent clinical tolerance at intermittent pressures of 120 mmHg (10 minutes) to 80 mmHg (5 minutes). With a favorable clinical evolution, he was discharged from the hospital. In subsequent reviews, closure by second intention was objectified.

Discussion and Learning Points: Vacuum assisted closure therapy is a non-invasive system used in the treatment of open wounds by applying subatmospheric pressure to the wound surface. Provides a closed, moist environment while removing excess

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fluids that can inhibit wound healing, stimulates angiogenesis and granulation tissue. It is therefore possible to accelerate the healing of the wound. As advantages over traditional treatment: simplification of wound care, accelerated wound healing and reduces the complexity of subsequent reconstructive procedures. As a drawback, the cost.

589 - Submission No. 529

RARE CASE OF EPSTEIN-BARR VIRUS INDUCED COLITIS AS PRESENTATION OF A PRESUMED INFLAMMATORY BOWEL DISEASE: A CASE REPORT

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Case Description: 72-year-old woman, ECOG 3, without diagnosed inflammatory bowel disease (IBD), hospitalized for COVID-19 and short course of corticosteroid therapy completed. On the fifth day of hospitalization, patient began to experience abdominal distention, pain, and diarrhea with mucus. An abdominal radiograph showed air-fluid levels and following sigmoidoscopy revealed multiple ulcers scattered throughout the sigmoid colon, suggestive of infectious colitis. After 21 days of antiviral, covering Herpes Simplex virus (HSV) and Cytomegalovirus (CMV), there was no clinical improvement, hence another colonoscopy was performed and the anatomopathological study revealed proctocolitis with intense activity and morphological criteria of chronicity. PCR negative for HSV and CMV, but positive for Epstein-Barr virus (EBV).

Clinical Hypothesis: The hypothesis of EBV colitis was considered and supportive therapy started.

Diagnostic Pathways: An EBV infection was detected in the biopsy of colon by in situ hybridization for EBV-encoded small RNAs (EBER). Laboratory studies showed fecal calproctectin 1839 µg/g and another colonoscopy demonstrated multisegmental colonic involvement. That way, an EBV colitis as presentation of IBD was presumed, thus mesalazine was started and showed benefits. The study of eventual IBD didn't proceed because the patient died as result of urosepsis.

Discussion and Learning Points: There are few reported cases of EBV colitis in immunocompetent patients without previous IBD. This case highlights the importance of considering this diagnostic hypothesis as it may be the first presentation of IBD, allowing a timely and accurate diagnostic, adequate symptom control and treatment.

590 - Submission No. 2033

PULMONARY NOCARDIOSIS IN AN IMMUNOCOMPROMISED PATIENT WITH PERSISTING COVID-19

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Case Description: A 78-year-old male patient with a history of CVID, asthma, pulmonary Langerhans-cell histiocytosis and acute myeloid leukemia in 2011 had experienced an ARDS due to COVID-19 pneumonia 4 months ago with subsequent cryptogenic organizing pneumonia for which he had been treated with at least 20mg of Prednisone for several weeks. On admission he had experienced increasing productive cough, subfebrile temperatures, chills and night sweats for 3 days and reported loss of nearly 10% of body weight during the last 10 months. Pulmonary auscultation revealed crackles; the patient was eupneic but needed 3 L/min of additional oxygen. SARS-CoV-2-RT-PCR was positive. A CT scan showed 4 new round consolidations in both lungs.

Clinical Hypothesis: Opportunistic infection in an immunocompromised patient with either moulds, *Actinomyces* spp. or *Nocardia* spp.

Diagnostic Pathways: 3 sputum cultures only yielded *Candida albicans*. Selective culture revealed *Nocardia cyriacigeorgica* 8 days later, whereas no moulds or Actinomycetes were detected. A sequential SARS-CoV-2-RT-PCR showed a lower value than the tests before, indicating persisting COVID-19 infection.

Discussion and Learning Points: While treating immunocompromised patients think of and search for uncommon opportunistic infections. Be aware that high-dose corticosteroids particularly predispose to infections with moulds, *Nocardia* spp. and *Actinomyces* spp. This case shows a special combination of two problems: Firstly, persisting COVID-19 infection despite treatment with ritonavir-boosted nirmatrelvir in an immunocompromised patient; secondly, pulmonary nocardiosis as the cause of slow clinical deterioration with constitutional symptoms. Detection of Nocardiosis requires a high level of suspicion and ordering of selective cultures.

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591 - Submission No. 43

RETROSPECTIVE DESCRIPTIVE STUDY ON THE PREVALENCE OF PULMONARY INFECTIOUS PATHOLOGY IN HUMAN IMMUNODEFICIENCY VIRUS INFECTION IN A SECOND-LEVEL HOSPITAL

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Background and Aims: Our aim was to identify the prevalence of infectious lung diseases, including COVID-19 in HIV-infected patients in a second-level hospital.
Methods: Retrospective observational study of patients diagnosed with HIV at the Reina Sofía Hospital in Tudela between 1985 and 2020 who presented with pulmonary pathology. Data were collected on sex, age, mechanism of transmission and CD4 levels at diagnosis. At diagnosis they were grouped into three categories: infectious, neoplastic and miscellaneous.
Results: A total of 121 patients were analyzed. The mean age at diagnosis was 35.16 years, 66.7% were male and 33.3% female. Transmission mechanisms were: heterosexual intercourse 47.5%, injecting drug users 34%, MSM 18.5% and vertical transmission 2%. The median CD4 lymphocyte count at diagnosis was 380/µl. Infectious diseases accounted for 83.5% of cases. 5.8% were neoplastic in nature and 10.7% were miscellaneous.
Conclusions: HIV infection predominates in males. It is characterized by a wide variety of lung diseases, predominantly infectious. *P. jirovecii* pneumonia, community-acquired pneumonia and mycobacterial pneumonia are the most prevalent lung diseases. COVID-19 disease is mild in a small number of patients.

592 - Submission No. 63

SYPHILITIC ROSEOLA WITH OPHTHALMOLOGICAL AFFECTION IN THE FORM OF BILATERAL ACUTE ANTERIOR UVEITIS

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Case Description: A 32-year-old man came to the emergency department with migratory arthralgias for the last three weeks and ocular symptoms for the last four days. He reported a generalized erythematous papular rash on the palms just after the onset of joint pain. Regarding the cutaneous picture,4 days ago she developed a rash consisting of papules and pustules, generalized on palms and soles. In addition, at the same time he started with ocular discomfort and conjunctival injection. No urethral exudation. No oral or genital aphthous ulcers. No thermometric fever. He had sexual intercourse without using barrier methods with the same woman sporadically, the last one a month ago. No MSM. No recent trips or trips to rural areas. Physical examination showed good general condition with generalized papules with some pustules affecting the face, trunk and the 4 extremities. Ocular examination showed mixed injection in both eyes.
Clinical Hypothesis: In our differential diagnosis we considered reactive arthritis in the context of Reiter's syndrome, secondary syphilis and arthritis associated with inflammatory bowel disease.
Diagnostic Pathways: A microbiological study for sexually transmitted infections was performed and the serology was positive for syphilis. CSF study was negative. Other serologies, including HIV, were negative. Finally, the patient was diagnosed with secondary syphilis with ophthalmologic involvement in the form of bilateral acute anterior uveitis.
Discussion and Learning Points: It is important to highlight the importance and low frequency of ocular involvement as an extracutaneous manifestation of syphilis. The cases reported in dermatological publications of ocular syphilis are scarce; this may be related to the low frequency or to underreporting. In patients with skin lesions and ocular involvement, syphilis should be considered. Early treatment is important to reduce morbidity.

593 - Submission No. 559

BEHAVIOURAL DISORDER, OUTSIDE THE PSYCHIATRIC FIELD

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Case Description: 51-year-old male, with a history of retinitis pigmentosa and personality disorder; on treatment with alprazolam and quetiapine. 72 hours of psychotic symptoms with visual hallucinations. Physical examination agitated, disoriented, without alteration of cranial nerves, absent meningeal signs, strength and sensitivity preserved, normal reflexes; reality judgement retained. Blood tests with biochemistry, blood count and coagulation within the normal range and chest X-ray, cranial-CT and cranial-RMI normal.
Clinical Hypothesis: The absence of hydroelectrolytic, gasometric, hormonal, vitamin and glycemic alterations rule out endocrine-metabolopathy. The patient denies drug use or previous trauma. Imaging tests after 48 hours ruled out an ischemic, hemorrhagic or neoplastic process. Due to negative autoimmunity, we rule out autoimmune encephalopathy.
Diagnostic Pathways: Given the persistence of the symptoms, a lumbar puncture was performed, with evidence of infection by neurosyphilis based on positive treponemal and reaginic antibodies in cerebrospinal fluid. Subsequently, treatment with penicillin G sodium 24 mU every day was started. After completing 14-day regimen, hallucinogenic symptoms resolved completely.
Discussion and Learning Points: Neurosyphilis is a term used to

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describe involvement of the central nervous system, which can occur at any stage, including the early stage. Treatment of choice remains penicillin G sodium at a dose of 24 million units for 14 days. After the antibiotic era, the prevalence of syphilis decreased, however, in the last decade it has increased due to its association with other sexually transmitted diseases, especially HIV. In the case of any suspicion of organicity in a psychiatric condition, the detection of these infectious entities should not be forgotten, as early treatment can improve the prognosis of the disease.

594 - Submission No. 698

PERSISTENT FEVER OF UNKNOWN ORIGIN. AN UNUSUAL FINDING

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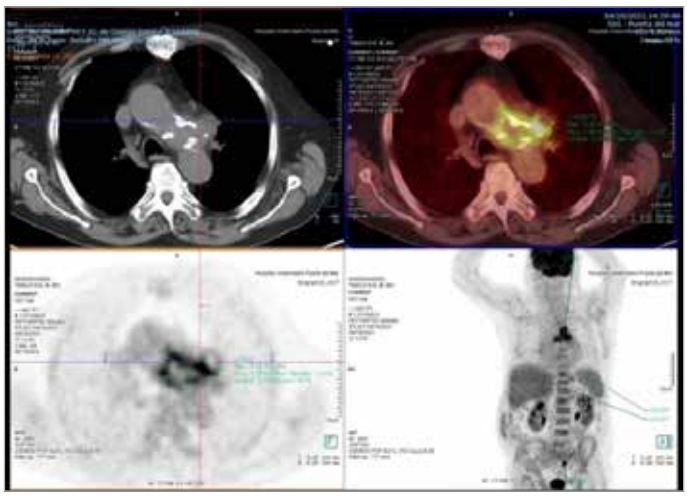
Case Description: 86-years-old male, history of arterial hypertension, dyslipidemia, severe aortic stenosis operated. Clinical manifestations of fever and shivering associated with temporal headache and central thoracic pain of months of development. Analytical tests, notably elevated C-Reactive Protein and leukocytes.

Clinical Hypothesis: In case of fever of unknown origin, the differential diagnosis was established mainly with infections, neoplastic causes and autoimmune disorders, like giant cell arteritis. Imaging tests included transthoracic echocardiography with no evidence of endocarditis, doppler ultrasound of the temporal arteries and angio-MRI of the supra-aortic trunks with no significant findings, ruled out an ischemic, hemorrhagic or neoplastic process.

Diagnostic Pathways: At peak fever, blood cultures were taken and cephalosporin-sensitive *Salmonella enteritidis* was isolated. Subsequently, a PET-CT scan was performed which showed the presence of a 2 cm hyperdense, hypermetabolic image in the anterior region of the aortic arch suggestive of aortitis with mycotic aneurysm (Figure 1).

Discussion and Learning Points: Endovascular infection is a rare but serious complication of non-typhoidal Salmonella bacteremia. Most patients have previous atherosclerosis of the involved vessel and the main risk factors are advanced age, diabetes mellitus and immunosuppression. Characteristic clinical manifestations are fever with back or abdominal pain. Abdominal aorta (particularly infrarenal aorta) is the most frequent site of infection, with the thoracic site being less frequent, as in the case of our patient. Treatment consists of antibiotic therapy combined with surgical debridement of infected tissue and vascular reconstruction. In our case, given the high surgical risk, we opted for conservative treatment of parenteral antibiotic completing six weeks of total treatment. with good clinical and analytical evolution.



594 Figure 1.

595 - Submission No. 548

CONSTITUTIONAL SYNDROME AND FEVER IN A PATIENT WITH DIABETES MELLITUS

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Case Description: 75-year-old came for dark stools and upper gastrointestinal bleeding was discarded by endoscopy. After 15 days he returned due to deterioration of general condition, fever, liquid stools without pathological products and loss of 4 kg. Personal history: arterial-hypertension, hypertriglyceridemia, hepatic-steatosis, exocrine pancreatic insufficiency after pancreatectomy and cholecystectomy for acute necro hemorrhagic pancreatitis 10 years ago. Physical examination: pain in the left hypochondrium without peritoneal irritation. Laboratory tests: leukocytosis without neutrophilia, iron deficiency anemia, thrombopenia, elevation of acute-phase reactants, and HbA1c 9%. We started empirical antibiotic therapy with piperacillin/tazobactam and hydration. On thoracic-abdominal CT-scan the spleen was enlarged with respect to the previous study with hypodense collections communicating through the dorsal surface with subcapsular splenic collections, hypercapillary walls and hydro-aerial content that continued caudally until communicate with collections from the perirenal fascia and the surgical bed of pancreatectomy.

Clinical Hypothesis: The results were consistent with splenic abscesses.

Diagnostic Pathways: We discarded endocarditis by transthoracic echocardiogram. The collections were drained by interventional radiology, with isolation in the culture of actinomyces and *Campylobacter gracillis*, both sensitive to ampicillin, were switched to it for 6 weeks with good evolution.

Discussion and Learning Points: Splenic abscess are rare. It's more prevalent in men. Their manifestations are fever, constitutional symptoms and left hypochondrium pain. They are due to septic

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embolisms from endocarditis, contiguous infection, superinfected pancreatitis, previous abdominal surgery or secondary to splenic trauma. This is more frequent in immunosuppressed patients. In our case the immunosuppressive factor would be uncontrolled diabetes mellitus due to exocrine pancreatic insufficiency. Interventional radiology drainage is important for diagnosis and early targeted antibiotic therapy, that reduces the high mortality rate of this entity. In severe cases with poor evolution and multiple abscesses, splenectomy may be considered. In our patient, percutaneous drainage and antibiotics were considered due to the good accessibility of the abscesses.

596 - Submission No. 1328

SKIN LESION AFTER ANTIRETROVIRAL THERAPY (ART) IN HIV PATIENT

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Case Description: 49-years-old man, alcoholic and HIV since 2009 treated with (emtricitabine/tenofovir) + (lopinavir/ritonavir) with bad compliance, not vaccinated for tuberculosis (TB). In 2019, before restarting antiretroviral therapy, without mutations, HLA B57:01 negative, HIV viral load <40 copies, CD4 477 cells/ul, CD4/CD8 039, Mantoux negative. Lost to follow-up due to COVID-19. In May 2021, HIV C3 stage, HBV, HCV, lues negative. Treatment was started with (bictegravir/emtricitabine/tenofovir) and sulfamethoxazole/trimethoprim. 15 days later, he came for reddened-painful lesion in the right gastrocnemius muscle, fever, nodular lesion in the sclera of the left eye with conjunctival injection, and laterocervical lymphadenopathy. Chest imaging: miliary pattern. In laboratory tests: pancytopenia, polyclonal hypergammaglobulinemia, CD4 112 cells/ul, CD4/CD8 0.19, blood, stool and sputum cultures and serology for HAV, HBV, HCV, EBV, CMV, toxoplasma were negative.

Clinical Hypothesis: Given the increase in CD4 after ART, immune-reconstitution-inflammatory-syndrome (IRIS) with TBC was suspected; miliary pattern, Bazin erythema and nodular episcleritis. Rifampicin/pyrazinamide/isoniazid was started, and HIV antiviral was maintained with good response.

Diagnostic Pathways: Skin lesion biopsy: granulomas with necrotizing center and scarce lymphocytic rim.

Discussion and Learning Points: IRIS is the worsening of infectious processes undiagnosed before ART; the probability and severity correlate with CD4 T-cell, viral suppression and immune recovery after treatment. More than 90% of the viral load is reduced 1-2 weeks after ART, persists 8-12 weeks and stabilizes, being faster with integrase inhibitors. Diagnostic criteria: worsening of pre-existing infection recognized or not associated with: AIDS, CD4 <100 before treatment (exception TB CD4>200), positive response to ART, compatible clinical, temporary association, drug resistance absence, bacterial superinfection, adverse drug reactions, non-compliance or reduced levels due to interactions. It´s difficult to distinguish from abacavir hypersensitivity, rare in HLAB57:01-negative patients, 13% incidence in patients who respond to ART. It´s developed in 1 week-month, related to type and location of the opportunistic infection, fever in 3⁄4 of the patients related to mycobacteria and cryptococci (infrequent in CMV). It´s recommended to continue with ART, treat opportunistic infections and corticosteroids if it´s severe.

597 - Submission No. 1443

INTERSTITIAL PULMONARY INVOLVEMENT WITH A TORPID COURSE

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Case Description: A 65-year-old ex-smoker woman with hypertension, dyslipidemia, consulted for dyspnea on minimal efforts in the last 15 days, dry cough, 90% ambient O_2 saturation and crackles in both lung fields, blood tests: proBNP 780, IgE 283, pneumoallergens, atypical pneumonia serology, HBV, HCV, HIV, ANA and ANCA negatives. Chest X-ray: bilateral interstitial infiltrate. CAT-SCAN: reactive paratracheal and subcarinal adenopathies, peribronchovascular thickening, peripheral condensations, bronchiectasis and symmetrical basal ground glass. In bronchoscopy BAL: cytology negative for tumor-cells inflammatory cell smear; polymorphonuclear leukocytes predominance (65%), 50% eosinophils, 75.3% macrophages, 75% CD3, 31% CD4, 44% CD8, CD4/CD8 0.71. No microorganisms. In right basal pyramid biopsy: lesions compatible with interstitial pneumonia with some eosinophils. QuantiFERON-TB in blood and stool cultures negatives for parasitosis. In spirometry: moderate restriction and severe decrease in diffusion. No pulmonary hypertension. Methylprednisolone 1 mg/kg/day was started with good but slow evolution. 10 days later she started with respiratory distress that required noninvasive mechanical-ventilation with clinical and radiological improvement.

Clinical Hypothesis: Given the symptoms of more than 2 weeks, eosinophilia in BAL >40%, radiological findings and exclusion of other causes of eosinophilia, eosinophilic pneumonia was diagnosed. But opportunistic germ superinfection was suspected because of quick worsening.

Diagnostic Pathways: The patient was intubated for further study. Thoracic CT scan, blood tests and bacteriological sampling by bronchoscopy confirmed CMV pneumonic infection (ground glass on CT and CMV viral load of 57,000 copies). Ganciclovir was started with good evolution.

Discussion and Learning Points: The eosinophilic pneumonia usually has good response to corticosteroids; our case presented a progressive deterioration with respiratory distress. Cytomegalovirus (CMV) infection produces a latent infection after

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the asymptomatic primary infection, which can be reactivated in immunosuppression, iatrogenic for corticosteroids, as in our case, or AIDS. The diagnosis is based on symptoms, radiographic findings and cytomegalovirus detection. Treatment is with ganciclovir, valganciclovir, foscarnet or cidofovir. The dose and duration are not established, but 15 days are recommended (in immunosuppressed-patients up to negative viral-load).

598 - Submission No. 1699

CHRONIC CAVITATED PULMONARY ASPERGILLOSIS IN A PATIENT WITH COMMUNITY-ACQUIRED PNEUMONIA: DIFFERENTIAL DIAGNOSIS RELEVANCE

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Case Description: A 62-year-old female with a history of pulmonary tuberculosis at age 44, restrictive pulmonary disease due to kyphoscoliosis, bronchiectasis and recurrent respiratory infections, admitted with a 7-day history of dyspnea and productive cough. She reported asthenia and weight loss (8 kg) over the past 3 months. Physical examination showed cachexia and chronic type 2 respiratory failure under LTOT at 1 L/min. Laboratory evaluation revealed C reactive protein of 19 mg/dL and a negative RT-PCT SARS-CoV-2 test. Thoracic CT demonstrated bronchiectasis, centrilobular pulmonary emphysema, bilateral consolidations and two major cavities, one on the inferior lobe of right lung and the other on the superior lobe of the left lung, the later with 5 cm, both filled with polylobulated content, suggestive of mycetoma.
Clinical Hypothesis: Chronic cavitated pulmonary aspergillosis superimposed on a community-acquired pneumonia.
Diagnostic Pathways: Blood tests identified negative galactomannan antigen and IgG *Aspergillus fumigatus* >100 mg/L. Bronchoalveolar lavage isolated piperacillin/tazobactam sensitive *Enterobacter aerogenes* and galactomannan antigen 5.1 UA. The patient was treated with piperacillin/tazobactam and voriconazole. During hospitalization, she presented non-massive hemoptysis. 30 days later she would die due to severe COVID-19.
Discussion and Learning Points: Chronic cavitated aspergillosis is a rare indolent disease. Its diagnosis requires the presence of at least 1 typical symptom for at least 3 months (fever, productive cough, weight of loss, fatigue, hemoptysis), 1 or more lung cavities with or without aspergilloma and a positive IgG Aspergillus with or without cultural Aspergillus isolation. Besides gathering every diagnostic criterion, our patient had structural lung disease.

599 - Submission No. 868

HEPATITIS E INFECTION IN AN SPANISH HEALTH CARE AREA: ARE WE MISSING OUT?

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Background and Aims: Hepatitis E virus (HEV) is one of the leading causes of acute hepatitis globally. It leads even bigger impact on vulnerable population: immunocompromised patients, pregnant women and patients with liver diseases. Since It's not a notifiable disease, it's possible its incidence and clinical impact are not clearly known. Our aim is to check the requests for HEV serology, and the characteristics of people diagnosed in a health area in Castile and Leon.
Methods: Retrospective descriptive study. Requests for HEV serology and viral load were checked for 5 years (March 2017 - March 2022) in a health area of Valladolid. We considered a case when IgM ELISA was positive. Data of positive patients was obtained through the digitized clinical history.
Results: Rio Hortega Hospital treats a population of 261,000 patients. 243 HEV tests were requested in acute hepatitis context, 8 (3.29%) were positive, resulting in an incidence of 0.61 cases/year/100.000. 100% were male with an average age of 67.75 (median 68). Most frequent symptoms were jaundice (100%), followed by fever and general syndrome (62.5). 75% were admitted to the hospital. In 62.5% symptoms were self-limited whereas a patient needed to be transplanted. 25 % died at the acute episode.
Conclusions: According to HEV bibliography, It's one of the main causes of HEV globally. However, the results in our area are not very striking. It may be necessary to increase suspicion's degree when having acute hepatitis.

600 - Submission No. 729

SALMONELLA BACTEREMIA WITH RIGHT-SIDED EMPYEMA IN AN IMMUNOCOMPROMISED HOST: A CASE OF UNCOMMON FUNGAL EMPYEMA

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Case Description: A 74-year-old Chinese gentleman with diabetes mellitus and liver cirrhosis was admitted for an acute history of shortness of breath and generalized abdominal discomfort. The patient was diagnosed with Salmonella bacteremia, and further evaluation revealed underlying right-sided empyema and ascites. He was treated with intravenous antibiotics and underwent image-guided chest drain insertion with subsequent fibrinolysis. Unfortunately, the patient's progress was complicated with

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right-sided hemothorax requiring emergent lung repairment, nosocomial infections, and multiorgan failure, and he eventually needed intensive care management. The patient did not recover well, and in the end, the decision for the best supportive care was established. The patient subsequently passed away after day 30 of his admission.

Clinical Hypothesis: Salmonellae are anaerobic gram-negative bacilli commonly introduced into the body through the gastrointestinal tract, potentially causing many possible systemic and focal manifestations. This case focuses on learning the treatment journey of an elderly immunocompromised gentleman with multiple comorbidities who was diagnosed with Salmonella bacteremia with right lung empyema in a tertiary hospital.

Diagnostic Pathways: Blood culture drawn from patient on initial presentation diagnosed Salmonella bacteremia. Subsequent computerized tomography scan revealed underlying right-sided lung empyema and patient subsequently underwent insertion of chest drain with pleural fluid sent for further laboratory testing.

Discussion and Learning Points: Being an elderly immunocompromised host, this patient is relatively predisposed to the entire spectrum of systemic infective manifestations of Salmonella infection. Therefore, a high index of clinical suspicion should be maintained to evaluate similar cases and complications carefully to enable timely intervention and optimal clinical outcomes.

601 - Submission No. 1280

THE SIGNIFICANCE OF THE OXYGEN REQUIREMENTS ON ADMISSION OF PATIENTS WITH COVID-19

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Background and Aims: Hypoxia is one of the major causes of multiple organ complications and increased mortality in patients with COVID-19 disease. Recognizing risk factors associated with increased oxygen requirements could improve patient management.

Methods: We studied patients who were admitted to the General Hospital of Ioannina with SARS-CoV-2 infection from January to June this year. They were divided into two groups, low and high oxygen need on admission, defining as low<34% and high>34% O_2 requirement.

Results: Our study included 247 patients. 30 (12.1%) had a high oxygen requirement on admission compared to 217 (87.9 %) with low. Age was a significant factor for higher oxygen need, 83 vs 76 years old respectively, p= 0.007. The duration of symptoms prior to admission was higher for patients with increased oxygen need, 5 vs 2, p=0.017. Unvaccinated patients had elevated oxygen requirement 46.7% vs 27.8%, p=0.05. No statistically significant differences were detected in comorbidities and days of hospitalization. There was a significant increase in the intubation rate 23.3% vs 1.9%, mortality 16.2% vs 11.5 and transfer to other units for recovery 51.7% vs 20.3% p<0.001. Finally, acute kidney injury developed more in the high oxygen group 55.2% vs 24.6%, p=0.001.

Conclusions: Among hospitalized patients with COVID-19 age, duration of symptoms and vaccination status seem to affect the oxygen needs. Also, patients with higher requirements possibly have increased intubation and mortality risk and more frequent transfer to other units. Patient education on vaccination and to early seek medical attention could improve outcome.

602 - Submission No. 1233

MORTALITY RISK FACTORS AMONG COVID-19 HOSPITALIZED ADULT PATIENTS: DATA FROM A GENERAL HOSPITAL IN GREECE

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Background and Aims: There have been an alarming number of fatalities worldwide as a result of the COVID-19 pandemic. Identifying patient characteristics and risk factors associated with increased mortality risk is essential in the effective management of patients. We present mortality associated data from COVID-19 hospitalized adult patients from a general hospital in Greece.

Methods: A total of 250 adult patients who were admitted to the hospital with confirmed SARS-CoV-2 infection by polymerase chain reaction testing of nasopharyngeal samples were evaluated. Patients were divided in 2 groups: Group 1 those that survived and were discharged and Group 2 those that died during their hospitalization.

Results: There was no significant difference in gender, race or vaccination status between groups. Deceased patients were older (82 vs 75 years; p<0.001) and had high oxygen requirements at admission (43.2% vs 6.8%; p<0.001). In Group 2 there was a greater prevalence of cardiac disease history (59.5% vs 33.6%; p=0.003) and a trend for greater prevalence of hypertension as well chronic kidney disease. During their hospitalization group 2 patients more often exhibited acute kidney injury (54.3% vs 24.2%; p<0.001) and required intubation (2.4% vs 18.4%; p=0.001). Moreover, they had higher levels of serum creatine (1.42 vs 1.04 mg/dL; p<0.001) and bilirubin (0.67 vs 0.60; p=0.038) at admission as well as developed more often thrombocytopenia (52.8% vs 23.6%; p=0.001).

Conclusions: Among adult patients hospitalized for COVID-19

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greater age, greater oxygen requirements, serum creatinine and bilirubin at admission as well as the development of acute kidney injury or thrombocytopenia were associated with higher mortality risk.

603 - Submission No. 797

BEYOND THE SURFACE

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Case Description: A 43-year-old female patient consulted in emergencies relating pain, tenderness and redness in her left thigh in the previous three days. The patient was obese, with no other medical background. Physical examination revealed a red, swollen, big plaque of cellulitis in her left thigh with violaceous bullae associated. She was hypotensive (70/40 mmHg) and emergency blood test showed elevated C reactive protein and procalcitonin.

Clinical Hypothesis: Skin and soft tissue infection: cellulitis vs necrotizing fasciitis.

Diagnostic Pathways: The fast progression of the disease, violaceous bullae, difficulty in controlling pain and hypotension suggested the possibility of necrotizing fasciitis. We calculated the LRINEC Score, which showed a high possibility of this entity (7). Then, a CT scan of the leg confirmed necrotizing fasciitis with air bubbles associated. Broad spectrum antibiotics (piperacillin-tazobactam + clindamycin) were started at the moment the disease was suspected. Afterwards, we contacted with Traumatology and emergent surgery was performed. Intraoperative cultures revealed different microorganisms (*E. faecalis*, *S. pyogenes*, *Peptostreptococcus anaerobius*).

Discussion and Learning Points: Necrotizing fasciitis is a rare infectious disease with a fast progression leading to a situation of sepsis or septic shock, so mortality is very high. This infection can be caused by different germs (group B Streptoccocus, *S. aureus*, Clostridium) on their own or by several of them. These microorganisms invade subcutaneous tissue, releasing endotoxins and exotoxins and causing rapid necrosis. Since it could have a deadly evolution, it is very important to recognize it and to perform an emergent surgery to resect necrotized tissues and control the source of the infection.

604 - Submission No. 991

THE UTILITY OF BLOOD CULTURES IN NON-FEBRILE PATIENTS WITH SUSPECTED INFECTION IN INTERNAL MEDICINE DEPARTMENT

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Background and Aims: The injudicious use of the blood cultures (BC) has low-cost effectiveness and leads unnecessary follow-up tests in a case of false positive results. We hypothesized that despite the well-established criteria for BC test, high proportion of the tests are done inappropriately resulting in a lower clinical yield. We specifically focused on the consequences of BC obtained in afebrile patients.

Methods: We assessed 73,787 blood cultures taken in the years 2014-2020 in internal medicine departments of 1200 beds tertiary teaching hospital. We defined blood cultures as taken appropriately if temperature was 38.3°C or more and no antibiotics were given. Primary outcome was clinically significant bacteremia.

Results: Out of 73,787 BC, 25,616 were taken appropriately (34.7%) with a clinically significant bacteremia found in 6.15% vs. 5.15% in cultures obtained not by the rules. In a multivariable model, appropriateness adjusted for the variety of the clinical and laboratory findings was associated with an increase in true clinical yield: odds ratio (OR) of 1.23 (95% CI: 1.12-1.35). Appropriateness was not associated with lower risk of contamination (2.53%): odds ratio (OR) of 1.13 (95% CI: 1.12-1.35, P-value =0.08).

Conclusions: Almost two-thirds of the blood cultures were obtained not according to the well-established clinical rules resulting in the decreased chance of the true positive result. However, the bacteriological yield of the non-rules-based cultures was still clinically significant.

605 - Submission No. 1832

DESCRIPTIVE ANALYSIS OF PATIENTS DIAGNOSED WITH HEPATITIS C VIRUS INFECTION AT THE CÁCERES UNIVERSITY HOSPITAL

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Background and Aims: Our aim was to describe the clinical characteristics of patients diagnosed with chronic hepatitis C virus infection in the University Hospital Complex of Cáceres over a period of time from October 2018 to May 2019.

Methods: Retrospective, observational and descriptive study of all patients diagnosed with chronic HCV infection. Through the

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review of the digitized medical records, all the variables collected were analyzed. Data analysis was performed using SPSS version 21.0 statistical software.

Results: Nineteen HCV antibody-positive patients were included in the study. Fourteen patients (73.7%) were male. Of the patients, 73.7% were aged between 50 and 70 years. 5 patients (26.31%) were GT 3 and 6 patients (31.57%) GT 4. 47.4% of the patients were HIV-HCV positive, of which the most prevalent genotypes were 3 and 4 in 15.78%. The mean of the values obtained in the hepatic elastography at the beginning of the treatment was 7.91 KPa. The mean value of Forns and APRI in F3-F4 patients was 7.62 and 1.08 respectively. 15 patients (78.9%) received treatment with sofosbuvir/velpatasvir for 12 weeks and 4 patients (21.05%) with glecaprevir/pibrentasvir for 8 weeks. 94.73% achieved sustained virological response at 12 weeks after completion of treatment. No patient had died at the time of data collection.

Conclusions: The prevalence of HCV infection has been modified in the last decade by the efficacy of DAAs. There is now an epidemiological shift in the number of patients diagnosed with HCV infection. The cure rate is almost 100% in patients who complete treatment, which in our study was 100%.

606 - Submission No. 826

SEPTIC SHOCK SECONDARY TO INFECTION OF AN IMPLANTABLE CARDIOVERTER DEFIBRILLATOR BY MRSA

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Case Description: A 55-year-old man with a personal history of unsuccessfully ablated atrial fibrillation and non-ischemic left ventricular dilated cardiomyopathy with moderate systolic dysfunction underwent implantation of a three-chamber implantable cardioverter-defibrillator. Thirty days after discharge from hospital, the patient was readmitted to the intensive care unit in septic shock (fever, hypotension, tachycardia, and obnubilation), requiring urgent removal of the intracardiac device.

Clinical Hypothesis: During his hospital stay, an extensive microbiological study was performed, with a diagnosis of bacteremia complicated by MRSA without associated endocarditis (ruled out by transesophageal echocardiogram) requiring targeted antibiotic therapy with ceftaroline and daptomycin.

Diagnostic Pathways: A torpid clinical course with persistent febrile peaks and respiratory failure, leading to a decision to extend the study with a thoracic CT scan, diagnosing the patient with bilateral cavitated pulmonary masses, which, given the rapid onset and the clinical context, corresponded to septic pulmonary emboli. From the therapeutic point of view, he required 5 weeks of intravenous antibiotic therapy with ceftaroline, daptomycin and rifampicin, with subsequent sequencing to oral linezolid for a further 4 weeks. After this, very good clinical evolution, complete resolution of pulmonary emboli and device reimplantation was achieved without incident.

Discussion and Learning Points: *Staphylococcus aureus* is a frequent cause of nosocomial or out-of-hospital bacteremia and is often associated with high morbidity and mortality. Early diagnosis is essential to initiate appropriate targeted treatment. Blood cultures should be taken every 48-72 hours until negative and a transthoracic echocardiogram should be performed to rule out infective endocarditis.

607 - Submission No. 2448

LYME CARDITIS: A HIGH SUSPICION DIAGNOSIS

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Case Description: We describe the case of a 26-year-old male, currently working as a cattle farmer in Switzerland, with personal history of active smoking (one packet of cigarettes for the last 3 years), no other relevant personal or family clinical history, who presented with intense acute chest pain. Also noted fever and a palpable enlarged inguinal lymph node. After a thorough questionary, he also reported the possibility of an insect bite in the upper limb a week before. Initial workup revealed an isolated elevation of high sensitivity I troponin (112,668 ng/L).

Clinical Hypothesis: Given the high suspicion for myopericarditis, he was admitted for additional study with a cardiac MRI displaying non-ischemic enhancement areas in the left ventricle with edema/inflammation and contractility abnormalities suggesting extensive myocarditis. Serologic testes were also performed showing positivity for *Borrelia burgdorferi* IgM and a negative IgG. He continued treatment with doxycycline with favorable progression.

Diagnostic Pathways: A few weeks later serologies were retested with the same result and confirmed by immunoblot hereby evidencing Lyme disease.

Discussion and Learning Points: Cardiac manifestations of Lyme disease often range from fluctuating degrees of atrioventricular heart block to myopericarditis. There are also reports of chronic cardiomyopathy and sudden cardiac deaths linked to Lyme disease. We report this case to emphasize the importance to recognize risk of exposure, endemic areas and clinical manifestations at different illness stages for an early diagnosis. Although Lyme carditis might be a rare complication, its early detection and treatment greatly improves the prognosis.

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608 - Submission No. 1594

IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME (IRIS) DURING ANTITUBERCULOUS THERAPY

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Case Description: A 37-year-old man had weight loss, excessive sweating and a productive cough for 4 months. A CT showed extensive consolidations with multiple cavitations, predominantly in the upper lobes, suggestive of tuberculosis (TP). Analytically no lymphopenia with elevation of RCP (454 mg/dL) and HIV positive. Bacilloscopies were positive and he started isoniazid, rifampicin, pyrazinamide and ethambutol (HRZE), with progressive improvement. Despite that, he maintained a persistent fever and elevated inflammatory parameters for 2 months.

Clinical Hypothesis: We considered hematogenous dissemination, resistant microorganism and IRIS during antituberculosis therapy. Highly active antiretroviral therapy (HART) was delayed until the cause of persistent fever was clarified.

Diagnostic Pathways: Blood cultures with mycobacteria research were negative. A multisensitive *Mycobacterium tuberculosis* was isolated in the sputum, which ruled out resistant agents. A contrast thoracic-abdominopelvic CT only showed worsening of pulmonary lesions. Cultures of medullary aspirate were negative and transthoracic echocardiogram excluded endocarditis. Urine culture for mycobacteria was negative and he had no criteria for hemophagocytic lymphohistiocytosis. Immunophenotyping showed 464/uL TCD4 lymphocytes, and 2 weeks later 985/uL, even before starting HART.

Discussion and Learning Points: TB-IRIS is a dysregulated inflammatory response related to antigens released from dying bacilli and a consequence of immune recovery. It's defined as a paradoxical worsening of TP lesions, while receiving antituberculosis therapy. As risk factors we have young male gender and HIV positive status. We assumed IRIS after initiation of antituberculosis therapy, as previously described even in HIV-negative patients. In favor of this hypothesis, we have the increase in the absolute number of CD4 cells before starting HART.

609 - Submission No. 1574

DEVELOPMENT AND EXTERNAL VALIDATION OF COVID-19 PROGNOSTIC SCORE (COPS)

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Background and Aims: Multiple prognostic scores have been developed for a wide range of outcomes in COVID-19. The majority of these studies have been rated at high risk of bias, mostly because of retrospective methodology, exclusion of selected patients and high risk of model overfitting.

Methods: The endpoint was to build 2 prognostic models to estimate the risk of unfavorable outcome (ARDS, ICU admission and/or death) at days 7 and 30 after hospital admission, respectively. Design was planned as a type 3 prediction model study (development and validation using separate data sets) according to TRIPOD statement. For the validation cohort, we prospectively recruited 236 patients with PCR-confirmed COVID-19 admitted to the Internal Medicine Department of a third-level hospital in Madrid, Spain, along April 2020, and collected 96 variables. We built a logistic regression model using backwards stepwise selection with $p>0.05$ for removal of variables. Missing values of variables were completed using multiple imputations through a CART model. We validated the model in a retrospective cohort of 139 patients with similar characteristics admitted to another hospital in Logroño, Spain, along March 2020. Predictive power of the score was assessed by area under the ROC curve (AUROCC), based on the number of events of the outcome variable.

Results: Predictive model for outcome at 7 days (COPS-7) included 8 significant variables, and COPS-30 held 4. After validation, AUROCC was 0.9244 and 0.9433 respectively.

Conclusions: We developed two prognostic models to estimate the risk of unfavorable outcome at days 7 and 30 after admission. External independent validation indicated high predictive power.

610 - Submission No. 1491

LEPTOSPIROSIS BEYOND WEIL SYNDROME: DESCRIPTION OF 2 CLINICAL CASES WITH LEPTOSPIRA-ASSOCIATED ACUTE RENAL INJURY (LAKI) AND LITERATURE REVIEW OF PROGNOSTIC FACTORS AND CLINICAL MANAGEMENT

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Case Description: Two males aged 16 and 64 years were admitted to our center between July and December 2019 at the return of Sulawesi (Indonesia) and Puerto Princesa (Philippines), respectively. Both showed hypotension, oligoanuria, acute kidney injury (AKI) RIFLE F, mild thrombocytopenia (103-110x10^6/mL) and marked elevation of inflammatory reactants. None of them showed jaundice, and transaminases and bilirubin were slightly elevated (maximum total bilirubin 1.26 and 2.31 mg/dL, respectively). Fluid resuscitation therapy was initiated with refractory hypotension and oliguria, and both patients were admitted to ICU for septic shock. The older patient developed cardiac dysfunction with persistent troponin elevation and pulmonary infiltrates, attributed to possible Leptospira myocarditis. Administration of vasopressors and wide spectrum antibiotic therapy including doxycycline achieved hemodynamic

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stability and diuresis, without need for renal replacement therapy. Both patients were discharged from ICU 4 and 9 days after admission, and renal function normalized by 8 and 21 days respectively.

Clinical Hypothesis: Severity was defined by AKI rather than hepatic disfunction in both patients, as they presented an atypical anicteric non-hemorrhagic form of the disease named Leptospira-associated AKI (LAKI).

Diagnostic Pathways: Diagnosis was made using polymerase chain reaction in one case and serology in the other.

Discussion and Learning Points: Leptospirosis best known and most severe form is Weil's syndrome, which presents with jaundice, liver failure and coagulopathy, generally associated with multiorgan disfunction. LAKI appears frequently (10-60%) in both icteric and anicteric forms and has been independently associated with higher mortality. Both patients showed additional factors for poor prognosis according to LAKI systematic literature reviews (hypotension, oligoanuria and thrombocytopenia).

611 - Submission No. 1515

PAEDIATRIC INFLAMMATORY MULTISYSTEMIC SYNDROME TEMPORALLY ASSOCIATED WITH SARS-COV-2 (PIMS-TS): A CASE REPORT

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Case Description: A 15-year-old male without medical records was hospitalized with 3-day history of fever, fatigue, abdominal pain and vomiting. Blood tests showed elevation of acute phase reactants, D-dimer, lactic acid, troponins and proBNP.

Clinical Hypothesis: Despite negative results for serial PCR, positive IgG serology against SARS-CoV-2 and the exclusion of other etiologies allowed to suspect PIMS-TS diagnosis.

Diagnostic Pathways: Abdominal ultrasound showed a solid node un the right lower quadrant, corresponding to ileitis with satellite lymphadenopathy observed in CT. Exploratory laparotomy was performed suspecting appendicitis, with the only finding of lymphadenopathies. The patient was admitted to ICU after the intervention due to hypotension and oliguria. Broad-spectrum antibiotics and vasopressors were started achieving hemodynamic stability, but high fever and elevation of cardiac and systemic inflammatory markers persisted. Echocardiogram showed moderate dilatation and dysfunction of the right ventricle with tricuspid regurgitation. Thoracic angio-TC ruled out pulmonary embolism. Treatment with intravenous immunoglobulin (IVIG, dose of 1 g/kg/day) and corticosteroids was initiated, with resolution of fever and test alterations after 4 days.

Discussion and Learning Points: PIMS-TS is a recently described syndrome related to previous COVID-19 infection, with systemic inflammation and cardiac failure as landmarks. Despite resemblance with Kawasaki disease, comparation with historic cohorts has found substantial differences. Diagnostic criteria have been developed by several international societies, most of them including fever >24-72 hours, elevation of inflammatory markers, any evidence of COVID-19 and at least 2 of the following: hypotension or shock, features of myocardial dysfunction (clinical, biochemical, electrocardiographic or image), coagulopathy and acute gastrointestinal problems. Standard treatment consists of IVIG and corticosteroids.

612 - Submission No. 1912

HYPERTRANSAMINASEMIA, CAN WE TRUST SEROLOGY?

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Hospital Universitario Virgen de la Victoria, Internal Medicine, Málaga, Spain

Case Description: A 33-year-old man came to the emergency room due to fever of unknown origin about 10 days ago. Among the personal history, allergy to penicillin stands out, there are no relevant diseases or previous surgical interventions. He does not refer cardiorespiratory, genitourinary, abdominal or neurological symptoms. Don't travel abroad. He has two cats. No dietary transgression. No risky sex. Analytical work attached (Figure 1), where it stands out: PCR 10.8, AST 107, ALT 175, Negative serology for hepatotropes, CMV and HIV; IgG+ EBV. On physical examination, he showed good general condition, hemodynamically stable, and no notable findings.

Clinical Hypothesis: In emergency blood tests we found worsening liver parameters (LDH 914, AST 607). Electrocardiogram, plain radiographs and abdominal ultrasound without alterations. An appointment is made in consultation with cold blood cultures, urine cultures and expanded serology. We found positivity for Abs positive for *Borrelia burgdorferi* and Mycoplasma IgM, the rest of the serology was negative.

Diagnostic Pathways: Given the high rate of cross-reactions in serology and the low epidemiological incidence of Borrelia in our setting, we requested PCR for CMV. Resulting the positive viral load to CMV (9588 copies/ml). The patient improved spontaneously, without treatment, normalizing analytical parameters 5 days after the last analysis in the office (Figure 1).

Discussion and Learning Points: In the serological diagnosis of CMV, the production of IgM is typically detected in the first two weeks after the development of symptoms, and it is during this "window period" when the detection of its viral load could be most useful in cases of immunocompromised patients or serious illness.

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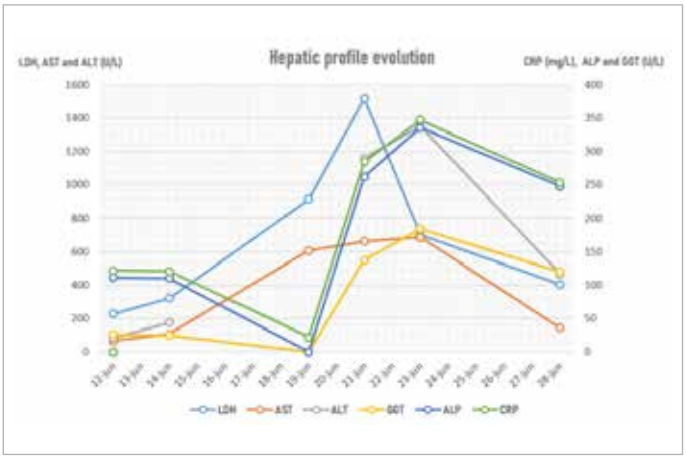

612 Figure 1.

613 - Submission No. 680

UNEXPLAINED KIDNEY AND LIVER FAILURE

Daniel De La Cueva Genovés, Jesus Antonio Civico Ortega, Elena Basallote Leal

Hospital Universitario Virgen de la Victoria, Internal Medicine, Málaga, Spain

Case Description: A 38-year-old man presented to the emergency department with periumbilical abdominal pain and frontal headache of 7 days' duration. He associated non-thermometer fever, intense asthenia, nausea and vomiting that caused him to stop drinking and eating in recent days. On examination, there was no neurological focus, hemodynamically stable, without respiratory support. Highlights a retro auricular adenopathy and bilateral conjunctivitis for 3 days, already in resolution. He works in the fields without contact with animals. He does not mention cough or expectoration, no cardiorespiratory symptoms or associated diarrhea. Analytically, acute renal failure stands out (creatinine 5.31, GFR 13), altered liver profile (amylase 346, CK 1050, LDH 274, AST 87, ALT 109, total bilirubin 4.81, direct bilirubin 3.59), increased acute phase reactants (PCR 253, PCT 1.71), mild cytopenia (Hb 12.2, platelets 100,000) and leukocytosis (13,780) at the expense of neutrophils (12,860).

Clinical Hypothesis: We requested: blood cultures, urine cultures, serology for hepatotropic viruses and main etiology, all of which were negative. A CT scan of the abdomen without contrast ruled out acute pancreatitis, acute cholangitis, or another biliary/gastrointestinal pathology. In addition, acute renal failure persists without a clear precipitant.

Diagnostic Pathways: Given jaundice and unexplained acute renal failure, with a history of bilateral conjunctivitis, with increasing acute phase reactants and intermittent fever, serology for Leptospira was performed, as well as PCR for it in blood and urine samples.

Discussion and Learning Points: Resulting positive for IgM, the patient received treatment with ceftriaxone iv 2g/24h for 7 days with significant symptomatic improvement, and normalization of renal and hepatic function.

614 - Submission No. 690

LOOKING BEYOND, ABOUT A CASE OF S. INTERMEDIUS

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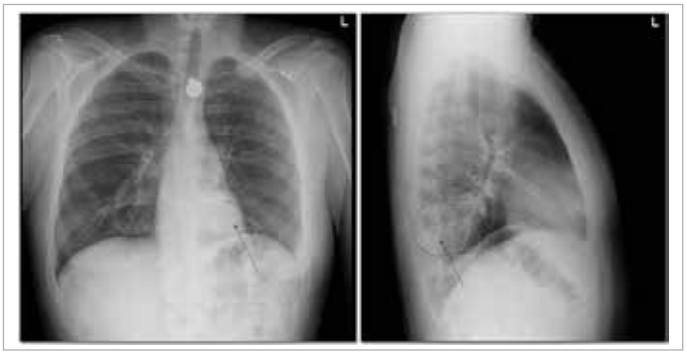
Case Description: A 20-year-old male presented to the emergency department with sudden-onset pain in the left hemithorax and an isolated peak fever of up to 38.5ºC. No known drug allergies or personal history, no toxic habits or usual treatment.

Clinical Hypothesis: After an initial study with electrocardiogram, simple X-ray and laboratory tests showing leukocytosis (17,830) with shift to the left and elevated acute phase reactants (CRP 90.3 and procalcitonin 0.23), he was discharged with oral levofloxacin and symptomatic treatment, without clear infectious focus, as suspected non-condensing respiratory infection.

Diagnostic Pathways: After two weeks, consultation due to worsening of the symptoms, and an huge increase in acute phase reactants. Clinically evaluating the patient, previous radiographs are reviewed, visualizing retrocardiac condensation that had gone unnoticed given its difficult appreciation in a single AP projection and as a possible diagnostic failure in the emergency room (Figures 1 and 2). We requested a thoracic CT scan and we showed a left pleural empyema with a significant air-fluid level, probably due to a bronchopleural fistula associated with left lower lobe pneumonia (Figure 3). After initially negative cultures, we obtained microbiological isolation for *Streptococcus intermedius* in a thoracocentesis sample and a repeat blood culture. After surgical debridement and antibiotic therapy with piperacillin/tazobactam, the patient evolved favorably.

Discussion and Learning Points: It should be noted that in the case of bacteremia due to *S. intermedius* and due to its propensity to create parenchymal abscesses (brain and liver more frequently than lung), initially asymptomatic, a systematic search for these should always be carried out by means of cranial CT scans or serial abdominal ultrasounds.



614 Figure 1.

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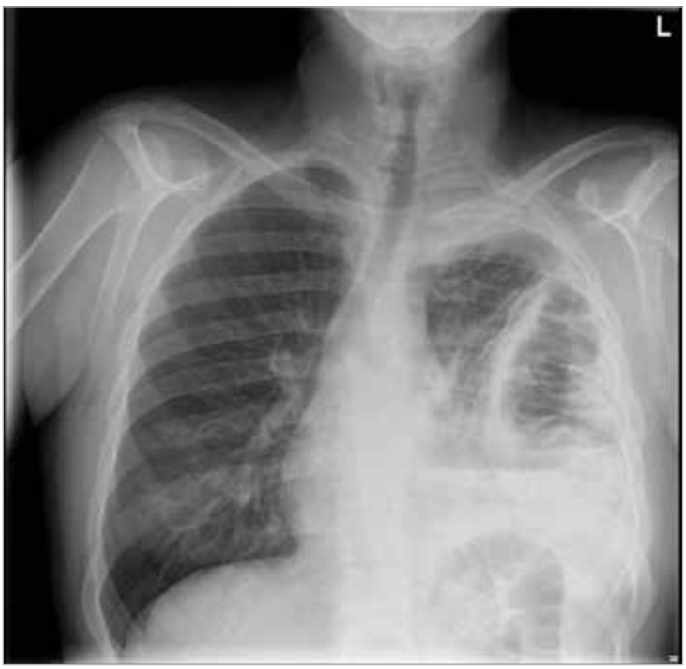
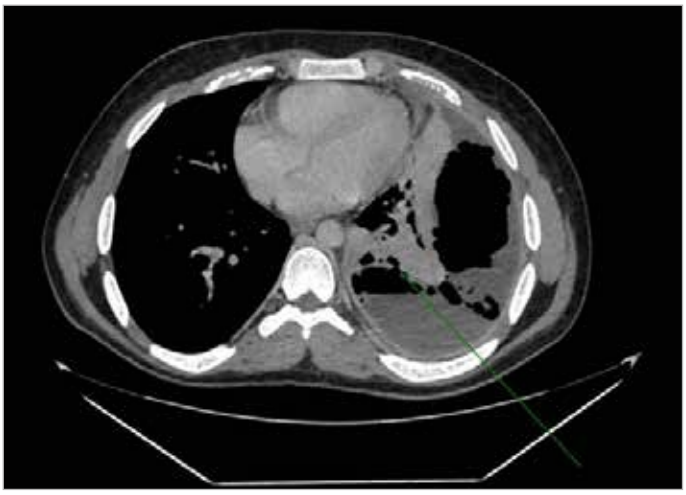


614 Figure 2.



614 Figure 3.

615 - Submission No. 779

AN UNEXPECTED TRIP: THE CONSEQUENCES OF IGNORING ANTIMALARIA PROPHYLAXIS

Sergio De Santos Belinchón[1], Leyre Alonso Gonzalo[1], Pablo Daniel Lorenzo Barcia[2], María Zurita Etayo[1], Juan Cano Ballesteros[1]

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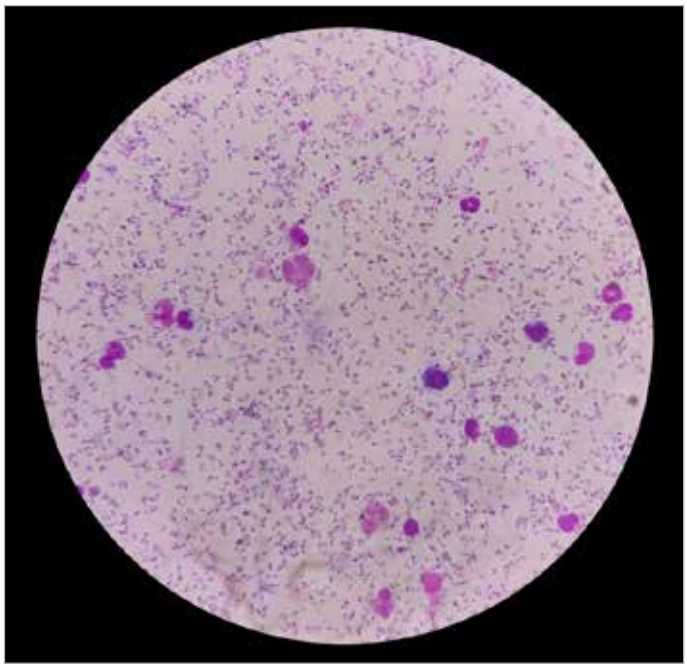
[2]Hospital General Universitario Gregorio Marañón, Emergency Department, Madrid, Spain

Case Description: A 61-year-old male arrives at the Emergency Department with fever, anorexia and general malaise of a week of evolution. The patient presents hypotension and respiratory failure, requiring vasoactive support and high-flow nasal goggles.

Clinical Hypothesis: Septic shock.

Diagnostic Pathways: In blood tests, 13000 platelets/µL, pH 7.15, lactate 9 mmol/L, LDH 881 U/L, creatinine 5.6 mg/dL, reactive C-protein 19.6 mg/dL and procalcitonin 100 µg/L. Despite thrombocytopenia, the patient does not present bleeding. Screening for thrombotic microangiopathy (TMA) was performed, resulting negative. At re-interrogation, the patient reports a recent travel to Madagascar without anti-infective prophylaxis, so the study is extended with a thick smear. *Plasmodium falciparum* is observed with a parasitemia index of 30% [Image 1]. Given the diagnosis of severe malaria, intravenous artesunate is administrated at 2.4 mg/Kg, with a decrease in parasitemia to <1% being able to de-escalate treatment to oral atovaquone/proguanil 250/100 mg/day.

Discussion and Learning Points: Malaria is the most important parasitic disease, with *P. falciparum* being responsible for the majority of fatal cases. The targets of infection are hepatocytes and red blood cells. The clinic is nonspecific, which makes it necessary to maintain a high clinical suspicion in patients with fever who have been in endemic areas. About 10% of the cases develop complications such as hemolytic anemia or glomerulonephritis. Infection by *P. falciparum* can associate vascular phenomena, being able to present acute tubular necrosis, TMA, noncardiogenic pulmonary edema and lactic acidosis. The treatment of choice in severe cases is intravenous artemisinin derivatives. The advice for travelers about prophylaxis and physical barrier measures especially important.



615 Figure 1.

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616 - Submission No. 669

ANALGESIA RESISTANT BACK PAIN... THINK ABOUT INFECTIOUS SPONDYLODISCITIS

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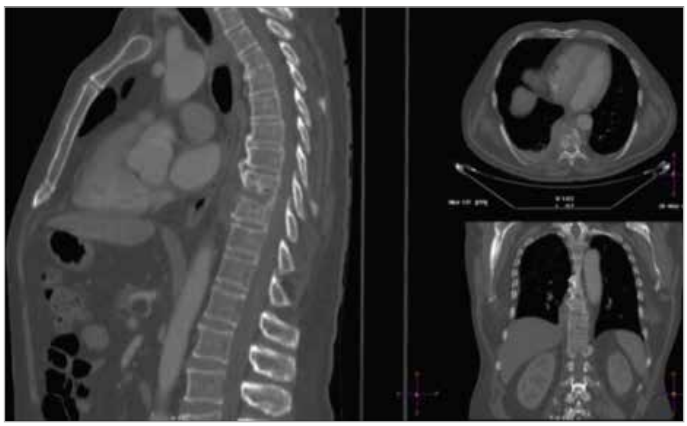
[2]Hospital General Universitario Gregorio Marañón, Emergency Department, Madrid, Spain

Case Description: A 67-year-old male, with no personal history of interest, consulted for 2-months long incapacitating dorso-lumbar pain, without response to conventional analgesia. On physical examination, he was afebrile and hemodynamically stable, with pain on palpation of the paravertebral musculature upon tenth dorsal vertebra (D10) and limitation of the flexo-extension. In complementary tests only highlighted elevation of C-reactive protein (CRP) 67.5 mg/L. Lumbar and dorsal X-rays without pathological findings. The patient was hospitalized in Internal Medicine for study and optimized analgesia.

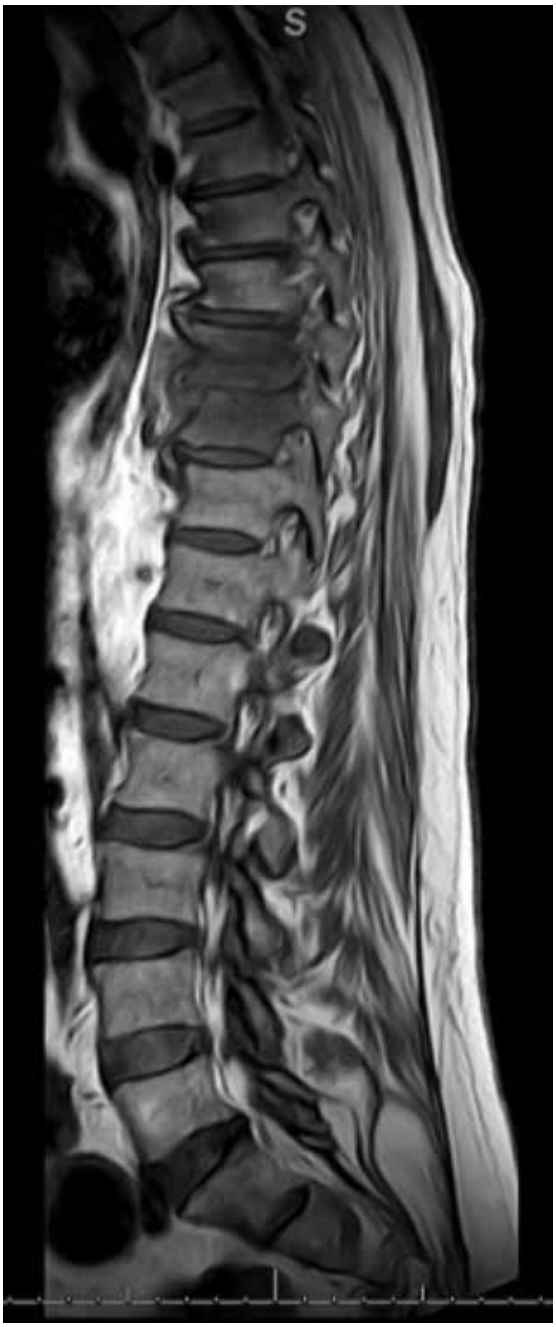
Clinical Hypothesis: Inflammatory spondylodiscitis.

Diagnostic Pathways: Given the poor pain control and the increase in CRP (110 mg/L), the study was extended by computed tomography [image 1], which showed spondylodiscitis D9-D10 with epidural abscess and peri vertebral soft tissue involvement, later confirmed by magnetic resonance [image 2]. Blood cultures were extracted and empirical antibiotic treatment with ceftriaxone 2 g/24 h and cefazolin 1 g/8 h was started. Tests for HIV, Brucella and tuberculosis were negative. *Aggregatibacter aphrophilus* was isolated. Intravenous treatment was completed in home hospitalization. On re-interrogation, the patient reported a recent dental intervention without antibiotic prophylaxis.

Discussion and Learning Points: Infectious spondylodiscitis is rare and usually affects adults. The hematogenous dissemination is the most common cause. The clinical presentation is subacute and nonspecific, with inflammatory-type spinal pain. Only a small percentage debut with fever. Sometimes the CRP is the only altered analytical parameter. Its confirmation, therefore, is based on imaging techniques. The most frequent microorganism isolated is *Staphylococcus aureus*, although tuberculosis and brucellosis are still a frequent etiology. Treatment is based on prolonged antibiotic therapy and sometimes surgery.



616 Figure 1.



616 Figure 2.

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617 - Submission No. 877

THE IMPORTANCE OF THERAPEUTIC COMPLIANCE

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Case Description: A 70-year-old-man presented with several weeks of pleuritic pain and cough. Two weeks before the patient had been diagnosed with SARS-CoV-2 infection and eight months before, with peritoneal tuberculosis (TB). He was treated with rifampicin/isoniazid/pyrazinamide/ethambutol for two months, then with rifampicin/isoniazid for six months. The examination presented an hypophonesis on the left base, the chest radiograph showed left pleural effusion.

Clinical Hypothesis: Residual symptoms of SARS-CoV-2 infection; bacterial over infection; new pleural effusion in a patient treated for peritoneal TB.

Diagnostic Pathways: Chest computed tomography (CT) revealed left pleural effusion, pericardial thickening and widely distributed adenopathies. Pleural fluid cultures were sterile. PCR from PAAF of mediastinal adenopathies, detected *Mycobacterium tuberculosis* complex with resistance to isoniazid, rifampicin, amikacin, kanamycin, capreomycin and ethionamide. The patient was hospitalized to ensure adherence and tolerance to therapy (bedaquiline, moxifloxacin, linezolid, clofazimine, myambutol, pyrazinamide). During hospitalization and in outpatient check-ups, there were not elongated QTs, neither elevation of acute phase reactants. Only a blood test realized four months after the beginning of treatment revealed a discrete leuco-thrombocytopenia, which was related to linezolid but did not require its withdrawal. Given the fact of possible therapeutic noncompliance during diagnosis of peritoneal TB, it required the activation of the protocol to the Treatment Unit Directly Observed by the Community of Madrid.

Discussion and Learning Points: Nowadays, there have been cases of multidrug resistance in six continents. The main point of this case is that second line and third-line therapies are less potent, which is critical for global health.

618 - Submission No. 677

BEYOND THE STROKE

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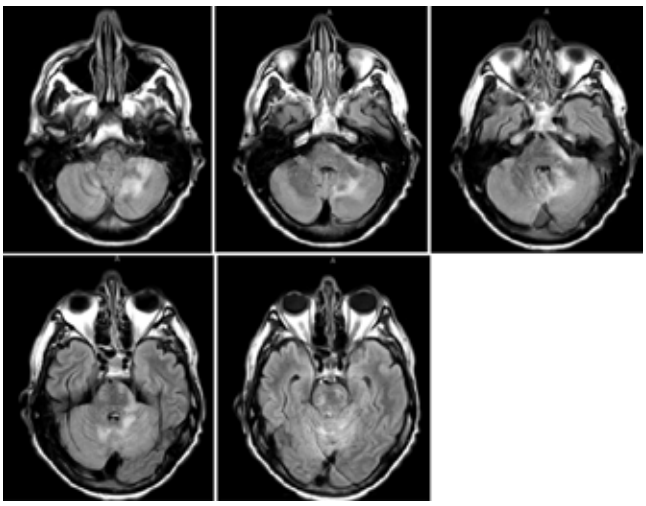
Case Description: A 57-year-old male with D4-D5 spinal cord injury presented to the Emergency Department referring a 3-day history of dysarthria and clumsiness in the upper left limb. He had previously suffered a similar self-limited episode in the context of vaccination. Physical examination revealed left cerebellar hemiataxia and dysarthria.

Clinical Hypothesis: An ischemic stroke is suspected.

Diagnostic Pathways: Computerized tomography revealed established ischemic lesions in the left cerebellar hemisphere compatible with chronic cerebellar stroke. As part of the etiological study, a CT scan of the supra-aortic arteries and a 24-hour Holter were performed, showing no alterations. We obtained a positive HIV serology and a viral load of 107,387 copies/mL. Toxoplasma serology, Brucella and cryptococcal antigen were negative. Magnetic resonance imaging detected demyelination in both sides of the pontine extending towards the cerebellum and the spinal bulb (figure 1). Given the suspicion of progressive multifocal leukoencephalopathy, a lumbar puncture was carried out, obtaining a HIV load of 4876 copies/mL in the cerebrospinal fluid. JCV and flow cytometry were negative. Antiretroviral therapy was started and a month and a half later the CSF finally showed a positive JCV PCR (249 copies/mL).

Discussion and Learning Points: PML should be considered in the etiological study of stroke in patients without atherothrombotic or cardioembolic predisposition. As in our case, a negative JCV PCR does not rule out the diagnosis. If suspicion for PML is high, it should be treated as such after exclusion of other conditions such as primary central nervous system lymphoma and HIV-1 encephalopathy. Antiretroviral treatment remains the only valid intervention to date.



618 Figure 1.

 DOI: 10.12890/2023_V10Sup1

619 - Submission No. 382

PREPANDEMIC ERA: ADMISSIONS FOR INFLUENZA DURING THE 2017-2019 EPIDEMIC. RISK FACTORS, CAUSES OF ADMISSION AND COMPLICATIONS IN A REGIONAL HOSPITAL

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Hospital de Laredo, Internal Medicine, Laredo, Spain

Background and Aims: Our aim was to analyze risk factors, complications and how many of the admitted patients received antiviral treatment, as well as the type of circulating viruses during the influenza epidemic in the years 2017-2019.

Methods: We analyzed 245 patients, diagnosed by nasopharyngeal swap, admitted in our hospital during 2017-2019.

Results: The mean age was 74.97 years. 54.7% were women. 44.9% had heart disease; 37.6%, pulmonary disease; 22.4%, chronic kidney disease; 10.6%, obesity; 26.5%, diabetes; 14.3%, some type of immunodeficiency. 10.2%, were institutionalized and 7.3% were pluri-pathological. 65.4% were vaccinated. 67.3% had influenza A (65%, H3N2 subtype and 35%, H1N1) and 32.7%, influenza B. The average length of stay was 6.6 days (1- 30 days of admission). 87.8% developed complications: 76.7% respiratory failure, 22.8% pneumonia, 19.8% heart failure, 12.9% renal failure, 3.9% neurological complications and 5.3% died. 97.6% were treated with oseltamivir.

Conclusions: Influenza is an acute disease, highly transmissible, caused by A, B and, rarely, C viruses. Most influenza epidemics are due to type A, during winter months. It causes absenteeism and hospitals overload. Vaccination aims to reduce mortality and morbidity and disease community impact so people at higher risk of complications are the main beneficiated. Influenza A was the main cause of the epidemic. The main risk factors were age and heart disease. The main cause of morbimortality was respiratory complications. Most of the patients were vaccinated, with the vaccines indicated by the WHO for the 2017-2018 (trivalent inactivated) and 2018-2019 (recombinant tetravalent vaccines) seasons.

620 - Submission No. 385

INFLUENZA. DESCRIPTION OF THE 2018-2019 EPIDEMIC AND COMPARISON WITH THE PREVIOUS YEAR

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Hospital de Laredo, Internal Medicine, Laredo, Spain

Background and Aims: Description and comparison of influenza cases from the 2017-2018 and 2018-2019 epidemics.

Methods: Review of medical records of patients admitted between November 2017 and March 2018 and November 2018 and March 2019.

Results: First epidemic: 120 patients (mean age, 74 years) were collected. 57.1%, male. 52.7% heart disease, 35.8% lung disease, 28.3% DM2, 24.2% renal disease, 17.5% immunodeficiency, 16% obesity. Institutionalized: 5.8%. Pluripathological: 15%. 90%, vaccinated. 34.2% had influenza A (90% H3N2, 10% H1N1). Average stay length, 6 days. 86.7% developed complications: 72% respiratory failure, 27.1% heart failure, 24.3% pneumonia and 9.3% renal failure. 4.2 %died. Second epidemic: 125 patients (mean age, 82 years) were collected. 39.2%, male. 47.2% heart disease, 39.2% lung disease, 24.8% DM2, 20.8% renal disease, 11.2% immunodeficiency, 12% obesity. Institutionalized 14.4%. Pluripathological, 0%. 40.8%, vaccinated. 64% had influenza A (52.5% H3N2, 47,5% H1N1). Average stay length, 10 days. 88% had complications: 80.8% respiratory failure, 21.6% pneumonia, 16% renal failure, 13.6% cardiac failure, 6.4% died. All patients in the first epidemic received oseltamivir while 4% in the second epidemic, due to their severity on admission, did not receive oseltamivir.

Conclusions: Regarding the first group: 1. Age and institutionalization were higher in the second group, but there were fewer patients with multiple pathologies. 2. Vaccination was much lower, and the percentage of influenza A was higher, with similar frequency between subtypes. 3. Lower frequency of heart failure and increased mortality.

621 - Submission No. 1855

THE CLINICAL SIGNIFICANCE OF CORYNEBACTERIUM STRIATUM ISOLATION FROM RESPIRATORY SAMPLES. AN OBSERVATIONAL COHORT STUDY

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[2]Sheba Medical Center, Infectious Diseases, Ramat-gan, Israel

Background and Aims: *Corynebacterium striatum* is an emerging multidrug-resistant pathogen causing infections in both immunocompromised and immunocompetent patients. It is unclear whether isolation of C. striatum from respiratory samples of patients suspected of respiratory infection is of clinical significance. We aimed to evaluate whether antibiotic treatment targeting *C. striatum* isolation from respiratory samples, was associated with improved outcomes compared with no treatment.

Methods: We assessed hospitalized adult patients from 1/2014 until 1/2022, who were diagnosed with hospital acquired pneumonia (HAP), ventilator associated pneumonia (VAP) or tracheobronchitis (VAT) and had a positive sputum/bronchoalveolar lavage culture for *C. striatum*. We compared patients who were treated specifically for *C. striatum* infection to those who did not receive directed antibiotic therapy. The primary outcome was 30-days, all-cause mortality.

Results: 504 patients positive for *C. striatum* were included in the

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final analysis. Of them, 122 patients were treated, and compared to 382 control patients. Treated patients were significantly more likely to present with septic shock and/or need for mechanical ventilation. Non-treated patients were significantly more likely to have a polymicrobial infection and a growth of additional multidrug-resistant bacteria. On multivariable IPW analysis for predictors of mortality, older age and septic shock at presentation were significantly associated with increased mortality, while chronic tracheostomy was found to be significantly associated with reduced mortality. All-cause mortality at 30-days was non-significantly increased among treated vs untreated patients (OR 1.282 [95% CI: 0.942-1.745], p=0.115).

Conclusions: In this retrospective cohort study no association was found between antibiotic therapy and 30 days all-cause mortality.

622 - Submission No. 1819

CLINICAL DATA, LABORATORY AND PET-CT RESULTS, AS PREDICTORS FOR SPONTANEOUS RESOLUTION OF CLASSICAL FUO

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Background and Aims: Spontaneous resolution is common in patients with fever of unknown origin (FUO). Identifying predictors of spontaneous resolution could reduce unnecessary invasive investigations and therapies. We conducted a retrospective study of patients with FUO to identify clinical, laboratory and [^{18}F] FDG Positron Emission Tomography-computed Tomography (PET-CT) results associated with spontaneous resolution.

Methods: A single center, 8-year retrospective cohort study. Patients undergoing PET-CT for the investigation of FUO between 1/2012-1/2020 were included. Diagnosis, based on clinical, microbiological, radiological, and pathological data at latest follow-up was determined. We compared patients with spontaneous resolution of fever and symptoms with patients with final diagnosis (infections, non-infectious inflammatory diseases (NIID), and malignancies). Variables found to be associated with resolution on univariable analysis (p<0.1) were entered into a multivariable logistic regression analysis. Results of the regression model were reported in odds ratios (OR) and 95% confidence intervals (CI).

Results: 303 patients were hospitalized for the investigation of FUO. Fever resolved without diagnosis in 84/303 patients (28%). Diagnoses for patients without resolution included infectious diseases in 111/303 (36%), malignancies in 56/303 (18.4%) and NIID in 52/303 (17.1%). Variables found to be associated with spontaneous resolution included absence of: anemia (hemoglobin<12 g/dL in females or <13 in males), hypoalbuminemia (albumin<3.0 g/dL) and pathological FDG uptake. In 17.8% (15/84) of studies PET-CT yielded FP results leading to invasive procedures and empirical treatment.

Conclusions: Patients without anemia, hypoalbuminemia and uptake on PET-CT are more likely to have spontaneous resolution of FUO. FP results were not uncommon and may lead to unnecessary investigations and treatment.

623 - Submission No. 475

THE MILKY WAY: BRUCELLA PRESENTING AS SPLENIC INFARCTS

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Case Description: A 31 years-old male patient presented with fever, B symptoms and left-sided abdominal pain, on exam, he was found to have splenomegaly with moderate tenderness in the left hypochondriac and lumbar region. Routine blood test showed anemia with elevated inflammatory markers. Computed tomography scan revealed hypodense lesion suggestive of spleen infarct, serial transesophageal echocardiographies were normal without vegetation. Bone scintigraphy was normal as well as bone marrow and laboratory workup for thrombophilia and viral markers were negative. Serology for Brucella was found to be positive a week after admission. The patient was treated with rifampin, gentamicin and doxycycline with significant improvement.

Clinical Hypothesis: Brucella is a Gram-negative bacterium, transmitted mainly to humans through ingestion of unpasteurized milk products and direct contact with infected animal-organs. Clinical presentation can vary but typically it's of non-specific symptoms such as indolent fever, weight loss and anorexia, as well as organomegaly and systemic involvements. Vascular complications rarely occur.

Diagnostic Pathways: Blood count showed normocytic anemia without other abnormalities. Chemistry panel was normal. LDH and CRP were slightly elevated. Serology tests and autoimmune work-up were negative. Chest x-ray was unremarkable. ECG showed sinus rhythm and TEE was without vegetation. Abdominal NCCT scan revealed splenomegaly 17cm with lesion in the context of splenic hematoma or infiltrative disease (Figure 1). Contrast CT revealed lesion suggestive of spleen infarctions (Figure 2).

Discussion and Learning Points: Splenic infarction commonly caused by thrombophilia or infiltrative disease. We are presenting a vascular complication in the form of splenic infarct, brucellosis and vascular complications are rare but should be considered, especially in endemic areas.

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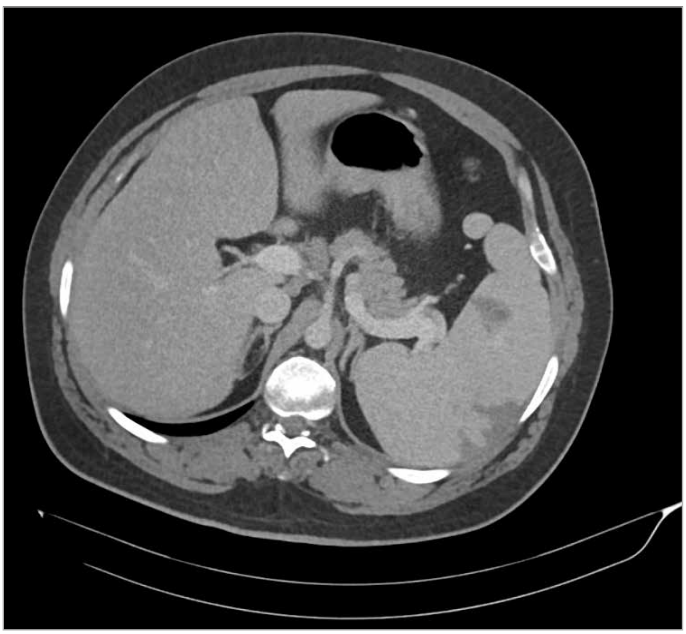
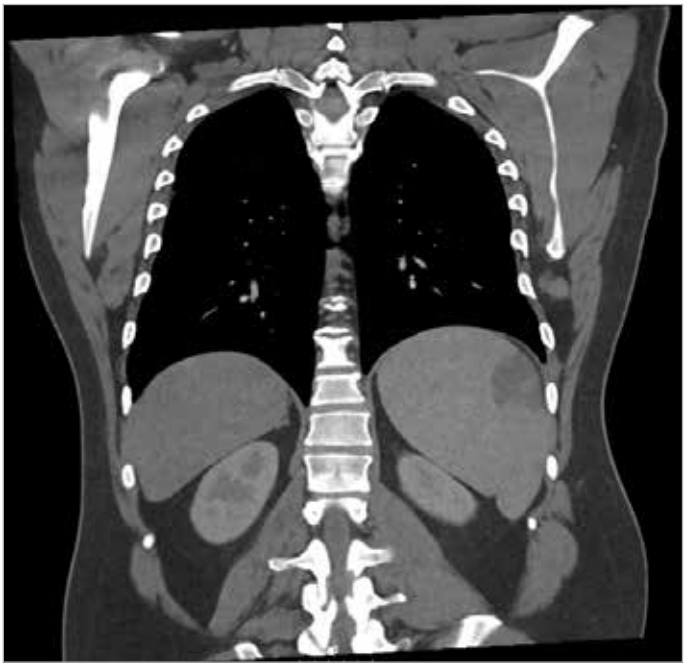


623 Figure 1.



623 Figure 2.

624 - Submission No. 1069

AN UNEXPECTED CAUSE OF FEVER OF UNKNOWN ORIGIN: A CASE REPORT

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Case Description: A 75-years old cattle farmer was admitted to our department because of the onset of persistent fever for about two weeks. In his clinical history there were type 2 diabetes mellitus, hypertension and benign prostatic hyperplasia. He denied any recent travel.

Clinical Hypothesis: Bacterial infection. Lymphoproliferative diseases. Occult neoplasm. Zoonoses.

Diagnostic Pathways: On physical examination he presented with petechial lesions on the left ankle. Initial laboratory tests showed raised CRP (C-Reactive Protein) (24.25 mg/dl), neutrophilic leukocytosis WBC (white blood cell): 14.57; neutrophils: 82.1%) and macrocytic anemia Hb (hemoglobin): 8.6 g/dl; MCV (mean cell volume): 90.5 fl. Nasopharyngeal swab for SARS-CoV-2, total body TC, blood and urine cultures were negative. ANAs were weakly positive. Transthoracic and transesophageal echocardiogram were negative for endocarditis. Based on the hypothesis of hematopoietic system disorders, he underwent bone marrow aspirate, myeloculture and biopsy of right inguinal lymph nodes that were all negative.

Discussion and Learning Points: He was first treated with empirical antibiotic therapy with meropenem and tigecycline, that were both suspended after 12 days, because of an improvement in the inflammatory indices. Because of the relapse of fever, cultural examinations for BK and PCR (protein chain reaction) for uncommon zoonoses were performed showing a positive PCR for Babesia. Therefore, he began therapy with atovaquone and azythromycin. Babesia is an intra-cellular protozoon, transmitted by ixodid ticks. It is rare in Europe, and it is mainly associated with immunocompromised patients, while in this case the patient was immunocompetent. This emerging zoonosis should be kept in consideration as a possible cause of fever of unknown origin.

625 - Submission No. 2246

LEPTOSPIROSIS

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Case Description: A 38-years-old woman, resorted to hospital with left axillary abscess, fever, and urticariform rash limited to the trunk. Was discharged on amoxicillin clavulanic acid, suspended due to oral intolerance. Returned after 2 days with generalized rash, fever, diarrhea and vomiting. The patient mentioned recent vacation in Alentejo region. Upon hospital admission, the patient was hypotensive, tachycardic, anicteric, with generalized rash and palmar erythema.

Clinical Hypothesis: Leptospirosis. Rickettsiosis. Sepsis. Q fever.

Diagnostic Pathways: Blood tests revealed anemia, increased inflammatory parameters, acute kidney injury and cytocholestasis pattern. Renal and abdominal ultrasound with mild gallbladder lithiasis, without changes in the hepatic and renal parenchyma. Anti-*Leptospira interrogans* antibody test was positive. Other serologies were negative. Hospitalized for 17 days, medicated with ceftriaxone and doxycycline for 16 days. Evolution was in favorable, with reduction of inflammatory parameters and normalization of renal and hepatic functions.

Discussion and Learning Points: Leptospirosis is a zoonosis transmitted to humans by direct contact with urine or infected tissues or indirectly through contaminated water or soil. Rodents

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are the most common reservoir. The incubation period is 1 to 2 weeks. The mildest form is characterized by nonspecific symptoms (fever, headache, and myalgia). The severe form is characterized by jaundice, renal dysfunction and hemorrhagic diathesis (Weil´s Syndrome). Disease with recovery of renal and hepatic function has favorable prognosis, as verified in this clinical case. Mortality is higher in the elderly and in Weil's Syndrome. Measures to control the infection consist of avoiding contact with urine and tissues of infected animals, vaccination of animals and control of rodents.

626 - Submission No. 1408

TUBERCULOSIS AT HIDE AND SEEK GAME

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Case Description: Seventy years-old female with history of being followed for the last 10 years due to a peri-pancreatic mass, without confirmed etiology. At the beginning of the investigation an eco-endoscopic biopsy was performed, showing necrotizing granulomas with negative bacterial/mycobacterial cultures. During this period only medicated with a short-term oral corticosteroid after assuming the diagnosis of sarcoidosis versus IgG4 related disease. In 2022 was admitted with an infection of a submandibular gland and antibiotic was started.

Clinical Hypothesis: Submandibular sialadenitis, granulomatous process, lymphoma, bacterial or fungal infection.

Diagnostic Pathways: A full body CT scan showed a complete remission of the peri-pancreatic mass with a new mass on the left infraclavicular area with 109x30 mm with necrotic areas suggestive of a granulomatous process. Blood tests showed an inflammatory anemia with an inflammatory pattern in the electrophoresis with polyclonal B-cells on blood immunophenotyping and normal autoimmune assay. Aspiration biopsy of the infraclavicular mass was performed. Due to the response to the antibiotic, we couldn't perform a biopsy of the gland. The histological and microbiological analysis revealed a necrotizing granulomatous process with positivity for *Mycobacterium tuberculosis*. Rifampicin, isoniazid, pyrazinamide and ethambutol were started. After finishing the treatment there was a clinical, analytical and radiological improvement.

Discussion and Learning Points: We present a 10-year evolution of an extrapulmonary tuberculosis, with a rare finding, an evanescent pancreatic mass treated with corticoid. Not only is it rare the disease evolution, but also the difficulty in making the correct diagnosis. Thus, this case shows the importance of always excluding tuberculosis when in the presence of necrotizing granulomas.

627 - Submission No. 1655

UNCOMMON PRESENTATION OF TUBERCULOSIS

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Case Description: A 21-year-old man, smoker and with no other relevant clinical background, was admitted in the Emergency Department with malaise, dyspnea, non-productive cough, and high fever (maximum temperature 40ºC) for the last three days. He noticed a cervical swelling for two weeks ago. At physical examination he had a painless posterior cervical lymph node with two centimeters of diameter.

Clinical Hypothesis: Epstein-Barr virus. Tuberculosis. Lymphoma. Kikuchi disease.

Diagnostic Pathways: Blood evaluation with lymphocytopenia, elevated C-reactive protein and hyponatremia. CT scan with several cervical lymph nodes with central necrosis and pulmonary parenchyma with numerous 2 to 3 millimeters nodules distributed throughout the lungs. Negative acid-fast bacilli from sputum. Positive acid-fast bacilli in samples taken from bronchoscopy and from biopsy of cervical lymph node. Negative mycobacterial blood cultures.

Discussion and Learning Points: The infectious disease was successfully treated with isoniazid, ethambutol, pyrazinamide, and rifampin. Clinical manifestations of tuberculosis are most likely to be subacute or chronic with general symptoms including low fever, weight loss and malaise. An acute presentation, like this case, is not commonly seen. A delay in the diagnosis or in the treatment is the major cause of mortality associated with this disease.

628 - Submission No. 1674

CAT SCRATCH DISEASE

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Centro Hospitalar de Leiria, Department of Internal Medicine, Leiria, Portugal

Case Description: A 51-year-old man, with no relevant clinical background, presenting with malaise, lack of appetite, fever and weight lost (10kg) for the last month. At physical examination, he presented non-suppurative painful enlarged inguinal lymph nodes and no skin lesions. He lived with and was exposed to three cats and one dog and didn't recall any recent scratch or bites. He denied high-risk sexual behaviours.

Clinical Hypothesis: Cat scratch disease. Sexually transmitted diseases (STDs) including chancroid, lymphogranuloma venereum, genital herpes and syphilis. Lymphoma. Mycobacterial infection.

Diagnostic Pathways: Negative screening for STDs including chancroid, lymphogranuloma venereum, genital herpes and

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syphilis. Lymph node biopsy with positive *Bartonella henselae* polymerase chain reaction test. Negative blood cultures. Cardiac ultrasound with no signs of endocarditis.

Discussion and Learning Points: The cat scratch disease is an infectious disease that is typically characterized by self-limited regional lymphadenopathy. Since the symptoms were present for one month, the patient was treated with ten days course of doxycycline and with excellent clinical improvement and resolution of the fever.

629 - Submission No. 1275

ABOUT A CLINICAL CASE OF WHIPPLE'S DISEASE : A HIGH LEVEL OF SUSPICION IS THE KEY TO DIAGNOSIS

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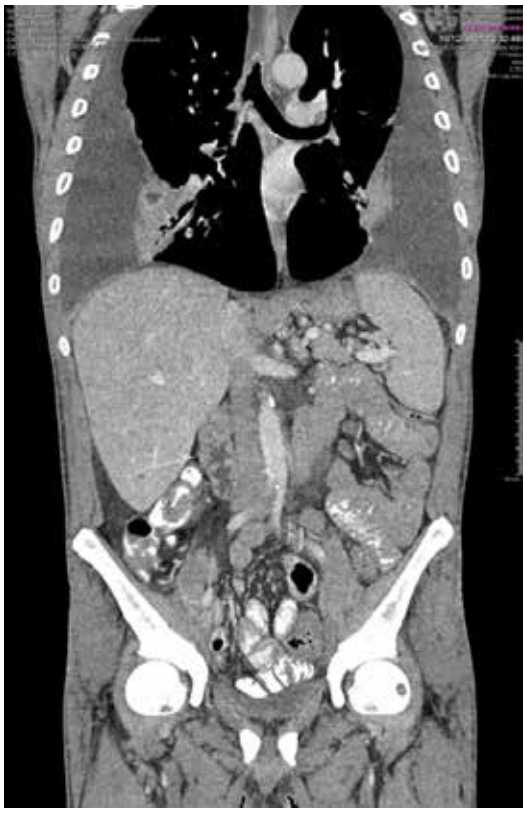
Case Description: We present the case of a 48 years-old man, with 3 months of unintentional weight loss associated with polyarthralgia. On clinical examination, he looked emaciated, with abdominal pain and a palpable hepatomegaly.

Clinical Hypothesis: There are several possible clinical manifestations for Whipple's disease but the most frequent are malabsorption syndromes with abdominal pain and diarrhea, as the small intestine is the most frequently affected region.

Diagnostic Pathways: Laboratory: normocytic anemia, decreased folic acid, increased sedimentation rate; no leukocytosis and a C-reactive protein of 2.71 mg/dL. Negative viral serologies (HBV, HCV, HIV) and blood cultures with no pathogen isolation. Abdominal computed tomography (CT) scan with massive bilateral pleural effusion and multiple enlarged mesenteric lymph nodes (Figures 1 and 2). Upper digestive endoscopy (Figure 3) showed chronic duodenitis with highly suggestive characteristics of Whipple's disease (histological features with flattened and clumsy villi, and lamina propria with macrophages with granules positive for periodic-acid-Schiff (PAS). Figures 4 and 5). The diagnosis was confirmed by polymerase chain reaction-based assay on biopsy of second part of the duodenum (D2). Systemic involvement was excluded with no changes on echocardiography, computed tomography (CT) scan of the head and polymerase chain reaction (PCR) in the cerebrospinal fluid (CSF) negative. The patient started antibiotic therapy with ceftriaxone with clear improvement and subsequent follow-up in a consultation to complete 1 year of cotrimoxazole. After 5 months showed resolution of anemia, weight gain (15 Kg) and no arthralgias.

Discussion and Learning Points: The importance of including Whipple's disease in the differential diagnosis of patients with wasting syndrome associated with arthralgias, chronic diarrhea, abdominal pain and weight loss is highlighted, since timely appropriate therapy can prevent complications.



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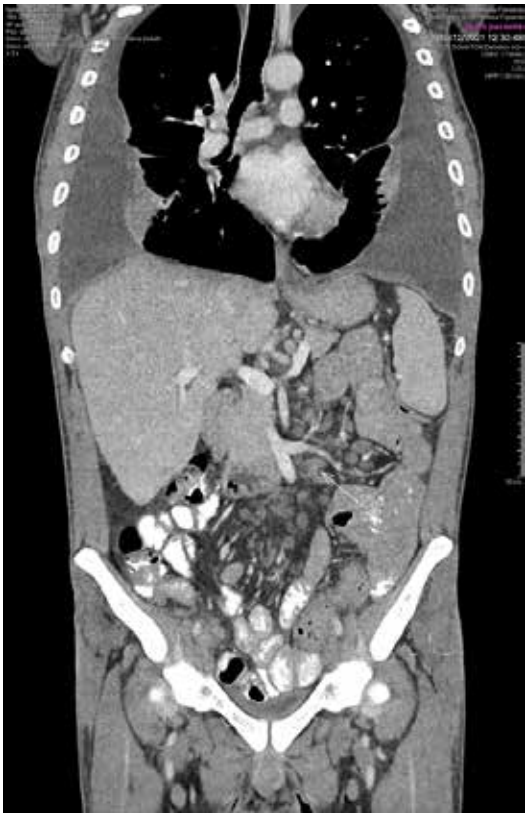

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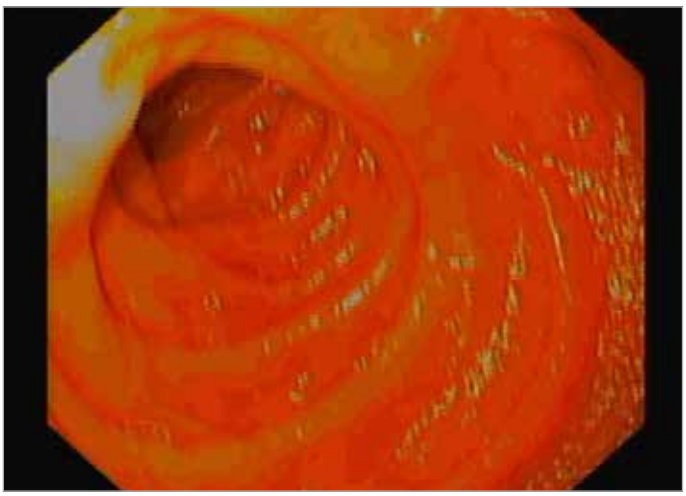

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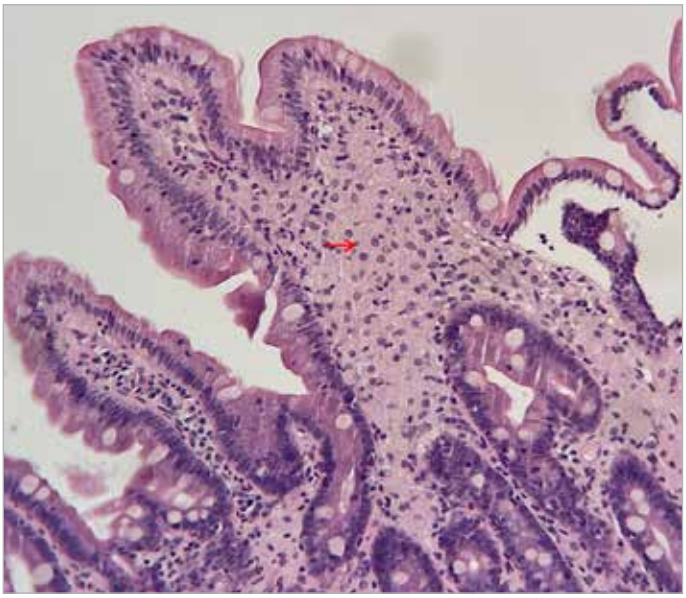

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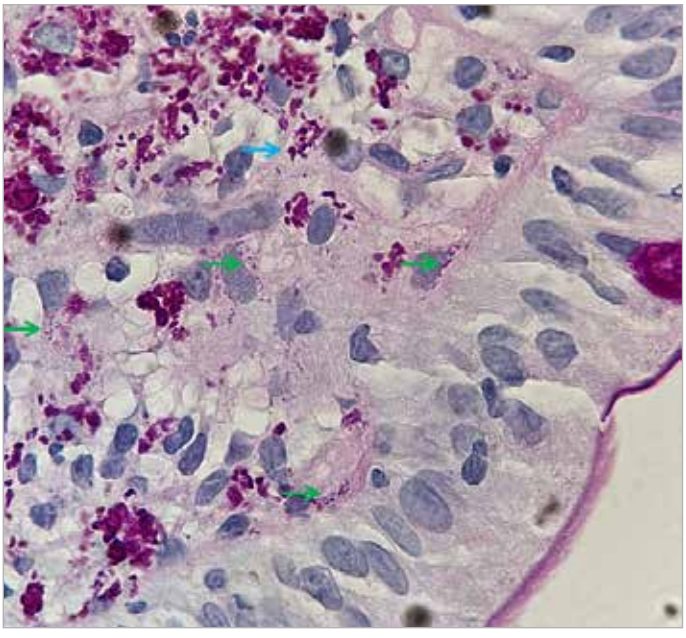

629 Figure 5.

630 - Submission No. 1138

RECURRENT VENOUS THROMBOEMBOLIC DISEASE IN A PATIENT WITH HUMAN INMUNODEFICIENCY VIRUS INFECTION AND POOR VIRO-INMUNOLOGICAL CONTROL

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Case Description: A 48-year-old man with human immunodeficiency virus (HIV) infection and antiretroviral therapy (ART) discontinuation two months after the diagnosis consulted four years later reporting dyspnea. Physical examination was normal and blood tests revealed an HIV viral load (VL) of 44,700 copies/ml and CD4 count of 20 lymphocytes/ml. An acute bilateral pulmonary thromboembolism (PTE) was diagnosed after performing a chest scanner and ART and anticoagulation with low molecular weight heparin (LMWH) were started. Anticoagulation cessation was withheld for 9 months in order to verify the absence of neoplasia (whole-body scanner an endoscopy), the negativity of the thrombophilia study and the radiological resolution of the PTE. One year after anticoagulant treatment termination the patient suffered a femoral venous thrombosis, thereby evidencing an HIV VL of 1500 copies/mL and 70 CD4 lymphocytes/mL, due to ART non-adherence.

Clinical Hypothesis: Recurrent venous thromboembolic disease (VTE) in an HIV patient due to poor viro-immunological control.

Diagnostic Pathways: Provided poor viro-immunological control (having confirmed the absence of HIV mutations) alongside the existence of two thromboembolic events, indefinite anticoagulation treatment with direct oral anticoagulants was decided.

Discussion and Learning Points: HIV infection is considered an acquired thrombophilia as it increases the risk of VTE 20 times, especially with high HIV VL and/or low CD4 lymphocytes. In addition, the risk of recurrence if further increased when anticoagulation is withdrawn together with poor viro-immunological control. Therefore, after the first event, anticoagulation should be maintained until safe viro-immunological control is achieved.

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631 - Submission No. 1154

SWOT (STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS) ANALYSIS OF THE IMPACT OF THE COVID-19 PANDEMIC ON THE TRAINING OF INTERNAL MEDICINE RESIDENTS

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Background and Aims: The SWOT is a management tool that allows us to know the baseline situation of an organization or activity in order to establish and prioritize areas for improvement through a series of strategies. It consists of putting what we want to improve, both to the analysis of negative (weaknesses) and positive (strengths) internal factors, as well as negative (threats) and positive (opportunities) external factors. From the magnitude that we apply to each factor and its combination (matrix), we will obtain, in a prioritized way, the different strategies to develop areas for improvement. Our objective is to analyze the impact of the COVID-19 pandemic on the resident training program in our Internal Medicine Service, in order to develop strategies that minimize its negative impact and take advantage of its opportunities.

Methods: SWOT analysis elaborated in 4 steps. 1. Creation of the working group. 2. Definition, analysis and consensus of the factors and level of importance. 3. Analysis and consensus of the matrices. 4. SWOT preparation using an online tool.

Results: 9 weaknesses, 7 strengths, 11 threats and 8 opportunities are identified. Critically important: 1 weakness and 1 threat. From them a series of strategies are developed.

Conclusions: The SWOT analysis has allowed us to identify the impact of the COVID-19 pandemic on resident training and generate strategies to improve it. The main and priority strategies are on the management of resident training; loyalty and recognition; competence development; technological-training development; tutoring management; and institutional relationship for training and research.

632 - Submission No. 1470

NEUTROPHILIC GRANULOMATOUS CYSTIC MASTITIS, AN ENTITY IN RELATION TO GRAM POSITIVE INFECTION

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Case Description: A 44-year-old woman with no family or personal history of interest, three births with breastfeeding up to 6 months, referred due to a nodule in the left breast detected on self-examination.

Clinical Hypothesis: A mammography was performed, showing a hypogenic and irregular nodule in the lower left quadrant with increased peripheral echogenicity. The result of a core needle biopsy described giant multinucleated cells, consistent with neutrophilic granulomatous cystic mastitis (NCGM).

Diagnostic Pathways: Within the differential diagnosis, different granulomatous pathologies are included, such as: tuberculosis, fungi or atypical mycobacteria in immunocompromised patients.

Discussion and Learning Points: It is an infrequent subtype of mastitis, described in 2011 by AA Renshaw et al, with a higher prevalence in young women with children and of reproductive age and that presents in the form of a nodule of up to 10 centimeters. A review carried out in 2003 in New Zealand confirmed the strong correlation between this entity and infection by Gram-positive bacilli, mainly Corynebacteria. Diagnosis is made by histopathological criteria and verification of Gram positive and diphtheroid bacteria that are located in cystic spaces surrounded by neutrophilic and granulomatous inflammation. The best antibiotics are those lipophilic with bactericidal activity, among which are rifampicin, clarithromycin, trimethoprim/sulfamethoxazole, and clindamycin. This case is presented to emphasize the need to request cultures and Gram stain of sterile samples before the diagnosis of granulomatous mastitis to avoid inappropriate treatment and to be able to perform an optimal treatment from the beginning.

633 - Submission No. 1561

TUBERCULOSIS - TESTICULAR AND GASTROINTESTINAL HIT

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Case Description: A 29-year-old male patient consulted his doctor because of night sweats, fever, weight loss and epigastric abdominal pain with episodes of vomiting with a month of evolution. He had done an esophagogastroduodenoscopy showed gastric and duodenal ulcers, which had morphologic aspects of granulomatous etiology. His past medical history was relevant for a right radical orchiectomy in the context of a suspicious testicular nodule, biopsy documented a granulomatous orchitis compatible with tuberculosis (TB).

Clinical Hypothesis: He was hospitalized for etiological investigation of a gastrointestinal infection with a suspicion of a granulomatous disease.

Diagnostic Pathways: He started empiric antibiotic therapy. The computed tomography scan showed abdominal and pelvic peritoneal implants with a necrotic center. There was no favorable response to the therapy instituted. Taking into account his past medical history, the symptoms, the positive Interferon Gamma Release Assay test, the features of the peritoneal implants and considering that the patient belongs to a country with one of the

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highest rates of TB of Western Europe, we admitted the diagnosis of extrapulmonary TB and he started anti-bacillary therapy with favorable response.

Discussion and Learning Points: TB, which is caused by bacteria of the *Mycobacterium tuberculosis* complex, is one of the oldest diseases known to affect humans and a major cause of death world-wide. Extrapulmonary TB constitutes about 15 to 20% of all TB cases. This case illustrates a not so frequent presentation of a very frequent disease, reminiscing the importance of considering it as a differential diagnosis of abdominal pain.

634 - Submission No. 1098

DOCTOR, MY BELLY HURTS!

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Case Description: The authors describe a case of a 26-year-old male patient, born in India, who presented to the ER because of a 6-day evolution dorsal pain with right iliac fossa irradiation worsened by walking. Additionally, he referred fever, chills, nausea, vomiting, non-quantified weight loss, and dry cough in the last month. The patient travelled to Nepal 4 months ago but denied contact with tuberculosis. He was hemodynamically stable, febrile, having right pelvic pain at palpation without peritoneal signs.

Clinical Hypothesis: Intraabdominal infectious vs neoplastic lesion.

Diagnostic Pathways: Imaging showed a necrotized mass in the right psoas muscle of 13x6x6 cm and an adenopathic conglomerate of 4x2.5 cm.

Discussion and Learning Points: The patient was admitted for clinical monitoring, blood tests revealed elevated acute phase inflammatory parameters. We started empiric piperacillin/tazobactam and vancomycin after microbiological studies were collected. The case was then discussed with the solid tumor oncology team of a tertiary hospital and the patient was transferred for percutaneous drainage. Biological samples were positive for *Mycobacterium tuberculosis complex*, antibiotic therapy was suspended, and the patient was started on RIPE therapy, with benefit, having maintained the abdominal drainage for 46 days. By the time of discharge CT scans were repeated, showing an abscess now measuring only 3x2 cm. Despite less frequent in western countries, tuberculosis remains a diagnosis that needs to be considered, especially in immigrant patients coming from endemic countries.

635 - Submission No. 1598

COMORBIDITY AND MORTALITY IN PNEUMOCYSTIS JIROVECII: A RETROSPECTIVE DESCRIPTIVE STUDY

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Background and Aims: Pneumocystis pneumonia is a serious fungal infection among immunocompromised patients. The aim of this study is to describe and analyze factors that affect mortality in patients admitted to University Hospital Clínico San Carlos with a main diagnosis of *Pneumocystis jirovecii* infection.

Methods: Retrospective study conducted on patients admitted to our center with a main diagnosis of *Pneumocystis jirovecii* infection between 2010 and 2020 in the units of Infectious Diseases, Internal Medicine, ICU and the Emergency Department.

Results: A total of 78 patients were included. Sixty five percent had HIV infection (37% were first diagnosed) and 29% had an oncologic disease. Rheumatological and other immunosuppression factors were found in less than 14% of the patients. Mortality was 16.7%. Oncologic patients presented higher mortality rates ($p<0.05$). However, no significant association was found in HIV infected patients ($p=0.35$). In relation to HIV infected patients, those who were not previously diagnosed had a statistically significant association with longer in-hospital stay and admission in ICU ($p<0.05$). Low CD4 count and high viral load were found to be statistically related to higher mortality ($p < 0.05$ and $p < 0.01$ respectively).

Conclusions: In our study, the most frequent disease associated to *P. jirovecii* infection was uncontrolled HIV infection, while a coexisting malignancy was less common. Whereas an underlying malignancy was statistically associated with higher rates of mortality, the HIV infection was not, probably due to the existence of effective antiretroviral treatments.

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636 - Submission No. 1784

DISSEMINATED ILIOPSOAS, THYROID AND PIRIFORMIS MUSCLE ABSCESS FROM BLASTOSCHIZOMYCES CAPITATUS IN A NON-NEUTROPENIC PATIENT, SIMULTANEOUSLY DIAGNOSED WITH UNDERLYING CHRONIC MYELOPROLIFERATIVE NEOPLASM

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General University Hospital of Larissa, Department of Medicine and Research Laboratory of Internal Medicine, National Expertise Center of Greece in Autoimmune Liver Diseases, European Reference Network on Hepatological Diseases (ern-rare Liver), Larissa, Greece

Case Description: *Blastoschizomyces capitatus* is a rare opportunistic pathogen, however in immunocompromised patients it can cause invasive fatal infections, affecting respiratory, gastrointestinal and musculoskeletal system. We aimed to present a patient who was hospitalized due to pyomyositis with multiple abscesses due to *Blastoschizomyces capitatus* and in the context of investigating underlying predisposing factors, a myeloproliferative neoplasm was diagnosed. A 75-year-old patient with history of diabetes was admitted to our department due to fever and back pain during the previous two weeks. Laboratory findings revealed increased inflammatory markers (WBC: 47000/m^3, neutrophils: 39900/m^3, CRP: 11.6 mg/dl with a reference value of <0.5 mg/dl). Due to the above findings a computed tomography (CT) scan was performed, which revealed abscesses in left iliopsoas, thyroid, and piriformis muscles. Drainage of the abscesses was performed under CT guidance and in pus culture *Blastoschizomyces capitatus* was isolated. Identification of this opportunistic pathogen raised suspicion of an underlying immunosuppression. The patient underwent bone marrow biopsy, which was compatible with a myeloproliferative neoplasm, while the b3a2 (p210) for the bcr-abl gene, was detected by molecular testing. Patient was initially treated with fluconazole and then with intravenous liposomal amphotericin B, but died due to multiple organ failure.

Clinical Hypothesis: Fungal infections in immunocompromised patients are associated with high mortality and outcome depends on early treatment and immune status.

Diagnostic Pathways: Careful study of clinical and laboratory parameters is necessary to investigate underlying immunosuppression.

Discussion and Learning Points: Hematologic disorders rarely become clinically apparent with widespread opportunistic infections due to underlying immunosuppression.

637 - Submission No. 2113

ENTEROBACTERALES PRODUCING CARBAPENEMASES IN A PROVINCIAL HOSPITAL IN 2018-2021 - OCCURRENCE AND CHARACTERISTICS

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Background and Aims: Carbapenems-resistant (CPE) strains are a major threat due to their high potential for all antibiotic resistance. The purpose of this study was to analyze the occurrence of CPE genes and to characterize strains.

Methods: 437 patients from the largest center in Silesia with strains presenting CPE genes confirmed by PCR were analyzed. Identification and drug susceptibility analysis was performed using the Phoenix M50 system.

Results: Strains were isolated during active patient screening or outbreaks from the rectum (n=228, 52.2%) and urine (n=70, 16.0%) with dominant identification of Klebsiella pneumoniae (97.7%). Symptomatic infections accounted for 24.0% (n=105). Among the resistance genes, OXA-48 (70.5%) and KPC (26.0%) dominated. From healthcare-associated infections (HAI), 100% resistance to β-lactam antibiotics, cephalosporins, and close to 100% resistance to fluoroquinolones was observed. Amikacin (2.0%) and ceftazidime with avibactam (0.7%) showed the lowest resistance. The data did not show differences in incidence rates before, during, and after the COVID-19 pandemic (11.6, 12.2, and 13.0 per 10,000 in January 2019, 2020, and 2021, respectively), and no correlation was found with the identified carrier rate.

Conclusions: Most patients were carriers of CPE strains; however, screening did not reduce the risk of CPE-HAI. Therefore, new solutions are needed to prevent infections.

638 - Submission No. 1346

INFECTIVE ENDOCARDITIS IN THE XXI CENTURY: EPIDEMIOLOGICAL AND PROGNOSIS CHANGES IN THE NORTH OF EXTREMADURA

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Background and Aims: The aim is to explore the trends in epidemiology and the risk factors related to the prognosis of infective endocarditis (IE).

Methods: A retrospective cohort study was performed. A total of

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75 consecutive patients who were admitted with IE from 2000 to 2021 in public North Extremadura hospitals were included. The clinical characteristics and the risk factors related to the prognosis of IE during this period were analyzed.

Results: The average length of hospitalization was 36.0±17.4 days, predominantly men (55%), and 56% were between 60-80 years old. The most frequent infectious agents involved were Staphylococci (34.2%) and Streptococci (21.9%). During hospitalization, 17% of patients underwent heart valve surgery and 25% of the total cohort died. Age (p = 0.004, OR = 1.102, 95% CI: 1.032-1.177), chronic HF (p < 0.001, OR = 6.757, 95% CI: 2.095-21.796), degenerative valve disease (p < 0.001, OR = 6.757, 95% CI: 2.095-21.796), neurological complications (p = 0.007, OR = 11.058, 95% CI: 1.939-63.059) and septic shock (p < 0.001, OR = 15.419, 95% CI: 2.860-83.126) were independent risk factors for in-hospital mortality. Cardiac surgery had a protective effect towards a fatal outcome (p < 0.001, OR = 0.089, 95% CI: 0.016-0.385).

Conclusions: There were no significant changes in the overall incidence of IE and Staphylococci was still the predominant etiological agent. Despite improvements in the diagnosis, and medical and surgical treatment of IE, this disease continues to be associated with high rates of in-hospital mortality.

639 - Submission No. 975

CLINICAL CHARACTERISTICS AND OUTCOME OF MDR BACTERIAL INFECTIONS IN PATIENTS WITH ADVANCED NEUROMUSCULAR DISORDERS (NMD)

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Background and Aims: The aim of this study was to assess the clinical and microbiological characteristics of MDR infections in patients with NMD.

Methods: Retrospective analysis of clinical, hemato-chemical, treatment and outcome data of 35 patients with NMD with proven MDR colonization/infection from August 2021 to November 2022.

Results: Most patients were males 55.6%, median age 54 years. Amyotrophic lateral sclerosis was the primary disease in 77. 8%. All patients had at least one invasive device. 33.3% were colonized with MDR without developing an infection while 55.6% developed an infection. Charlson comorbidity index was >2 in both groups but higher in infected compared to colonized (4.5 vs 3). Infected patients were mostly females (70%) with median age 62 years. 16 pathogens caused 35 infection episodes. 8 patients had > 1 pathogen. Most common pathogens were *Acinetobacter baumannii* and *Pseudomonas aeruginosa* (28.6% each) with median time from hospital entry to positivity of 24 days. 6 of 20 infected patients were previously colonized but only one developed same pathogen infection. 50% of infected patients developed pneumonia, which was hospital acquired in 77.8%. Colistin was the most commonly active antibiotic while carbapenems were largely inactive. Eradication of infection occurred in 38.9%. None of those with infection died.

Conclusions: MDR infections are common in patients with NMD, with carbapenem resistant non-fermenting Gram-negative bacilli prevailing. These infections were numerically associated with female sex, greater age and comorbidities. Both eradication and infection-related mortality appeared low. We highlight the importance of infection prevention in this vulnerable population.

640 - Submission No. 965

CLINICAL RESULTS WITH THE USE OF CEFTAROLINE AND CEFTOBIPROLE: REAL LIFE COMPARATIVE DATA FROM A TERTIARY CARE HOSPITAL

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Background and Aims: Gram positive bacteria show a relentless increase in resistance to antimicrobials. Two recently approved intravenous cephalosporins, ceftaroline and ceftobiprole, had shown strong activity against resistant Gram-positive cocci, as well as several Gram negative bacilli, including some resistant strains.

Methods: This was a single center, observational, retrospective clinical study. We studied 138 patients (75 treated with ceftaroline and 63 treated with ceftobiprole) between October 2016 and August 2021 at Monaldi Hospital, Naples.

Results: Patients treated with ceftobiprole had higher Charlson Comorbidity Index (p=0.003) and higher prevalence of multiple site infections. No significant differences between ceftaroline and ceftobiprole groups were observed in terms of hospital mortality (p=0.663), length of hospital stay (p=0.210), clinical cure (p=0.207), clinical improvement (p=0.415) and clinical failure (p=0.364). A significant shorter C reactive protein (CRP) halving time was observed in Ceftobiprole group (p=0.032). Unfortunately, microbiological outcome was not available for all patients, however, persistently positive cultures were more frequent in ceftaroline group than ceftobiprole group (p=0.032). The drug exposure index was higher for ceftaroline group (p=0.035). Two cases of *Clostridioides difficile* infection were

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observed in ceftaroline group and one case in Ceftobiprole group.
Conclusions: Ceftaroline and ceftobiprole appear to be two viable treatment options for resistant Gram positive and for some Gram-negative bacterial infections, although ceftobiprole showed faster decrease of CRP in a group of patients with more comorbidities and exposed to lower antibiotic doses in relation to estimated glomerular filtration rate. Both drugs are generally well tolerated with less effects on gut flora than other broad-spectrum molecules.

641 - Submission No. 575

SUBANALYSIS OF ANTIRETROVIRAL TREATMENT PRESCRIBED IN ELDERLY PATIENTS IN A THIRD-TIER HOSPITAL

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Background and Aims: To describe the most used antiretroviral treatments in patients older than 65 , diagnosed with HIV and with polypharmacy (under treatment of five or more drugs), in the Health Area of Cáceres, in the last 10 years of monitoring.
Methods: Retrospective observational study of patients older than 65 years with HIV infection and polypharmacy, within our registry of the Health area of Cáceres between the years 2010 to 2021.
The main inclusion criteria were confirmation of HIV diagnosis, age over 64 years and being in treatment with five or more drugs at the time of their analysis.
Results: In the period of time analyzed, a total of 1600 patients diagnosed with HIV infection were studied, of whom 69 patients (4.6%) met the study criteria, by age and polypharmacy. The most prescribed ART was 2 NRTIs (Non-nucleoside reverse transcriptase inhibitor) + INI (Integrase inhibitor), to a greater extent the combination DTG/ABC/3TC (24.6%) followed by BIC/FTC/TAF (20.2%). The next combination was 2 ITIN + ITINN), specifically RPV/FTC/TDF (15.9%). The combination of 2 ITIN + IP is followed: DRVp/FTC/TAF (5.7%). They are followed in prescription guidelines by the combinations EVGc/FTC/TAF (5.7%), RAL + FTC/TDF (4.3%) and RAL + ABC/3TC (4.3%). The rest of the patients (18%) received other treatment guidelines.
Conclusions: We can conclude that older HIV patients have a high therapeutic complexity. Associated comorbidities cause a high prevalence of polypharmacy, which in turn will result in a decrease in adherence to treatment and an increase in potential interactions.

642 - Submission No. 1977

TOCILIZUMAB AND ITS INFLUENCE ON TUBERCULOUS DISEASE

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Background and Aims: Tocilizumab use includes reactivation of tuberculosis (TB) or hepatitis B (HBV) or worsening of hepatitis C virus (HCV) infection. Our objective is to study the presence of tuberculosis reactivation, as well as hepatitis, in patients who have received tocilizumab treatment in the SARS-CoV-2 pandemic.
Methods: 175 patients treated with tocilizumab (March 2020 - May 2022) at the Hospital de Terrassa. ITL was diagnosed by positive QuantiFERON-TB Gold® test and active HBV infection (HBsAg+).
Results: 175 patients received tocilizumab. The mean age was 60 years, 28% were women and 71.4% were men. Of this sample, 6.29% (11 patients) (group 1, G1) were QuantiFERON positive, while 93.71% were QuantiFERON negative (group 2, G2). Of the G1 cases, 27.3% were treated for this pathology. Of this group, 81.8% were men (vs. 71.34% in G2); as for nationality, the majority were Spanish (54.5% vs. 84.14% in G2), followed by Latin American (27.3% vs. 10.9% in G2) and African (18.2% vs. 3.65% in G2). Regarding the risk factors of these patients, we found immunosuppression in 9% as neoplastic disease in the case found (vs 7.92% in G2 where 1.83% case of such disease was found), 45.5% were smokers (28.04% in G2) and 27, 3% were diabetic (16.46% G2). One case of tuberculosis identified.
Conclusions: The prevalence of TILT prior to tocilizumab administration was low. Nevertheless, the therapeutic implications of its diagnosis are relevant. Restricting ITL screening to patients with risk factors could be considered. One case of active hepatitis B virus infection was identified.

643 - Submission No. 1878

YOUNG MALE WITH INTRAABDOMINAL ABSCESSES

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Case Description: 58-year-old male with diabetes mellitus type 2. Arterial hypertension. Dyslipidemia. Acute myocardial infarction in 2016. He was admitted to the Emergency Room due to prolonged fever up to 38ºC, weight loss of about 20 kg, occasional bilious vomiting, 3-4 daily diarrhea stools and choluria in the last month. At the physical examination, no abnormal findings. Analysis: leukocytes 18330/mc, hemoglobin 9.5 g/d with mean

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corpuscular volume of 68.5 fl, glucose 288 mg/dl, urea 126 mg/dl, creatinine 2.53 mg/dl, total bilirubin 0.50 mg/dl, GGT 343 UI/LCRP 290.8 micrograms/ml. Chest and abdomen X-ray: without abnormal findings. Electrocardiogram without alterations.

Clinical Hypothesis: We made the differential diagnosis of: Endocarditis. Constitutional syndrome. Intraabdominal infection.

Diagnostic Pathways: Hemocultures: *E. coli* sensitive to quinolones and amoxicillin-clavulanic acid. Urine culture and stool culture: negative. Serologies for HIV, HBV, syphilis, and tumor markers: negative. Abdominal ultrasound: thickened gallbladder wall, with multiple lithiasis. Echocardiogram: no images suggestive of endocarditis. Colonoscopy and gastroscopy: internal and external hemorrhoids grade II/IV. The patient, despite antibiotic therapy, continued with evening fever and sweating, so we requested an abdominal CT. It was observed peripancreatic, liver and gluteal region abscesses. We reinterviewed the patient, who acknowledged that he had been suffering from pain in the perianal region for at least a month.

Discussion and Learning Points: We contacted the vascular radiology department to drain the larger liver abscess and the surgery department to drain the gluteal abscess. It was isolated *E. coli* in both abscess samples from liver and gluteal abscess.

644 - Submission No. 2134

HOSPITALIZATION DUE TO INFECTIOUS MONONUCLEOSIS IN MEIR MEDICAL CENTER, KFAR SABA, ISRAEL

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Background and Aims: Infectious mononucleosis (IM) is common. Majority of cases are related to Epstein Barr virus (EBV) infection, especially in young adults. Data regarding the morbidity of EBV infection in adults is limited. Our study aims to describe incidence, clinical and laboratory features, and outcomes of hospitalized adults more than 18 years with acute EBV infection.

Methods: A retrospective study of IM cases related to EBV infection at Meir Medical Center, over 12 years (2007-2018). We describe the incidence, clinical and laboratory findings and outcomes of EBV infection in hospitalized adults.

Results: One hundred and thirty-seven cases of IM were detected. Most patients presented with the clinical triad: fever (88%), lymphadenopathy (57%) and pharyngitis (61%). The laboratory findings included lymphocytosis (45%), elevated transaminases (86.3%) and hyperbilirubinemia (62.1%). Disease complication was found in 33.5% of cases including thrombocytopenia in 41/137 (30%), hemolytic anemia in 2/137 (1.4%), encephalitis (2/137) and Guillain Barre Syndrome requiring treatment with IVIG in one case. Mortality rate was 0%.

Conclusions: IM is common in young adults. Although self-limited with rare mortality, it was associated with more hospitalizations and severe complications.

645 - Submission No. 2212

IMPACT OF A HOME INTRAVENOUS ANTIMICROBIAL TREATMENT PROGRAM IN A FIRST-LEVEL HOSPITAL

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Background and Aims: The main objective of our study is to evaluate the results of a TADE program in a regional hospital, in terms of readmissions and mortality.

Methods: Descriptive, observational and retrospective study of patients included in the TADE program of the Hospital San Juan de Dios del Aljarafe, in a period between May 2017 and December 2021.

The inclusion criteria were: clinical stability, adequate venous access and compliance with informed consent. The exclusion criteria: not having an adequate collaboration from family or not meeting adequate hygienic conditions at home.

The variables analyzed were readmissions in the first three months after discharge and mortality during the first year, in relation to the process they had been included in the program.

Results: We included 24 patients (87.5% were men, with a median age of 67 years). The median duration of treatment was 14 days, with a compliance rate of 83.33%. The first month, 4 patients (16.66%) were readmitted, two of them due to problems with the pump, and the rest due to persistence of fever, without subsequent readmissions. The following two months, a patient was readmitted, being the only deceased, obtaining a total of 20.83% of readmissions in the first three months and a 4.16% mortality during the first year. The remaining 79.17% presented resolution of the process.

Conclusions: TADE is a valuable tool to avoid prolonged stays in patients with different infectious pathologies, reducing the complications associated with hospitalization, demonstrating its cost-effectiveness and safety in relation to not increasing the number of early readmissions or mortality.

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646 - Submission No. 557

MANAGEMENT OF SICKLE CELL DISEASE PATIENTS HOSPITALIZED DUE TO COVID-19 PNEUMONIA

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Case Description: Sickle cell disease (SCD) is one of the most common and severe monogenic disorders, affecting millions of people worldwide. Patients with SCD have been characterized as a "high-risk" group for COVID-19 due to their compromised immune system, caused by functional hyposplenism, as well as systemic vasculopathy. The present study describes the clinical characteristics, management, and outcomes of 3 patients with SCD hospitalized due to COVID-19.

Clinical Hypothesis: The first case concerns a 54-year-old man with S/β-thalassemia. admitted due to fever in the last 14 days. The second case is that of a 45-year-old man with S/β-thalassemia with a medical history of hospitalizations for painful vaso-occlusive crisis 3 years before. The second patient presented with fever and upper extremity and chest pain over the past 24 hours. The third case is that of a 50-year-old female patient with S/β-thalassemia. The third patient presented with fever, headache, vomiting and upper and lower extremity pain for the last 2 days.

Diagnostic Pathways: All patients due to COVID-19 pneumonia and hypoxemia were treated with dexamethasone, remdesivir, oxygen therapy, prophylactic anticoagulation, hydration, analgesia, packed red blood cell transfusions, and antibiotic therapy where necessary. The third patient received therapeutic anticoagulation as she was diagnosed with pulmonary embolism. All 3 patients had not been vaccinated against the SARS-CoV-2 virus, which is an additional risk factor for the hospitalization of these patients. However, all 3 patients had a favorable disease outcome.

Discussion and Learning Points: Recognizing the various clinical scenarios of SARS-CoV-2 infection in patients with SCD is critical for therapeutic interventions to be initiated promptly.

647 - Submission No. 583

THE PREVALENCE OF POST COVID-19 SYNDROME AT 3 MONTHS AFTER HOSPITALIZATION WITH COVID-19 PNEUMONIA-COMPARISON BETWEEN ALPHA, DELTA AND OMICRON VARIANT

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Background and Aims: After the initial acute infection by SARS-CoV-2, a multitude of long-lasting symptoms have been described. The aim of this study is to investigate the prevalence of post-COVID-19 syndrome in patients who were hospitalized for COVID-19.

Methods: One hundred and fifty-three (108 males, 45 females) patients with a mean age of 56.93±12.33 years who were hospitalized due to COVID-19, of which 97 (60.3%) patients were hospitalized in the time period of alpha variant predominance, 31 (20.3%) in the period of delta variant predominance and 25 (16.3%) patients in the omicron variant predominance time period were followed-up for 3 months. Also, 88.2% were unvaccinated, and 11.8% were vaccinated.

Results: Sixty-six percent of patients had comorbidities and 82.4% had at least one symptom 3 months after initial infection. Symptoms reported were fatigue (42.5%), feeling anxious or depressed (35.7%), shortness of breath (24.8%), memory/concentration disorders (17.6%), sleep disorders (17.6%), palpitations (15%), myalgias (13.1%), cough (12.4%), arthralgias (9.2%), smell/taste disturbances (8.5%), chest pain (7.2%), hair loss (7.2%), headache (6.5%), numbness (2%) and tinnitus (1.3%). There was a statistically significant association between comorbidities and the development of post-COVID-19 syndrome and between the female gender and hair loss, sleep disorders, headache and tinnitus. There was a statistically significant association of the alpha variant with hair loss, the delta variant with rash and dyspnea and the omicron variant with cough ($p<0.05$).

Conclusions: The incidence of post-COVID-19 syndrome is significant in hospitalized patients with COVID-19 disease regardless of SARS-CoV-2 variant.

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648 - Submission No. 1339

ANALYSIS OF CLOSTRIDIOIDES DIFFICILE INFECTIONS IN A SECOND-LEVEL HOSPITAL

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Background and Aims: Our aim was to analyze *Clostridioides difficile* infections (CDI) in our center, and to determine the influence of different risk factors on mortality during stay, 3 months after discharge and recurrences at 3 months.
Methods: This is an analytical study. Patients with diarrhea and criteria for toxigenic CDI during 2020-2021 were included in the study. Age, sex, previous use of antibiotics, use of proton pump inhibitors (PPI), previous episodes, prescribed antimicrobial treatment and its duration were analyzed.
Results: 38 patients were included, 16 (42.1%) were men. The average age was 75 years (SD 15). 24 patients (62%) had used antibiotics in the previous 3 months, as well as PPI. The most consumed antibiotics were: ertapenem and ciprofloxacin in 4 cases (10.5%) each; followed by amoxicillin/clavulanic acid and ceftriaxone in 3 (7.9%); cefuroxime and meropenem (n=2; 5.3%) and amoxicillin monotherapy, azithromycin, cefotaxime, clindamycin, co-trimoxazole and levofloxacin once (2.6%). 4 patients (10.5%) had previous digestive clinic. 33 cases were treated (86.8%): vancomycin in 27 (71.1%), metronidazole in 4 (10.5%) and fidaxomicin in 2 (5.3%). Mean treatment's duration was 11.9 days (SD 8.1). Hospital mortality was 7.9% (3 cases) and 21.1% (8 cases) 3 months after discharge. One patient (2.6%) died from CDI. 3 patients had recurrence (7.9%). No association was found between hospital mortality and recurrences with the factors studied. An association was found between male sex and mortality 3 months after discharge (B=2.99; p=0.034).
Conclusions: CDI in our hospital presented with high mortality. Although the incidence was higher in females, males had 3 times higher mortality 3 months after discharge.

649 - Submission No. 1377

46-YEAR-OLD FEMALE WITH FEVER AND LYMPHADENOPATHIES: CLINICAL VERSUS IMAGING-GUIDED DIAGNOSTIC ORIENTATION

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Case Description: We present the case of a 46-year-old female who had a fever of 38ºC for 10 days, pain in the left upper limb and a left axillary tumor. Regular contact with domestic animals and gardening. She has been pricked by a cactus spike in the previous month. She has received antibiotic therapy without improvement. Physical examination showed soft adenopathy left axillary conglomerate, adherent to deep planes and painful to the touch, without fistulization and without lymphangitic course. Laboratory tests were normal, including serologies. Axillary ultrasound showed an adenopathic conglomerate with strong hypoechogenicity suggestive of neoplasy.
Clinical Hypothesis: Infectious versus neoplastic lymphadenitis.
Diagnostic Pathways: During admission, a thoraco-abdominal-pelvic CT scan, a mammography and a breast ultrasound were performed, all of them normal. A histological study was performed, describing suppurative necrotizing granulomatous lymphadenitis with the presence of gram-positive bacilli by the Warthin-Starring technique, suggestive of microbial infection by *Bartonella henselae*.
Discussion and Learning Points: Cat-scratch disease is characterized by self-limiting regional lymphadenopathy and should be considered in any fever of unknown origin. Cats are natural reservoirs of *B. henselae*, which can spread the infection via saliva contact with injured skin/mucosae. In our case, the ultrasound description led to neoplastic screening. However, the clinical features lead us to consider infectious causes in a first instance. Although it seems clear that screening for neoplasia was justified, in this case we would like to demonstrate the importance of a systematic physical examination of the lymphadenopathies and the patient's clinical history, which are better indicators than a complementary test when it comes to diagnostic orientation.

650 - Submission No. 1503

AN OPPORTUNITY TO THRIVE, A CASE OF PNEUMOCYSTIS JIROVECCI IN AN APPARENTLY IMMUNOCOMPETENT PATIENT

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Case Description: A 76-year-old man presents to the emergency department after experiencing debilitating muscle weakness and adynamia for 7 days.
Blood tests revealed bicytopenia (Hb 6.2g/dL; WBC 800/L,

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neutrophils 300/L) and raised inflammatory markers (CRP 9.0 mg/dL). Shortly after admission, high fever was detected.

Clinical Hypothesis: Febrile bicytopenia.

Diagnostic Pathways: Due to febrile neutropenia, the patient was started on antibiotics with piperacililin/tazobactam (for 10 days). The antimicrobial therapy was escalated to vancomycin with meropenem (for 8 days) because of ongoing fever with raised inflammatory markers. Two blood marrow samples were collected. The first one showing 5.5% plasmacytes, compatible with monoclonal gammopathy of undetermined significance and the second one with no significant findings. A body CT scan revealed right lung infiltrate and PET scan showed high uptake in both lungs; because of that bronchoscopy was made. No macroscopic abnormalities were found but bronchoalveolar lavage culture was positive for *Pneumocystis jirovecii*. After *P. jirovecii* infection was confirmed, the patient was started on Co-trimoxazole and corticosteroid therapy for 21 days. This resulted in the fever subsiding and becoming afebrile since, it also led to the resolution of the thrombocytopenia and leukopenia. After this, the patient was referred to hematology to repeat a bone marrow biopsy.

Discussion and Learning Points: Like all opportunistic infections, *Pneumocystis jirovecii* depends on any degree of immunosuppression. Generally, a specific cause for this frail status is identified; however, this case raises the awareness to search for this pathogen even when the source of immunosuppression is unknown, making the treatment of a potential high-risk infection a priority, over the etiological research.

651 - Submission No. 904

IMPACT OF INADEQUATE EMPIRICAL THERAPY IN URINARY INFECTION: FREQUENCY, RISK FACTORS AND MORTALITY

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Background and Aims: Antibiotics are one of the most widely used pharmacological groups and their inappropriate use not only contributes to the increase in resistance, but also to morbidity and mortality. The aim was to analyze the frequency and impact of the inappropriate use of antibiotics in frail patients hospitalized with diagnosis of urinary tract Infection (UI).

Methods: Observational retrospective study in which data were taken from medical history (antibiotic treatment, mortality and visit to the Emergency Department for UI in the following 3 months of hospital discharge).

Results: 187 patients were included. The main errors in the administration of antibiotic treatment were the initiation of empirical antibiotic resistant to the microorganism (51.87%). Of them, 82.47% were changed to a sensitive one in the first 24 hours; 12.37% between the following 24-72 hours and in 5.16% no change was made. In-hospital mortality in patients with initially resistant empirical antibiotic therapy was 7.22% (p=0.25). In the following 6 months, 34 patients died (P=0.003). The 30.93% of the patients with resistant antibiotics at the beginning presented a new UI in the three subsequent months and 55.33% of those who received antibiotics for less than 5 days, both with p<0.005.

Conclusions: UI is one of the most frequent infections worldwide. Inadequate use of antibiotics is associated with increased mortality and reinfections rates, so adequate intervention in these patients is important.

652 - Submission No. 956

BETA-D-GLUCAN IN THE DIAGNOSIS AND EVOLUTION OF INVASIVE CANDIDIASIS

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Background and Aims: Invasive candidiasis (IC) include candidemia and/or deep visceral involvement. In recent years, have been developed complementary serological tests, including β-D-glucan (BDG). The main aim was to evaluate the diagnostic utility of BDG in critically ill patients with risk factors (RF) for the development of IC. The secondary ones were to correlate the results of BDG with the microbiological ones, to establish the most frequent risk factors and to analyze mortality at 30 days from diagnosis.

Methods: Retrospective study of the last 3 years of critically ill patients with RF for development of IC.

Results: 79 patients were analyzed. The most frequent RF was the use of central intravenous catheters (94.9%), parenteral nutrition (77.21%) and recent surgery (74.7%). The least common were taking broad-spectrum antibiotic therapy and immunosuppression (31.65% and 16.5% respectively). Different groups were stratified according to the microbiological isolation, and it was related to the BDG positivity or negativity [table 1]. Groups whose patients present isolation hematology presented statistically significant results. However, those in which positive results were obtained excluding blood cultures, these were not statistically significant. Overall mortality within 30 days from diagnosis was also analyzed, being 44.3%, all of them with positive BDG values, (all>90 pg/dL), so they could be considered prognostic markers as well as diagnostic

Conclusions: Few studies have been carried out to date to assess its diagnostic power and/or prognosis. Our results support its diagnostic value, especially in cases of candidemia, as well as its prognostic value.

Type of microbiological isolation (n)	Seric BDG(-)	Seric BDG(+)	p
Candidemia without other isolation (n:29)	3	26	**<0.001**
Abdominal abscess/peritoneal fluid culture without candidemia (n:17)	8	9	0.062
Abdominal abscess/ peritoneal fluid with candidemia (n:26)	4	22	**0.0024**
Culture of other areas (cerebrospinal fluid, synovium, excluding intravenous catheter) without candidemia (n:2)	2	0	0.21
Candidemia + other positive culture (excluding intravenous catheter) (n:60)	7	58	**0.0036**
Candidemia + intravenous catheter culture (n:41)	5	36	**<0.001**

652 Table 1. Relationship between BDG and different culture isolations

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653 - Submission No. 972

EVALUATION OF MULTIRESISTANCE IN INFECTIONS URINARY BY E. COLI AND K. PENUMONIAE AND RISK FACTORS FOR ITS DEVELOPMENT

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Background and Aims: Multiresistant germs (MRG) are gaining importance in current clinical practice due to the increase in incidence. It is defined as the absence of sensitivity to at least one antibiotic from three or more active families for each species bacterial. The aim is to analyze the frequency of multiresistance in patients diagnosed with urinary tract infection (UI) by *E. coli* and *K. pneumoniae* and to analyze what factors contribute to its development.

Methods: Retrospective observational study of patients with UI during one year of follow-up.

Results: Data were collected from 290 patients with diagnosis of UI by *E. coli* and *K. pneumoniae*, of which 135 were produced by MRG, and 155 by not MRG .Risk factors that showed statistical association significant for UI development by MRG are listed in the table 1. The most frequent factors associated with increased incidence of UI due to GMR were age over 70 years (72.6%) followed by the female sex (67.4%). Institutionalized subjects presented increased risk of infection by these microorganisms, representing the 57.03%. Finally, an association was also found between dependency and dementia (44.44% and 42.22% respectively) and the isolation of the same germ in blood cultures (17.77%).

Conclusions: Multiresistance is an increasingly frequent problem worldwide. Some of the contributing factors are modifiable, such as the inappropriate use of antibiotics, so that an adequate therapy antibiotic treatment could reduce its incidence.

	MGR (n:135)	No MGR (n:155)	p
Woman	91(67.4%)	120(77.42%)	**0.003**
Man	44(32.6%)	35(22.58%)	0.061
>70 years old	98(72.6%)	108(69.68%)	**0.005**
Barthel <40	60 (44.44%)	38(24.52%)	**0.0034**
Immunosuppresants > 1 year	21(15.56%)	18(11.62)	0.058
Dementia	57(42.22%)	53(34.19%)	**0.004**
Pluripathology	84(62.22%)	91(58.71%)	0.257
Chronic kidney disease	35(25.93%)	38(24.52%)	0.058
Institutionalized	77(57.03%)	58(37.42%)	**0.002**
Diabetes	28(20.74%)	24(15.48%)	0.106
Hematologic malignancy	15(11.11%)	12(7.74%)	0.081
Prior antibiotic therapy (≤3months)	89(65.9%)	70(45.16%)	0.002
Benign prostatic hyperplasia	23(17.04%)	19(12.25%)	0.065
Hospitalization history (<days)	48(35.55%)	39(25.16%)	**0.04**
Positive pool blood cultures	24(17.77%)	15(9.68%)	**0.049**

653 Table 1. Univariate analysis of risk factors for the development of UI in MRG

654 - Submission No. 1714

ATYPICAL MANIFESTATION OF CUTANEOUS OPPORTUNISTIC INFECTION IN IMMUNOCOMPROMISED PATIENT

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Case Description: This is the case of a 32-year-old male patient with a medical history of non-treated HIV diagnosed ten years ago. He presented to our institution with a one-month history of general malaise, subjective fever, weight loss, dry cough, and disseminated hyperkeratotic pruritic skin lesions including papules, crusted plaques, nodular ulcerative lesions, and some with erosive changes involving the upper and lower extremities, face, genital mucosa, and entire trunk. The patient denied any prior episodes. Initial laboratories showed CD4 count of 30 and viral load above 200,000. The comprehensive metabolic panel was remarkable for elevated alkaline phosphatase, mild transaminitis, elevated ESR and CRP.

Clinical Hypothesis: Initial differential diagnosis included disseminated fungal infection, Kaposi sarcoma, and atypical mycobacterial infection.

Diagnostic Pathways: Reactive VDRL (1:32) and positive fluorescent treponemal antibody assay. Skin biopsies were performed with histopathology was consistent with atypical features of secondary syphilis including suppurative granulomatous dermatitis with plasma cells and dense lichenoid lymphoplasmacytic infiltrate with neutrophils. Negative Periodic Acid-Schiff and Acid-Fast stain.

Discussion and Learning Points: Literature has shown the important clinical correlation between syphilis and HIV given its association with a higher transmission and acquisition of HIV because syphilitic ulcers facilitate the transmission of the virus. In addition, syphilis stimulates the immune system leading to an increase in HIV replication and lower CD4 counts. Secondary syphilis has considerable histopathologic variability due to the multiple presentations and evolution of lesions over time. This case highlights a rare presentation of rupioid syphilis in an immunocompromised patient with HIV and the importance of awareness of the variable presentations of syphilis.

655 - Submission No. 323

REVIEW OF COXIELLA INFECTIONS IN THE LAST TEN YEARS IN A COUNTY HOSPITAL

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Background and Aims: Description of Q fever cases collected in a county hospital in the last 10 years.

Methods: Systematic review of medical records of patients admitted to Internal Medicine.

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Results: Eight sporadic cases were collected with livestock farms. The age range was 31 to 83 years (mean 65 years). Three had joint replacements. The form of presentation was pneumonia in all of them, in 5 cases preceded by flu-like illness. Three had elevated transaminases not in the range of hepatitis. One had associated myocarditis. The diagnosis was serological in all cases, with positive IgG and IgM. Four received doxycycline for 3 weeks and four received levofloxacin for 2 weeks.

Conclusions: Q fever is a zoonosis caused by *Coxiella burnetii* mainly in people in contact with livestock or livestock products or living in livestock areas. There are acute forms (flu-like syndrome, pneumonia, hepatitis, endocarditis) and chronic forms (endocarditis, endovascular infections, osteomyelitis and prosthetic infections). Diagnosis is primarily serological with PCR and cultures reserved for doubtful cases. IgG titres ≥ 200, IgM ≥ 50 antiphase II or quadrupling of previous titres indicate acute infection; IgG titres > 800 antiphase II, chronic. The treatment of choice is doxycycline; alternatives are quinolones, macrolides and trimethoprim-sulfamethoxazole. The only relevant epidemiological data was living in livestock farming areas. The gender distribution is also not occupationally relevant.

- The most frequent forms were pneumonia and influenza-like illness.
- Despite the presence of risk factors, none of them presented chronic forms.
- Quinolones had similar efficacy to doxycycline.

656 - Submission No. 2413

LIVER ABSCESS - A SOURCE TO CONSIDER WHEN DEALING WITH KLEBSIELLA PNEUMONIAE BACTEREMIA

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Case Description: Male, 65 years old, with hypertension, dyslipidemia, chronic kidney disease of unknown etiology under hemodialysis and hemorrhagic stroke. Taken to the ER with fever in the past 2 days, with no clinical focus of infection. Physical examination without relevant findings.

Clinical Hypothesis: *Klebsiella pneumoniae* bacteremia is usually nosocomial and occurs mainly in immunosuppressed patients. Its focus remains unidentified in about 30 to 47% of patients. Liver abscesses are an uncommon clinical entity that poses challenges in diagnosis and treatment.

Diagnostic Pathways: Analytically, neutrophilic leukocytosis (12.11x10^9) and elevated CRP (222.9 g/dL), without changes in the liver profile. Chest X-ray without relevant changes. CT abdominopelvic showing 2 hypodense, heterogeneous nodular formations in the liver in segments IV (42 mm) and VIII (13 mm). Blood cultures isolated *K. pneumoniae*. Given the absence of more likely foci for bacteremia caused by this agent and given the presence of the findings described on CT AP, we decided to perform an AP MRI that characterized those findings as possible liver abscesses. The patient had a good clinical and analytical evolution under antibiotic therapy, and it was not performed liver drainage due to the significant reduction of lesions in the control image.

Discussion and Learning Points: Liver abscesses usually have polymicrobial isolations and occur mainly after peritonitis with intra-abdominal dissemination or after infection of the biliary tract. It can also occur by hematogenous dissemination in the context of systemic infection, although none of these contexts was the patient's case. This case serves as a reminder of liver abscesses as a possible source of bacteremia due to *K. pneumoniae*.

657 - Submission No. 2435

A CASE OF PULMONARY TUBERCULOSIS FIRST INTERPRETED AS PULMONARY METASTASIS FROM GASTRIC CARCINOMA

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Case Description: Male, 68 years old, with a history of gastric carcinoma, locally advanced, unresectable, with suspected peritoneal carcinomatosis and lung metastasis, both presumed but without histological confirmation. He went to the ER with productive cough, fever, hyperhidrosis, anorexia and weight loss with 6 months of evolution. Objective examination without relevant alterations except cachexia.

Clinical Hypothesis: Constitutional symptoms that, despite being integrable in the underlying disease, led us to consider the diagnostic hypothesis of pulmonary tuberculosis/disseminated tuberculosis, as it is associated with presumed metastasis but without histological confirmation, previous BAT with granulomatous process and chest CT with cavitated lesions.

Diagnostic Pathways: Arterial blood gases without respiratory failure. Chest CT showing cavitated segmental consolidation of the left lower lobe and multiple bilaterally scattered cavitated lesions compatible with cavitary metastases or abscesses. Positive bacilloscopy confirmed the diagnosis and anti-bacillary therapy was initiated.

Discussion and Learning Points: In 2018 the median delay between the onset of symptoms and diagnosis of tuberculosis was 80 days. This value has been increasing in the last decade and may be related to the low rate of suspicion of tuberculosis as the prevalence of this disease has been decreasing. This case emphasizes the importance of this disease being taken into account in the differential diagnoses of constitutional conditions, even if, as in the case of our patient, there was a more likely hypothesis.

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658 - Submission No. 1777

USE OF ANTIBIOTIC TREATMENT IN PATIENTS WITH COPD EXACERBATIONS. ARE WE DOING THINGS RIGHT? EXPERIENCE OF A REGIONAL HOSPITAL IN THE SOUTH OF SPAIN

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Background and Aims: To know the incidence of antibiotic prescription in COPD patients with multiple pathologies Assess the impact on the COPD patient in exacerbation in relation to antibiotic treatment. To know the comorbidities and prognosis that influence the evolution of the patient with COPD exacerbation.
Methods: Carrying out a retrospective observational study based on hospital data provided by those patients diagnosed with COPD admitted for exacerbation in the period established between January 2021 and May 2022. proceeded to analyze the data and assess the prescription of antibiotic treatment, determination of microbiological tests and other relevant aspects in relation to the infectious situation.
Results: Data was obtained from a total of 139 patients. Charlson Index IQ25-75% range:5-9. Initial symptoms: cough:75.9%; change or production of sputum: 39.2%; data of severe sepsis: 22.1%; septic shock: 17.9%; QSOFA>1 in Emergencies Unit: 29%; $PaFiO_2$: normal: 10.1; mild: 67.1; moderate: 20.3; severe: 2 (IQ 25-75: 200-270 - Average 223.47±59.68). Prescription of antibiotic treatment: 84.8%. Prescription not indicated/erroneous: 50.74%. Elevated procalcitonin (PCT) (>0.5 ng/ml): 20.3, presenting as a mean level: 3.3 ng/ml and C-reactive protein (CRP): 82.7 mg/l (IQ25-75: 9.7-108.2).
Germ determination was achieved in 34.2% of cases, being bacterial in 74.07% (highlighting *S. pneumoniae* in 39.7% and 20.1% multi-resistant germs), with 33.3% being infected by COVID-19. In-hospital mortality: 29.1%.
Conclusions: A generalized antibiotic prescription is made for COPD exacerbation, being in a high number of cases erroneously. This prescription has an impact on the evolution and morbidity and mortality. It is necessary to carry out elements to guide treatment or strategies such as that provided by the PACE trial in relation to the determination of PCR or PCT values to improve said prescription and avoid the possibility of multi-resistant germs.

659 - Submission No. 285

MESENCURE- A PROMISING TREATMENT FOR SEVERE COVID-19 PNEUMONIA

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Background and Aims: As the COVID-19 pandemic is continuing to spread worldwide, and understanding of pathogenesis and treatment of the disease had scored great advancement, severe COVID-19 respiratory involvement still lacks effective treatment. We present our experience with MESENCURE, a mesenchymal cell-derived preparation, in cases of severe COVID-19 cases.
Methods: A Phase I/II prospective pilot case-control clinical trial, aiming to study the effect of MESENCURE in hospitalized patients with severe COVID-19 pneumonia. We compared to matching control group receiving standard of care (SOC) treatment.
Results: 68%- reduced mortality ($p < 0.05$) 9.4 days reduced hospital length of stay of the complicated patients ($p < 0.01$) 57%- reduced risk of invasive ventilation ($p < 0.05$) 59%- patients released within 2 days after last MESENCURE dose 52%- reduction in median CRP ($p < 0.0001$)
Conclusions: MESENCURE proved to be highly safe and effective in cases of severe COVID-19 with pulmonary involvement.

660 - Submission No. 1174

SYPHILITIC OSTEITIS IN AN IMMUNOCOMPETENT PATIENT: CASE REPORT

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Case Description: Twenty-six-year-old female presenting with unilateral right headache for six weeks and sporadic rectal bleeding. During the hospitalization, she developed of a maculo-papular rash on the thighs. No relevant medical history except for unprotected sexual intercourse. A brain CT scan showed right temporoparietal soft tissue swelling and areas of osteolysis. On the thoracoabdominal scan, hypertrophic inguinal and axillary nodes were noted.
Clinical Hypothesis: Cranial osteitis of unknown origin versus atypical malignant brain tumor.
Diagnostic Pathways: Presence of a mild inflammatory syndrome, hyperleukocytosis and increased ALP. Negative autoimmune workup and blood immunophenotyping. Infectious serology workup identified syphilis with negative HIV. Bone scintigraphy and histological analysis through biopsy confirmed right temporoparietal osteitis. Analysis of CSF revealed a neuro-syphilis. A Pet-CT showed hypermetabolic lymphadenopathies, hyperfixation in the cavum and rectum. ENT fibroscopy and rectoscopy showed two ulcerated lesions with histological evidence of spirochitosis in the rectal mucosa. We conclude to a primary and secondary early syphilis with a headache caused by osteitis as inaugural clinical manifestation. The treatment consists of prolonged IV penicillin-G or ceftriaxone. The association of soft chancres, cutaneous and meningeal involvement as well as osteitis makes the particularity of our case.
Discussion and Learning Points: Syphilitic osteitis is rare in early stages, flat bones are mainly affected. The diagnosis is made by positive bone scintigraphy and a compatible clinico-biological context. Bone biopsy is useful in case of doubt. It should be evoked in case of subacute localized headache with a palpable painful induration without trauma.

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661 - Submission No. 661

DISSEMINATED NOCARDIASIS NOVA COMPLICATED BY COVID PNEUMONITIS IN A GIANT CELL ARTERITIS PATIENT TREATED WITH SECOND LINE ANTIBIOTIC MONOTHERAPY

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Case Description: A 75-year-old lady with history of being recently started on tocilizumab, while being on weaning dose of prednisolone and methotrexate for giant cell arteritis, was admitted with severe back pain. She was diagnosed with disseminated *Nocardia nova* in paraspinal and thigh muscles, vertebral bones, sub-mammary tissue, lungs and septic emboli to brain. The treatment course was further complicated by COVID-19 infection and multiple adverse drug reactions.

Clinical Hypothesis: There is a possible association with tocilizumab. She developed multiple adverse drug reactions, and these along with her comorbidities, made second line antibiotic monotherapy, imipenem/cilastatin, the choice of treatment. In the context of having only anecdotal evidence for second line antibiotics and multi drug use, this was a novel pathway.

Diagnostic Pathways: Radiological imaging showed evidence of dissemination as mentioned above. rRNA gene sequencing provided us with the identity of the organism as *Nocardia nova*.

Discussion and Learning Points: Literature search for disseminated *Nocardia nova* revealed description of 3 confirmed cases. Wang H-L et al published data that suggested the nova is the likeliest to invade into and survive the bloodstream[1]. By reporting this case, we hope to contribute to the gradually growing body of evidence of nocardiosis treatment and prognosis, including that of monotherapy.

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662 - Submission No. 1044

IMMUNOCOMPROMISED PATIENT WITH MULTILOBAR INFILTRATES

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Case Description: A 69-year-old woman with a history of hemolytic anemia due to warm antibodies, in treatment with rituximab and prednisone, consulted for 2 weeks of fever accompanied by dry cough and dyspnea of moderate efforts being treated with levofloxacin on an outpatient basis without improvement of the symptoms, so she consulted and admitted for study. During admission she rapidly developed severe respiratory failure, with a tendency to hypotension.

Clinical Hypothesis: Sepsis of pulmonary focus without rolling out opportunistic infection.

Diagnostic Pathways: Thoracic CT reported extensive ground glass infiltrate along with generalized multilobar septal thickening with greater involvement of upper lobes and multiple mediastinal adenopathies. Serum galactomannan was negative. Fibrobronchoscopy was performed for cytology and microbiology; the culture reported *Aspergillus fumigatus*.

Discussion and Learning Points: Aspergillus is a fungus that causes opportunistic infections in immunocompromised patients, as in the case of our patient. The diagnosis of aspergillosis is not usually simple, a high clinical suspicion is required and specific serological and microbiological tests should be requested. Galactomannan can be detected in serum before the presence of clinical signs or symptoms of invasive aspergillosis; however, sensitivity varies between 30-100% with a specificity greater than 75%; being more profitable in patients with a history of hematologic malignancy or who have received a hematopoietic cell transplant. Morbimortality is high without treatment, and it should be started early in case of suspicion and maintained until clinical, radiological and microbiological eradication. The populations of immunocompromised hosts are increasing due to the development of new biological treatments, immunosuppressive drugs, chemotherapy, etc.

663 - Submission No. 1035

URTICARIA, FEVER AND EOSINOPHILIA IN RETURNING TRAVELER

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Case Description: 22-year-old woman who has recently traveled to Kenya, where she swam in a freshwater lake with local people 3-4 weeks before returning. 13 days after coming back, she had dry cough and fever. Symptoms were self-limiting but later, 20 days after returning, she started with urticarial itchy hives, which were treated with corticosteroids and antihistamines. 40 days after coming back, she was found with fever and angioedema presented mostly as bilateral palpebral edema, with eosinophilia of 34.2% (3200/microL).

Clinical Hypothesis: In light of a case of fever, angioedema and eosinophilia of probable imported and infectious origin, a differential diagnosis is considered between imported and native causes (plasmodium, viriasis, rickettsiosis, strongyloides, schistosoma, borreliosis, trichina, toxocara, anisakis, drugs, autoimmunity).

Diagnostic Pathways: Several studies such as basic blood and

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urine tests, chest x-ray, microbiological observation, serologies, feces PCR and autoimmunity tests were carried out.

Discussion and Learning Points: Finally, the serology is positive for *Schistosoma mansoni*. Schistosomiasis is related to bathing in freshwater in the endemic countries where certain freshwater snails (intermediate hosts) live. The acute form or Katayama fever, which is a systemic hypersensitivity reaction to Schistosoma antigens, is more typical of travelers. Therefore, it would be necessary to ask about traveling colleagues, even if asymptomatic, to assess screening. The treatment with praziquantel is important to prevent chronic complications: genitourinary tumor and hepatopathy. Globalization and climate change can make us encounter unexpected diseases. This case reflects the importance of the anamnesis in epidemiological contexts, taking into account the incubation periods, to assess autochthonous versus imported etiologies.

664 - Submission No. 149

ACHROMOBACTER XYLOSOXIDANS, A RARE CAUSE OF URINARY TRACT INFECTIONS-A CASE REPORT

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Case Description: *Achromobacter xylosoxidans* is an aerobe, non-fermenting, oxidase-positive, Gram-negative bacterium, which is frequently isolated from the sputum of patients with cystic fibrosis but can also cause opportunistic infections, especially in immunocompromised patients. Urinary tract infections (UTIs) due to *A. xylosoxidans* have been rarely reported. We describe a case of *A. xylosoxidans* UTI in a 64-year-old patient with multimorbidity.

Clinical Hypothesis: A 64-year-old male patient was admitted to the ER due to fever (38.5°C) the last 12 hours. The patient had repeatedly visited the ER the previous four days, complaining for low-grade fever and dyspnea. The patient had a history of diabetes mellitus type II, CODP, dyslipidemia and had been intubated 8 months ago. At admission he had: temperature 37.2°C, blood pressure 101/55 mmHg, HR 88/min, SO_2: 94%, respiratory auscultation: bilateral ronchi; abdominal examination: abdomen soft to touch with no masses, swelling, pain and rigidity, bowel sounds: present. The patient was admitted to the Internal Medicine Clinic, for further investigation.

Diagnostic Pathways: The initial laboratory results were as below: 1) CBC: WBC 4410/μL, (neutrophils 80.4%, lymphocytes 11.3%), hemoglobin 12.9 gr/dL, hematocrit 37,5%. 2) Clinical chemistry: glucose: 287 mg/dL, urea: 19 mg/dL, creatinine: 0.60 mg/dL, K: 4.1mmol/L, Na: 124 mmol/L, CRP: 3.47 mg/dL, hs-cTnT: 8.22 ng/L, D-dimers: 0.526 μg/mL. 3) Urinalysis: WBC 120-150 hpf, RBC 4-8 hpf, abudant microorganisms. 4) Urine culture: >105 cfu/mL of a Gram-negative rod. The identification and susceptibility testing was performed with the Microscan Autoscan System (Siemens). The microorganism was identified as *A. xylosoxidans* (Microscan ID: 98.53%) and was resistant to all the antibiotics tested, according to the EUCAST criteria. The patient died of cardiorespiratory arrest after two days of hospitalization.

Discussion and Learning Points: *A. xylosoxidans'* importance as human pathogen is due to its intrinsic resistance to many antibiotics and an increasing acquired resistance to carbapenems. Moreover, since *A. xylosoxidans* affects immunodeficient patients as an opportunistic pathogen, the vigilance of clinical and laboratory physicians is crucial for the early diagnosis and treatment of the infections it causes.

665 - Submission No. 150

URINARY TRACT INFECTION CAUSED BY SERRATIA FONTICOLA- A CASE REPORT

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Case Description: Recorded *Serratia fonticola* infections in humans are relatively rare and the few cases that have been reported in the literature, involve mainly skin and soft tissue infections, urinary tract infections, biliary tract infections and endocarditis. We present a case of *Serratia fonticola* urinary tract infection (UTI) in an elderly patient.

Clinical Hypothesis: A 90-year-old female patient was admitted to our hospital due to electrolyte imbalance and diarrhea The patient had a history of diabetes mellitus, dyslipidemia, ischemic heart disease and atrial fibrillation, for which she was receiving medication, and she was admitted to the Internal Medicine Clinic for further investigation.

Diagnostic Pathways: At admission the patient had: temperature 37.2°C, blood pressure 101/55 mmHg, HR 88/min, SO_2: 94%; respiratory auscultation: bilateral ronchi; abdominal examination: abdomen soft to touch with no masses, swelling, pain and rigidity, bowel sounds: present. The patient was admitted to the Internal Medicine Clinic for further investigation. The initial laboratory results were as below: 1) CBC: WBC 7960/μL, (neutrophils 68.3%, lymphocytes 18.7%), hemoglobin 10.5 gr/dL, hematocrit 31.9%. 2) Clinical chemistry: g lucose:164 mg/dL, urea 39 mg/dL, creatinine 1.52 mg/dL, K 3.0 mmol/L, Na 129 mmol/L, CRP 0.17 mg/dL, hs-cTnT 8.49 ng/L. 3) Urinalysis: WBC >200 hpf, RBC 15-20 hpf, abundant microorganisms. 4) Urine culture: $>10^5$ cfu/mL of a Gram-negative rod. The identification and susceptibility testing was performed with the Microscan Autoscan System (Siemens). The microorganism was identified as *Serratia fonticola* (Microscan ID: 99.99%) and was resistant ampicillin, ampicillin/sulbactam, cefepime, cefoxitine, ertapenem, levofloxacine and piperacillin

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and susceptible to piperacillin/tazobactam, amikacin, gentamicin, tobramycin, imipenem, meropenem, nitrofurantoin, Fosfomycin and cotrimoxazole, according to the EUCAST criteria. The patient was prescribed Fosfomycin and was discharged with instructions for follow-up.

Discussion and Learning Points: The fact that an increasing number of *Serratia fonticola* infections is reported should raise our attention to the role of this microorganism as a potential human pathogen.

666 - Submission No. 849

A RARE CASE OF HAEMOPHILUS INFLUENZAE MENINGITIS WITH SINUS THROMBOSIS AS A COMPLICATION OF ACUTE OTITIS MEDIA IN AN OVERAGE WOMAN

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Case Description: We present the case of an 81-year-old woman with arterial hypertension, dyslipidemia and depression. Her presenting complain was headache with an onset of 5 hours, accompanied by vomiting and progressive hearing loss in the right ear. Physical examination revealed fever and an altered mental status without focal neurological deficits or signs of meningism. Blood test results showed neutrophilic leukocytosis and increased levels of inflammation biomarkers. Cranial computed tomography showed no signs of hemorrhage or other intracranial pathology.

Clinical Hypothesis: Fever, headache and altered mental status suggest possible meningitis.

Diagnostic Pathways: Lumbar puncture was performed, revealing increased CSF white blood cell count, with a low glucose level and a high protein level. The patient was started on empiric treatment with ampicillin, ceftriaxone, vancomycin and dexamethasone. CFS and blood cultures detected *Haemophilus influenzae* and antibiotic treatment was switched to ceftriaxone monotherapy. The patient was examined by otorhinolaryngologists and diagnosed with acute otitis media. A repeat cranial computed tomography with the use of intravenous contrast unveiled thrombosis of the sigmoid and transverse sinuses. Following that the patient underwent a right mastoidectomy.

Discussion and Learning Points: Acute otitis media due to *Haemophilus influenzae* is mainly presented in infants and adolescents. Diagnosis of acute bacterial meningitis as a complication of acute otitis media and cerebral venous sinus thrombosis is a rare clinical case, especially in elderly people. The possibility of central nervous system infection should always be excluded with spinal tap especially when alerting symptoms are present.

667 - Submission No. 511

CLINICAL EXPERIENCE WITH CEFIDEROCOL IN INFECTIONS DUE TO MULTI-DRUG RESISTANT GRAM-NEGATIVE BACTERIA

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Background and Aims: Infections caused by multi-drug resistant (MDR) Gram-negative bacteria (GNB) represent a public health problem that has grown up exponentially over the past decade. The development of new antibiotics has great importance. Cefiderocol is a novel siderophore cephalosporin that, by exploiting bacterial iron transporters, penetrates through the outer membrane and has been shown to be active, in vitro, on most MDR GNB, being stable against most beta-lactamases.

Methods: This was a single-center observational clinical study. We retrospectively studied patients treated with cefiderocol in Monaldi Hospital in Naples between March 2021 and March 2022.

Results: We studied 28 patients, with a median age of 73 years and a median Charlson Comorbidity Index of 5. Cefiderocol was often used as rescue therapy in MDR GNB infections previously undergoing other antibiotic therapies. It was used to treat lower respiratory (37.8%), bloodstream (24.4%) urinary (22.2%) and intrabdominal (20%) infections. The primary outcome was status at discharge: 17 patients were discharged alive and 11 died. The difference in mortality between monotherapy and combination therapy was not statistically significant (p=0.1741). Clinical cure and improvement were observed in 64.4% of cases at 7 days and 50% at 14 days after the start of treatment. Cefiderocol showed an excellent tolerability profile: the only documented adverse event was C. difficile diarrhea in one patient.

Conclusions: Cefiderocol appears to be a valid option for the treatment of MDR GNB when no therapeutic alternatives are available and could be preferable to currently available therapeutic options in terms of tolerability.

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668 - Submission No. 2042

A 74-YEAR-OLD DIABETIC AND IMMUNOCOMPROMISED WOMAN FINALLY DIAGNOSED WITH CEREBRO-RHINO-ORIBTAL MUCORMYCOSIS AND ASPERGILLOSIS COINFECTION

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Case Description: A 74-year-old diabetic woman with operated right frontotemporal glioblastoma treated with additional radiotherapy, chemotherapy along with corticosteroids recently discontinued presented with prolonged fever; she had been previously administered empiric antibiotics for sinusitis with no clinical response. Physical examination revealed contralateral visceral craniofacial swelling and laboratory exams revealed increased inflammatory markers, with no cytopenia.

Clinical Hypothesis: The initial hypothesis was invasive mucormycosis of sinuses.

Diagnostic Pathways: Empiric antibiotics for common pathogens along with liposomal amphotericin B were initially administered. From CT brain cerebro-rhino-orbital infection was enlightened. After patient's evaluation from otolaryngologist, the macroscopic nasal lesions were supportive for mucormycosis diagnosis and a local surgical necrosectomy was performed. The direct examination of nasal specimen revealed zygomycosis. From further evaluation with tissue histopathology two different fungal species were recognized; aspergillus and mucor. In tissue culture, *Aspergillus flavus* was isolated sensitive to liposomal amphotericin B. The patient clinically improved and the inflammatory markers in laboratory exams subsided.

Discussion and Learning Points: Mucormycosis and aspergillosis are fatal opportunistic infections in patients with uncontrolled diabetes mellitus, hematologic malignancies, under corticosteroids treatment. The coinfection is more common in patients with hematologic malignancies and severe neutropenia. Here, we report the case of a patient with well-controlled diabetes mellitus, with no neutropenia and a recent discontinuation of corticosteroid regimen that was finally diagnosed with cerebro-rhino-orbital mucormycosis and aspergillosis.

669 - Submission No. 2045

A 74-YEAR-OLD MAN WITH PROLONGED FEVER DIAGNOSED WITH BCGITIS WITH PROSTATIC ABSCESSES

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Case Description: A 74-year-old man was admitted to emergency department because of prolonged fever. From past medical history: type 2 diabetes mellitus, COPD, CKD with IHD, urothelial carcinoma treated with BCG infusions that stopped due to an inflammatory reaction 3 months before admission and from transesophageal echocardiogram aortic abscess with no proven bacteremia under empiric antibiotic treatment. Physical examination revealed low fever and an aortic valve systolic murmur. From laboratory tests increased inflammatory markers were observed.

Clinical Hypothesis: The initial hypothesis was prolonged fever of endocarditis.

Diagnostic Pathways: The antibiotic treatment was discontinued; the new blood cultures were negative. Additional serologic examfor *C. burnetii*, Bartonella, Legionella, and Brucella, Clamydia, Mycoplasma was negative. Endocarditis diagnosis was not established. Thus, our diagnosis focused on the history of BCG infusions. An interferon gamma release assay, blood and urine cultures for mycobacterium were negative. Chest and abdomen CT followed revealing prostatic hypodense lesions. The transrectal ultrasound confirmed multiple prostate abscesses; after prostatic abscess puncture, prostatic pus PCR isolated Mycobacterium complex and *Mycobacterium bovis* was isolated from culture. The patient was treated for BCGitis with isoniazid, rifampicin, and ethambutol.

Discussion and Learning Points: BCGitis may develop several months or years after intravesical treatment for bladder cancer. Prostate involvement usually takes part within 4 weeks. The physician should always think BCGitis in the differential diagnosis of fever of unknown origin in a patient with a history of BCG infusions.

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670 - Submission No. 2149

CLINICAL CHARACTERISTICS AND RISK FACTORS FOR IMMUNOSUPPRESSION IN PATIENTS WITH VISCERAL LEISHMANIASIS WITHOUT ASSOCIATED HIV

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Background and Aims: Visceral Leishmaniasis (VL) is an infectious disease, produced by a protozoan that is transmitted by the bite of sandfly mosquitoes. Patients diagnosed with human immunodeficiency virus (HIV) were considered at high risk. On the other hand, in recent decades, other immunosuppressive conditions may increase the risk of VL. The objective of this study is to determine the clinical characteristics, risk factors and the presence or absence of immunosuppression in patients diagnosed with visceral leishmaniasis without HIV infection, in a tertiary level hospital.

Methods: This is a descriptive observational study conducted at the Gregorio Marañón General University Hospital on 47 patients diagnosed with visceral leishmaniasis, diagnosed from 2001 to 2021.

Results: Of the 47 patients with a diagnosis of visceral leishmaniasis, 17 patients with this diagnosis, without concomitant HIV infection, were selected. The results of this work are detailed in Table 1. A higher frequency of males (64.5%) and a mean age of 55.8 years were observed. 41.2% of the patients had some type of immunosuppression, being the most frequent, cancer in 23.5%. The presence of chronic liver disease stands out in 29.4%. On the other hand, 76.5% took some type of immunosuppressive treatment, highlighting corticosteroids in 41.1% of the patients.

Conclusions: The diagnosis of VL can be difficult in patients with paucisymptomatic or with atypical symptoms. In recent decades, immunosuppressed patients without associated HIV have gained special importance. Those patients with autoimmune, hematological, or oncological diseases, as well as those receiving immunosuppressive treatments should also be considered at high risk of suffering from this infection.

671 - Submission No. 2035

AT HOME ANTIBIOTIC THERAPY FOR PATIENTS WITH INFECTIVE ENDOCARDITIS, WITHOUT PREVIOUS SURGERY

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Background and Aims: To describe the clinical and demographic characteristics of 31 patients with non-surgical infective endocarditis (IE) treated at our Home-Hospitalization Unit (HHU).

Methods: We conducted a retrospective study that included patients diagnosed with IE admitted to the HHU from 2012 to 2022, excluding fourteen patients who had undergone surgery (valve replacement and/or intracardiac device removal) prior to being transferred home.

Results: 61.3% of the patients were women and had a mean age of 70.5 (SD 18.3) years. The most common comorbidities were diabetes mellitus (22.6%), cardiac arrhythmias (32.3%), chronic heart failure (22.6%), and chronic kidney disease (19.4%). The main risk factors for IE were valve disease (32.3%), structural cardiomyopathy (22.6%), and prosthetic valves (12.9%). 45.2% of the patients had an initial indication for surgery, however, were not surgical candidates due to their high surgical risk. The most frequently implicated microorganisms were Staphylococcus aureus (25% sensitive to methicillin and 3.2% resistant to methicillin), viridans group streptococci (22.6%), coagulase-negative staphylococci (12.9%), and *Enterococcus faecalis* (9, 7%). The mean duration of at-home treatment was 24.4 days (SD 16.4), being ceftriaxone (41.9%), daptomycin (35.5%), cefazolin (9.7%) and dalbavancin (9.7%) the most commonly used antibiotics. Only 7 patients (22.5%) required readmission to conventional hospitalization, 3 of them (9.7%) due to the need for surgical rescue. Other complications included septic embolisms (19.4%) and adverse events associated with antibiotic use (12.9%). Overall mortality was 9.7% of patients. None of the deaths occurred at home.

Conclusions: Domiciliary hospitalization provide a secure option for patients with IE that require prolonged intravenous antibiotic therapy, however, require specialized units due to its high morbidity and mortality.

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672 - Submission No. 436

Q FEVER PERICARDITIS: A CASE REPORT

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Case Description: A 58-year-old woman presented with fever, malaise, thoracic pain and productive cough for 5 days. Her medical history included hypertension and DM. She had fever (38.5°C) and crackles of the left lower lobe on chest auscultation. The rest of physical examination was normal. Chest x-ray revealed infiltrates at the left lower lung lobe, an ipsilateral pleural effusion and increased cardiothoracic index.

Clinical Hypothesis: Patient was suspected to suffer from a respiratory tract infection and/or pericarditis.

Diagnostic Pathways: Chest CT and TTE revealed pneumonia and a significant pericardial effusion causing tamponade with distention of inferior vena cava and no respiratory variation. Laboratory findings were: ESR=80 mm/h, CRP=302 mg/L, ferritin=706 μg/L, BNP=271 pg/mL, WBC=12.300/μL, Hb=7.5 g/dL and PLTs=601.000/μL. The patient refused pericardiocentesis. Renal and hepatic function tests, serum electrophoresis and immunofixation were normal while blood and urine cultures were negative. Empiric antibiotic therapy (vancomycin, ceftriaxone, levofloxacin, metronidazole) was initiated combined with methylprednisolone, colchicine and ibuprofen. Pleural effusion was transudate with negative cytology and cultures. Serology tests for viral infections were negative. An increased titer of phase I anti-coxiella IgG antibodies was found (>1:512) and chronic Q fever was diagnosed, despite no animal contact. Doxycyclin was administered and the patient was discharged afebrile one week later.

Discussion and Learning Points: Pericarditis is a rare manifestation of Q fever (<1% of cases). Blood cultures are negative, and diagnosis is established with serology investigation. It is recommended to test for Q fever in pericarditis of unknown cause and unsatisfactory evolution, especially in areas that Q fever is highly endemic.

673 - Submission No. 1760

PORPHYRIA CUTANEA TARDA IN HIV-PATIENTS

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Case Description: 46-year-old male with a personal history of HIV-1 infection, with several AIDS-defining illnesses and therapeutic noncompliance, alcoholism and smoking. In the context of hospitalization for treatment of relapse of cerebral toxoplasmosis, denoted bullous skin lesions on the back of the hands associated with hirsutism that motivated its etiological study.

Clinical Hypothesis: Porphyria cutanea tarda.

Diagnostic Pathways: For differential diagnosis, the collaboration of Dermatology was requested, which carried out a biopsy of the lesion, and also suggested the search for anti-skin antibodies to exclude pemphigus. A measurement of 17-OH-progesterone was also carried out, at the suggestion of endocrinology, to study hirsutism. Taking into account the very suggestive macroscopy of PCT, and its association with the patient's history and habits, the measurement of urinary porphyrins and erythrocyte protoporphyria was also carried out. Of the complementary diagnostic methods performed: negative anti-skin antibodies, normal 17-OH-progesterone, negative HCV test, porphyrins urinaria 1642.00 μg/24h (for an upper limit of normal < 150.00), erythrocyte protoporphyrin slightly decreased. The biopsy was compatible with porphyria/pseudoporphyria lesions.

Discussion and Learning Points: The combined clinical and analytical findings strongly suggest the diagnosis of PCT, recommending the initiation of therapy with hydroxychloroquine but especially the reinforcement of 100% adherence to antiretroviral treatment. PCT is a rare disease and, although frequently associated with HCV, it also manifests itself in patients with uncontrolled HIV infection, especially when accompanied by other risk factors such as alcoholism and smoking.

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674 - Submission No. 1762

SWEET SYNDROME - AN ADVERSE EFFECT OF THE ANTIRETROVIRAL THERAPY?

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Case Description: 54-year-old male. Past medical history of HIV-1 infection (diagnosis in May/2022), chronic HBV infection, syphilis latent and depression. Started ART with TAF/FTC/Bic. He remained symptom free in the first week, period after which started a clinic of productive cough, exertional dyspnea, anorexia and nocturnal hyperhidrosis with onset concomitant macular lesions in the upper limbs, with a burning sensation, which progressed to lesions vesicular confluent, painful, affecting the palms. He was admitted for etiological study and symptomatic treatment.

Clinical Hypothesis: Adverse effect of antiretroviral therapy (ART). Immune reconstitution syndrome (IRS). Erythema multiforme.

Diagnostic Pathways: During hospitalization, infectious etiologies of erythema multiforme were excluded, namely HSV1 and 2 and Mycoplasma pneumoniae, symptomatic treatment with antihistamines was initiated and collaborations of Immuno-allergy and Dermatology were requested. Immuno-allergologist excluded hypersensitivity to beta-lactams (due to the relevance of treating latent syphilis). Dermatology performed a biopsy of the lesions, suggested discontinuation of ART, and instituted systemic corticosteroid therapy. With corticosteroid therapy, the patient presented symptomatic improvement, having been discharged after 5 days, with early reassessment in outpatient consultation. One of the diagnostic hypotheses would be the occurrence of erythema multiforme as a skin adverse reaction to ART. However, the anatomopathological results of the biopsy did not corroborate this possibility, suggesting a neutrophilic dermatosis - Sweet's Syndrome.

Discussion and Learning Points: The multiplicity of differential diagnoses of skin rash in immunosuppressed patients should include, in addition to opportunistic/pre-existing infections, pharmacological toxicity, especially if associated with recent introduction of medication. The multidisciplinary approach of these patients is often required for a definitive diagnosis.

675 - Submission No. 2026

CO-INFECTED WITH LEPTOSPIROSIS IN A COVID-19 CONFIRMED CASE

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Case Description: A 77-year-old male was admitted due to abdominal pain, malaise, oliguria for 2 days. History of chronic HCV carrier, asthma, peptic ulcer, adjustment disorder and L-HIVD s/p were noted. Physical examination showed conscious clear, no fever, no headache, no pallor face, no chest pain, no CP angle knocking pain, but only lower abdominal pain without rebounding pain. Laboratory data showed COVID-19 PCR test positive reaction, mild leukocytosis (11,080/uL), uremic status (BUN 94.3 mg/dL, Cr 6 mg/dL, GFR 6.7 mL/min). On the impression of COVID-19 infection and AKI (acute kidney injury), he was arranged to negative pressure isolation room. After anti-viral agent (molnupiravir), antibiotics (ertacure/doxycycline) and emergent hemodialysis (thrice), he was recovered progressively. Finally, the paired serum which was sent to Taiwan-CDC proved the diagnosis of Leptospirosis.

Clinical Hypothesis: This male was admitted due to abdominal pain, malaise, oliguria for 2 days. Past history of chronic HCV carrier, asthma, peptic ulcer, adjustment disorder and L-HIVD s/p were noted. Due to history of rainwater exposure and occupation (farmer), the differential diagnosis was Q fever, tsutsugamushi, Hanta virus and leptospirosis. The laboratory data showed acute renal injury, but no overt liver injury. So, we sent serial serum to Taiwan-CDC for confirmed our diagnosis.

Diagnostic Pathways: 1. COVID-19 test positive 2. Acute renal injury, but no liver injury => sent for serial serum for leptospirosis.

Discussion and Learning Points: The symptoms of leptospirosis can be mistaken for other diseases. Some infected persons may have no symptoms. So, history of travel, contact, occupation, and serial examinations are important for management of this disease.

676 - Submission No. 1823

ACUTE CMV INFECTION PRESENTING AS CAPILLARY LEAKING SYNDROME IN A 43 YEAR OLD FEMALE

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Case Description: A 43-year-old female was transferred to our department, for evaluation of fever that begun 12 days ago. She reported no other symptoms. Upon admission, she developed bilateral pleural effusions and grade 1 ascites, with no other findings. A cardiac evaluation revealed a mild pericardial effusion.

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Physical examination revealed bilateral pitting edema on the lower extremities. Laboratory work-up revealed increased transaminase levels and increased C-reactive protein level. A diagnostic aspiration of the pleural effusion was performed. Laboratory values were consistent with transudative pleural effusion.

Clinical Hypothesis: Initial differential diagnosis included: Congestive heart failure, hepatic cirrhosis, nephrotic syndrome, myxedema, and hypoalbuminemia. Thorough evaluation was unremarkable. Thus, our initial diagnostic thought was that the patient suffered from capillary leaking syndrome due to a viral infection.

Diagnostic Pathways: Testing was negative for Hepatitis B virus, Hepatitis C virus, Human Immunodeficiency virus, Ebstein-Barr virus and Toxoplasma. IgM and IgG antibodies to cytomegalovirus (CMV) were positive. CMV-DNA PCR testing was performed which was positive (5.27×10^5 IU/ml) establishing the diagnosis of acute CMV infection.

Discussion and Learning Points: Capillary leaking syndrome is a rare diagnosis of exclusion in patients presenting with edema and appropriate testing should be undertaken to clarify the cause and treat accordingly. CMV infection should be sought in the appropriate clinical setting.

677 - Submission No. 2150

HIV 95-95-95 OBJETIVES IN HOSPITAL VALLE DEL NALON

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Background and Aims: To analyze WHO 95-95-95 objectives in HIV management in an Infectious Diseases Unit at Second Level Hospital Valle del Nalon, Spain.

Methods: Retrospective analysis of antiretroviral therapy (HAART), viral and immune status of patients attended in this unit between September 2021 and February 2022. If viral load was positive, next visit control was analyzed and classified as blip if this result was negative. If not, viral failure was considered.

Results: It was estimated a prevalence of HIV infection of 0.3% for a population of 71,300 persons in the area, 214 patients. In this period 128 HIV patients were attended with a median CD4 count of 686/ml (59.8% of estimated prevalence). Only one patient was not with HAART due to voluntary treatment drop-out. 127 patients (99.2%) were on treatment, 59 on triple therapy (46.4%), 63 (49.6%) on double therapy and 6 (4%) on monotherapy. 110 patients had negative viral load at visit and 14 had a blip, so 124 patients (97%) had viral control and 4 patients (3%) had viral failure.

Conclusions: 1- First WHO objective in HIV management results must be improved 2- An adequate and effective antiretroviral treatment has been achieved in our area

678 - Submission No. 547

BACTEREMIA AS AN INITIAL MANIFESTATION OF A SURPRISE DIAGNOSIS

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Case Description: A 59-year-old woman, without relevant medical history, was admitted to the emergency department complaining of epigastric pain, vomiting, anorexia, diarrhea and weight loss, with one month evolution and progressive worsening. Upon examination, she was feverish, hypotensive and had left side abdominal pain on palpation. No other relevant findings. Analytically it stood out thrombocytopenia 58000 uL, anemia (Hb 10.3 g/dL), cholestasis (ALP 322 U/L, GGT 157 U/L, conjugated bilirubin 1.6mg/dL) and elevated inflammatory parameters (CRP 257 mg/L, PCT 12.34 ng/mL). The abdominal CT performed reported thickening of the colon´s splenic flexure. Given the diagnosis of sepsis from an abdominal origin, we started antibiotic therapy with piperacillin/tazobactam after collecting blood cultures. A *Streptococcus anginosus* was isolated. Therefore, an echocardiogram was executed, excluding concomitant endocarditis.

Clinical Hypothesis: In view of the presented case, there was a strong suspicion of colon cancer as origin of the bacteremia.

Diagnostic Pathways: The colonoscopy confirmed the presence of a splenic flexure neoplasm. Biopsies confirmed adenocarcinoma and cancer staging revealed no evidence of metastasis. After oncologic group reunion she was submitted to an enlarged left colectomy with splenectomy and distal pancreatectomy. The histology revealed a pT4N0R0 adenocarcinoma.

Discussion and Learning Points: Although there is stronger evidence in the correlation between *S. bovis* and colorectal carcinoma, there are already several case reports of other subspecies of *Streptococcus viridans* associated with this entity. So, with this case we intend to alert to the need to suspect of colon cancer when facing a bacteremia to *S. viridans*, especially if the patient has alarming symptoms of the gastrointestinal tract.

679 - Submission No. 496

A RARE CASE OF ENTEROCOCCUS FAECALIS SPONDYLODISCITIS

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Case Description: An 85-year-old male patient with a history of chronic kidney disease (CKD) due to IgA nephropathy on renal replacement therapy is referred to the hospital for fever after a hemodialysis session. Upon admission, he denied any complaints

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and on physical examination there were no positive findings. Analytically, normocytic, and normochromic anemia (Hb 9.3 g/dL), without leukocytosis and CRP 322 mg/L. He collected septic screening and started empiric antibiotic therapy with ceftazidime and vancomycin. Blood cultures with multisensitive *Enterococcus faecalis* are isolated, assuming bacteremia of undetermined starting point. On the 3rd day of hospitalization, the patient reports neck pain associated with positioning in bed. On observation without any visible inflammatory signs, no meningism or changes in the neurologic examination. Despite the antibiotic, he maintained fever.

Clinical Hypothesis: With this clinic and no other positive findings, we considered spondylodiscitis as the probable diagnosis in a patient with bacteremia.

Diagnostic Pathways: The patient underwent an MRI of the spine which identified signs of spondylodiscitis on T1-T2, confirming the probable diagnosis.

Discussion and Learning Points: We report a rare case of thoracic spondylodiscitis caused by *Enterococcus faecalis* probably of urinary origin in a man with CKD on renal replacement therapy. Enterococcus spondylodiscitis is an infrequent entity of which few cases have been described. It occurs in most cases in elderly and immunocompromised patients like those with diabetes mellitus and CKD.

680 - Submission No. 181

SECONDARY HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS SYNDROME (HLH) AFTER INTRAVESICAL INSTILLATION OF BACILLUS CALMETTE - GUERIN (BCG)

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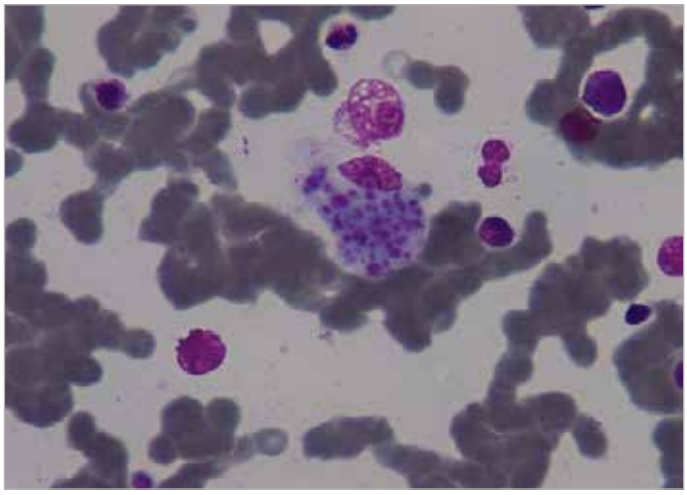
Case Description: A 64-year-old male patient, with history of in situ papillary urothelial carcinoma, presented to our emergency department with fever up to 39°C and shudder, few hours after the last intravesical instillation of bacillus Calmette-Guerin (BCG). He showed a petechiae non-palpable rash in both legs and his liver was enlarged. Laboratory tests revealed neutropenia, thrombocytopenia, abnormal liver function tests, high LDH levels, triglycerides, and markedly elevated inflammation markers (CRP, ferritin). Serologic tests were negative for hepatitis B, C, HIV, parvovirus B19, EBV and CMV viruses, as well as for leishmania and brucella, while urine and blood cultures were sterile. Whole-body computed tomography revealed hepatomegaly and splenomegaly, without focal lesions or lymphadenopathy.

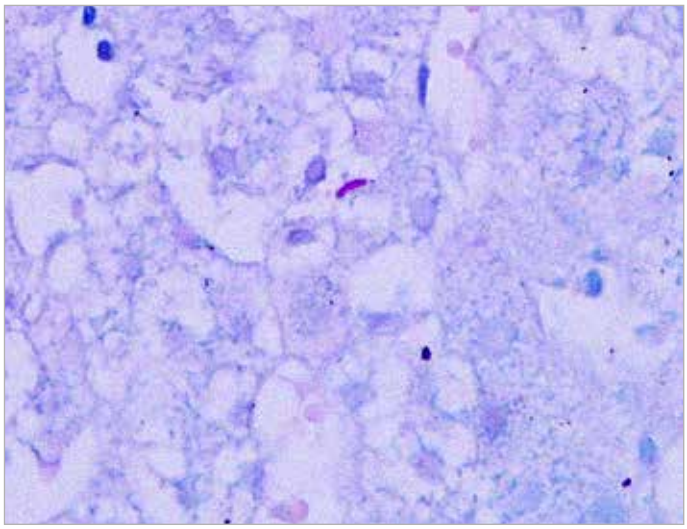
Clinical Hypothesis: The patient was immediately treated with quadruple antituberculosis treatment (isoniazid, rifampicin, ethambutol, levofloxacin). Hemophagocytic lymphohistiocytosis (HLH) was suspected due to cytopenias, organomegaly, high ferritin and triglycerides levels and persistent fever above 38.5°C.

Diagnostic Pathways: The patient underwent bone marrow aspiration showing marked platelets phagocytosis by histiocytes (Figure 1). Bone marrow PCR for TBC, Ziehl-Neelsen stain and TBC cultures came back all negative. Finally, a liver biopsy was performed; showing multiple parenchymal non-necrotic granulomas and Ziehl-Neelsen histochemical staining revealed a small number of acid-fast bacilli (Figure 2).

Discussion and Learning Points: We emphasize the importance of prompt diagnosis and adequate treatment of tuberculosis-associated HLH syndrome, due to its high mortality rate. Strong clinical suspicion is essential in reducing the morbidity and mortality rates of this rare clinical entity. We suggest that all patients with BCGitis and systemic symptoms or indications of multi-organ involvement should be investigated for HLH syndrome.



680 Figure 1. Reactive histiocytes show phagocytosis of platelets on a bone marrow specimen



680 Figure 2. Ziehl-Neelsen histochemical staining from liver biopsy specimen revealed a small number of acid-fast bacilli (arrows AX100, Bx400)

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681 - Submission No. 1254

RELAPSING COVID-19-ASSOCIATED MULTISYSTEM-INFLAMMATORY SYNDROME IN ADULTS (MIS-A) IN A 28-YEAR-OLD PATIENT

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Case Description: A 28-year-old male patient with a recent history of a resolved COVID-19 infection, was admitted in our hospital with a 5-day history of high-grade fever and diarrhea. On admission he was febrile and did not require supplemental oxygen. Three days later, he became unwell, hypotensive, tachycardic and hypoxemic. He was intubated and transferred to our ICU. On arrival he required FI02 100% and a very high dose of vasopressors. A series of blood, urine and bronchial cultures were taken and was started on broad-spectrum antibiotics. An echocardiogram revealed severe global systolic dysfunction.

Clinical Hypothesis: Differential diagnosis of his cardiogenic shock included either septic myocarditis or COVID-19-associated myocarditis.

Diagnostic Pathways: Based on the constellation of negative cultures, unremarkable thoracic and abdominal CT findings, myocardial injury, diarrhea, raised inflammatory markers and a recent SARS-CoV-2 infection, a diagnosis of Multisystem Inflammatory Syndrome in adults (MIS-A) was made. The patient was started on corticosteroids and intravenous immunoglobulin. In less than twenty-four hours he showed significant hemodynamic and echocardiographic improvement. Ten days later he was tracheostomized and was started on a slow 72-hour levosimendan infusion due to a relapse of cardiac dysfunction. He improved and was decannulated shortly afterwards. On the 16th day in ICU, he was discharged to the cardiac ward for further rehabilitation.

Discussion and Learning Points: Our patient fulfilled CDC case definition criteria for MIS-A and was successfully treated with corticosteroids, immunoglobulins and supportive treatment. This case highlights that prompt diagnosis and management can completely reverse the course of disease, with no long term sequalae for the patient.

682 - Submission No. 999

ENDOCARDITIS CAUSED BY METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS COMPLICATED BY PERIVALVULAR ABSCESS, RENAL FAILURE AND RESISTANCE TO DAPTOMYCIN

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Case Description: 70-year-old man with a history of severe aortic stenosis pending assessment. He was transferred to our center from his local hospital for surgical repair of aortic stenosis. Five days after admission he presented a fever peak of 38ºC, and blood cultures were taken. The analytical analysis showed acute deterioration of renal function. Microbiology reported growth of *Staphylococcus aureus* in blood cultures.

Clinical Hypothesis: We consider three possible diagnoses: infective endocarditis, peripheral catheter infection, or pyogenic spondylodiscitis. Given the risk of methicillin-resistant *S. aureus* due to being a nosocomial infection and renal impairment, it was decided to start treatment with daptomycin due to its sensitivity of the antibiogram.

Diagnostic Pathways: During treatment, the patient presented acute pulmonary edema again, for which he was admitted to the ICU and valve replacement was performed. The surgeon described the presence of endocarditis of the posterior mitral leaflet with an abscess at the level of the posterior ring. After cleaning and exeresis of the tissues, the mitral and aortic valve replacement is performed using bioprosthesis. The valve culture again grows methicillin-resistant but daptomycin-sensitive *S. aureus*.

Discussion and Learning Points: The incidence of resistance to daptomycin is very low and it has been documented that vancomycin had previously been used in most cases, which did not occur in our case. Therefore, we consider the possible existence of more than one *S. aureus* strain with different sensitivity profiles.

683 - Submission No. 459

ABOUT OUR BEST FRIENDS, CATS

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Case Description: 87 years-old woman with a history of mild cognitive impairment, who was brought to our emergency department due to fever up to 38ºC for the last 4 days. Her daughter reported mild dyspnea without cough or expectoration. During her stay in ED, a slight decrease in diuresis were observed. A basic ED workup was performed. Urinalysis was positive and

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blood tests showed acute deterioration of renal function and parameters compatible with acute infection. Chest X-ray with left pleural effusion. She was admitted to internal medicine to monitor renal function and infection parameters.

Clinical Hypothesis: We consider the main causes of fever in the elderly, such as infections (respiratory, urinary tract or soft tissue), systemic disorders (cardiac, renal, hematological failure...), tumors, drugs.

Diagnostic Pathways: Detailed anamnesis, blood tests and different cultures, SARS-CoV-2 PCR and chest X-ray were performed. After 48 hours, the patient continued with fever despite empirical antibiotic treatment. At 72 hours, *Pasteurella multocida* was isolated in blood cultures, targeted antibiotic treatment was started with little response. We re-interviewed her daughter. They have a cat that regularly leaves the house and is in contact with other street cats. The day before the onset, she reported that she had been scratched several times by the cat on her right leg. After 24 hours, fever began.

Discussion and Learning Points: A proper anamnesis is of vital importance to direct the diagnosis. *Pasteurella multocida* is an anaerobic bacterium whose main reservoir are cats. It sporadically colonizes humans through scratches or bites. The main presentation is cellulitis and, secondly, respiratory infection.

684 - Submission No. 704

ALLERGIC BRONCHOPULMONARY ASPERGILLOSIS

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Case Description: Allergic bronchopulmonary Aspergillosis is a complex reaction of hypersensitivity in response to colonization by *Aspergillus fumigatus*, occurring mostly in patients with asthma or cystic fibrosis. On the 3rd of March, the patient begins to experience a non-productive cough, fever and worsening of the dyspnea pattern. On 11th March, she goes to the ER due to worsening of the complaints and maintenance of the fever. On physical exam, the patient had diffuse wheezing. Arterial blood gas test revealed hypoxemic respiratory failure.

Clinical Hypothesis: Several hypotheses were considered, however the etiology that appeared to be the most likely was viral infection.

Diagnostic Pathways: Analytically with increased inflammatory parameters and peripheral eosinophilia. ER Chest CT revealed "Geographical ground glass opacities, with interstitial thickening". High resolution CT "focal densification at the left apex with apparent clustered micronodules, ... and micronodulation at the level of the lateral segments of the right lower lobe and thickening of bronchial walls ". Bronchofibroscopy with bronchoalveolar lavage was performed: "Mucopurulent plugs occupying multiple subsegments bilaterally.". Broncho-alveolar lavage: AFB and Mycobacterium T DNA test negative; negative cytology for malignant cells.". Negative CD4/CD8 ratio. In view of the above, the hypothesis of allergic bronchopulmonary Aspergillosis was raised, so the following study was requested: IgE *Aspergillus fumigatus* tested positive; increased total IgE: 3490; peripheral eosinophilia: 1000; ATC positive *Aspergillus fumigatus*; isolation of *Aspergillus fumigatus* in bronchoalveolar lavage.

Discussion and Learning Points: ABPA should be considered in the presence of a patient with risk factors and who presents exuberant peripheral eosinophilia , poor response to antibiotic therapy and bronchodilation. The patient started treatment with systemic glucocorticoids and itraconazole and noted significant improvement prior to discharge.

685 - Submission No. 2177

DESCRIPTION OF THE PRESENTATION OF TUBERCULOSIS IN PATIENTS WITH AUTOIMMUNE DISEASE AND BIOLOGICAL THERAPY OVER 5 YEARS

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Background and Aims: To describe the clinical-epidemiological characteristics of patients diagnosed with tuberculosis (TB) and receiving biological therapy due to an autoimmune disease (AD) in the last 5 years.

Methods: Retrospective case series that includes non-pediatric patients diagnosed of TB in the Microbiology service of the public hospitals of the city of Málaga (Regional University and Virgen de la Victoria) between 2016 and 2021 and who received biological therapy due to an AD.

Results: 407 cases of TB were detected (AI 71.5 cases per 100,000 inhabitants), 6 patients were identified who had received a biological drug for the treatment of their AD, accounting for 1.47% of total diagnoses. Their mean age was 43.33 (SD 14.95), with 66.6% of male patients. There were 2 cases of ankylosing spondylitis, 2 cases of ulcerative colitis, and 2 cases of Crohn's disease. 3 patients received adalimumab, while the rest of the cases took infliximab, golimumab and vedolizumab. One patient had undergone a reactivation of a previously treated TB; the rest had never had latent tuberculosis infection (LTI). No patient had a previous history of tuberculosis contact and only one patient had a record of tuberculin test (TT) and interferon-gamma release techniques (IGRA), the rest had only been performed TT. Only one case had chest X-rays. The main location of TB was extrapulmonary.

Conclusions: A low rate of TB has been detected in patients receiving biological treatment for autoimmune diseases despite low adherence to ITL screening recommendations, mainly medical history, IGRA and chest x-ray.

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686 - Submission No. 2420

LET ME BREATHE – A CASE OF TUBERCULOSIS

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Case Description: We present a case of 27 years old female from Bangladesh with no significant past medical history who presented to our emergency room (ER) with voice hoarseness and large neck mass. She initially noticed this mass almost one month prior to the presentation. She was evaluated in the outpatient clinic two weeks prior to the current ER visit and completed 7 days of antibiotics, without much relief. Otorhinolaryngology colleagues emergently evaluated her in the ER and found patent airways without the need for intubation. She endorsed a history of 20 lbs weight loss and night sweats over the past three months.
Clinical Hypothesis: Mass was mainly concerning for either an infection or malignancy.
Diagnostic Pathways: Initial workup revealed iron deficiency anemia. Interferon Gamma release assay was positive. CT neck revealed large cystic collection with some septation and mild surrounding inflammatory changes extending superficial and medial to the right sternocleidomastoid muscle and abutting the right internal jugular vein at upper neck. IR biopsy was negative for malignancy. Acid Fast smear of the biopsy was positive. She was started on anti-tuberculosis therapy and discharged with outpatient infectious disease follow-up.
Discussion and Learning Points: Our patient's background of South Asia puts her at a high risk of tuberculosis (TB) exposure and hence true infection. Our patient's presentation of slow growing neck mass and B symptoms were concerning for possible alternate etiology, particularly a malignancy. We need to remain vigilant about the broad differential diagnoses based on patient's demographics.

687 - Submission No. 1619

BE CAREFUL WHAT´S AT HOME

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Case Description: Patient is a 30-year-old autonomous man, living with his wife in a non-rural environment. But he is restoring a very old house where there are rats. He mentioned having contact with cats and dogs and consuming well water. He went to the emergency service for asthenia, myalgias and fever with 5 days of evolution that did not improve with analgesia. On admission: blood pressure: 140/61 mmHg; heart rate: 86 bpm; SpO_2: 97% on room air, temperature 37.1ºC. Physical examination revealed: discolored mucous membranes, icteric sclera and painful abdominal palpation in the right hypochondrium with hepatomegaly that is difficult to measure and characterize.
Clinical Hypothesis: Zoonosis; infectious mononucleosis by Epstein-Barr virus; leptospirosis, Q fever, acute hepatitis; hepatitis A.
Diagnostic Pathways: Analytically: leukopenia (leukocytes 3260/µL), thrombocytopenia (platelets 92000/µL), total bilirubin 2.56 mg/dL, direct bilirubin 1.91 mg/dL, lactate dehydrogenase 2319 U/L; aspartate aminotransferase 1933 U/L; alanine aminotransferase 1514 U/L; gamma glutamyl transferase 371 U/L; C-reactive protein (CRP) 12.9 mg/dL. Abdominal computed axial tomography reported mild hepatosplenomegaly. Mononucleosis IgM and Anti-HAV IgM positives. Epstein-Barr virus (EBV) and Leptospirosis serologies was positives.
Discussion and Learning Points: We are dealing with a patient with acute hepatitis A, an infectious mononucleosis by Epstein-Barr virus and leptospirosis. The symptoms presented by the patient are common to all diagnosed pathologies, just like the presence of hepatomegaly and analytical changes. Both the water from the uncontrolled well and the animals to which he was exposed could be the causal agents of hepatitis and leptospirosis. This case shows the importance of performing an anamnesis and directed but complete differential diagnosis.

688 - Submission No. 345

THE KEY WAS IN THE CHEESE

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Case Description: Patient is a 34-year-old autonomous man working in waste disposal industry, living with his wife in a house with courtyard and no pets or animals. The patient attended the emergency service complaining of generalized pain, arthralgias, fever, abdominal feeling of fullness and one episode of vomiting. Self-medicated with 2 days of amoxicillin+clavulanic acid and analgesia. Mentioned he ate unpasteurized cottage cheese 2 weeks ago. On admission patient looked anxious and restless. Cardiac auscultation rhythmic with no heart murmur. Blood pressure: 91/46 mmHg; heart rate: 93 bpm; SpO_2: 100% on room air. Temperature 36.7ºC followed by higher readings of 37.5ºC and 38.5ºC.
Clinical Hypothesis: Fever without a focus; Zoonosis; Endocarditis.
Diagnostic Pathways: Blood results: mild anemia (hemoglobin 12.47 g/dL); leukocytosis 12,470/uL, neutrophilia of 10,910/uL, C reactive protein 38.4 mg/dL. ECG: synus rhythm, short PQ intervals, deep S wave from V2 to V5. CT thorax, abdomen and pelvis showed bronchiectasis of the right lower lobe and homogeneous splenomegaly of unknown cause. Brucella Coombs pink test and Huddleson test are both positive. Urine culture and blood culture are both negative.
Discussion and Learning Points: The diagnosis of brucellosis

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was identified, and the public health authorities were contacted. The patient was given a 6-week antibiotic therapy, doxycycline, and rifampicin with a significant improvement of the symptoms. Brucellosis prevention in humans depends on the control and eradication of the disease in animals. There are animal vaccines for the Brucella abortus and *Brucella melitensis* strain, but no vaccines for the *Brucella suis* or *canis*. Other preventive measures are: good hygiene, pasteurization of dairy products and other risk foods.

689 - Submission No. 1402

THE REAL DIAGNOSIS BEHIND GIARDIA LAMBLIA

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Case Description: Giardia is a protozoan parasite capable of causing diarrheal illness. High-risk groups include young children, travelers and immunocompromised individuals. The severity is variable: about half of the exposed individuals are asymptomatic. The intern presents a case of acute gastroenteritis (AG) due to giardia in which the symptoms, laboratory findings and lack of response to therapy seemed to hide an additional diagnosis. A 52-year-old man visited the emergency room complaining of 10 watery diarrheal stools without blood or mucus per day, with dizziness and fever developing five days later, and a painful cervical adenopathy. Personal history: syphilis cured six months ago. Physical examination revealed a fever and bilateral, painful, movable cervical and inguinal adenopathies. Laboratory, leuko-lymphopenia, thrombocytopenia, acute renal damage, liver cytolysis, elevation of LDH and CRP; abdominal ultrasound: hepatic steatosis, and panel of gastrointestinal infections positive for Giardia.

Clinical Hypothesis: Assuming the diagnosis of AG due to giardia, the patient was hospitalized with antibiotic therapy.

Diagnostic Pathways: Due to maintenance of fever, lumbar puncture was performed without alterations. Acute infections like toxoplasma, CMV, hepatitis A, B, C, or E were excluded. At the same time, HIV Ac./Ag was strongly positive with negative confirmatory HIV test, which became positive later. Viremia and CD4 were requested; started ART with good tolerance and resolution of complaints.

Discussion and Learning Points: Giardia's AG was assumed in a patient with immunosuppression due to recent HIV infection. The example emphasizes the significance of clinical examination and strong diagnostic suspicion in situations where clinical findings are clinically out of line with laboratory and imaging findings.

690 - Submission No. 2108

A RARE CASE OF TRISMUS: A 20TH CENTURY DIAGNOSIS

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Case Description: An 80-year-old male presented to the emergency department complaining of inability to open his eyes and mouth for the previous five days, with dysphagia and intermittent diplopia. Upon examination, a bilateral and symmetrical contracture of his masticatory muscles was identified. He had consulted the previous week for oral discomfort, and a dental prosthesis in very bad condition with erosions in the lower dental arch was observed.

Clinical Hypothesis: Differential diagnosis included stroke, infection of the central nervous system, otorhinolaryngological infection or dystonia due to drugs.

Diagnostic Pathways: Blood works, a computerized tomography (CT), a cranial angio-CT and a fibroscopy were normal. An electromyogram showed repetitive discharges in facial and trigeminal nerve territories, compatible with cephalic tetanus. Treatment with metronidazole, diazepam and baclofen was started, together with tetanus toxoid; attaining complete resolution of the symptoms.

Discussion and Learning Points: Cephalic tetanus is a localized and infrequent form of this disease and can become generalized in up to two thirds of patients, thus becoming potentially lethal. Although it is a rare disease in developed countries, it has been described that scarcely 30% of adults over 70 years old have protective levels of antibodies. It is associated with injuries in the craniofacial territory, involving the cranial nerves (most frequently the facial nerve), inducing trismus and occasionally emulating a stroke. The prognosis depends largely on early treatment; therefore, a high degree of suspicion is essential in patients with predisposing factors and compatible clinical manifestations.

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691 - Submission No. 1960

DALBAVANCIN: AN ANTIBIOTIC TO BE CONSIDERED IN INFECTIONS CAUSED BY GRAM-POSITIVE MICROORGANISMS

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Background and Aims: A retrospective descriptive study of a series of patients treated with dalbavancin in a tertiary level hospital.

Methods: Patients treated with dalbavancin between 2015 and 2022 at Gregorio Marañón Hospital were selected with Pharmacy service. The SPSS Statistics 20 program was used to present the results.

Results: A sample of 169 patients was obtained. The five most frequent indications are infective endocarditis (26.75%), prosthetic joint infection (14.2%), non-catheter-related bacteremia (14.79%), catheter-associated bacteremia (14.2%) and skin and soft tissue infection (10.06%). In the treatment of infective endocarditis, one dose of dalbavancin is used in 64.7% of the cases and two or more in the rest. 75% were cured. Among those treated for prosthetic joint infection one dose of dalbavancin was used in 20.8% of cases, two doses in 12.5% of cases and three or more in 20.8%. Cure was achieved in 45.8%. In the treatment of catheter-related bacteremia, a dose of dalbavancin was used in 75% of the cases, achieving a 91.7% cure rate. In non-catheter-related bacteremia, one dose of dalbavancin was used in 48%, two doses in 32% and three or more in the rest, achieving cure in 84%. In skin and soft tissue infections, one dose of dalbavancin was used in 64.7% of the cases, achieving cure in 76.5% of the sample.

Conclusions: The indication of dalbavancin for the treatment of gram-positive infections has not only been limited to skin and soft tissue infections, but has been extended to other infections such as endocarditis, gram-positive bacteremia or joint prosthesis infections, with good results.

692 - Submission No. 2070

CYTOMEGALOVIRUS COLITIS: AN ENTITY TO BE TAKEN INTO ACCOUNT

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Background and Aims: Retrospective description of patients diagnosed with cytomegalovirus (CMV) colitis over a five-year period in a tertiary hospital.

Methods: History numbers of patients hospitalized for CMV colitis between June 1, 2016 and June 1, 2021 are obtained. Descriptive analysis with SPSS software.

Results: Sixteen patients were recruited, 62.5% of whom were male. Those over 70 years of age accounted for 37.5% of the sample. The 81.3% of the patients were immunosuppressed and only three were immunocompetent. Cardiac transplantation is the most frequent comorbidity (31.3%), followed by renal transplantation (18.8%) and hematologic disease (12.5%). One patient had HIV infection. No patient has systemic autoimmune disease or active solid organ neoplasia. 56.2% of patients were treated with mycophenolate mofetil and tacrolimus and 37.5% with prednisone. The most frequent symptomatology was diarrhea (56.3%) preceded by abdominal pain (12.5%). Colonoscopy is performed in 50% of patients with colonic involvement in all of them and radiological involvement is observed in 18.75% of the cases. Most of them are treated with ganciclovir and valganciclovir (43.8%), 18.75% are treated with ganciclovir or valganciclovir, 6.25% with foscarnet and 6.25% with the combination of valganciclovir and foscarnet. The mean duration of treatment is 27.47 days. Two patients require ICU monitoring and one elderly patient with high comorbidity dies of the disease.

Conclusions: CMV predominantly affects immunocompromised patients of advanced age, especially linked to pharmacological immunosuppression with mycophenolate mofetil. Colonic involvement by CMV corresponds to reactivation, with diarrhea and abdominal pain being the predominant symptoms. The treatment of choice is the combination of ganciclovir and valganciclovir, with favorable evolution in most of them.

693 - Submission No. 946

CONTINUED STIGMA OF HIV AND ITS EFFECTS ON PRESENTATION OF COMPLICATIONS

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Case Description: Middle-aged man presented with diplopia and right-side facial droop, together with weight loss and worsening mobility. Examination revealed left abducent nerve and right facial nerve palsy. Background untreated HIV infection 8 years ago, confirmed by viral serology, plus HBsAg positive, CD4+ 60, HBV DNA >500,000,000 copies/uL. Head MRI seemed to show rhombo-encephalitis. Empirical antibiotics and antivirals with listeria cover given. All investigations showed no infection. CT scan showed left renal mass, biopsied to confirm diffuse large B cell lymphoma. No improvement despite 7 days of antibiotics. A course of dexamethasone was trialed. Due to his frailty, immunochemotherapy was not recommended. Emtricitabine-tenofovir and raltegravir were given with no effect. Multi-disciplinary team decided best management was palliative therapy. Patient did not want his family to know about HIV diagnosis while he was alive.

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Clinical Hypothesis: HIV associated diffuse large B-cell lymphoma (DLBCL).

Diagnostic Pathways: Based mainly on morphology and immunophenotyping obtained from biopsy. HIV serology, CD4 count.

Discussion and Learning Points: DLBCL is the most common type of Non-Hodgkin Lymphoma (NHL). Treatment is mainly immunochemotherapy (R-CHOP) ± radiotherapy and surgical excision where possible. Untreated HIV carries a significant risk for development of life-threatening complications (AIDS). This case demonstrated importance of MDT involvement (haemato-oncologist and HIV specialists) HIV stigma still carries a significant risk to accessing treatment despite huge advancements. Which may lead to presentation of complications. MRI scan is the image of choice for primary nervous system lymphoma and to assess response but not as the sole diagnostic tool. Early MDT collaboration may have changed the prognosis.

695 - Submission No. 399

FEVER AND NEUROLOGICAL DETERIORATION IN A KIDNEY TRANSPLANT PATIENT

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Case Description: A 76-year-old patient with a kidney transplant who went to the emergency department due to fever and neurological deterioration. Examination revealed moderate meningismus, as well as dysarthria and generalized weakness. A lumbar puncture was performed, which was positive for cryptococcus neoformans antigen.

Clinical Hypothesis: *Cryptococcal meningitis* in an immunosuppressed patient with kidney transplant.

Diagnostic Pathways: Blood and urine cultures were negative, as well as a lumbar puncture with culture and gram stain of the cerebrospinal fluid, which were negative; a film array that was also negative, and finally the cryptococcus neoformans antigen that was positive on two occasions. The head CT scan was normal, and the electroencephalogram showed alterations consistent with generalized cortical encephalopathy.

Discussion and Learning Points: Cryptococcus neoformans meningitis is a serious infection of the central nervous system. It usually occurs in immunosuppressed patients. It occurs in 2.8% of solid organ transplant recipients. It usually manifests as subacute or chronic meningitis, with onset over several weeks of fever, severe headache, decreased level of consciousness, cranial nerve involvement. *Cryptococcal meningitis* should be suspected in any immunocompromised patient with fever, headache, and neurological deterioration. Diagnosis is established by demonstrating the presence of the fungus in cerebrospinal fluid, either by culture, PCR, India ink staining, or cryptococcus antigen. Treatment is based on antifungals. First, induction therapy with amphotericin B + flucytosine is performed as the first line, for at least 2 weeks. After induction, consolidation therapy with fluconazole should be administered for 8 weeks. Finally, maintenance treatment with fluconazole for at least 1 year as a general rule.

696 - Submission No. 400

SEPSIS AFTER CARDIAC SURGERY

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Case Description: A 60-year-old man underwent surgery for aortic valve replacement with a biological prosthesis. He goes to the emergency room due to dehiscence of the surgical wound and is admitted in a situation of septic shock. Methicillin sensitive *Staphylococcus aureus* (MSSA) was isolated in blood cultures.

Clinical Hypothesis: Infectious endocarditis.

Diagnostic Pathways: Repeated blood cultures were performed, as well as cultures of the wound exudate, with MSSA isolated in all of them.

To confirm the diagnosis of infective endocarditis, a transthoracic echocardiography was performed, which was initially negative. Due to the high diagnostic suspicion, a transesophageal echocardiography was performed, with findings of infective endocarditis on the prosthetic aortic valve, in addition to a possible aortic root abscess that was confirmed with an aortic CT angiography.

Discussion and Learning Points: Prosthetic valve endocarditis accounts for 20-30% of all endocarditis. It affects 3-4% of patients in the 5 years after valve replacement (more frequent during the first year). It affects

equally to mechanical and prosthetic valves. The risk of developing prosthetic valve endocarditis in *S. aureus* bacteremia is 54.6%. Regarding the etiology, in the early form (first year after surgery) the most frequent microorganisms are *S. aureus* and coagulase-negative staphylococci. In the late (after the first year after the intervention) Staphylococcus, Streptococcus and Enterococcus are frequent. Mortality in infective endocarditis due to S. aureus is estimated at around 20-30% in various studies.

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697 - Submission No. 666

THE DISPENSING OF NON-PRESCRIBED ANTIBIOTICS TO PEDIATRICS IN COMMUNITY PHARMACIES: A CROSS-SECTIONAL STUDY IN JORDAN

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Background and Aims: Antibiotic resistance is a growing health threat globally, especially in pediatrics. According to WHO reports, almost one third of annual deaths caused by multidrug resistance are for newborn patients. The overuse and misuse of antibiotics in pediatrics contributes most to this problem, especially in countries where antibiotics can be dispensed directly from the pharmacy. Hence, the present study aims to explore the prevalence of dispensing non-prescribed antibiotics to pediatrics in the community pharmacies.

Methods: This study was a cross-sectional study. Five different clinical case scenarios were simulated including pharyngitis, bronchitis, otitis media, gastroenteritis, and urinary tract infection. The researcher claimed to be a parent/guardian who requests an antibiotic for his/her child. Three levels of demand were used to conceive the pharmacy staff to dispense antibiotics.

Results: A total of 207 pharmacies were visited. Most pharmacies (78.7%) dispensed antibiotics without a prescription, in which most of dispensing process (79.8%) were using level one of demand. Most of the antibiotics were dispensed for the pharyngitis (95.3%), followed by urinary tract infection (89.2%), otitis media (87.8%), and gastroenteritis (74.4%). Among pharmacists who dispensed antibiotics, 92% explained how it was taken, 41.1% informed the parent/guardian about the duration, and 27% inquired about present drug allergies. Only 21.3% of pharmacists refused to dispense any type of antibiotics, of those 38.6% recommended consulting a physician.

Conclusions: The results of the current study strongly demonstrate that dispensing of non-prescribed antibiotic in pediatric patients is prevalent in Jordan despite the current legislations.

698 - Submission No. 1047

PROGRESSIVE MULTIFOCAL LEUKOENCEPHALOPATHY IN A LIVER TRANSPLANT PATIENT

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Case Description: A 60-year-old male with history of liver transplantation under immunosuppressive treatment with Mycophenolate Mofetil was admitted to the emergency room with a one-month complain of progressive right hemiparesis, dysarthria and behavioral disturbances.

Clinical Hypothesis: Our differential diagnosis included opportunistic infections of the CNS [especially progressive multifocal leukoencephalopathy (PML) and toxoplasmic encephalitis] as well as primary CNS lymphoma and metastasis.

Diagnostic Pathways: There were no alterations in the basic blood tests and the cranial CT. A brain MRI was requested where multifocal white matter lesions are described, it being recommended to exclude opportunistic infections of the CNS. We performed a lumbar puncture and requested a PCR for opportunistic pathogens, being positive for Polyomavirus JC (JCV). Taking into account the clinic, the imaging and the cerebrospinal fluid, the diagnosis of PML was established. On discharge we decided to swap from Mycophenolate Mofetil to Everolimus. No evidence of transplant rejection was found months later.

Discussion and Learning Points: PML is a rare condition which almost exclusively affects immunosuppressed patients, especially HIV not under antiretroviral treatment. The disease is caused by reactivation of JCV. The primary infection is asymptomatic and usually occurs in childhood. Upon reactivation, JVC lyses glial cells, giving rise to lesions in the cerebral white matter. There is no treatment, and it has a high morbidity and mortality rate. In most cases, an attempt should be made to restore the patient's immunity. In our patient, the immunosuppressive treatment was modified.

699 - Submission No. 1246

SEPTIC SACROILIITIS IN A YOUNG PATIENT WITH ACNE: A DIAGNOSTIC CHALLENGE

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Case Description: The use of isotretinoin for acne is often associated with musculoskeletal manifestations, lately with sacroiliitis, as it disrupts cytokine homeostasis. *Staphylococcus aureus* is a Gram-positive bacterium of the normal flora of the skin, which colonizes acne lesions and is very often underestimated as a cause of sacroiliitis. Absence of fever also, due to long-term use of NSAIDs/corticosteroids, complicates the process even more.

Clinical Hypothesis: An 18-year-old woman, under isotretinoin for acne, was admitted to our Clinic due to low back pain for the last month and gait disorder. She was initially evaluated by orthopedist/neurologist, underwent an electromyogram with no evidence of pathology and was prescribed NSAIDs and methylprednisolone 20 mg/d without response.

Diagnostic Pathways: She was afebrile, with an acneiform cheek rash, positive faber test bilaterally, normal lower extremity muscle strength and increased inflammation markers (WBC: 17,080/μl, ESR 94 mm, CRP 27.1 mg/L). TB skin test and serological testing were negative, while pelvis CT scan revealed sacroiliitis bilaterally. Corticosteroids were discontinued, low-grade fever and MSSA

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bacteremia emerged. Cloxacillin 2g×6 IV was administered (po later for 6 weeks). Endocarditis was excluded, HLA-B27/ HLA-B51 testing was negative, etoricoxib 120 mg 1x1 was started po and two doses of infliximab 400 mg were given with genuine clinical improvement. Repeated pelvis MRI after 2 months showed significant resolution of the previous findings.

Discussion and Learning Points: Septic sacroiliitis is a rare entity, mimics other musculoskeletal diseases and its diagnosis is typically delayed with serious complications for the patients such as endocarditis, sepsis and disability.

700 - Submission No. 1276

ACUTE BACTERIAL MENINGITIS IN AN IMMUNOCOMPETENT MAN WITH IMAGING FOCAL FINDINGS OF ENCEPHALITIS

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Case Description: Acute bacterial meningitis is a potentially life-threatening clinical entity. Its immediate diagnosis and treatment is an absolute necessity, since -without treatment -the mortality rate reaches 70%. Meningitis especially caused by group B Streptococcus is rare (0.3%-4.3% of cases), however in recent years there has been a gradual increase in its incidence.

Clinical Hypothesis: A 59- year- old man, with arterial hypertension under treatment, was admitted to our Clinic due to a deranged level of consciousness, fever up to 39°C with chills and headache for the last 5 hours.

Diagnostic Pathways: The patient showed confusion/agitation, neck stiffness, urinary retention, leukocytosis and mildly elevated inflammatory markers (WBC 19,360 / CRP 13 mg/L). He underwent an urgent brain CT scan, which showed a hypodense area in the right temporal lobe in the subcortical white matter indicative of encephalitis. A lumbar puncture was performed with CSF showing low glucose level along with an increased white blood cell count and protein. CSF PCR and culture isolated *Streptococcus agalactiae*. The patient was already treated with IV ceftriaxone 2 grx2, ampicillin 2 grx6, vancomycin 1 grx3, rifampicin 600 mgx2, acyclovir 750 mgx3, dexamethasone 10 mg x4 and continued with IV ceftriaxone 2 grx2 after the pathogen isolation. The patient was discharged with significant clinical improvement.

Discussion and Learning Points: Meningitis is indeed a potentially life-threatening disease. Delay in treatment initiation has been associated with worse outcomes. Although meningitis from *S. agalactiae* is associated with underlying causes (diabetes mellitus, infection, immunosuppression), their absence should not exclude this factor from our differential diagnosis.

701 - Submission No. 736

THE PROGNOSTIC SIGNIFICANCE OF DELTA C - REACTIVE PROTEIN LEVELS IN HOSPITALIZED PATIENTS WITH INFECTIOUS DISEASES

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Background and Aims: C-Reactive protein (CRP) is a non-specific acute phase reactant. While recent data have shown its prognostic importance in myocardial infarct and acute coronary syndrome, its clinical significance is emerging in infectious diseases, with paucity data regarding the significance of delta CRP levels changing over time. The objective of this study is to evaluate the clinical significance of delta CRP levels among hospitalized patients with various infectious diseases.

Methods: The cohort consisted of all hospitalized patients with a working diagnosis of an infectious disease, who had 2 CRP level measurements taken upon admission and 24 hours apart. The study group included patients with microbiology documented infection (MDI), while control group included the ones without MDI. The electronic medical charts were reviewed for clinical and laboratory data. The primary outcome was the association between delta CRP and MDI. Secondary outcomes were the association between delta CRP and: length of stay at Intensive Care Unit, vasopressors use, mechanical ventilation, length of hospital stay, in hospital and 30-day mortality.

Results: Delta CRP levels were significantly higher among the MDI group, with a delta cut-off value of 2.7 mg/dl indicating probability for MDI (Table 1). The significance of high delta CRP levels was consistent in multiple multivariate analyses. Higher delta CRP was associated with higher ICU admission rate and higher need for vasopressors (Table 2).

Conclusions: Delta CRP levels might have an important role in the patient's clinical decision making, as higher delta CRP is associated with positive MDI and more complicated hospitalization.

	Negative -microbiology documented infection	Positive-microbiology documented infection	P-value
CRP delta (mean +SD)	3.69 (7.51)	5.45 (8.00)	<0.001

701 Table1.

	CRP Delta		P value
	No	Yes	
Vasopressors (mean+sd)	4.11 (7.57)	6.69 (9.02)	<0.001
ICU (mean+sd)	4.22 (7.65)	8.55 (9.89)	<0.001
Mechanical ventilation (mean+sd)	4.25 (7.73)	5.04 (7.76)	0.150
30 days mortality (mean+sd)	4.27 (7.81)	4.55 (7.45)	0.472

701 Table2.

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702 - Submission No. 846

THE IMPORTANCE OF EARLY CLINICAL SUSPICION OF TUBERCULOUS MENINGITIS

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Case Description: A 74-year-old man with a history of hypertension, gout and dyslipidemia presented with agitation, incoherent speech, left arm weakness and fever. He also referred non-productive cough of one month of evolution. Examination revealed agitation with dysphasia and tongue biting. He was admitted to the hospital and CT and cerebral angio-CT scans were performed, which showed no acute lesions except bilateral cavitated pulmonary nodules.

Clinical Hypothesis: Given the persistence of behavioral alteration, lumbar puncture was performed and showed elevated CSF pressure with elevated protein and lymphocytic pleocytosis. Further studies included CBC with negative autoimmunity, positive IGRA and electroencephalogram with theta rhythm. Bronchoalveolar lavage confirmed the presence of BAAR and *M. tuberculosis* complex DNA. No lesions were observed in brain MRI.

Diagnostic Pathways: The results were all consistent with Tuberculous meningoencephalitis therefore treatment with rifampicin, isoniazid, pyrazinamide, ethambutol, and corticosteroids was initiated. The patient began recovery, but pharmacological hepatotoxicity was identified requiring the lowering of rifampicin dosage and the addition of levofloxacin. The patient was finally discharged with residual left hemiparesis.

Discussion and Learning Points: CNS involvement is a severe manifestation of tuberculosis, with mortality greater than 60% and sequelae in up to 25%. Upon clinical suspicion with compatible CSF, early empirical treatment with anti-tuberculous therapy and corticosteroids should be initiated since delay is associated with worse prognosis. Treatment is maintained for 7 to 10 months given the high rate of sequelae and mortality. It is essential to suspect the entity in order to minimize the serious consequences of diagnostic delay.

703 - Submission No. 1026

A MISFORTUNE

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Case Description: A 45-year-old woman entered the emergency department with right periorbital vesicular lesions associated with eyelid and ipsilateral hemifacial edema that emerged one week before. She had a history of hereditary hemolytic anemia and granulomatosis with polyangiitis. She was under immunosuppression with corticosteroids and had been on rituximab therapy for one month. On physical examination, she was hemodynamically stable, apyretic, with no other changes in addition to those already described and without focal deficits.

Clinical Hypothesis: Herpetic infection.

Diagnostic Pathways: The analysis results showed leukocytosis (18 x 10^3) and reactive protein chain (48 g/dL). A lumbar puncture was performed and was clear. The cranial and orbital CT scans revealed exuberant periorbital cellulitis, without central nervous system involvement. In this context, herpetic infection was also assumed and therapy with acyclovir and vancomycin was started. The patient was hospitalized in an intermediate care unit for surveillance. On the first day of hospitalization, the patient developed refractory septic shock associated with multiorgan dysfunction and required admission to the intensive care unit for organ support. However, despite the measures in place, her clinical situation was irreversible, and she died 48 hours later.

Discussion and Learning Points: An immunosuppressed patient is a special type of individual that requires increased medical attention. Although eye and skin infections in the surrounding tissue are common, this group of patients they can prove to be a challenge. It is crucial to alert patients for the need to contact health services as early as possible in the face of any change in order to act quickly and improve the prognosis.

704 - Submission No. 1048

A HAWK'S EYE

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Case Description: A 24-yeard old woman, with no relevant personal history and/or usual medication, was admitted to the Emergency Room due to vomiting, without other symptoms. The vomiting ceased after symptomatic control. After 3 days, she returned to the ER with persistent vomiting associated with fever. A viral gastroenteritis diagnostic was assumed, and she was symptomatically medicated. After another 2 days, she re-entered the ER due to the persistence of the symptoms, onset of headache and behavioral changes. On physical examination, she was feverish, disoriented, speaking incoherently, and having visual hallucinations. No other focal deficits were found. Discreet herpetic labial lesions were identified.

Clinical Hypothesis: Hyponatremia vs nervous system infection.

Diagnostic Pathways: The blood tests undertaken revealed leukocytosis (15,000) and neutrophilia (82.2%) with negative reactive protein chain and procalcitonin. The remaining parameters were normal including ionogram. A cranium CT-scan revealed possible encephalitis. In this context, the patient was hospitalized, and a lumbar puncture was performed, which revealed a positive result for Herpes Simplex 1. A cranial MRI confirmed the diagnosis. Herpetic encephalitis was assumed and therapy with acyclovir was started for 21 days. Due to a weak improvement of the neurological alterations, an electroencephalogram was

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undertaken. It revealed an epileptic focus in the frontal region, for which she was medicated with valproic acid with improvement. On the date of discharge, the patient was referred to the rehabilitation unit for maintenance of recovery.

Discussion and Learning Points: This case reinforces the importance of a detailed physical examination in the early diagnosis and consequent initiation of targeted therapy, thus improving the prognosis.

705 - Submission No. 1464

A RARE CAUSE OF NEUROLOGICAL SYMPTOMS

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Case Description: Female, 64 years-old, with several comings to the Emergency Service by vomits and vertiginous syndrome with about one week of evolution and without improvement despite the previous therapeutic. The clinical history highlights the intake of an omelet made with preserved frozen homemade mushrooms. Later she developed blurred vision and dysphagia, staying hospitalized for further study.

Clinical Hypothesis: Hospitalized for stroke screening of the trunk.

Diagnostic Pathways: On the third day of hospitalization the symptoms worsened. Hypotension, diplopia, gait ataxia, constipation, asthenia and generalized hypotonia are objectively emphasized. Negative viral serologies, CT and MRI of the brain without relevant alterations. She was transferred to the Intensive Care Unit on suspicion of botulism, where she was given anti-botulinic serum with symptom improvement. Electroneuromyogram and evoked potentials of the upper limbs showed lesions in the presynaptic of the neuromuscular junction compatible with the hypothesis of botulism. Botulinum toxin research in the patient's blood was negative. Discharged after 26 days of hospitalization with the resolution of the main symptoms presented.

Discussion and Learning Points: Botulism is an infectious disease with paralyzing neurologic manifestations caused by the clostridium botulinum toxin. Manifests by bi-lateral neuropathy associated with cranium descending symmetric fatigue, bradycardia and visual anomalies, without other sensory deficits. The author presents the case of a patient with potential botulism. Although the research on botulinic toxin has been negative, the history of the patient, the symptomatology, the good response to the treatment with anti-botulinic serum and the presynaptic lesion evidenced in the electromyogram makes us think of this infrequent but potentially fatal pathology.

706 - Submission No. 822

GROUND-GLASS OPACITIES AND DYSPNOEA IN A PATIENT WITH SARCOIDOSIS IN THE COVID-19 PANDEMIC

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Case Description: A 48-year-old man was evaluated with dyspnea during the COVID-19 pandemic. Three months before the current evaluation, the patient received a diagnosis of pulmonary sarcoidosis. At the time of diagnosis, he presented with lymphadenopathies and acute obstructive renal failure. Computed tomography (CT) of the chest revealed minor upper lobes lung injury (Figure 1A). He was treated with percutaneous right-side nephrostomy, and treatment with corticosteroids and methotrexate was initiated. He reported a 2-week history of new-onset of mild dyspnea with daily activity. He did not report other symptoms. The complete blood count, white-cell differential count, and liver function were normal. The level of C-reactive protein was elevated (123 mg/dl) and a nasopharyngeal polymerase-chain-reaction (PCR) test also was negative. A chest X-ray and CT (Figure 1B) showed a diffuse ground glass opacities (GGO) predominantly in upper lobes.

Clinical Hypothesis: COVID-19 was not considered the most likely cause. As our patient was on immunosuppressive therapy, other infections, including pneumocystis pneumonia were considered a likely etiology. Methotrexate induced toxicity and sarcoidosis were also suspected. Methotrexate was withdrawn, and we started empirical trimethoprim-sulfamethoxazole and prednisone dose was increased.

Diagnostic Pathways: PCR test of the bronchoalveolar-lavage (BAL) for *Pneumocystis jirovecii* was positive. Finally, he was diagnosed with *Pneumocystis jirovecii* pneumonia. During the hospital admission, consecutive lung ultrasounds were performed to assess the clinical evolution (Figure 2).

Discussion and Learning Points: A broad spectrum of pulmonary parenchymal diseases presents with GGO and may mimic COVID-19. However, imaging findings, clinical assessment of the patient and medical history, are essential in early diagnosis and suitable treatment.

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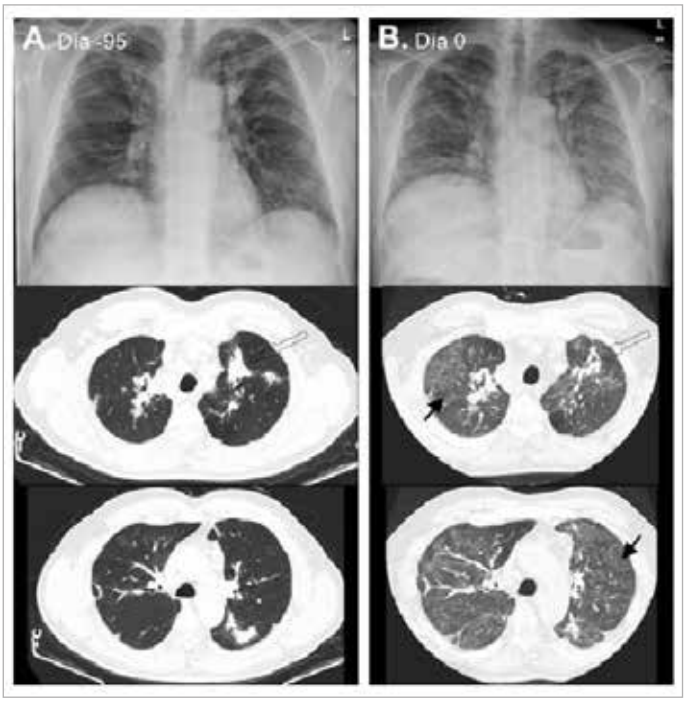
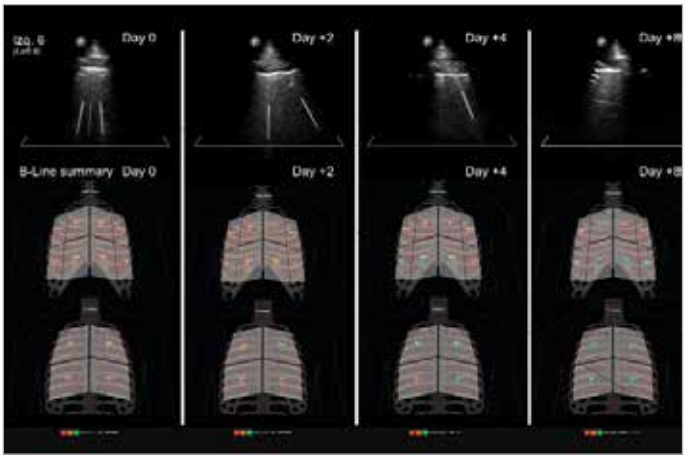


706 Figure 1. Chest X-ray and unenhanced computed tomography. Black arrows: ground glass opacities. Clear arrows: Small mass-like region composed of numerous smaller granulomas due to sarcoidosis. Panel A: day -95. Initial diagnosis of sarcoidosis (lymphadenopathies and acute renal failure). Panel B: day 0. On admission



706 Figure 2. Lung ultrasound images of posterior and inferior left lung segment B at day 0, 2, 4 and 8 after treatment. B-lines marked by a white line

707 - Submission No. 1971

INVASIVE FUNGAL DISEASES IN COVID-19 PATIENTS

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Background and Aims: *Candida auris* is a candida species of particular concern due to the common antifungal resistance, it can be transmitted in the health care setting between patients and is difficult to eradicate. Can cause a wide range of clinical disease. The Microbiology lab at Barzilai Medical center has identified the first case of *C. auris* from respiratory secretions on 28.1.2021. The patient was a corona case in critical condition.

Methods: This is a retrospective cohort study based on patients' medical records of the first 15 cases identified as having *C. auris* over a 16 months period, 2. Assessing the relative load of the 15 *C. Auris* cases on the total no of Candida isolates (712 isolates).

Results: 15 Patients infected by *Candida auris* over 15 m (28.1.21-26.5.22,in C. Auris cases The mean age was 64.1 years, 73% males 11 patients, 26% females 4 patients. In hospital mortality 9/15 (60%). Type of culture: 7 (46%) in the blood, 2 (13%) in the wound, 2 (13%) in the sputum, 5 (33%) in the urine, 11 (73%) had multiple underlying diseases, 13 patients (86%) with prolonged exposure to antibiotics, 14 patients (93%) underwent ventilation, 14 patients (93%) had a bacterial infection in addition.

Conclusions: *C. auris* infection has established a focus during the COVID-19 pandemic, The outbreak continues way beyond COVID-19 epidemic and centers around very ill patients, long hospitalization and prolonged exposure to antibiotics, *Candida auris* becomes an important nosocomial Candida pathogen at Barzilai medical center. It is associated with high morbidity and mortality

708 - Submission No. 2005

PROSTHETIC JOINT INFECTION : RISK FACTORS FOR INFECTION BY MULTIDRUG-RESISTANT BACTERIA REGISTERED IN A TERTIARY HOSPITAL

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Background and Aims: The risk of developing prosthetic joint infection (PJI) after an arthroplasty is 1-2%, of which around 15% are described as being caused by multidrug-resistant bacteria (MDR). Our objective is to obtain the incidence of infections produced by multidrug-resistant bacteria in our hospital and to analyze risk factors associated with.

Methods: Retrospective observational study of 52 patients were diagnosed with prosthetic joint infection for 3 years, of which 7 had MDR infection. Bivariate analysis was performed with Fisher's test and logistic regression model to analyze risk factors associated with them.

Results: 7 (13.5%) out of 52 patients analyzed presented infection by multi-drug resistant bacteria (MRSA, *E. coli* ESBL and KPC-type Klebsiella). Risk factors have been analyzed such as age, institutionalization, cognitive impairment, cardiovascular risk factors, immunosuppression, rheumatoid arthritis, neoplasms, Charlson index, admission in the previous 3 months, ICU, taking

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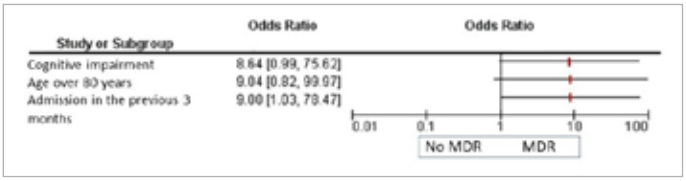
antibiotic therapy and colonization of MDR. During the bivariate analysis, a causal relationship was obtained by presenting MDR infection and being older than 80 years old with a p=0.014, cognitive impairment (p=0.023), or having been hospitalized in the previous 3 months (p=0.016). In the logistic regression model, an odd ratio of 9.04 was obtained for age over 80 years, OR=8.64 for patients with cognitive impairment and OR=9 for patients admitted in the previous 3 months (figure 1).

Conclusions: There are just a few studies that analyze the risk factors in multidrug-resistant bacteria in PJI. In our case, a causal relationship has been described between infection by multidrug-resistant bacteria and factors such as age over 80 years, admission in the previous 3 months and cognitive impairment.



708 Figure 1.

709 - Submission No. 2017

LEISHMANIA AND ITS SINGULAR EXPRESSION IN A HIV PATIENT: A CASE REPORT

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Case Description: A 40-year-old male with history of psoriasis and corticotherapy came to the emergency department for low back pain of 72 hours, nocturnal diaphoresis, and asthenia with important weight loss of 6 months of evolution. Physical examination without alterations.

Clinical Hypothesis: Initial tests showed anemia and thrombocytopenia, high C-reactive protein and hypertransaminasemia, normal autoimmunity profile and electrophoresis with nonspecific inflammatory pattern. Chest X-ray showed increased bilateral perihilar densities. Thoracic CT was requested, showing patchy areas with parahilar predominance without mediastinal adenopathies; abdominal CT, with posterior splenic cysts. Negative serologies for hepatotropic virus and syphilis; positive for HIV.

Diagnostic Pathways: After findings of bilateral apical interstitial pneumonia, antituberculosis treatment was started, suspended after negative Ziehl-Neelsen stains in sputum. Negative infectious extension study. Serology for Leishmania was positive 1/40 and in bronchoalveolar lavage Leishmania isolation was confirmed by molecular techniques. Bone marrow aspirate and culture confirmed Leishmania infiltration. Antibiotic treatment with liposomal amphotericin B and chloroquine-primaquine was started, with analytical recovery of cytopenia and significant radiological improvement. Parallel antiretroviral treatment with sustained viral response.

Discussion and Learning Points: Infectious interstitial pneumopathies in HIV-positive subjects are mainly due to Mycobacterium, *P. jirovecii* or aspergillosis. Our patient however presented a rare case of bilateral atypical Leishmania interstitial pneumonia with possible visceral Leishmaniasis/Kala-Azar (splenic lesions and hypertransaminasemia). Patients with HIV and leishmaniasis coinfection have lower rates of splenomegaly and more atypical forms of disease (pleuropulmonary/gastrointestinal/dermatological involvement). Histological diagnosis (dermis with macrophagic infiltrate, surrounded by lymphoid/plasmic and Langherans cells, and visualization of the parasite) and molecular techniques (DNA identification by PCR reaction) become particularly relevant.

710 - Submission No. 427

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF PATIENTS DIAGNOSED WITH EXTRAPULMONARY TUBERCULOSIS (EPTB) IN A TERTIARY HOSPITAL OF ATHENS, GREECE

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Background and Aims: An investigation of 15 immunocompetent patients with extrapulmonary tuberculosis (EPTB) admitted to our Department at Evangelismos General Hospital in Athens, between September 2020 and September 2022.

Methods: The medical records of 15 hospitalized patients with EPTB were assessed and we conducted a retrospective analysis on their demographic and clinical characteristics.

Results: Age ranged between 17-53 years old. The male/female ratio was 4/1. All of the patients were migrants and they presented with malaise, lymphadenopathy, fever, dyspnea, abdominal pain, pleuritic chest pain, weight loss, diarrhea and night sweats. The sites most commonly involved were LNs, liver, psoas muscle, paravertebral area, bone, pleura, peritoneum, with many of the subjects localizing in multiple sites. The following diagnostic procedures were used; core biopsy, CT-guided drainage, VATS, laparoscopy and FNA. All patients had positive cultures for M. tuberculosis, while it was deferred less sensitivity and specificity of other laboratory techniques; NAAT, IGRA and direct microscopy for acid-fast bacilli.

Conclusions: EPTB can affect virtually any organ and can mimic various inflammatory and neoplastic disorders. Global migration crisis alters disease's endemicity. Hence, a high index of suspicion is required even in countries nonindigenous to TB. Promptly

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diagnosis impedes transmission of the infection and reduces morbidity and mortality.

711 - Submission No. 1433

Q-FEVER ENDOCARDITIS

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Case Description: A 49-year-old man from Cyprus, with no previous medical history, presented to the E.R. complaining of fatigue, exertional dyspnea and diarrheas from five days ago. He had no travel history the past 6 months. He reported living near a farm and a recent dental intervention. The initial clinical assessment was unremarkable.

Clinical Hypothesis: Differential diagnosis of a patient with fever and conduction abnormalities.

Diagnostic Pathways: Consequent ECGs where performed which demonstrated cardiac conduction abnormalities (LBBB, RBBB and Wenckebach heart block). A transthoracic echocardiogram revealed EF>55%, severe aortic insufficiency, stenosis (grade 4+) and bicuspid aortic valve. A magnetic resonance imaging scan of the heart revealed aortic root abscess in the aorto-mitral curtain, destruction of the bicuspid aortic valve leaflets and impaired function. Laboratory abnormalities including normocytic anemia, thrombopenia, increased CRP and abnormal liver enzymes were noted. Viral serology for hepatotropic viruses was negative. Blood cultures were positive for *Staphylococcus lugdunensis*. The serology was negative for *Rickettsia conorii*, *typhi*, *Legionella* spp. and positive for *Coxiella burnetii*. The patient was treated empirically with doxycycline, ceftriaxone and vancomycin. The patient was referred for urgent cardiac surgery when he developed cardiogenic shock.

Discussion and Learning Points: Due to immunofluorescence assay >1:800 for *Coxiella burnetii* phase II IgG (1/2048) and definite endocarditis according to the modified Duke criteria the diagnosis was consistent with acute Q fever endocarditis.

712 - Submission No. 1460

RECURRENT BACTERIAL MENINGITIS: A RARE CASE REPORT OF ECCHORDOSIS PHYSALIPHORA

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Case Description: A 36-year-old female presented to the emergency department due to fever, severe headache, and disorientation. She had a history of pneumococcal meningitis 9 months ago. Physical examination revealed neck stiffness and impaired consciousness (GCS 10/15) and laboratory tests revealed high inflammatory markers. Immediately, ceftriaxone was administered thinking of high suspicion of bacterial meningitis. Cerebrospinal fluid analysis indicated bacterial infection; *Streptococcus pneumoniae* and human-herpes-virus-6 were isolated. Vancomycin and acyclovir were also administered, and the patient recovered during the first 24-hours of hospitalization.

Clinical Hypothesis: Recurrent bacterial meningitis.

Diagnostic Pathways: The patient had no history of trauma or surgery in head or spine. We performed several laboratory and imaging tests in order to determine the cause of recurrent episodes of bacterial meningitis. Tests for primary or acquired immunodeficiency were negative. Head MRI demonstrated bony defect of posterior wall of sphenoid sinus. Head high-resolution-CT revealed a well-defined mass, approximately 8 mm in diameter, eroding the middle of clivus, extending into the posterior sphenoid sinus and leading to connection between sphenoid sinus and cranial cavity. The above findings were compatible with ecchrodosis physaliphora, a benign congenital mass. The patient was referred to an expert center for surgical treatment.

Discussion and Learning Points: Ecchordosis physaliphora is a rare, benign, and congenital lesion, which leads to cerebrospinal fluid leakage or/and episodes of meningitis. Patients with recurrent bacterial meningitis should be investigated in order to establish and treat any underlying cause.

713 - Submission No. 759

STOKE-ASSOCIATED PNEUMONIA IN A RURAL GENERAL HOSPITAL

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Background and Aims: Stroke-associated pneumonia (SAP) is a common complication of acute stroke (AS). The aim of this study was to determine the incident of SAP, microbiological data, and outcome of patients with SAP in our hospital.

Methods: 396 patients with AS, 173 (43.7%) male with mean age of 62±12.6 years were registered over a period of four years, retrospectively. Patients with SAP were divided into two groups: group1 and group2 patients who developed pneumonia within and after the first 72 hours of admission, respectively. Demographical, laboratory, radiological, microbiological data, and outcome were registered and analyzed. Patients with dysphagia and fever before stroke onset, were excluded.

Results: 114 (28.8%) had SAP and 68 (59.6%) of them registered at the group1. 56 (49.1%) patients had positive cultures of tracheal aspirates and 36 (31.6%) had infiltrates on their chest

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radiographs. The microorganisms identified in group1 and group2 were: *Staphylococcus aureus* 11(16.2%) vs. 7 (15.2%), *Pseudomonas aeruginosa* 9 (17.4%) vs. 8 (16.7%), *Klebsiella pneumoniae* 0 (0%) vs. 5 (10.9%), *Streptococcus pneumoniae* 7 (10.3%) vs. 4 (8.7%), *Candida albicans* 1(1.5%) vs. 4 (8.7%), respectively. Median length of stay was 13 days compared to 5 days for all stroke patients and the mortality rate was 32.5%. The mortality rate was not affected by age, gender, time of onset and results of cultures. Patients in group2 tended to be older and had higher frequency of positive cultures and chest radiography with infiltrates.

Conclusions: Pneumonia is a common complication after AS and it is associated with high mortality and prolongs hospitalization. *Pseudomonas aeruginosa* and *Staphylococcus aureus* are most common organisms in SAP both of groups.

714 - Submission No. 1358

ACUTE LYMPHADENITIS AND ARTHRITIS DUE TO YERSINIA ENTEROCOLITICA INFECTION, IN A BETA THALASSEMIA MAJOR, HLAB27+ PATIENT

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Case Description: *Yersinia enterocolitica* is a gram-negative coccobacillus that causes gastrointestinal infection and extraintestinal manifestation such as arthritis, lymphadenitis, and erythema nodosum. Arthritis usually develops 1 to 4 weeks after infection, with a high risk in HLAB27+ patients. Iron overload and de-ironing therapy with subcutaneous deferoxamine are strong predisposing factors of yersiniosis.

We report a case of a 22-year-old patient, with a history of splenectomy, transfusion dependent beta thalassemia major and heavy iron overload-treated with oral deferiprone and subcutaneous deferoxamine-, who presented with right iliac fossa pain.

Clinical Hypothesis: Intravenous (IV) antibiotics were administered. The CT scan revealed mediastinal and abdominal lymphadenopathy. The serological tests for antigens against EBV, CMV, coxsackie B1-B6, HBV, HCV, Leishmania HIV, Toxoplasma, *Bartonella henselae*, *Coxiella burnetii*, Chlamydia VDRL, WIDAL were also negative. QuantiFERON, ASTO, 5-ACE serum levels were normal. Urine and blood cultures were negative.

Diagnostic Pathways: After 10 days of hospitalization, the patient developed acute right knee mono-arthritis. The MRI confirmed knee effusion, she underwent a joint aspiration, and she tested positive for HLA-B27. Serological examinations revealed positive IgA and IgG antibodies against YopD/YopM/YopN/YopE/LorV outer membrane proteins of *Yersinia enterocolitica*. IV ciprofloxacin was administered for 14 days.

Discussion and Learning Points: One month after discharge, patient had remission of lymphadenopathy and the IgA antibodies were negative. Yersinia is a ferrophilic bacterium that requires a high level of iron for the initiation of growth and it can utilize deferoxamine as a siderophore to obtain iron. As a result, yersiniosis should always be considered among differential diagnosis for all iron-overloaded patients.

715 - Submission No. 320

AN UNUSUAL CAUSE OF LUNG AND BRAIN INVOLVEMENT

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Case Description: 71-year-old male, history of Wäldenstrom's disease treated with rituximab+bendamustine a year prior, and prosthetic mitral valve. Presented with right leg paresis. He also referred subacute respiratory symptoms. Head CT was performed, showing multiple enhancing lesions in the brain. Chest radiograph demonstrated right upper lobe opacification. No acute-phase reactants elevation or leukocytosis. Body CT scan confirmed right upper lobe involvement, no other relevant findings. Fibrobronchoscopy was performed, isolating an MSSA. CT guided percutaneous lung biopsy showed histology compatible with necrotizing pneumonia. Infective endocarditis ruled out after negative blood cultures and transesophageal echocardiogram. A brain MRI was performed, with findings consistent with multiple abscesses.

Clinical Hypothesis: Presumptive diagnosis of pneumonia with secondary pyogenic brain abscesses. He received an 8-week course of cefotaxime and metronidazole with good response.

Diagnostic Pathways: 2 months later he developed left hemiparesis, new CT showed new lesion in the right parietal lobe despite improvement of previous lesions. He was started on meropenem and linezolid. Stereotaxic drainage was performed, isolating *Nocardia paucivorans*. Diagnosis changed to disseminated nocardiosis with primary lung focus. He received 6-week course of iv antibiotics, and suppressive 12-month cotrimoxazole cycle. He remains asymptomatic during a 3-year follow-up.

Discussion and Learning Points: Nocardiosis is a rare opportunistic infection, usually with lung, brain, skin or disseminated involvement. Clinical presentation is unspecific, and diagnostic delay is common. There have been multiple reports of opportunistic infections in patients receiving rituximab+bendamustine, including some of nocardiosis. Cotrimoxazole is often prescribed for up to a year after completion (as prophylaxis for Pneumocystis), which may have prevented this infection.

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716 - Submission No. 2359

CYTOMEGALOVIRUS INFECTION WITH LIVER INVOLVEMENT IN IMMUNOCOMPETENT ADULT

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Case Description: 75-year-old man with dyspnea and orthopnea and general malaise without fever, without improvement antibiotics. Long-standing steroid and NSAIDs treatment for vertebral ankylosing hyperostosis. Permanent atrial fibrillation anticoagulated and grade 2 moderate obstructive COPD.

Clinical Hypothesis: Blood test was performed with acute renal failure with compensated metabolic acidosis (creatinine 1.77 mg/dL; pH 7.32, pCO_2 37.0 mmHg, bicarbonate 19.1 mmol/L), hypocalcemia with hypophosphatemia (7.7 mg/dL and 7.0 mg/dl), acute hepatic failure, lactic acid 46.6 mg/dL, C-reactive protein 38.5 mg/L and anemia microcytic and hypochromic (hemoglobin 9.8 g/dL, hematocrit 33.8%, transferrin saturation 204.4%, ferritin 457.2 ng/mL). Hemostasis with TTP 21.7", Quick 42 %, and D-dimer 1624 ng/mL.

Diagnostic Pathways: Thorax angio-CT without thromboembolism and abdominal ultrasound with hepatic steatosis and simple cortical cysts. Hepatotropic virus serology was performed with CMV acute infection (IgM Positive); and immunization VHS1 and HEV; VEB, VIH, HAV y HBV negative (IgG and IgM). Colonoscopy for anemia study found of a ileocecal valve neoplasia that was resected finding well differentiated and infiltrating adenocarcinoma (T1N0Mo) and neuroendocrine tumor (G1).

Discussion and Learning Points: The differential diagnosis of CMV infection with hepatic involvement is based on the absence of jaundice, the lower elevation of transaminases, lymphomonocytosis and specific IgM against CMV that are characteristic of CMV infection, in our patient it worsened due to the combination of high doses NSAIDs. Neuroendocrine tumors are distributed throughout the digestive system, 19% are located in the cecal appendix. Histopathological study is important because this disease is almost never suspected which leads to late diagnosis and a worse prognosis.

717 - Submission No. 2074

WEST NILE VIRUS MENINGOENCEPHALITIS: A SERIES OF 22 PATIENTS

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Background and Aims: West Nile virus infection is a major epidemiologic problem during summertime and early autumn in Thessaly providence. We present a series of 22 patients that were hospitalized in our clinic in 2022.

Methods: We retrospectively analyzed 22 West Nile virus patients' records, with emphasis to clinical manifestations, laboratory testing, risk factors, diagnosis and outcome.

Results: There were 13 men and 9 women with an average age of 70.5 years. Underlying diseases (such as hypertension, diabetes mellitus, cancer, lymphoma) were present in 90.9%. Most of patients resided in urban areas (72.7%). Fever was present in 19/22 (86.4%), gastrointestinal disorders occurred in 6/22 (27.3%) and 3/22 (13.6%) developed macular rash. Central nervous system involvement resulted in impaired level of consciousness in 11/22 (50%), headache in 7/22 (31.8%), flaccid limb paresis in 4/22 (50% in both lower limbs and 50% in both upper and lower limbs), while 2/22 (9%) developed epileptic seizures (1/22 with status epilepticus). Intubation and ICU hospitalization was required in 2/22 patients. CSF analysis revealed lymphocytic pleocytosis in 14/20 (70%) and 10/20 (50%) had increased protein levels. Overall, West Nile virus infection resolved (fully or with mild residual symptoms) in 95.5% of patients, while the remaining died (1/22).

Conclusions: Early diagnosis and intensive care of vulnerable groups can lead to a better outcome, while treatment remains supportive. Prevention of infection is of paramount importance in order to reduce the incidence of the infection. Due to climate changes the expansion of such measures in autumn and urban areas is urgently needed in Central Greece.

718 - Submission No. 1330

WHEN A BLACK CAT BRINGS BAD LUCK – A CASE OF BARTONELLA INFECTION

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Case Description: A 67-year-old male patient presented with fatigue and weight loss for 4 months. He had a bioprosthetic aortic

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valve for 3 years and history of atrial fibrillation, hypertension and chronic kidney disease stage 3. Physical examination revealed a generalized pallor, but no skin lesions nor palpable lumps. Initial bloodwork showed normocytic anemia (hemoglobin of 7 g/dL). EKG and thoracic radiography were unremarkable. Clinical worsening was noticed in the first 72 hours as the patient developed fever and pancytopenia (2800 leukocytes/uL and 114,000 platelets/uL) without significant increase in C-reactive protein.

Clinical Hypothesis: Several causes of pancytopenia with fever were considered: an infectious disease (as endocarditis) , a hematologic neoplasm or metastatic solid tumor, and an inflammatory disease.

Diagnostic Pathways: Gastrointestinal endoscopic exams were unremarkable. CT scan showed significant hepatosplenomegaly. Transesophageal echocardiography excluded infective endocarditis. All microbiologic cultures were negative. Investigation for HIV, hepatitis viruses, CMV, EBV, Parvovirus B19, *Treponema pallidum*, *Toxoplasma gondii*, *Coxiella burnetti*, *Mycobacterium tuberculosis* and Leishmania was negative. Analysis for an autoimmune disease was unremarkable. Bone marrow biopsy did not show signs of hematologic disease or infection. One month later, an epidemiological link to a black cat with fleas triggered a serologic analysis for *Bartonella henselae*, which detected both specific IgG (titer superior to 1/300) and DNA. Doxycycline, rifampin and prednisolone were initiated. Two weeks later, DNA was not detected, IgG titer decreased, hemoglobin increased and both leukocyte and platelet count normalized.

Discussion and Learning Points: Bartonella infection is a rare cause of pancytopenia. When the appropriate epidemiological context is present, prompt diagnosis and treatment should be aimed.

719 - Submission No. 1167

NOT EVERYTHING IS WHAT IT SEEMS: A CASE OF AN INFECTIOUS SPONDYLODISCITIS

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Case Description: A healthy 84-year-old man presented with fever, cough with sputum and thoracic and upper back pain, initially associated with a respiratory infection treated with antibiotics. Because of symptoms persistence, a thorax CT scan was performed, and a suspicious pulmonary right lesion was revealed, with the presumption of lung neoplasm. He was admitted one month later due to paresthesia of the abdomen and lower limbs and diminished lower limb strength.

Clinical Hypothesis: Lung neoplasm. Bone metastasis. Spinal compression.

Diagnostic Pathways: Laboratory analysis, microbiology and brucellosis serological tests were unremarkable. Spine CT Scan: D5 body collapse and loss of cortical definition with erosive alterations of the adjacent structures at D5-D6 level. Spine MRI: evidence of infectious spondylodiscitis in D5 with anteroposterior epidural phlegmon causing spinal compression. Thoraco-abdominopelvic CT scan: extensive phlegmon with right hilum compression, pulmonary collapse and contact with right principal bronchus. Bone biopsy: inflammatory infiltrate compatible with an infectious process. Transthoracic echocardiography: no evidence of endocarditis.

Discussion and Learning Points: A diagnosis of infectious spondylodiscitis was established, with an extensive phlegmon with right principal bronchus contact and right pulmonary hilum compression, other than the diagnosis of a pulmonary neoplasm. Empiric antibiotic therapy was implemented. Due to neurologic symptoms worsening, a decompressive laminectomy of D5 was performed, and associated with antibiotic therapy and physiotherapy, a clinical improvement was observed. This case shows the importance of a careful and thorough investigation when facing unspecific symptoms, when a precocious and incorrect diagnosis can be made, changing the course of treatment and prognosis.

720 - Submission No. 1462

HEPATIC ALVEOLAR ECHINOCOCCOSIS: A CASE REPORT

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Case Description: A 24-year-old male, from India, living in Portugal for three years, was admitted with symptoms of chest pain that worsened with deep inspiration within the previous three days. He had no medical history, fever, cough, or history of trauma. On physical examination he only had a decrease in the vesicular murmur in the left base of the lung. Laboratory examination with elevation of inflammatory parameters and chest radiography with a cystic formation. Hospital admission was decided for further investigation.

Clinical Hypothesis: Respiratory tract infection. Hydatid cysts. Pyogenic abscess. Amebic abscess.

Diagnostic Pathways: Thoracic, abdominal and pelvic Computed Tomography (CT) scan identified a well-defined cystic formation in the left lower pulmonary lobe with surrounding parenchymal consolidation, as well as an identical cystic lesion in the left lobe of the liver; Ac. anti-*Echinococcus granulosus* positive (1/640).

Discussion and Learning Points: Diagnosis of pulmonary and

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hepatic hydatid cysts was established and albendazole was initiated. The case was discussed in a multidisciplinary meeting and a surgical removement of both cysts was decided for later. Hydatid disease, also known as cystic echinoccosis, is a zoonosis caused by the parasite *Echinococcus granulosus*. It is a neglected infectious disease and a major public health problem in some areas, like India. It has a worldwide distribution, being endemic in Portugal. This case shows the importance of diagnostic suspicion for an early diagnosis and treatment with impact in the outcome of the patient.

721 - Submission No. 947

DIFFERENCES BETWEEN MEDICAL AND SURGICAL SERVICES IN THE CHARACTERISTICS AND MANAGING OF BACTEREMIA IN A SECONDARY LEVEL HOSPITAL

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Background and Aims: Bacteremia is an emerging threat in the medical (MS) and surgical services (SS) We decided to analyze the differences between the characteristics and the managing of bacteremia in both services.

Methods: A retrospective observational study on significant bacteremia detected in the medical and surgical services of a secondary level hospital over six months was carried out, from December 2021 to May 2022. Results were analyzed using the SPSS statistical package.

Results: 87.8% (n=266) of bacteremia was detected in Medical Services. Hospitalized medical patients had an average of 82 years (IR 70-88) and had a greater Charlson index=6 than hospitalized surgical patients (74 years (IR 64-85,5), Charlson index=4). Nosocomial bacteremia was higher in Surgical Services (46% in comparison to 32% in MS, p=0.08). Origin and germen of the infection was similar in both services, with the abdomen and the urinary tract being the most frequent origin, and *Escherichia coli* being the most common microorganism. The most used empiric antibiotic in the Surgical Services was piperacillin-tazobactam (25%) followed by carbapenem (22%) and amoxicillin-clavulanic (20%). In Medical Services, the most used antibiotic was also piperacillin-tazobactam (36%) but followed by third generation cephalosporins (24%). Overall mortality in patients hospitalized in Medical Surgery was higher (19% vs 16% p=0.7).

Conclusions: 1. Hospitalized patients in no surgical services are older, with more comorbidities, and a poor prognosis. 2. Abdomen and urinary tract are the main origins of bacteremia in our hospital, and *Escherichia coli*, the most common microorganism. 3. The most used antibiotic in our hospital is piperacillin-tazobactam, followed by third generation cephalosporins in Medical Services and carbapenems in Surgical ones.

722 - Submission No. 882

DESCRIPTIVE STUDY OF BACTEREMIA IN THE SERVICE OF INTERNAL MEDICINE OF A SECONDARY LEVEL HOSPITAL

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Background and Aims: Bacteremia remains one of the most relevant problems in Infectious Diseases. The aim of this study was to learn the presentation and development pattern of bacteremia in our Internal Medicine Service, in order to best prevent and treat this entity.

Methods: A retrospective observational study on significant bacteremia detected in the Service of Internal Medicine of a secondary level hospital over six months was carried out. Results were analyzed using the SPSS statistical package.

Results: Overall, 165 episodes of bacteremia were studied. The average age was 84 years (p25: 73/p75: 89), males were predominant (n=111, 67%), and the mean Charlson index was 6 (p25: 4/p75: 8). Bacteremia was community acquired in 71.5% of cases (n=118). Bacteremia development was mostly related to the urinary tract, followed by abdominal (n=31, 18.8%) and respiratory tract (n=28, 17%). *Escherichia coli* (n=61, 37%), *Staphylococcus aureus* (n=25, 15%) and *Klebsiella pneumoniae* (n=12, 7%) were the most commonly isolated microorganisms. 50% of *Klebsiella pneumoniae* and 44% of *Staphylococcus aureus* were multi-resistant. Empiric antibiotic therapy most used was piperacillin-tazobactam (n=50) followed by third generation cephalosporins (n=45). In 77 patients (46%), empiric antibiotic was kept, without de-escalation once the antibiogram was obtained. Overall mortality rate was 24%, and main factors associated with this mortality were gravity of the infection (p<0.001) and patient comorbidities (p<0.05).

Conclusions: 1 A high incidence of bacteremia episodes are noteworthy 2. Multi-resistant microorganisms are an emerging threat. 3. Inappropriate use of antibiotics is an existing problem.

723 - Submission No. 1556

BLINDFOLDED TREATMENT: RISK-BENEFIT ASSESSMENT ON INVASIVE TECHNIQUES

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Case Description: A 92-year-old woman, with hypertension and rheumatoid arthritis, arrived at the ER with an initial seizure. On examination, supranuclear facial palsy, and systolic murmur were detected. Blood tests showed neutrophilic leukocytosis and

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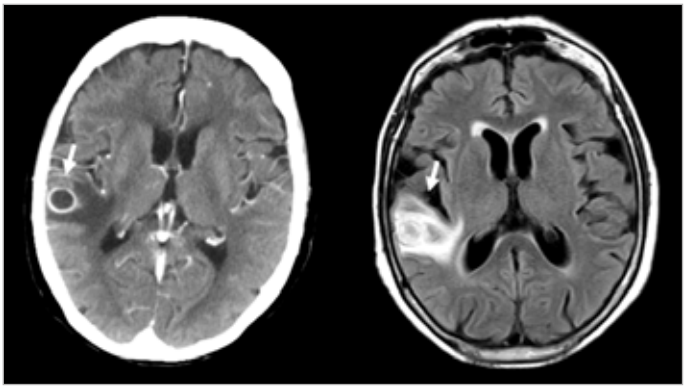
elevated acute phase reactants. On cranial computed tomography (CT) scan and subsequent magnetic resonance imaging (MRI), brain lesions were seen, initially suggestive of metastasis. Treatment with levetiracetam and dexamethasone was initiated.

Clinical Hypothesis: Brain metastasis were suspected. Differential diagnosis included neoplasia, infections and inflammatory lesions.

Diagnostic Pathways: The patient worsened, presenting fever, bradypsychia and further seizures. A new CT scan confirmed enlargement of the previous lesions and brain edema (Figure 1). A full body CT scan was normal. Microbiological studies (blood cultures, viral serology) exhibited no results. A transesophageal echocardiogram showed infective endocarditis of native aortic valve. Due to high surgical risk, empirical treatment was initiated with meropenem and linezolid, leading to clinical improvement. After 12 weeks with ceftriaxone and vancomycin on Hospital-at-Home, a new CT scan confirmed radiological resolution.

Discussion and Learning Points: Brain abscesses are a severe, potentially life-threatening entity. Clinical presentation includes headache, fever, vomiting, focal deficits, and seizures. CT scan allows for early detection of lesions, but due to its higher resolution, MRI is preferred. Differential diagnosis includes hematomas, metastasis, and granulomas. Contiguous spread from a precranial primary focus occurs in 50%, usually producing a single abscess; while hematogenous spreading can generate multiple abscesses, especially on immunocompromised patients. Although surgical treatment was classically vindicated, recent evidence supports intravenous broad-spectrum antibiotic therapy on high-risk patients and multiple small abscesses, as our case, in a comfortable environment as Hospital-at-Home hospitalization.



723 Figure 1.

724 - Submission No. 1629

UNCOMMON PRESENTATION OF A NOT SO UNCOMMON PATHOLOGY

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Case Description: A 48-year-old male, from Senegal, residing in Spain for years, with no medical history. He consults for fever, weight loss and increase of abdominal perimeter, for the past two months. On examination, pulmonary crackles, and ascites. Blood test showed an iron-deficiency anemia, lymphopenia with a cellular immunodeficiency, a rise of acute phase reactants and protein-energy malnutrition. Ascitic and pleural fluid showed a predominance of mononuclear cells, and elevated ADA. On chest X-ray, bilateral pleural effusion, and bilateral multifocal ill-defined opacities. On body CT scan, disseminated necrotic lymph nodes, peri bronchial pulmonary opacities, bilateral multilocular pleural effusion, ascites with mesenteric implants and a left necrotic adrenal lesion.

Clinical Hypothesis: A differential diagnosis between a primary lymphoproliferative syndrome and an opportunistic infection due to an acquired immunosuppression.

Diagnostic Pathways: On microbiological studies, IgG antibodies for HAV, HBV, EBV, CMV and HHV-6, a positive IGRA test for tuberculosis and PCR detection of *M. tuberculosis* on stool and sputum. A biopsy of an inguinal lymph node showed necrotizing granulomatous lymphadenitis, negative for tuberculosis on PCR test. A diagnosis of disseminated tuberculosis is stablished.

Discussion and Learning Points: Disseminated tuberculosis is a rare entity in our environment. It is typically linked to either pharmacological, onco-hematological, or HIV-related immunodeficiencies. It is caused by the lymphohematogenous dissemination of tubercle bacilli during primary and post-primary tuberculosis, affecting one or more organs. Clinical presentation of pulmonary tuberculosis involving other systems is infrequent. This patient presents two singularities: a lack of respiratory symptoms, with systemic and gastrointestinal clinical signs instead, and a moderate-severe malnutrition as the only immunodeficiency cause.

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725 - Submission No. 2434

EPIDEMIOLOGY OF SEPSIS IN LATVIA: ASSESSMENT OF INCIDENCE USING ICD-10-CODED CASE DEFINITION IN NATIONWIDE ADMINISTRATIVE DATA (2015-2019): A RETROSPECTIVE OBSERVATIONAL STUDY

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Background and Aims: Sepsis is a life-threatening disorder induced by infection as it is leading cause of critical illness and hospitalization worldwide and imposes a growing burden on healthcare services. The objective of the study was to assess trends in sepsis incidence in Latvia between 2015 and 2019.

Methods: In a retrospective administrative data study between January 2015 and December 2019, 29,324 patients with explicit and implicit ICD-10 (International Classification of Diseases, 10th Revision) sepsis discharge codes were included. Anonymized data were obtained from Latvian Health Care Monitoring Datalink to analyze incidence, demographics, and mortality.

Results: The annual sepsis incidence per 100,000 increased from 167.9 in 2015 to 268.2 in 2019 and was overall higher in females. We observed the overrepresentation of females in reproductive age groups; however, incidence became higher in males over 45 years. Children under 1 year and patients over 65 years consistently had the highest sepsis incidence. The most pronounced increase in incidence from 2015 to 2019 was in age groups over 55 years. The proportion between implicitly and explicitly coded cases remained similar over the study period, with the incidence of explicit sepsis cases increasing between 2015 (162.9) and 2019 (219.4). In-hospital mortality increased from 11.8% to 21.1% in the study period and was higher in males.

Conclusions: Administrative databases can provide nationwide estimates of the incidence of sepsis. The results of this study indicate an increasing, yet lower incidence of sepsis in Latvia when compared to other European countries, which may suggest that sepsis cases are underreported and underestimated on a national level.

726 - Submission No. 2216

WHAT CAN MAKE YOU STRONGER CAN ALSO MAKE YOU SICKER: A CASE OF LACTOBACILLUS CASEI BACTEREMIA

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Case Description: A 56-year-old female presented to our Emergency Department with fever, cough, and pleuritic chest pain. Her medical history included psoriasis and B cell chronic lymphocytic leukemia (CLL), treated with a BCL2 inhibitor. She reported a long-standing respiratory infection (one month), having undergone three cycles of empiric oral antibiotic therapy. On examination, was febrile, with tachycardia and lung examination revealed a decrease in vesicular murmur in the left hemithorax.

Clinical Hypothesis: Left-side community-acquired pneumonia.

Diagnostic Pathways: Laboratory results revealed white cell count of 2780/uL with 1260/uL lymphocytes and 1520/uL neutrophils, C-reactive protein (CRP) of 16.6 mg/d. Chest x-ray and thoracic CT showed consolidation with air bronchogram in the left upper lobe. Empiric IV antibiotic therapy with piperacillin-tazobactam was started after collecting blood and sputum cultures, without any microorganism isolation. Bronchofibroscopy did not reveal macroscopic changes, but bronchoalveolar lavage isolated *Staphylococcus haemolyticus*. Due to this isolation vancomycin was started, but after 7 days of therapeutic fever and high CRP persisted. Transthoracic echocardiogram showed no vegetations and IGRA was negative. New cultures were performed and from blood samples *Lactobacillus casei* was isolated. A new cycle of antibiotic (clindamycin) was started and after seven days, there was a clinical and analytic improvement.

Discussion and Learning Points: Lactobacillus is a gram-positive, anaerobic facultative bacterium that is a common inhabitant of the human mouth and gastrointestinal tract. Some are utilized as probiotic bacteria. Although Lactobacillus are usually considered contaminants in blood cultures they have been identified as agents of some infections, commonly correlated with previous illnesses or treatments. In fact, in this case, antibiotic therapy against Lactobacillus was fundamental in the clinical course.

727 - Submission No. 1119

CHARACTERISTICS OF CONFIRMED CASES OF MONKEYPOX VIRUS INFECTION AND IMPACT ON PATIENTS LIVING WITH HIV

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Background and Aims: The current monkeypox outbreak appears to be affecting mainly young men who have sex with men. Spain

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is the European country with the highest incidence to this date according to data from the National Epidemiological Surveillance Network (RENAVE) as of November 10th. In this study we aimed to describe the clinical characteristics and evolution of confirmed cases of monkeypox and compare those living with and without HIV.

Methods: Retrospective longitudinal study of all microbiologically confirmed cases of monkeypox in a public hospital of Comunitat Valenciana, Spain. Statistical analysis was performed using IBM SPSS 24.

Results: A total of 74 patients were analyzed, from the first positive PCR test on June 6th to September 16th 2022. Mean age was 37.0±9.7 years old and the vast majority of patients were male (97.3%), MSM sexual transmission being the main route of infection (87.8%). 29.7% were living with HIV, while 18.9% were on PrEP. 10.8% reported being vaccinated with the smallpox vaccine in childhood. The average incubation period was 8.7±6.8 days, and symptoms lasted 23.2±13.8 days, with no complications for the majority of patients (86.5%) —the most common being cutaneous bacterial infections (5.4%). One patient required admission for secondary myocarditis and no death occurred in our series. There were no statistically significant differences (p>0.05) between those living with and without HIV with regard to age, incubation period, symptoms duration, or secondary complications.

Conclusions: In our region the current monkeypox outbreak is mainly affecting MSM too, with no apparent differences between those living with or without HIV.

728 - Submission No. 820

A CASE OF TISSIERELLA PRAEACUTA BACTEREMIA SECONDARY TO SURGICAL REPAIR OF CLAVICLE FRACTURE

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Case Description: A 38-year-old female, with a history of splenectomy, tonsillectomy, and carpal tunnel release surgery, presented with fever (38.7°C) and headache for the past 5 days. Three weeks ago, she underwent surgery for fracture repair of left clavicle, following a bicycle accident. Since then, she had been receiving Bemiparin 3,500 IU daily, due to left axillary vein thrombosis. On physical examination, enlarged, painful, mobile lymph nodes were detected in the left cervical area. She was admitted for further investigation.

Clinical Hypothesis: The differential diagnosis included viral infection, post-surgical bacteremia, and abscess.

Diagnostic Pathways: Laboratory investigations revealed a mild inflammatory reaction (CRP: 22.9 U/L). PCR for SARS-CoV-2 and influenza, serum antibodies for CMV, EBV, HIV and Hepatitis were negative. A full body computerized tomography scan revealed mild mucosal thickening of the ethmoidal cells, swollen jugular and supraclavicular lymph nodes, a contrast filling defect of the axillary and brachial veins and no abdominal abscess. Initially, she was treated with piperacillin/ tazobactam and vancomycin. Urine culture was positive for *Proteus mirabilis* and blood culture for *Tissierella praeacuta*. Treatment was modified to meropenem due to persistent fever.

Discussion and Learning Points: *T. praeacuta* is a gram-negative anaerobe found in the soil and gastrointestinal tract. To date, there have been eight cases of human infection documented, probably because the microbe is difficult to culture and identify due to its specific environmental requirements. In the present case, a role played by splenectomy-associated immunosuppression cannot be excluded. *T. praeacuta* should be considered in the differential diagnosis of post-surgical infections and open wounds exposed to soil.

729 - Submission No. 1682

Q FEVER: A CASE REPORT

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Case Description: We present a case of a 56-year-old male with no relevant epidemiological history, that goes to the Emergency Department (ED) for a 7-day course of fever (max. 40ºC), dry cough, myalgias, pleuritic pain, nausea, and vomiting.

Clinical Hypothesis: Q fever is a zoonotic disease that can be found worldwide and endemic in Portugal. The most common type of transmission is via the inhalation of aerosols containing the pathogen. The majority of patients are asymptomatic; however, they may present with fever, atypical pneumonia, acute hepatitis and rarely, cardiac or neurological involvement. Diagnosis is mainly made by serology or by tests that detect the specific DNA.

Diagnostic Pathways: On admission, he was febrile with a 39ºC TT, eupneic without need of oxygen support. Initial evaluation revealed CRP 76 mg/L, without leukocytosis and abnormal liver tests, with total bilirubin 1.5 mg/dL, AST 96 U/L, ALT 101 U/L, GGT 253 U/L and ALP 269 U/L. A chest CT performed revealed "mild, bilateral pleural effusion associated with areas of consolidation in the posterior segment of the two lower lobes, compatible with a pneumonia process". Initially, bilateral pneumonia was admitted and antibiotic therapy with ceftriaxone EV was done. After 7 days of therapy, in view of the maintenance of symptoms with blood cultures negative, performed serodiagnosis of Q-fever that came out positive for anti-phase II IgG.

Discussion and Learning Points: Despite not having identified an epidemiological history, in the presence of a patient with fever, respiratory and hepatic pathology, the diagnosis of Q-Fever should be taken into account, especially in countries where it's considered an endemic disease.

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730 - Submission No. 365

KNOWLEDGE AND ATTITUDES OF TURKISH PHYSICIANS TOWARDS HUMAN MONKEYPOX DISEASE AND RELATED VACCINATION: A CROSS-SECTIONAL STUDY

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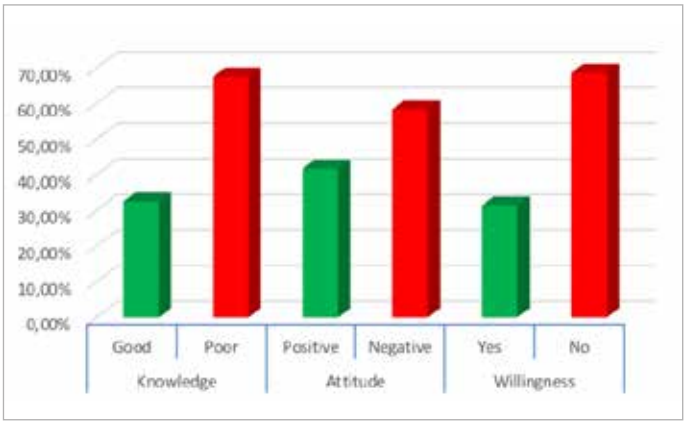
Background and Aims: In May 2022, the monkeypox virus outbreak in multiple countries on various continents marked a potential resurgence of the disease as a global health issue. Considering the crucial role of physicians in mitigating the monkeypox outbreak, we sought to evaluate physicians' knowledge, attitude, concerns, and vaccine acceptance for monkeypox, in the shadow of the COVID-19 pandemic.

Methods: A large-scale, cross-sectional survey was conducted among 283 physicians between August 20- September 2, 2022, in Turkey. The participants' sociodemographic characteristics, knowledge, attitudes, concerns, and vaccine acceptance toward monkeypox infection were collected via a questionnaire (Figure 1).

Results: Our study revealed that 32.5% of physicians achieved a good level of knowledge; similarly, 31.4% of the physicians planned to have the monkeypox vaccine. Multivariate binary logistic regression analysis showed that female physicians (p=0.031) and older people (≥30 vs. <30) were found to be more likely to be knowledgeable about monkeypox (p=0.007). We also found that physicians with a good knowledge score were more worried about monkeypox compared to COVID-19 (AOR: 2.22; 95% CI = 1.13-4.33; p=0.019). Also, those who had information on monkeypox during medical education (AOR = 2.16, 95% CI = 1.10–4.21; p=0.024) were more likely to receive the smallpox vaccine to prevent monkeypox viral infection when available.

Conclusions: The present study pointed out that physicians in Turkey have unsatisfactory levels of knowledge about the emerging monkeypox. These might serve as the basis for policymakers' decisions about promoting national monkeypox vaccination strategies and addressing potential vaccine hesitancy and misinformation when needed.



730 Figure 1.

731 - Submission No. 263

COINFECTION WITH COVID-19 AND INVASIVE PNEUMONOCOCCAL DISEASE IN A PATIENT WITH MULTIPLE MYELOMA

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Case Description: A 72-year-old Caucasian male was referred because of fever, headache, and shortness of breath during the past four days. His past medical history included multiple myeloma under treatment with dexamethasone and bortezomib. He was fully vaccinated for SARS-CoV-2, but not for *S. pneumoniae*.

Clinical Hypothesis: Physical examination revealed bilateral crackles, while arterial blood gas analysis revealed hypoxemia. Chest x-ray revealed bilateral diffuse infiltrates. Lower respiratory tract infection was suspected.

Diagnostic Pathways: The patient was diagnosed with COVID-19 by reverse transcription polymerase chain reaction (RT-PCR) testing of a nasopharyngeal swab sample for SARS-CoV-2. *Streptococcus pneumoniae* was isolated from the blood culture drawn upon admission, while protein electrophoresis revealed diffuse hypogammaglobulinemia compatible with our patient's history of multiple myeloma. He was treated with remdesivir, dexamethasone and oxygen therapy for COVID-19, and ceftriaxone for *S. pneumoniae*. He also received intravenous immunoglobulin, based on the findings of protein electrophoresis, and was discharged on day 12 of hospitalization.

Discussion and Learning Points: Early detection and treatment of super- or co-infection with *S. pneumoniae* in patients with COVID-19 is crucial, as it is associated with worse outcome in older or immunocompromised individuals. Appropriate vaccination of patients with malignant or chronic diseases is also of great importance.

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732 - Submission No. 2125

DALBAVANCIN, A NEW PARADIGM AS A THERAPEUTIC ALTERNATIVE IN THE 'LONG TREATMENT' OF GRAM-POSITIVE INFECTIONS

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Background and Aims: We designed a retrospective descriptive study based on the antibiotic therapy used in a series of patients with gram-positive infections who finally received treatment with dalbavancin in a tertiary level hospital.

Methods: Patients treated with dalbavancin between 2015 and 2022 at our center were selected. Patient medical records are accessed for data collection. The SPSS Statistics 20 program is used to present the results.

Results: A sample of 169 patients is obtained. 62.7% belong to the male gender and the average age is 63.9 years. The most frequent indications are infective endocarditis (26.75%) and prosthetic joint infection (14.2%). The most frequent microbiological isolation is coagulase-negative streptococcus (28.4%) and methicillin-sensitive *S. aureus* (24.3%). 20.1% receive prior antibiotic therapy directed against gram positives with daptomycin and 12.4% with vancomycin, among others. Empirical treatment with beta-lactams was used in 19.5% of the patients. The mean dose of dalbavancin administered is 2.72 (maximum of 16). The mean dose in patients who achieved cure was 2.17. When the outcome was other than cure the mean dose of dalbavancin administered was 4.33. The most frequently used regimen is biweekly (42%), followed by a single-dose regimen (40.2%), weekly (11.2%) and suppressive treatment in one case. 70.4% of patients were cured and 3% abandoned treatment due to adverse effects.

Conclusions: Dalbavancin is a useful drug that can be used after the therapeutic failure of other antibiotics, or with the aim of reducing hospital stay. Its pharmacokinetic characteristics allow a comfortable dosage. Its directed use can avoid the use of other antibiotics, and thus generate fewer resistances.

733 - Submission No. 856

DOUBLE COVERAGE WITH DAPTOMYCIN AND CEFTAROLINE LED TO ERADICATION OF MRSA BACTEREMIA

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Case Description: A 67-years-old male patient is admitted to the internal medicine clinic of our hospital due to low-grade fever (37.8°C) that first appeared a week ago. The patient is chronically debilitated due to a neurodegenerative disease and resides to a care facility. He had recently a dental cavity infection that caused difficulties with feeding. Facility's nurse staff placed a femoral venous line for parenteral nutrition. Blood and urine cultures were drawn, and the central catheter was removed. Chest X-ray showed no findings and urine analysis was sterile. Inflamed tooth roots were noted after dental assessment. Broad spectrum antibiotics: piperacillin-tazobactam and vancomycin, were administered.

Clinical Hypothesis: The cause of low-grade fever was highly attributed either to central vein catheter or to the oral cavity's infection.

Diagnostic Pathways: The blood cultures came up positive for MRSA. Therapeutic levels of vancomycin could not be reached, and the antibiotic regimen was switched to daptomycin. Nonetheless, MRSA could not be eradicated. TTE was negative for endocarditis and full body CT scan displayed no focal abscess or bone lesions. MRSA persisted and after careful consideration, ceftaroline was added. Daptomycin and ceftaroline co-administration, for a period of six weeks, led to eradication of the microorganism. Six months later, the patient had no re-admission upon his last hospitalization.

Discussion and Learning Points: Double coverage for MRSA with two anti-staphylococcal agents warrants successful treatment eradication and eliminates further relapses[1].

Reference:

[1]Johnson TM, et al. Combination ceftaroline and daptomycin salvage therapy for complicated methicillin-resistant Staphylococcus aureus bacteraemia compared with standard of care. Int JAntimicrob Agents. 2021 Apr;57(4):106310.

734 - Submission No. 1749

THINGS MAY BE DIFFERENT FROM WHAT THEY SEEM TO BE: APROPOS OF A CASE OF AEROCOCCUS URINAE SPONDYLODISCITIS

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Case Description: A 53-year-old man with Down syndrome, cognitive impairment and a history of *Aerococucus urinae* endocarditis of the surgically reconstructed mitral valve 5 years before, presented with immobilization due to back pain. A CT scan showed partial destruction of the first and complete destruction of the fourth lumbar vertebra, highly suspicious for metastatic cancer. The patient's family declined MRI and bone biopsy. A palliative therapy was implemented, and the patient discharged to his nursing home. Four days later he was readmitted because of insufficient pain control. A repeat CT scan showed progression of vertebral destruction with spinal stenosis. The patient was referred for MRI and lumbar stabilization.

Clinical Hypothesis: Uncontrolled pain due to progressive destruction of lumbar vertebrae due to metastatic cancer.

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Diagnostic Pathways: MRI revealed lytic destruction in the first and fourth vertebrae and inflammation in the paravertebral muscles. Intraoperative biopsy revealed spondylodiscitis due to *Aerococcus urinae*. Transesophageal echocardiography revealed no signs of endocarditis. Whole genome sequencing (WGS) allowed to reject clonality of the two *Aerococcus urinae* strains isolated during the former endocarditis and the current spondylodiscitis.
Discussion and Learning Points: Cognitive impairment or other disability must not preclude thorough diagnostic workup, as results may differ from assumptions made on clinical grounds alone. This difference may benefit patients independently from their cognitive state. *Aerococcus urinae*, mainly known for urinary tract infections, can cause endocarditis and rarely spondylodiscitis. Although the same species caused both infections in this patient, WGS could exclude a causal relationship between the two.

735 - Submission No. 2131

RESTROSPECTIVE RECORD OF VERTEBRAL OSTEOMYELITIS DURING 10 YEARS IN SEGOVIA GENERAL HOSPITAL (JULY 2011-JULY 2021)

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Background and Aims: Vertebral osteomyelitis increases its incidence year after year due to the aging of the population, greater use of immunosuppressants and an increase in bacteremia due to the increasing use of intravascular devices and invasive procedures. The objective is to analyze the epidemiology and describe the main clinical aspects and risk factors that occur in our center.
Methods: From July 2011 to July 2021, a retrospective record of all episodes of vertebral osteomyelitis in patients hospitalized at General Hospital of Segovia has been carried out. Epidemiological, microbiological, and clinical variables were recorded.
Results: From July 2011 to July 2021, 26 cases of vertebral osteomyelitis were registered with an incidence of 1.68 cases per 100,000 inhabitants in our hospital. The most prevalent underlying diseases were: solid tumor 9 (34.6%), diabetes 8 (30.7%), heart disease 7 (26.9%), dementia 5 (19.2%), renal failure 5 (19.2%), and connective tissue disease 4 (15.4 %). The main risk factors were the presence of intravascular devices 5 (19.2%), immunosuppressive treatment 4 (15.4%), invasive urological procedures 3 (11.4%), and recent spinal surgery 1 (3.8%). The main isolated microorganisms were gram positive cocci 15 (57.7%).
Conclusions: The incidence of vertebral osteomyelitis in our center is similar to other published studies (1.6 cases per 100,000 inhabitants). The main risk factors, as in other studies, are intravenous devices, immunosuppressants, and urological procedures. Gram-positive cocci are the most isolated microorganisms. The mean hospital stay, mortality and neurological sequelae is high, so early diagnosis and treatment is essential.

736 - Submission No. 2141

REGISTRY OF SEPSIS CASES FOR 3 MONTHS IN THE INTERNAL MEDICINE SERVICE OF SEGOVIA GENERAL HOSPITAL

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Background and Aims: Sepsis is an important cause of morbidity and mortality. The objective of this study is to update the epidemiology and describe the main clinical and epidemiological aspects of the sepsis cases detected in our service.
Methods: From January 2022 to March 2022, a registry of all episodes of sepsis in patients hospitalized in the Internal Medicine service of the General Hospital of Segovia has been carried out. Epidemiological, microbiological, and clinical variables were recorded.
Results: 37 episodes of sepsis were detected, with an incidence of 38.7 cases/1,000 hospitalizations/year. With a mean age of 78.4 years. The most prevalent underlying diseases were: heart disease 45 (40.5%) and diabetes mellitus 8 (22.9%) The main foci of sepsis were urinary in 18 cases (48.6%). There was microbiological isolation of 17 cases (45.9%): gram negative bacteria 13 (76.5%); gram positive bacteria 5 (23.5%). Regarding the evolution, 6 cases (16.62%) patients presented associated septic shock and 5 (13.5%) required admission to an Intensive Care Unit. Nine patients (24.3%) died in the first 7 days and 13 patients (35.1%) in the first 14 days. Overall mortality at 30 days was 40.5%.
Conclusions: Sepsis causes high mortality (40%) and a prolonged hospital stay. The most common pathogens responsible are gram-negative bacteria. The most important focus of sepsis is the urinary. These results should increase the rate of clinical suspicion and encourage a more aggressive management of sepsis.

737 - Submission No. 2419

SUCCESSFUL TREATMENT OF WEIL'S DISEASE: PERFECT TIMING AT DIAGNOSIS AND TREATMENT

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Case Description: A 51-year-old male was referred with a suspicion of biliary sepsis and multiple organ failure. He previously complained of fever seven days before admission, accompanied with abdominal pain, nausea, vomiting, jaundice, and tea-colored urine. He fell into apathy during hospitalization and was subsequently treated with adequate rehydration, antibiotic (cefoperazone sulbactam 1gr bid) and steroid (methylprednisolone 16mg bid). The patient's condition improved significantly in the following days.
Clinical Hypothesis: Indonesia is the third highest country with mortality due to severe leptospirosis (Weil's), accountable to

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its tropical climate, poor sanitation, highly dense population of both people and rodents as leptospirosis' major vector as well as numerous under-diagnosed cases of leptospirosis. As leptospirosis has wide clinical manifestations, an excellent clinical judgment is needed to avoid underdiagnosed and undertreatment of cases that may result in death due to multiple organ failure caused by adverse systemic inflammatory response.

Diagnostic Pathways: The laboratory findings revealed leukocytosis (L 30.610/uL), hyperbilirubinemia (bilirubin total 17.69 mg/dL/ direct 13.45 mg/dL/ indirect 4.24 mg/dL), acute kidney injury (Ur 265 mg/dL, Cr 6.06 mg/dL) and hyponatremia (Na 112 mmol/L), blood culture showed no growth. His abdominal ultrasound and MRCP were normal. We decided to check anti-Leptospira IgM, which showed positive result. The patient eventually fulfilled the Faine's criteria of Leptospirosis.

Discussion and Learning Points: To lower the severity and mortality rates of Leptospirosis, good clinical history, early detection, and adequate treatment are mandatory. A tropical-based clinician should not forget to exclude leptospirosis in such a symptomatic patient.

738 - Submission No. 1041

HEPATITIS E - A DISEASE TO REMEMBER

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Case Description: A 35 years-old male was admitted in emergency department for malaise, fever, nausea, dark-colored urine, and generalized pruritus with 4 days of evolution; the patient also reported diarrhea 4 weeks before. At physical examination, jaundice was evident. About 6 weeks earlier the patient had been in Bangladesh where he ingested uncontrolled water. Initial laboratory tests revealed mild thrombocytopenia and elevated serum concentrations of bilirubin, ALT and AST. Abdominal CT scan revealed signs of inflammatory/infectious liver disease.

Clinical Hypothesis: Considering epidemiological factors, the possibility of acute hepatitis A or E was raised as the main diagnostic hypothesis.

Diagnostic Pathways: Acute hepatitis A was excluded by anti - hepatitis A virus IgM antibody negativity and the hypothesis of acute hepatitis E was confirmed by detection of hepatitis E virus (HEV) RNA in blood and stool. Other etiologies of hepatitis such as other infectious causes, toxic, autoimmune, and metabolic were excluded.

Discussion and Learning Points: During the first days, a worsening of the hepatocellular injury was verified (maximum values: total bilirubin 11.30 mg/dL, AST 1444 U/L, ALT 2418 U/L) but no signs of liver failure. Subsequently, clinical and laboratory improvement was verified with supportive treatment. HEV is a frequent cause of acute viral hepatitis, however it tends to be forgotten particularly in developed countries. In most cases, acute HEV infection is relatively asymptomatic or mildly symptomatic and spontaneous clearance of the virus occurs, not requiring specific treatment. Some patients develop complications such as acute hepatic failure, cholestatic hepatitis, or chronic HEV, requiring timely treatment, emphasizing the importance of diagnosing HEV infection.

739 - Submission No. 1944

ATYPICAL ENDOCARDITIS. PLAYING HIDE AND SEEK

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Case Description: We present a 47-year-old male with no medical history who was admitted for a scheduled aortic valve replacement because of bicuspid valve with symptomatic insufficiency. Blood test at admission only a C-reactive protein result of 33.2 mg/L was relevant. During the intervention, surgeon discovered a very unstructured valve with inflammation signs, as well as a perivalvular abscess and a large tumor compatible with vegetation endocarditis. Clinical history only revealed that he had presented self-limited febrile syndrome the previous month with no other symptoms. In addition to this, he was at dentist clinic for extraction of two teeth. Empirical antibiotic treatment with ceftriaxone, ampicillin and cloxacillin was started.

Clinical Hypothesis: In this case, the indolent and insidious clinical presentation suggested that the responsible microorganism had a low virulence. Some to consider are Viridans group streptococci, coagulase-negative Staphylococci, *Coxiella burnetii*, Bartonella, among others.

Diagnostic Pathways: Blood cultures and native valve were processed with a negative result, furthermore a polymerase chain reaction was done with negative result too. Serologies were requested and positive result was obtained for *Coxiella burnetii* with phase I IgG antibody of 1/3200 and IgM of 1/200. This serology confirmed the diagnosis of endocarditis due to Q fever and treatment was modified to doxycycline and hydroxychloroquine.

Discussion and Learning Points: Q fever endocarditis is a form of chronic Coxiella infection, occurring in less than 5% of patients, typically presenting as endocarditis. If after an infection acute phase I IgG antibody levels remain above 1/800, suggests the probable evolution to chronicity. In our patient the clinical evolution is being favorable.

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740 - Submission No. 1347

LIVER ABSCESS IN AN IMMUNOCOMPETENT PATIENT

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Case Description: A 63-year-old male patient, with hypertension and diabetes, attended to the emergency department with abdominal pain and fever for one day. He denied other symptoms. The blood work showed leukocytosis with granulocytosis (13900/mm^3; 87.6%), elevated C-reactive protein (24.83 mg/dL) and normal liver function tests. Abdominal computed tomography showed three subcapsular, hypodense and hypo-uptaking lesions. The patient was admitted to Internal Medicine ward for investigation.

Clinical Hypothesis: Hepatic abscesses vs hepatic metastasis.

Diagnostic Pathways: The patient started on empiric antibiotic therapy (piperacillin-tazobactam and metronidazole). MRI showed hepatic lesions compatible with abscesses, the largest with 45 mm. The antibiotic was changed to ceftriaxone and metronidazole when blood cultures came out positive for *Streptococcus intermedius*, with clinical improvement. Two weeks later, biopsy guided by CT scan of the lesions were performed: image showed abscess size reduction. The cultures of the biopsy material were negative. Endocarditis was excluded. The patient was discharged and maintained antibiotic therapy with cefuroxime and metronidazole to complete 6 weeks of treatment.

Discussion and Learning Points: Liver abscess is a rare condition, which is associated with multiple etiologies and microorganisms. In our case, the blood culture isolated *Streptococcus intermedius* that is an anaerobic gram-positive, a bacterium from oral cavity and gastrointestinal tract normal flora. The mortality linked to the infections or local complications is high. Therefore, the rapid diagnosis and the implementation of an adequate and effective treatment are essential to allow healing without sequelae.

References:

Ioannou A, et al. Insidious manifestation of pyogenic liver abscess caused by *Streptococcus intermedius* and *Micrococcus luteus*: a case report. Oxf Med Case Reports. 2016Jan7;2016(1):1-3.

741 - Submission No. 1169

PNEUMOCYSTIS JIROVECII INFECTION IN HIV AND NON-HIV PATIENTS: TWO CASE REPORTS

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Case Description: CASE REPORT #1: 50 year-old female, with background of post-infarction heart transplant, medicated with tacrolimus, prednisolone and mycophenolate mofetil, goes to the emergency room (ER) with asthenia, productive cough and diarrhea for a week and one-day onset dyspnea for small exertion and fever.

CASE REPORT #2: 45 year-old male, without background, goes to the ER with non-productive cough, dyspnea and asthenia for 3 weeks, aggravated with onset of fever and rash.

Clinical Hypothesis: Pneumonia caused by *Pneumocystis jirovecii* (PCP) is an opportunistic fungal infection that primarily affects immunocompromised patients, such as those with AIDS or with other medical conditions that lead to deficits in cell-mediated immunity.

Diagnostic Pathways: In Case #1, arterial blood gas: type 1 respiratory failure with 69.8 mmHg pO_2. CT: extensive infiltrate involving the middle lobe, lingula and apical region of the inferior lobe and bilateral pleural effusion. Bronchoalveolar lavage (BAL) positive for *Pneumocystis jirovecii*; negative hemo and urine-culture and SARS-CoV-2. Admitted in Intensive Care Unit. In Case #2, at observation, tachycardia, SpO_2 92% with 1.5 L/min O2, morbilliform rash, oral candidiasis, hairy leukoplakia and global decrease of breath sounds. Analytically, 66 mmHg pO_2, HIV+, 65/mm^3 CD4 cells count. BAL positive for *Pneumocystis jirovecii*. Admited in Infectious Diseases service.

Discussion and Learning Points: The prognosis of PCP is usually worse on non-HIV patients, with an acute and severe clinical presentation, with higher in-hospital mortality, whereas in HIV patients tends to be a subacute infection.

742 - Submission No. 821

A LIFE-THREATENING INFECTION: FOURNIER'S GANGRENE

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Case Description: A 90-year-old male with diabetes mellitus and a history of chronic hip infection, was brought to the emergency service with complaints of prostration, food refusal and painful testicle. He denied fever or urinary symptoms. On examination,

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he was severely dehydrated, hypotensive, tachycardic and tachypneic. He had an enlarged, edematous, and tender scrotum with gangrenous patches along his scrotum and his penis and also a foul-smelling purulent discharge. The blood analysis showed leukocytosis, high C-reactive-protein (18 mg/dL), creatinine of 3.4 mg/dL and hyperkalemia (6.8 mEq/L). His ABGs revealed metabolic acidosis and hyperlactacidemia (4.8 mmol/L). A urine-culture (UC) was collected.

Clinical Hypothesis: Fournier's Gangrene, Ecthyma Gangrenosum, testicular torsion, orchitis and urinary tract infection were some of the differential diagnoses.

Diagnostic Pathways: The abdominopelvic CT scan showed enlarged scrotal sac, asymmetric fascial thickening, subcutaneous emphysema and extensive inflammatory changes compatible with Fournier's Gangrene. The patient was peri-urethrally catheterized, begun aggressive fluid therapy, analgesic medication, and empiric antibiotic with piperacillin/tazobactam. He was taken up for emergency debridement, but the necrosis was too extensive, and it wasn't possible to excise all the devitalized tissues. The UC isolated a Proteus mirabilis and a Klebsiella pneumoniae susceptible to piperacillin/tazobactam. The patient ended up dying 1 week later.

Discussion and Learning Points: Fournier's gangrene is a life-threatening condition defined as a suppurative infection causing soft tissue necrosis of the perirectal, perineal, and genital area. Treatment consists of hemodynamic stabilization, broad-spectrum intravenous antibiotics, and surgery debridement. Despite optimal treatment, the mortality rate in Fournier's gangrene still exceeds 40%.

743 - Submission No. 1337

RARE CASE OF INFECTIVE ENDOCARDITIS DUE TO FUSOBACTERIUM NUCLEATUM

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Case Description: An interesting case of a male patient with infective endocarditis due to gram negative anaerobic bacteria is presented.

Clinical Hypothesis: Infective endocarditis caused by gram-negative bacteria is rare, nonetheless is related with large proportion of systemic embolic episodes. Mortality rates have been significantly decreased since early diagnosis is established and targeted antibiotic therapy is granted.

Diagnostic Pathways: A male patient with history of diabetes mellitus and dyslipidemia presented to the emergency department complaining of weakness and fever up to 40°C during the last hours. Routine laboratory tests revealed elevated number of white blood cells, normocytic anemia, and elevated liver enzymes. Urine culture was sterile. Three sets of blood culture were collected. He was admitted to the internal medicine ward and became hemodynamically unstable. Immediate infusion of crystalloid fluids, vasopressors, and empirical antibiotic therapy with piperacillin/tazobactam was initiated. An abdominal ultrasound revealed an abscess in left liver lobe which was also confirmed by a computerized tomography (CT) scan. Transthoracic and transesophageal echocardiograms revealed a vegetation on aortic valve. *Fusobacterium nucleatum* was isolated from blood cultures, confirming the diagnosis of infective endocarditis. The patient had performed dental interventions during past month. Antibiotics were changed to ceftriaxone and metronidazole, according to the antibiogram. Repeat abdomen CT scans showed decrease of liver abscess. He was discharged after four weeks of intravenous therapy and continued oral antibiotics for two more weeks.

Discussion and Learning Points: Infective endocarditis caused by *Fusobacterium nucleatum* is a rare situation but can be related to distant focus of infection or recent dental interventions.

744 - Submission No. 1775

A CASE ON AN HIV PATIENT WITH ACUTE PERITONITIS DUE TO GASTROINTESTAL TUBERCULOSIS

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Case Description: A case of a male patient with history of newly diagnosed HIV and concomitant lung and gastrointestinal tuberculosis is presented.

Clinical Hypothesis: Tuberculosis has a great prevalence and significant morbidity and mortality among patients with HIV infection. Gastrointestinal tuberculosis is a rare disease that may present along with pulmonary disease or as a primary infection and is often misdiagnosed due to atypical symptoms.

Diagnostic Pathways: A 31-year-old male patient with no significant medical history, was referred to our hospital due to weight loss up to 20 kg and diarrhea during the past two months. Clinical examination revealed cervical lymphadenopathy. Chest x-ray showed parenchymal infiltrates in upper left lobe. HIV infection was confirmed with ELISA and Western- Blot. A computerized tomography (CT) scan was performed, revealing infiltrates, cavities, and mediastinal lymphadenopathy. Sputum culture was positive for *Mycobacterium tuberculosis*. Treatment with isoniazid, rifampicin, ethambutol, and pyrazinamide was initiated. The patient suddenly developed abdominal pain and vomiting. A CT scan revealed localized areas of thickening and narrowing of the intestinal lumen at the level of transition between the jejunum and the ileus, with necrotic mesenteric lymphadenopathy. Symptoms were treated with analgesic treatment. Severe abdominal pain presented again after a few days. A chest x-ray revealed bilateral

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pneumoperitoneum. Emergent laparotomy was performed, and the patient was discharged on the 13th day postoperatively, on antiretroviral therapy and treatment for tuberculosis.

Discussion and Learning Points: Gastrointestinal tuberculosis can mimic other abdominal pathologies, leading to increased mortality. Immediate treatment of tuberculosis is essential, especially in immunocompromised patients.

745 - Submission No. 1006

LET'S TAKE IT FROM SCRATCH

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Case Description: A 83-year-old patient visited our emergency department complaining of inability to widely open his mouth, swallowing difficulty, dysarthria, weakness and pain of his left arm. The symptoms developed gradually during the last days. He denied paresthesia, headaches, eye disturbance or other symptoms. From his medical history he had hypertension. He lived in a village with his dog. On examination he was febrile 37.7°C, with increased tendon reflexes in all limbs, increased muscle tone and restriction of movement of the left arm. Both masseter muscles contracted. Three deep scratches were noticed in his left forearm.

Clinical Hypothesis: Diagnosis of tetanus was suspected. On further questioning he mentioned a dog bite 15 days ago, he received no treatment. He had no updated vaccination for tetanus at that point.

Diagnostic Pathways: Initially, a cerebrovascular incident event was ruled out; a magnetic resonance (MRI) scan of the head was performed; no acute event was detected. A lumbar puncture and an MRI of the cervix followed to exclude cervical myelopathy and central nervous system infection: results were normal. Treatment for tetanus was initiated immediately. Patient isolation, high doses of tetanus immunoglobulin, metronidazole, magnesium, sedatives, and hydration were initiated. Gradually, he developed episodes of severe muscle spasm and desaturation which responded to diazepam. Episodes gradually worsened and he was intubated. After 17days in intensive care unit and 14days on the ward, he was discharged home.

Discussion and Learning Points: Tetanus is a potentially lethal infection, it must be suspected and urgently treated. Updated vaccination is vital.

746 - Submission No. 435

INFECTIOUS MYOCARDITIS IN A RECENTLY OPERATED PATIENT

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Case Description: A 20-year-old patient operated for an inguinal hernia 5 days ago, is brought to the emergency room for a profound alteration of the general condition, marked asthenia (cannot move), fever (39.2°C). The hemodynamic instability (MABP 80 mmHg, with compensatory tachycardia - 90 bpm, sinus rhythm) increases rapidly (SBP- 70 mmHg, HF-120 bpm) and he is admitted in ICU. Biological: leukocytosis (18.5*103/µL ↑), neutrophilia (17.8*103/µL ↑), presepsin 3666 pg/mL, CKMB (18U/L N), CK (318 U/L ↑), hS-troponin (33 ng/mL ↑). EKG: SR, sinus tachycardia, HF: 130 bpm, without ischemic changes. Thoracic-abdominal-pelvic CT: no changes Echocardiographic: LVEF of 35-40% with severe anterior and posterior SIV hypokinesia, apex hypokinesia.

Clinical Hypothesis: Based on the anamnesis, clinical and paraclinical data, the suspicion of myocarditis is raised. IgM positive for *Mycoplasma hominis*.

Diagnostic Pathways: For the diagnosis of myocarditis advocate: young age of the patient, acute systolic ventricular dysfunction.

Discussion and Learning Points: *Mycoplasma hominis* is a pathogen that is mainly found in the genitourinary tract and causes infections at this level, but cases of infection after surgical interventions have also been reported. Multiparametric cardiac MRI has a high diagnostic value for the diagnosis of patients clinically suspected of having acute myocarditis. The 2018 LLC further improve the diagnostic performance of cardiac MRI by increasing its sensitivity[1].

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747 - Submission No. 902

PITFALLS IN PROCALCITONIN DAILY USE: A CASE REPORT AND REVIEW

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Case Description: A 69 years-old woman with stage 4 non-small cell lung cancer (NSCLC) was transferred to our ward from the Intensive Care Unit (ICU). She had been admitted to the ICU because of severe SARS-CoV-2 pneumonia. Her stay had been complicated by a NSTEMI, lower limb ischemia treated with bypass surgery, and pulmonary bacterial super-infection treated with ceftriaxone. Upon admission in our ward, she was asymptomatic, afebrile, hemodynamically stable, and eupneic in nasal cannula 2 L/min. Her laboratory test results were notable for mild leukocytosis, a C-reactive protein of 51.4 mg/L (reference range <5 mg/L) and procalcitonin levels of >50 ng/mL (reference range <0.5 ng/mL). After 7 days of empiric meropenem and vancomycin/linezolid, the patient remained afebrile, but with very elevated serum procalcitonin. Urine and blood cultures remained negative.

Clinical Hypothesis: Ectopic procalcitonin production by the NSCLC.

Diagnostic Pathways: A total body CT-scan confirmed the known neoplasm but did not show signs of localized infection or thyroid abnormality. We then decided to dose serum calcitonin. The hormone levels came out very high (1950 pg/mL, reference range <10 pg/mL), thus confirming our suspicion of ectopic procalcitonin production by the NSCLC.

Discussion and Learning Points: In the absence of any clinical signs of infection, antibiotics were stopped. The patient was discharged after a week, with no further complications. Non-infectious causes of PCT elevation include severe physiological stress, acute pancreatitis, intestinal surgery, renal failure, and ectopic production by tumors with a neuroendocrine component (medullary thyroid cancer, lung cancer, etc.). Physicians should be familiar with the pitfalls of a routinary use of this blood test.

748 - Submission No. 992

RECURRENT PSEUDOMONAS AERUGINOSA BACTEREMIA SECONDARY TO INFECTIOUS AORTITIS IN A PATIENT WITH ANCA VASCULITIS

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Case Description: 83-year-old Caucasian male. Medical history relevant for ANCA vasculitis with pulmonary and renal involvement, undergoing renal replacement therapy and immunosuppression with rituximab. He was referred from hemodialysis clinic to the emergency department for relapsing fever. One-and-a-half weeks before he had completed treatment for *Pseudomonas aeruginosa* bacteremia following fever without localizing signs. His physical examination was unremarkable. Blood analysis showed a C-reactive protein of 44 mg/dL.

Clinical Hypothesis: Relapsing *Pseudomonas aeruginosa* bacteremia was suspected. The patient started treatment with piperacillin/tazobactam and was admitted for treatment and study.

Diagnostic Pathways: Blood cultures detected *Pseudomonas aeruginosa*. Fistula ultrasound showed no signs of infectious deep tissue complications. Transthoracic echocardiogram was suspicious for aortic valve pseudoaneurysm, but transesophageal echocardiogram did not show any evidence of infective endocarditis (IE). Body CT-scan showed contrast leaking through an ulcer in the lateral wall of the aortic arch with densification of adjacent fatty tissue. 18F-FGD PET/CT scan displayed abnormal and intense radiotracer uptake in the aortic arch highly suspicious of an infectious process and no signs of IE or other vessel vasculitis. The diagnosis of *Pseudomonas aeruginosa* aortitis was established. The patient was considered in high risk for surgical treatment, favoring a conservative approach. CT-scan reevaluation after 3-weeks of antibiotics showed reduced fatty tissue densification. A decision for life-long suppressive antibiotic therapy was made.

Discussion and Learning Points: *Pseudomonas aortitis* is highly uncommon and has high mortality. Immunosuppression and invasive vascular procedures contribute to raise the risk for Pseudomonas bacteremia. In cases of recurrent bacteremia, a thorough assessment for complications is key.

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749 - Submission No. 853

TWO PATIENTS WITH MUCORMYCOSIS WITH DIFFERENT CLINICAL OUTCOME

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Case Description: We present two patients with mucormycosis, who had different clinical outcome due to different immune status and time of diagnosis. Patient 1 was a 60-year-old male patient with Chronic Lymphocytic Leukemia in remission, under treatment with ibrutinib. Initial symptoms included fever (38°C) and toothache. After 5 days treatment with antibiotics, the patients presented extended necrosis of soft/hard palate, as well as tissue invasion of the abdominal wall. Biopsies of both involved tissues were diagnostic for non-septate hyphae. Surgical intervention was not considered feasible due to the extent of the infection. Patient received 5 days of high doses intravenous liposomal amphotericin B (LAMB) (10 mg/kg) and isavuconazole before lethal outcome. Patient 2 was a 71-year-old female diabetic patient with recent COVID-19 infection treated with dexamethasone, complicated by diabetic ketoacidosis, who presented with rhino cerebral mucormycosis. Initial symptoms included ophthalmoplegia and facial numbness. Biopsies from soft tissue ulcerative lesions established the diagnosis and patient underwent prompt left maxilla resection and partial left temporal lobe resection. She was treated with high doses intravenous LAMB (7-10 mg/kg) and isavuconazole and was discharged after 8 months in good clinical condition.

Clinical Hypothesis: Mucormycosis clinical outcome depends on early diagnosis followed by surgical intervention and also underlying immune status.

Diagnostic Pathways: Cornerstone of diagnosis of mucormycosis, even before imaging studies, is biopsy of involved tissues.

Discussion and Learning Points: High clinical suspicion of mucomycosis, early diagnosis with tissue biopsy, prompt surgical intervention and immune status play a pivotal role for favorable outcome.

750 - Submission No. 727

A PATIENT WITH MONKEYPOX AND AN ISOLATED PAINFUL RASH IN THE GENITAL AREA

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Case Description: We aimed to present a patient with monkeypox and an isolated painful rash in the genital area. A 24-year-old male patient was admitted in our department because of a 24-hour fever (40°C) and a 4-day ulcerated-crusted painful rash in the genital area. Physical examination revealed additionally enlarged and painful inguinal lymph nodes. He had a past medical history of treated primary syphilis 3 years ago. He was heterosexual with a history of many sexual partners. He did not have any recent travel history or a history of intravenous drug use. He was negative for Human Immunodeficiency Virus. Laboratory investigation revealed elevated CRP 7.5 mg/dl (reference value, <0.5 mg/dl), mild leukopenia 3700/ul, negative Rapid Plasma Reagin and positive *Treponema pallidum* Hemagglutination Assay. Blood and urethral cultures were negative. Molecular investigation of the skin lesions was negative for Herpes Virus and *Chlamydia trachomatis*, but positive for Monkeypox. Patient received supportive treatment and was discharged from the hospital in good clinical condition.

Clinical Hypothesis: Human Monkeypox is a rare cause of isolated rash in the genital area and can mimic sexual transmitted diseases.

Diagnostic Pathways: Molecular investigation of the skin lesions for Monkeypox virus should be performed in patients with ulcerated rash in the genital area even without systemic symptoms.

Discussion and Learning Points: Febrile ulcerated-crusted painful rash in the genital area should alert clinicians for the potential presence of monkeypox, as clinical presentation is often compatible with sexually transmitted diseases. In most of the cases treatment is only supportive with favorable outcome.

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751 - Submission No. 1031

EBV MENINGOENCEPHALITIS IN A IMMUNOCOMPETENT PATIENT-FALSE NEGATIVE CSF RESULTS: CASE REPORT

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Case Description: In this report we present the case of an EBV meningoencephalitis on an immunocompetent patient.
Clinical Hypothesis: A 67-year-old male patient was admitted to the ER after fainting. He had no medical history, and he was febrile and confused (GCS 13), disorientated in time.
Diagnostic Pathways: Blood samples were taken, and inflammatory markers were positive. Blood and urinary cultures were negative. CT scan was normal, and CSF was taken with 416 cells 99% poly and low glucose. Culture was negative and CSF PCRs negative. Patient was empirically treated with ceftriaxone, ampicillin, vancomycin and acyclovir. The 3rd day GCS became 7/15 and the patient was intubated and transferred to ICU. New sample of CSF was taken with two cells, normal glucose and the new PCR came back positive for EBV infection (the sample was transferred to the same lab 4 days apart). Virus antibodies blood sample test for EBV IgM was normal and VCA IgG 750 u/ml (UNL <20).
Discussion and Learning Points: Positive CSF PCR for EBV should be carefully interpreted since it should show a latent or a previous infection. In our case the second sample became positive for EBV infection, depicting an acute infection. We would like to raise the awareness for the time period PCR needs to be positive and CSF should be retested especially in cases of high suspicion.

752 - Submission No. 996

SACCHAROMYCES CEREVISIAE FUNGEMIA IN A HOSPITALIZED PATIENT RECEIVING PROBIOTICS: A CASE REPORT

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Case Description: Through this case report, we would like to address the possibility of *Saccharomyces cerevisiae* fungemia in patients hospitalized and treated with *Saccharomyces boulardii* probiotic.
Clinical Hypothesis: In our case a 69 years-old male patient was being hospitalized due to fever with /alongside shivering, diarrhea and vomiting. He had diabetes mellitus and newly diagnosed prostate cancer. He had pyuria. A central subclavian vein was placed, and antibiotics (ciprofloxacin and meropenem) were administered waiting from the blood culture results. A probiotic with *Saccharomyces boulardii* was also administered for prevention of hospital-onset *Clostridioides difficile* infection. His fever was resolved and increased inflammation markers were improved. Antibiotics were de-escalated. At the seventh day of probiotic administration his fever relapsed, and blood cultures were taking again from periphery and central vein.
Diagnostic Pathways: Fungemia with *Saccharomyces cerevisiae* was identified in both cultures. Central vein was removed, administration of probiotics was stopped and intravenous treatment with fluconazole was initiated for 2 weeks.
Discussion and Learning Points: *Saccharomyces cerevisiae* fungemia has been associated with probiotics administration, central vein catheters, admission of Intensive Care Unit and immunosuppression. These risk factors should be contraindication for the administration of probiotics.

753 - Submission No. 1022

ESCHERICHIA COLI LOWER LIMB CELLULITIS AFTER BACTEREMIA WITH UNDERLYING SOLID ORGAN MALIGNANCY: A CASE REPORT

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Case Description: A 72-year-old woman with a history of atrial fibrillation, arterial hypertension and thyroidectomy was admitted due to fever and diarrhea, *E. coli* was isolated both from blood and urine culture that was taken upon admission. The patient received ampicillin/sulbactam based on the antibiogram obtained from the cultures and gradually became afebrile.
Clinical Hypothesis: Upon the fifth day of admission the patient presented with fever and erythema, tenderness, edema in the lower left limb. Vancomycin was added to the antibiotic regimen.
Diagnostic Pathways: By the sixth day purulent vesicobullae had developed, fluid aspiration of one of the lesions was performed and the aspirate was sent for culture, which also isolated *E. coli*. The patient remained febrile, and the antibiotic regimen changed to piperacillin/tazobactam. An MRI scan of the left lower limb was ordered to exclude necrotizing fasciitis, which showed only superficial infection of the skin. A CT scan of the chest and abdomen was also performed in order to exclude another source of infection, which showed a lesion in the upper pole of the kidney which was contrast enhanced with characteristics typical of a malignant tumor.

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Discussion and Learning Points: Skin and soft tissue infections due to *E. coli* are rare and are usually found in immunocompromised patients, e.g., with hematologic malignancies, cirrhosis. In this case we presented a patient with solid-organ malignancy and *E. coli* cellulitis after bacteremia due to urinary tract infection.

754 - Submission No. 1317

VACCINATION RELATED OUTCOMES IN HOSPITALISED PATIENTS WITH SARS-COV 2 INFECTION

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Background and Aims: SARS-CoV-2 vaccination has been associated with reduced mortality and rate of hospitalization. These findings are mainly derived from studies done during the second and third pandemic wave, where non-Omicron variants were predominant. We sought to assess the prevalence of vaccination, patient baseline characteristics and whether COVID-19 vaccination had a positive effect on mortality during an omicron -prevailing study period.

Methods: We performed a retrospective single-center study from 01/2022 to 06/2022 including consecutive medical patients admitted in the medical COVID-19 ward of Ioannina General Hospital. Patients' demographics, vaccination status, comorbidities, baseline characteristics, hospital length of stay, complications and outcomes including mortality were recorded. Two patient groups fully vaccinated (at least 3 doses with the last one no later than 6 months) and non-vaccinated were compared.

Results: 249 patients were included in our study. 74 (29.7%) were unvaccinated, 104 (41.7%) were vaccinated and 71 (28.6%) were partially vaccinated. Fully vaccinated patients were older (79 vs 71, p=0.02), and had a lower demand of high-concentration oxygen (FiO_2 50% 15L, non-rebreathable mask, High-flow nasal oxygen) 7% vs 18.9% (p=0.059) on admission. The two groups had no statistically significant differences in comorbidities, days of hospitalization or acute kidney injury There was a mild decrease in mortality 11.5 vs 16.2% and incidence of intubation (3.9% vs 6.8%) but failed to reach statistical significance.

Conclusions: Fully vaccinated patients that require hospitalization in the omicron era have lower needs in oxygen supplementation and possibly a mortality benefit. Larger multicenter studies are required for further assessment.

755 - Submission No. 1256

ACUTE KIDNEY INJURY IN HOSPITALIZED ADULT PATIENTS WITH COVID-19: A SINGLE CENTER EXPERIENCE

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Background and Aims: Kidney dysfunction has been reported as a complication of COVID-19 disease. There are limited data regarding the acute kidney injury (AKI) in hospitalized patients with COVID-19 in Greece. We investigated the prevalence and outcome of AKI in hospitalized patients with COVID-19 as well as we sought potential risk factors.

Methods: This is a retrospective study of patients admitted to the General Hospital of Ioannina with SARS-CoV-2 infection from January to June 2022. AKI was defined according to KDIGO criteria. Two patient groups, AKI and non-AKI, were compared regarding general characteristics and outcomes.

Results: We evaluated 247 patients of which 69 (27.9%) developed AKI. Most patients had KDIGO stage I AKI 84% (58/69), while 8.7% and 7.3% had stage 2 and 3. Patients with AKI were older 83 (72-89) vs 74 (60-84, p<0.001), had more often chronic kidney disease (CKD) (23.2% vs 6.2%, p<0.001) and heart disease (CHD) (70.7% vs 32.2%, p=0.007) and they were more likely to have high oxygenation requirements (FiO_2 50% and above) (23.5% vs 7.6% respectively, p=0.007). No statistically significant differences were detected in vaccination status, days of symptoms and intubation. AKI patients had higher mortality, (27.5% vs 9.6% p<0.001) and longer hospitalization (5 (3-7) vs 8 (5-8) days p<0.001).

Conclusions: AKI in hospitalized patients with COVID-19 is common and is associated with increased mortality and longer hospitalization. Older age, CKD, CHD and higher oxygen supplementation requirements are associated with increased risk for AKI. Patients need to be closely monitored for AKI development.

756 - Submission No. 357

SUBACUTE INFECTIVE ENDOCARDITIS UPON NATIVES AORTIC AND MITRAL VALVES. A CASE REPORT

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Case Description: *Abiotrophia defectiva* is found in the oral mucosa of healthy individuals. Is responsible for multiples kinds infectives

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endocarditis and has a very limited grow in rutinary culture media. We report a case of a 74-year-old patient followed up in Primary Care in April 2021 with a two-month history of malaise, fever, and chest pain. Infection due to COVID-19 was ruled out with SARS-CoV-2 antigen test in different days and during all the period the test were always negative. Subsequently, the patient presented a deterioration of her health condition and was transferred to the Emergency Department diagnosed with septic shock and renal failure. She was then admitted to the Intensive Care Unit requiring vasoactive support and a new diagnostic study with a transthoracic ultrasound and blood cultures was completed.

Clinical Hypothesis: She was diagnosed with subacute infective endocarditis on a native aortic and mitral valves and a cardiac surgery was done.

Diagnostic Pathways: Endocarditis due to *Abiotrophia defectiva*, an optimal antibiotic management and a multidisciplinary team are always necessary in order to provide the best treatment available.

Discussion and Learning Points: In the review of the medical evidence, the most used antibiotic therapies are ceftriaxone-gentamicin and ampicillin-gentamicin, requiring a valve replacement surgery in most cases (72.7% of the cases assessed).

757 - Submission No. 315

FEVER AND VOMITING

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Case Description: 55-year-old patient with a history of colon adenocarcinoma in 2008. Oral manipulation in the previous month, admitted for fever, myalgia, isolated vomiting of one week of evolution. Physical examination revealed pain in the epigastrium and right hypochondrium. Complementary tests showed elevated CRP, ESR, leukocytosis with neutrophilia, cytolysis, and cholestasis. Abdominal ultrasound was normal. Abdominal chest CT scan, which showed a hepatic collection/abscess in LHD of 5x5 cm in diameter. Drainage was produced with PCR 16S rRNA sequencing of *Fusobacterium nucleatum*.

Clinical Hypothesis: Liver abscesses account for up to half of all intra-abdominal visceral abscesses and are most often caused by biliary tract disease and less frequently by local dissemination or hematogenous seeding. Fusobacterium is part of the normal microbiota of the gastrointestinal tract, especially the oral cavity and vagina; it is a rare cause of liver abscess.

Diagnostic Pathways: Patients have fever, anorexia, weight loss, nausea, and vomiting, but only 50% have signs located in the right upper quadrant. Serum alkaline phosphatase levels are elevated in 70% of patients, leukocytosis is common and one third to one half of patients have bacteremia. Abdominal ultrasound may give false negatives. It should be drained whenever possible.

Discussion and Learning Points: In the diagnosis of monomicrobial liver abscess caused by *Fusobacterium nucleatum* we must explore the lower digestive tract. In our case a new colonoscopy was performed and there was no recurrence. She had had dental manipulation in the previous month.

758 - Submission No. 1300

THROMBOCYTOPENIA RELATED OUTCOMES IN PATIENTS WITH SARS-COV-2 INFECTION

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Background and Aims: Thrombocytopenia in SARS-CoV-2 infection has been associated with disease severity and mortality. The aim of this study is to assess the prevalence of thrombocytopenia, patient baseline characteristics and correlation of thrombocytopenia with clinical outcomes.

Methods: This is a retrospective study including patients admitted to the COVID-19 ward of our hospital, from January to June 2022. Patients' baseline characteristics, vaccination status, comorbidities, length of hospitalization, complications and outcomes including mortality were recorded. Patients were divided into two teams according to the platelet count.

Results: 248 patients were included in our study. 179 (72.1%) had normal platelet count, while 69 (27.9%) had thrombocytopenia. Thrombocytopenia was more prevalent in female patients, 44 female vs 25 male patients p=0.005. The two groups had no statistically significant differences in comorbidities, vaccination status, bleeding, and thrombotic events. A difference in oxygen requirements was observed 8.7% vs 22.1% for the thrombocytopenia group, which was significant, p=0.006. Also, there was a higher prevalence of acute kidney injury (AKI) development 24.7% vs 38.2% respectively, p=0.036. The mean days of hospitalization were significantly increased 5 vs 7, p=0.001. Finally, there was an increased mortality risk observed for the patients with low platelets, 9.5 % vs 29%, p<0.001.

Conclusions: Hospitalized patients with thrombocytopenia are at increased risk for AKI, high oxygen requirements, increased length of stay. The mortality risk was almost three times greater for the thrombocytopenia group. The platelet count could possibly be used as a disease severity marker. Larger multicenter studies are required for further assessment.

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759 - Submission No. 455

DIFFICULT TO DISTINGUISH BUT LEPTOSPIROSIS

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Case Description: 56-year-old male who consulted for fever up to 39.5ºC of 24 hours duration, weakness of the lower limbs, dark urine and abdominal pain. He had not traveled abroad and had not ingested any toxins or drugs. No associated weight loss.

Clinical Hypothesis: - viral hepatitis -rickettsiae - yellow fever - hantavirus - acute pyelonephritis - acute glomerulonephritis - acute tubular necrosis - meningoencephalitis - influenza - measles - toxoplasma - infectious mononucleosis - acute respiratory tract infection by Influenza - acute tubular necrosis.

Diagnostic Pathways: - Physical examination: No neurological focality (Glasgow 15/15). Jaundice on skin and mucous membranes. Painful abdomen on palpation of the iliac fossa. No edema in lower limbs. - Complementary tests: blood test with glucose 276 mg/dl, urea 99 mg/dl, Cr 2.57 mg/dl, bilirubin 10.7 mg/dl (direct 7.70), normal ions. Leukocytes 14540 mm^3 with 13200 mm^3 of neutrophils. Normal coagulation tests. Bacteria, viruses and parasites in stool were negative. Positive Ig M *Leptospira* spp antibodies. Urinalysis: pH 5.5, proteinuria 300. Ultrasound and CT abdomen without alterations.

Discussion and Learning Points: Evolution: admission to the intensive care unit for severe sepsis, severe liver failure and acute renal failure. Treatment with penicillin and ampicillin. Transfusion of blood products and hemofiltration with positive clinical response. Leptospirosis may manifest as subclinical disease followed by seroconversion, self-limited systemic infection, or severe life-threatening disease. Complications such as renal failure, uveitis, hemorrhage, acute respiratory distress syndrome with pulmonary hemorrhage, myocarditis or rhabdomyolysis may occur. It is our task to recognize it, diagnose it and treat it.

760 - Submission No. 2304

HOW IS THE MANAGEMENT OF OUR PATIENTS WITH BACTEREMIA BY STAPHYLOCOCCUS AUREUS?

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Background and Aims: To describe microbiological aspects and treatment of *Staphylococcus aureus* (SA) bacteremias in our hospital.

Methods: Descriptive and retrospective study. All cases of bacteremia by SA were analyzed from January to December 2021 at the Henares University Hospital. The statistical analysis was performed with the SPSS program.

Results: There were 33 cases of bacteremia due to SA, of which 18.2% were methicillin resistant (MRSA). 82.1% of blood cultures (BC) were positive in 2 extractions, but only 19.4% had a control culture. The estimated average time between the extractions was 7 days. Echocardiography was performed to rule out infective endocarditis (IE) in 63.6% of cases. Transthoracic ultrasound was performed in 76.1% and completed with transesophageal study in 19%. Only one echocardiogram [4.76%] showed the presence of vegetation suggestive of IE. The most commonly used empirical treatment were: cefazolin alone or with teicoplanine, vancomycin or daptomicin [25.8%]; linezolid with meropenem, amoxicillin/clavulanic, daptomicin or trimethoprim/sulfamethoxazole [22.5%]; other combinations were seen in smaller percentages. Treatment was adjusted according to antibiogram in 54.5% of cases. Average intravenous treatment time was 13.72 days and overall antibiotic treatment 16.15 days. There was a 45.5% mortality, the most common causes: IE (20%), respiratory sepsis (20%), tumor progression (20%) and hemorrhages (13.3%).

Conclusions: The empirical treatment of SA bacteremia was not adequate in most cases. BC control was performed in only 19.4% with average control time (7 days) being higher than recommended. This study exposes weak points to improve to minimize the risk of these infections.

761 - Submission No. 2280

CLINICAL-EPIDEMIOLOGICAL CHARACTERISTICS OF STAPHYLOCOCCUS AUREUS BACTEREMIAS IN A SECOND LEVEL HOSPITAL IN MADRID

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Background and Aims: Our aim was to analyze the registered cases of bacteremia due to *Staphylococcus aureus* (SA) in the period of one year in our health area.

Methods: Retrospective and descriptive study of patients with bacteremia in whom it was isolated in blood cultures S. aureus, from January to December of 2021 at the Henares University Hospital. We collected demographic, clinical, and microbiological data. Statistical analysis was performed through the SPSS program.

Results: Thirty-three cases of SA bacteremia were found. The majority of patients were admitted to the Internal Medicine department [42.4%], followed by Geriatric [18.2%], Oncology [9.1%], and the rest was distributed among other specialties in smaller percentages. The average age was 72.45 years and 54.5% were women. None of the patients had history of intravenous drug use o prior endocarditis. 87.9% had comorbidity, the most frequent were heart diseases [36.4%], oncological pathology [18.2%], advanced stage dementia [15.2%], and alcohol-related hepatopathy [16.1%]. 48.5% were of nosocomial origin and 39.4% had suggestive clinic of infectious endocarditis (IE). The most common origin of infection was associated with catheter [36.4%], followed by skin and soft tissue infections [27.2%], respiratory

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infections [9%] and the rest were of unknown origin. Methicillin resistant *S. aureus* (MRSA) was isolated in 18.2% of blood cultures; 9% required admission to the ICU and almost half of them [45.5%] died during admission being the majority [40%] during the first week.

Conclusions: SA bacteremia have a mortality near 50%. As evidenced in this study, endovascular and nosocomial origin predominate, so preventive measures to avoid this type of complications during hospitalization are essential.

762 - Submission No. 916

A CASE OF PASTEURELLA MULTOCIDA MENINGITIS SECONDARY TO OTITIS MEDIA IN AN ADULT WOMAN

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Case Description: A 57-year-old woman, who has living with cats, and with history of depression and hyperlipidemia, presented with fever up to 38,5°C, vomiting, confusion, and mental disorientation progressively the past day. Furthermore, the patient presented otorrhea the last seven days. She also had an ear infection a month ago, for which she received topical antimicrobial treatment.

Clinical Hypothesis: The differential diagnosis included meningitis due to pyogenic bacteria or virus.

Diagnostic Pathways: Brain CT scan revealed hypodense lesions in the right temporal lobe, and partial infiltration of paranasal sinuses, right middle ear, and mastoid cells. A lumbar puncture yielded cloudy cerebrospinal fluid containing 3270/Kμ WBC (100% Neutrophils), an elevated protein level of 367 mg/dl and a glucose level of 18 mg/dl. The patient at first received antimicrobial empiric treatment with ceftriaxone, vancomycin, ampicillin, and dexamethasone. Only the medical history of close contact with cats was a feature implying more rare bacteria. The diagnosis was confirmed by isolated *Pasteurella moltocida* from the cerebrospinal fluid culture and from ear secretion cultures. Also due to the findings from brain CT scan, an extended surgical removal of the mastoid cells was performed. The outcome was favorable following antimicrobial treatment and surgery.

Discussion and Learning Points: *Pasteurella multocida* is a rare cause of bacterial meningitis, more frequently affecting newborns or elderly people. Although rarely encountered, *P. multocida* should be considered as a possible cause of meningitis, particularly when Gram-negative coccobacilli are revealed in the cerebrospinal fluid and a history of, and recent animal contact is present.

763 - Submission No. 223

DUAL SOFOSBUVIR/DACLATASVIR THERAPY FOR CHRONIC HCV INFECTION. LESSONS FROM OUR STUDIES ON SPECIAL POPULATIONS

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Background and Aims: Dual sofosbuvir/daclatasvir (SOF/DCV) therapy is currently recommended by the WHO as an effective pan-genotypic option for the treatment of chronic HCV in adults. We conducted multicenter studies to answer 5 Research Questions: Is dual SOF/DCV therapy, safe and effective in adolescents and adults? Can the treatment duration be shortened to 8 instead of 12 weeks based on, an early response qualifier? Does DAAs therapy negatively affect growth as is the case with IFN-based therapy? Does DAAs therapy affect remission in survivors of cancer? Is the risk of Hepatitis B reactivation significant, in chronic HCV and HBV co-infection?

Methods: Consecutive eligible chronic HCV-infected patients presenting to 4 clinical centers in Egypt from each target population were included in our clinical study program.

Results: Dual SOF/DCV, proved to be a safe and effective therapy with SVR12 approaching 97% in ITT and & 100% in P-P in our studied special populations. Treatment duration can be shortened to 8 weeks based on achieving vRVR at week 2. This could provide a prudent basis for shortening the treatment duration. No negative effects on linear growth or weight in our studied adolescents. No relapse/recurrence was detected for the remitted malignancy in cancer survivors. No reactivation of HBV was observed in our HCV/HBV Co-infected adolescents during or after DAA drug treatment.

Conclusions: Dual SOF/DCV, proved to be a safe and effective therapy in all our studied special populations.

764 - Submission No. 2109

WHEN HEPATITIS AND THYROIDITIS COEXIST

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Case Description: A 37-year-old male, no allergies. He was taking hyperproteic compounds. He came to Emergency for a painful nodule in the anterior cervical region, afternoon fever and weight loss. Laboratory tests showed elevated cytolysis enzymes in the range of acute hepatitis (alanine aminotransferase 459 U/L, aspartate aminotransferase 235 U/L), dissociated cholestasis (alkaline phosphatase 415 U/L, gamma glutamyl transpeptidase 910 U/L) and increased acute phase reactants.

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Clinical Hypothesis: The main hypothesis was an acute infectious hepatitis due to fever, increase acute phase reactants.

Diagnostic Pathways: He did not referred risky sexual relations or foreign travel. Autoimmunity tests and tumor markers were negative. The study was extended with microbiological tests presenting only IgG in serum against hepatitis A virus, hepatitis B virus and cytomegalovirus. Computed tomography (CT) was performed without remarkable findings. Despite the withdrawal of the hyperprotein compound, he continued with clinical worsening and odynophagia, so a thyroid study was extended showing subacute thyroiditis in a non-autoimmune thyrotoxicosis phase (TSH 0.02 Mui/L, free T4 1.7 ng/dL, thyroglobulin >500 ng/dL, negative anti-thyroglobulin and anti-TPO antibodies). Cervical ultrasound showed an enlarged, heterogeneous thyroid with a nodule in the left lobe classified by imaging as TI-RADS 4. A liver biopsy was performed showing a positive result for the polymerase chain reaction (PCR) test for Epstein-Barr virus. After symptomatic treatment, he presented good clinical and analytical evolution.

Discussion and Learning Points: Epstein-Barr virus is the main cause of mononucleoside syndrome. Its capacity for systemic involvement would justify thyroid and hepatic involvement, the association of the two entities being infrequent according to the literature.

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AS10. KIDNEY AND URINARY TRACT DISEASES

765 - Submission No. 1034

TINU SYNDROME – A CASE REPORT

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Case Description: Acute interstitial nephritis is a common cause of acute kidney injury. However, only a small percentage of cases is associated with uveitis, defining the tubulointerstitial nephritis and uveitis syndrome (TINU). TINU is a rare syndrome that mainly affects young women, whose pathogenesis is not well understood. **Clinical Hypothesis:** A 64-year-old woman with history of dyslipidemia, sinusitis, and anxiety, was presented to the emergency room (ER) for ocular pain, photophobia, and red eye. She also had complaints of arthralgias, asthenia, unquantifiable weight loss and the notion of foamy urine. She denied recent medication, travel or other exposures, namely toxic or animals. Laboratory studies revealed acute kidney injury with urea of 45 mg/dL and creatinine of 3.6 g/dL (from a baseline of 0.6 g/dL), normocytic normochromic anemia with hemoglobin of 10 g/dL and increased inflammatory parameters (C-reactive protein of 71.7 and erythrocyte sedimentation rate of 113 mm/h). **Diagnostic Pathways:** Renal ultrasound showed no changes. The remaining study revealed proteinuria, eosinophiluria and positive HLA-B27. Viral serologies and immunological studies were negative. Given the presence of arthralgias and positivity for HLA-B27, an MRI of the lumbosacral spine and pelvis was performed, which excluded ankylosing spondylitis. A renal biopsy was performed, and prednisolone 1 mg/kg/day was started on suspicion of TINU. The biopsy showed interstitial inflammatory infiltrate, compatible with tubulointerstitial nephritis, thus confirming the diagnosis. **Discussion and Learning Points:** This case is described because it presents a rare entity, but whose clinical suspicion must be recognized, since early treatment is essential for a favorable outcome, both renal and ophthalmic.

766 - Submission No. 1520

ACUTE RENAL FAILURE DUE TO BILATERAL OBSTRUCTIVE UROPATHY SECONDARY TO RETROPERITONEAL MASS

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Case Description: 55-year-old man with no known drug allergies or medical history of interest. He presented to the emergency department for severe pain in the right lumbar region for 4 weeks, denying other symptoms in the anamnesis by organs and apparatus. Exploration was anodyne. Blood tests showed a creatinine level of 5.47 mg/dL (previously normal) and urea level of 87 mg/dL, with no significant findings in the rest of the analysis. Abdominal non-contrast CT scan showed a retroperitoneal mass causing bilateral grade 3 ureter hydronephrosis, leading to the placement of a bilateral double J catheter and admission for study. **Clinical Hypothesis:** Retroperitoneal mass of unknown etiology. **Diagnostic Pathways:** Abdominopelvic MRI scan was performed showing that the mass compressed the left ureter and caused moderate ureter hydronephrosis, suggesting lymphoma as the most likely option, without excluding others such as liposarcoma. PET-CT was performed to rule out other lesions, which only showed hypermetabolic uptake of the retroperitoneal mass. A needle biopsy of the mass was performed, which was inconclusive, and surgical removal was decided upon, with an anatomopathological study revealing the absence of tumor cells and the presence of findings compatible with retroperitoneal fibrosis. Having ruled out secondary causes, it was classified as primary or idiopathic. **Discussion and Learning Points:** Retroperitoneal fibrosis (RPF) is a rare condition that should be suspected in patients with flank or abdominal pain in association with unknown renal function impairment. It is characterized by the presence of inflammatory and fibrous tissue in the retroperitoneum, which may be primary (idiopathic) or secondary. For differential diagnosis, anatomopathological study is often necessary.

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767 - Submission No. 941

LUPUS NEPHRITIS

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Case Description: A 40-year-old woman presented with a 3-week history of nausea, vomiting and hematuria, which started 1-week after a cholecystectomy. She reported no analgesic or anti-inflammatory drug abuse. She had history of repeated urinary tract infections, so a urinary tract infection was assumed and treated with Fosfomycin. She reported no improvement 1 month later and searched for medical attention. Her blood pressure was high. Blood tests revealed anemia and acute kidney injury. Urinalysis had leukocytes, erythrocytes, and proteins. Computed tomography reported no obstruction to urine output and normal kidneys. She was discharged with amoxicillin and clavulanic acid, as well as lisinopril. The symptoms retained and she was admitted to the hospital two weeks later.

Clinical Hypothesis: Glomerulonephritis was suspected.

Diagnostic Pathways: Dysmorphic erythrocytes and proteinuria in the nephrotic range were present. Blood tests were positive for ANA, anti-ds-DNA and low complement. Renal biopsy showed diffuse lupus nephritis (class IV). A diagnosis of Systemic Lupus Erythematous (SLE) with lupus nephritis was made. Treatment was started with prednisolone, mycophenolate mofetil and hydroxychloroquine. 1-week later, the patient reported no symptoms and was discharged from hospital with maintenance treatment.

Discussion and Learning Points: Hematuria can be a sign of glomerulonephritis and should not be overlooked. Lupus nephritis is one of the most severe organ manifestations of SLE and usually develops 5 years after the diagnosis. However, it can be the presenting manifestation leading to diagnosis of SLE. It represents an important cause of morbidity and mortality. Early diagnosis and prompt initiation of therapy are crucial to improve outcomes.

768 - Submission No. 1550

48H AMBULATORY BLOOD PRESSURE MEASUREMENT AND MEDIUM-TERM ULTRAFILTRATION IN PATIENTS ON HEMODIALYSIS

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Background and Aims: Arterial hypertension (AH) is a common comorbidity of patients treated with hemodialysis (HD). One of mechanisms responsible for this is positive water balance, which clinicians tackle during HD sessions with ultrafiltration (UF). The aim of our study was to assess the impact of medium-term UF on 48h ambulatory blood pressure measurement (ABPM).

Methods: We included 29 chronic HD patients, mean age 61.1±14.6 years. All patients received regular HD treatments thrice weekly. We performed 48h ABPM (Schiller MT-300 Holter-BPR, Baar, Switzerland) and recorded past medical history and average UFs during HD treatments for one month prior to 48h ABPM. The patients were divided into a low (<1 L) and high ultrafiltration (>1 L) group.

Results: Included patients (37.9% female) with a mean BMI of 25.9±4.8 had diabetes mellitus (17.9%), hypertensive retinopathy (25.0%), heart failure (7.1%), and previous stroke or TIA (6.9%). One-month UF average was 2.01±0.91 L, with 17.2% of patients having a low UF. The average 48h BP was 142±22/79±12 mmHg. Pearson´s correlation showed a moderate negative correlation between 48h systolic BP and UF (r=-0.368, p=0.05), while no correlation was found between 48h diastolic BP and UF. The 48h systolic BP of the low UF group was 154±7 mmHg vs. 140±23 mmHg of the high UF group, which was significantly different (p=0.015).

Conclusions: We observed a negative correlation between 48h systolic BP and UF, probably due to intravascular volume depletion. Interestingly, our patients with low UFs had higher systolic BPs. Clinicians should consider reassessing dry weight using different modalities in these cases.

769 - Submission No. 2135

MODERN ASPECTS OF THE STUDY OF BIOMARKERS IN PATIENTS WITH DIABETIC KIDNEY DISEASE AND TYPE 2 DIABETES

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Background and Aims: Diabetic kidney disease (DKD) is a severe complication of diabetes and one of the leading causes of end-stage chronic renal failure. Detection in urine of the tubular biomarker N-acetyl-β-D-glucosaminidase (NAG), which indicates kidney damage, timely reflect the risks of progression of kidney damage and the risks of adverse cardiovascular and renal events. The aim of this study was to evaluate urinary NAG as reliable biomarker in detection of diabetic nephropathy.

Methods: In this study, we investigated the relationship between urinary NAG biomarker levels and the state of glycemic control and indicators of kidney status (blood creatinine, creatinine clearance (GFR), urine albumin to creatinine ratio (ACR)) in the group of patients with DKD and type 2 diabetes.

Results: The study included 82 patients, 46 men and 40 women. The mean age of patients was 63.37±8.59 years, BMI was 31.65 (28.45-33.68) kg/m^2. Fasting glucose was 10.49±3.15 mmol/l.

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The level of glycated hemoglobin was 7.92±1.54%. The GFR, was 51.19 (45.84-66.88), most patients (53.1%) had the degree of renal dysfunction to CKD G3a. The ACR was 38.47 (18.4-82.02) mg/g. In 59.4% of patients there was an increase in ACR level. NAG level in urine was 19.33 (8.34-38.08) ng/ml. The correlation analysis revealed a positive relationship between albuminuria and NAG (r_s = 0.61, p = 0.02); ACR with NAG (r_s = 0.61, p = 0.02).

Conclusions: NAG is a tubular biomarker that is considered as an early and sensitive marker than glomerular disorders, such as GFR, albuminuria, ACR. NAG is associated with reliable signs of kidney damage in diabetes.

770 - Submission No. 2364

AN UNUSUAL PRESENTATION OF GASTROINTESTINAL BLEEDING: MULTIPLE MYELOMA WITH LIGHT CHAIN AMYLOIDOSIS

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Case Description: A 44 years-old man with a history of hypertension and gout presented to the emergency department with the complaint of bloody stool. Physical examination revealed melena with no additional remarkable findings. Initial laboratory studies were found as: BUN 111 mg/dL, serum creatinine 1.55 mg/dL, total protein/albumin 6.6/4.4 g/dL, hemoglobin 8.3 g/dl. ANA (-), dsDNA (-), c3 1.39 g/L, C4 0.36 g/L, Ig A 0.476 g/L, IgG 6.74 g/L, IgM 0.29 g/L.24 hours urine protein 6980 mg/g. Hepatitis and HIV markers were negative. He underwent endoscopy that resulted with non-bleeding duodenal ulcer.

Clinical Hypothesis: Renal biopsy was required to explain the etiology in the patient who had mild renal impairment, proteinuria, and hematuria with a normal globulin/albumin ratio.

Diagnostic Pathways: In the kidney biopsy, accumulation consistent with amyloid was detected in the glomeruli, tubule membranes and vessel walls. Lambda staining was observed in the amyloid deposition areas. After the biopsy was reported as AL Amyloidosis, multiple myeloma was considered in the foreground. Tests for myeloma were sent but it was not found significant. Bone marrow biopsy showed 10% infiltration with lambda light chain-restricted and monotypic plasma cells staining positive for CD138 and MUM1.

Discussion and Learning Points: This is an unusual case of multiple myeloma with light chain amyloidosis that presented with gastrointestinal bleeding. In this case anemia in blood tests is an expected finding since the patient presented with gastrointestinal bleeding. However, no finding in favor of myeloma was found in the laboratory tests which prevented it from being considered as the primary diagnosis. Although amyloidosis is a rare finding in patients with multiple myeloma, especially in young individuals, it should be evaluated in the differential diagnosis of patients presenting with proteinuria.

771 - Submission No. 1525

A RARE CAUSE OF (PRESUMED) ACUTE INTERSTITIAL NEPHRITIS

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Case Description: A 29-year-old male patient with no known medical history was admitted to the hospital with a 4-day history of colicky abdominal pain, which worsened with fasting, and was associated with nausea, myalgias and a low-grade fever. Physical examination revealed a distended abdomen that was diffusely painful, but had no signs of peritoneal irritation or palpable masses.

Clinical Hypothesis: Initially, the most likely diagnosis was gastrointestinal viral infection.

Diagnostic Pathways: Blood workup showed a normocytic anemia (Hb 12.3 g/L, VGM 84 fl), mild thrombocytopenia (PLT 146,000 U/uL), high CRP (1.5 mg/dL) and acute kidney injury (urea 43 mg/dL and creatinine 2.25 mg/dL). Urine analysis revealed leukocyturia, hemoglobinuria with eumorphic red blood cells and no casts. Arterial blood gas analysis showed no acid-base or electrolyte disturbance. Abdominal ultrasound showed a bilateral kidney parenchyma hyper-echogenicity consistent with a medical nephropathy. The patient was treated with intravenous fluid therapy and during the hospital stay an increase in the liver enzymes was noticed (AST 184 U/L; ALT 288 U/L). Blood cultures and CMV serology were negative. EBV serology was compatible with acute infection - VCA IgM >160 U/mL. According to these findings the patient was diagnosed with a probable acute interstitial nephritis (AIT) secondary to EBV infection. The renal function recovered fully over the course of three weeks with supportive therapy.

Discussion and Learning Points: AIT is a renal disease with a wide range of etiologies. Infections – namely EBV infection - are an uncommon cause of AIT. In the appropriate clinical scenario – like the one we herein describe – EBV infection should be excluded.

772 - Submission No. 1643

KIDNEY CYSTS: A HEMORRHAGIC AND INFECTIOUS FOCUS

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Case Description: Male, 52 years old, independent in performing basic activities of daily living, with history of Autosomal Dominant Polycystic Kidney Disease (ADPKD) under program of hemodialysis. Multiple episodes of bleeding and infection of the cysts, requiring hospitalization. Already proposed for nephrectomy bilaterally. Hospitalized for prostration and fever (39°C). Blood analysis with elevation of inflammatory parameters.

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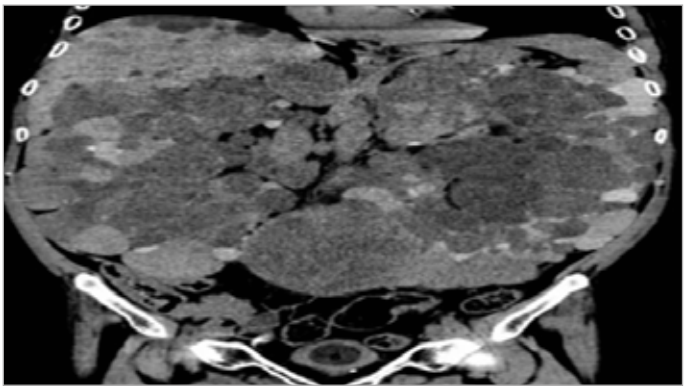
Abdominal and pelvic CT to be documented significant ADPKD, with numerous bilateral renal cysts, two of which had signs suggestive of infection (Figures 1 and 2). Isolation of drug-resistant *Escherichia coli* from blood cultures. Antibiotic therapy was adjusted, with clinical and analytical improvement.

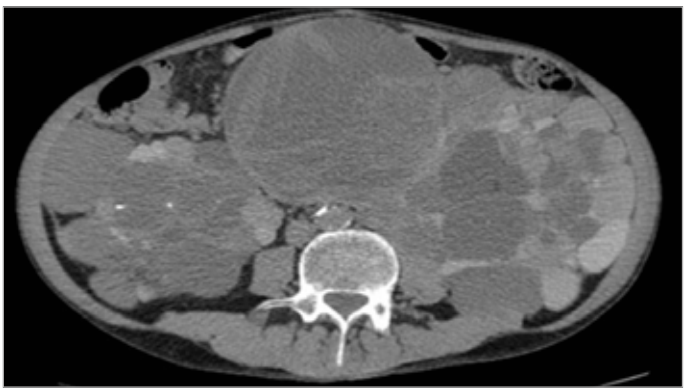
Clinical Hypothesis: Autosomal Dominant Polycystic Kidney Disease.

Diagnostic Pathways: Computed tomography (CT).

Discussion and Learning Points: Autosomal Dominant Polycystic Kidney Disease (DRPAD) it is a rare disease. This paradigmatic image of DRPAD is presented.



772 Figure 1.



772 Figure 2.

773 - Submission No. 714

PRIMARY FOCAL AND SEGMENTAL GLOMERULOSCLEROSIS IN THE FORM OF NEPHROTIC SYNDROME

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Case Description: Male 66 years old, with hypertension and type-2 diabetes mellitus, presents with fatigue and dyspnea with one week of evolution. Objectively with peripheral edema, with no other alterations.

Clinical Hypothesis: Acute decompensated heart failure. Nephrotic syndrome. Acute liver disease.

Diagnostic Pathways: Analytical study with acute kidney injury (creatinine 1.32 mg/dL, urea 67 mg/dL), hypoalbuminemia (albumin 2.3 g/dL), dyslipidemia (total cholesterol 337 mg/dL) and proteinuria of 9462 mg in 24-hour urine. Negative immunological and infection studies. Absence of lesions suspicious of neoplasia on imaging exams. A renal biopsy was performed and revealed a histological diagnosis of focal and segmental glomerulosclerosis.

Discussion and Learning Points: In Europe, the most common cause of nephrotic syndrome in adults is membranous nephropathy, usually secondary to neoplasms, namely in elderly patients. On the other hand, focal and segmental glomerulosclerosis is more frequent at young ages, and this is not the most common form of presentation. This case is an example of a rare cause of the nephrotic syndrome, mainly in advanced ages.

774 - Submission No. 291

PEMBROLIZUMAB IMMUNE-MEDIATED NEPHROPATHY

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Case Description: A 72-year-old man of Asian origin with a history of lung adenocarcinoma stage IV-A (T4N1M1a) PD-L1 90%, and immune-mediated thrombocytopenia. In 2019 he started pembrolizumab, with no tumoral activity after completing treatment, until in March 2022 he showed tumor progression, starting a second line with carboplatin-pemetrexed-pembrolizumab. Likewise, in March 2021 he develops chronic kidney disease CKD-EPI 50-60 ml/min with creatinine 1.2-1.6 mg/dl and proteinuria with hematuria.

Clinical Hypothesis: Admitted in May 2022 for *C. difficile* diarrhea, he associates nephritic syndrome with high blood pressure, edema, and impaired renal function with CKD-EPI of 27 ml/min together with active sterile urine sediment with hematuria and proteinuria. Slight consumption of C3, being negative the rest of autoimmunity. Ultrasound confirms medical nephropathy, so a renal biopsy is performed on suspicion of glomerular pathology associated with oncological treatment.

Diagnostic Pathways: The renal biopsy shows expansion of the mesangial matrix and immunofluorescence with granular deposits for IgA, with the rest of antisera being negative, diagnosing IgA-mesangial glomerulonephritis with signs of superimposed tubular necrosis.

Discussion and Learning Points: Immune-checkpoint inhibitors (ICIs) block negative immune regulation of T cells, allowing the immune response against tumor cells. Therefore, they can present as a side effect the overexpression of the immune system, favoring the

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development of autoimmune processes. Immune-mediated adverse renal events (ARIs) secondary to treatment with ICIs are a rare but potentially serious complication, whose treatment is based on discontinuing the drug and starting glucocorticoids. Even being this type of glomerular involvement infrequent, this or any other type of ARI can be developed, even years since the beginning of the ICI.

775 - Submission No. 294

CARDIORENAL SYNDROME AND ACUTE LUNG EDEMA IN CARDIORENAL TRANSPLANTATION, WHAT IS HAPPENING?

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Case Description: A 70-year-old man with advanced chronic heart failure of ischemic etiology received a first transplant in April 2015 with re-transplantation 1 week later due to primary graft dysfunction. As other complications, he suffered CMV infection with ileocolic perforation and acute renal failure requiring continuous-veno-venous hemofiltration, developing stage-V chronic kidney disease needing chronic hemodialysis. He received a kidney transplant in January 2019, with baseline creatinine levels around 2-2.5mg/dl.

Clinical Hypothesis: Admitted in April 2021 due to gastroenteritis and respiratory compromise with oligoanuric acute renal failure that required urgent hemodialysis. During admission he presented two other episodes of acute hypertensive pulmonary edema. An echocardiogram showed an LVEF>50% and the cardiac biopsy ruled out rejection or graft vascular disease.

Diagnostic Pathways: Renal echo-doppler, isotopic renogram and abdominal-CT angiography confirmed the suspicion of renal artery stenosis in the kidney transplant. Arteriography with stent implantation was performed, with good morphological results, adequate blood pressure control and progressive improvement in kidney function subsequently maintained until baseline creatinine levels of 2-2.5 mg/dl

Discussion and Learning Points: Renal graft artery stenosis (RAS) is a recognized vascular complication. It may occur in around 2-12% of recipients and more frequently in the first 6 months after transplantation. Risk factors for the development of RAS in renal transplant include the surgical technique itself, atherosclerosis, and cytomegalovirus infection. Available treatment options include angioplasty and surgery, being angioplasty successful in up to 80% of cases. In our patient, angioplasty with stent placement was successful, reaching renal function similar to baseline, which has been maintained until now, without new episodes of acute pulmonary edema.

776 - Submission No. 2183

REFRACTORY ARTERIAL HYPERTENSION IN THE PATIENT WITH PROTEINURIA IN THE NEPHROTIC RANGE

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Case Description: A 63-year-old male, with no relevant history, consulted for generalized soft tissue edema of three weeks' evolution, mostly eyelid, lower limbs, and genital region, along with dyspnea on moderate exertion. On physical examination, 182/97 mmHg (no history of arterial hypertension), edema in the lower limbs and genital region. An electrocardiogram and chest X-ray without alterations. Laboratory tests with evidence of acute renal failure (creatinine 1.84 mg/dL and glomerular filtration rate 37 mL/min/1.73m^2), NT-proBNP 2208 pg/mL.

Clinical Hypothesis: Assuming a debut of heart failure precipitated by a hypertensive crisis, he was admitted to cardiology.

Diagnostic Pathways: Transthoracic echocardiography shows signs of left ventricular hypertrophy, with preserved systolic function. Analytically, severe hypoalbuminemia 0.9 g/dL, total cholesterol 404 mg/dL, HDL 34 mg/dL, LDL 273 mg/dL, triglycerides 293 mg/dL. 24-hour urine with protein excretion of 18396 mg/24h. In the presence of nephrotic syndrome, renal biopsy was performed, with a final diagnosis of segmental and focal glomerulosclerosis (FSGS), with moderate-severe diffuse and multifocal tubular necrosis with tubular damage and signs of regeneration.

Discussion and Learning Points: FSGS is the typical histological manifestation of those entities that present with a critical decrease in renal mass and in which proteinuria, hypertension and progressive renal failure may appear. Treatment of the primary forms consists of first-line immunosuppressive treatment with corticosteroids 1 mg/kg/day, with monthly monitoring of urinary protein excretion. 25% maintain stable remissions, while 50% may present corticosteroid resistance, where it is necessary to change treatment to other immunosuppressants such as calcineurin inhibitors, mycophenolate, mTOR inhibitors.

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777 - Submission No. 1826

CIPROFLOXACIN ASSOCIATED TENDINOPATHY: THE ACHILLES' HEEL OF QUINOLONES IN KIDNEY TRANSPLANT PATIENTS WITH HYPOMAGNESEMIA?

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Case Description: A 37-year-old woman with a history of recurrent urinary tract infections (UTI), presented with symptoms indicative of a new UTI. The patient had undergone kidney transplantation (KT) eight years ago, due to end stage renal disease attributable to chronic glomerulonephritis. She was taking immunosuppressive therapy including tacrolimus, mycophenolate mofetil and methylprednisolone and developed persistent hypomagnesaemia, despite the use of magnesium supplements. Urinalysis and urine culture revealed UTI due to *E. Coli*. Initially, the patient received empirically cefuroxime, but the antibiotic therapy was changed to ciprofloxacin, on the basis of the antibiogram. After three days of ciprofloxacin therapy, the patient complained of walking difficulty accompanied with pain, tenderness and stiffness along the Achilles tendons bilaterally.

Clinical Hypothesis: Fluoroquinolone associated Achilles tendinopathy in the setting of kidney transplantation combined with severe hypomagnesaemia.

Diagnostic Pathways: MRI of both ankle joints revealed bilateral Achilles tendinopathy without signs of rupture, along with swelling and edema of adjacent soft tissues.

Discussion and Learning Points: Fluoroquinolones are commonly used antibiotics which have been associated with potentially irreversible adverse reactions, such as tendinopathy, tendon rupture, peripheral neuropathy, and CNS effects. Physicians should be aware of these complications especially in patients at high risk as considered to be KT patients. Therefore, hypomagnesaemia should be taken into consideration since represents one of the most common complications of immunosuppressive therapy and has been associated with higher incidence of tendinopathy when fluoroquinolones were administered to magnesium depleted KT patients.

778 - Submission No. 2027

EARLY ALTERED METABOLIC SIGNATURE IN DIABETIC KIDNEY DISEASE: AN NMR-BASED METABONOMIC STUDY

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Background and Aims: A better understanding of the molecular pathways involved in the pathogenesis and progression of diabetic nephropathy (DN) may contribute to the identification of biomarkers for disease diagnosis. We aim to identify potential biomarkers of the early pathophysiological perturbation by Metabonomic analysis based on Nuclear Magnetic Resonance (NMR) spectroscopy.

Methods: The urine metabolic profile of 22 patients with type 2 diabetes collected 3 years before the onset of DN and of 25 patients with type 2 diabetes who did not develop DN was detected by NMR and interpreted by partial least squares-discriminate analysis (PLS-DA). The two groups were matched for clinical and metabolic parameters including absence of microalbuminuria

Results: The PLS-DA analysis distinguished significantly the two groups (R^2 = 0.91, Q^2= 0.85 and Permutation Test p value <0.001). A total of 26 key metabolites that contributed to their discrimination were identified, including downregulated intermediate products of the tricarboxylic acid cycle, TCA, (citrate and succinate), ketone bodies (3-hydroxybutyrate and acetoacetate), branched-chain amino acids, BCAAs, (leucine, isoleucine, valine) and their catabolic intermediates, glucogenic amino acids (glycine and alanine) and metabolites involved in the methylamine metabolism cycle (betaine, trimethylamine and sarcosine). Dimethylamine, 2-hydroxybutyrate and gluconate were found upregulated. Pathway analysis revealed mitochondrial energy metabolic disorders indicated by a downregulated TCA cycle activity, decreased rate of ketogenesis, enhanced BCAAs catabolism, glucogenesis and disturbed methylamine cycle.

Conclusions: Metabolic disorders that characterize early stages of DN suggest as dominant potential biomarkers decreased BCAAs, betaine and trimethylamine and increased dimethylamine.

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779 - Submission No. 1395

FANCONI SYNDROME INDUCED BY TENOFOVIR IN AN HIV PATIENT: A CASE REPORT

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Case Description: A 57-year-old male with HIV virally suppressed on tenofovir disoproxil fumarate (TDF) was admitted due to a three-day clinic of anorexia, malaise, nausea, vomiting and diarrhea. The patient had no history of a recent infection or use of antibiotics. On exam, the patient was pale, dehydrated, hypotensive and afebrile. The abdominal examination was unremarkable.

Clinical Hypothesis: Infectious and non-infectious gastroenteritis or colitis; Acute renal dysfunction; Abnormal metabolic panel.

Diagnostic Pathways: Laboratory studies revealed a normal blood count and abnormal metabolic panel with metabolic acidosis, hypokalemia, hypochloremia, hyponatremia, hypophosphatemia, hypomagnesemia, normal calcemia and elevated serum creatinine. Renal and adrenal ultrasound without evidence of parenchymal damage or hydronephrosis. Urinary sediment had glycosuria and proteinuria, in presence of normal blood glucose levels. Twenty-four-hour urine sediment also had proteinuria. HIV with undetectable viral load, but with CD4+ lower than 200 cells/uL, therefore the prophylaxis of *Pneumocystis jirovecii* was initiated. The patient always presented maintained diuresis with polyuria.

Discussion and Learning Points: Based on these findings, a diagnosis of TDF related Fanconi syndrome associated with an acute renal dysfunction and electrolytes imbalance was established. TDF was replaced by tenofovir alafenamide and was initiated repletion with potassium chloride, magnesium sulfate, monopotassium phosphate and fluid therapy with saline, having an afterwards clinical and biochemical improvement. This case shows the importance of closed surveillance in patients medicated with this kind of antiretroviral drug, taking into account how common this condition can be in these cases.

780 - Submission No. 2372

HYDROXYCHLOROQUINE ATTENUATES RENAL HISTOLOGICAL LESIONS IN APOE DEFICIENT MICE

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Background and Aims: We have shown in a previous study that hydroxychloroquine (HCQ) reduces atherosclerosis in ApoE knockout mice. Here we report the effect of HCQ on renal histology in ApoE deficient mice.

Methods: Forty-seven (47) ApoE knockout mice were used. Sixteen mice (10M-6F) were given HCQ (10 mg/kg in the drinking water for 16 weeks) whereas 31 animals (17M-14F) were used as controls. At 32 weeks of age under anesthesia the animals were euthanized, and the kidneys were removed for histological evaluation. Image analysis using the J-image program was performed. ANOVA and 2-tailed Student's t-test were used for statistical analysis. Values are expressed as mean±SEM.

Results: In the control group, histopathology showed a diffusely thick glomerular basement membrane and mesangial hypercellularity with increased mesangial matrix in the majority of glomeruli. Fibrosis of the interstitium with minimal lymphoplasmacytic infiltrate was occasionally detected. HCQ treatment decreased the mesangial cellularity, associated to significantly increased corpuscle area (μm^2) in male and female mice, compared to controls (HCQ males 6166.7± 584.1 vs. control males 4637.2±307.6, p=0.035, HCQ females 5568.5± 449.7 vs. control females 4005.8± 294.6, p=0.024). Moreover, HCQ treatment resulted in attenuation of the interstitial fibrosis, associated to significantly increased glomerular circularity (HCQ males 0.863±0.007 vs. control males 0.796± 0.022, p=0.004, HCQ females 0.885±0.005 vs. control females 0.844± 0.015, p=0.003). HCQ also increased non-significantly the glomerular area.

Conclusions: HCQ treatment (10 mg/kg) attenuates renal lesions in ApoE deficient mice. Further investigation might reveal a novel biological effect of HCQ in the treatment of renal diseases.

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781 - Submission No. 1124

A CASE OF OF GRANULOMATOUS INTERSTITIAL NEPHRITIS SECUNDARY TO SARCOIDOSIS

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Case Description: A 75-year-old man without prior comorbidities was being studied because of significant involuntary weight loss (17% of his weight) without other symptoms. The study demonstrated pancytopenia, rapidly progressive kidney disease with a maximum creatinine level of 4 mg/dL, non-nephrotic proteinuria without other changes in the urinary sediment and elevation of the sedimentation rate, the angiotensin converter enzyme and the anti-nuclear antibodies. The CT scan demonstrated generalized lymph node enlargement (mediastinal, pulmonary, celiac, pancreatic and hepatic with less than 20 mm).

Clinical Hypothesis: Suspicion of sarcoidosis with kidney involvement.

Diagnostic Pathways: The patient did a lymph node biopsy showing non-necrotizing granulomas and excluding lymphoma and tuberculosis and a broncho-fibroscopy with a bronchoalveolar lavage fluid with intense lymphocytosis and CD4/CD8 ratio of 1.55. Afterwards, a kidney biopsy was done and presented a granulomatous interstitial nephritis. Based on the previous exams, the diagnosis of sarcoidosis with renal involvement was made, and followed by treatment with corticosteroids. The patient improved with the treatment, presenting a creatinine level of 2.2 mg/dl after 3 months of corticosteroid therapy.

Discussion and Learning Points: Granulomatous interstitial nephritis is a rare manifestation of sarcoidosis and usually the patient presents with an acute kidney injury. The diagnosis is made with a kidney biopsy and the treatment with corticosteroid therapy improves the renal function. The progression to chronic kidney disease is rare. It is important to have a multidisciplinary approach to the clinical management of these cases.

782 - Submission No. 1417

PULMONARY OEDEMA: FROM THE URINARY SYSTEM ALL THE WAY TO THE LUNGS – COMPARISON OF 3 CLINICAL CASES

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Case Description: We report three clinical cases of pulmonary oedema as initial presentation associated with acute renal insufficiency.

Clinical Hypothesis: The first, a man in his fifties presented with dyspnea, orthopnea, BP 257/138 mmHg and pulmonary rales. On analysis: slight aggravation of renal function. He was admitted as a hypertensive pulmonary edema and discharged with four antihypertensive drugs. Renal function deteriorated and with the suspension of ARB, it recovered. Renal angio-CT demonstrated 50% and >75% reduction of renal lumen.

Diagnostic Pathways: The second, a man in his eighties showed epigastric pain, oligoanuria, BP 170/83 mmHg and pulmonary rales. On analysis: creatinine 8.59 mg/dL, urea 203 mg/dL, potassium 7.7 mmol/L, anion gap 18 mmol/L, bicarbonate 20 mmol/L. He initiated hemodialysis. Four days after admission, he had fever with isolation of MSSA and Listeria monocytogenes on blood cultures. Positive PCR Listeria on CSF, vegetation on aortic valve. Due to lack of renal improvement, renal biopsy was collected, showing infectious glomerulonephritis. Lastly, a man in his sixties showed dyspnea including at rest, orthopnea, polypnea, preserved diuresis, BP 220/120 mmHg, tachycardia, pulmonary rales, and peripheral edema. On analysis: creatinine 7 mg/dL, potassium 6.7 mmol/L, bicarbonate 10 mmol/L and acidemia. He initiated hemodialysis. A urinary catheter was introduced, and 7 liters were collected in 24h. Renal function recovered.

Discussion and Learning Points: These cases demonstrate different causes of renal aggravation: renovascular, infectious nephropathy and obstruction. All had consequent pulmonary oedema picture as the alarming sign. Although the usual cause of pulmonary oedema tends to be cardiogenic, there are cases where the etiology does not lie in the heart but elsewhere, such as the urinary system.

783 - Submission No. 2096

HYPOPHOSPHATEMIA AT AN INTERNAL MEDICINE CLINIC: CAUSES AND INCIDENCE

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Background and Aims: Hypophosphatemia is noted when serum phosphate levels drop below 2.5 mg/dl and is categorized into mild (2-2.4 mg/dl), moderate (1-1.9 mg/dl) and severe (<1 mg/dl). Although this disorder is thoroughly investigated in intensive care and surgical units, its characteristics are not fully analyzed for patients of internal medicine clinics. Aim of this study was to examine the incidence, causes and severity of hypophosphatemia in hospitalized patients of an internal medicine unit.

Methods: This is a retrospective study of 176 persons with hypophosphatemia who were consecutively hospitalized at the 2nd Department of Internal Medicine of University Hospital of Ioannina. Serum phosphate levels were measured upon admission and every other day during the hospital stay. Based on the disorder's severity, study population was grouped into mild and moderate/severe category.

Results: 176 patients presented hypophosphatemia (126 on admission and 50 during their hospitalization) out of 3920 patients admitted at the clinic, in the course of the study. Its

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incidence was 4.3%. 127 patients were mildly hypo-phosphatemic (72.2%), 48 had moderate (27.3%) and one (0.6%) exhibited severe hypophosphatemia. The most common causes of phosphate's reduction were: respiratory alkalosis (38.2%), vitamin D deficiency (25.6%), history of diabetes mellitus (25%), diuretics usage (20.5%), starvation >5 days (18.2%), acute tubular necrosis (16%), administration of aminoglycosides (14.2%), use of biphosphates (11.4%), alcoholism (10.8%) and intravenous ferric carboxymaltose (10.1%). 78% of study population had more than one cause of hypophosphatemia.

Conclusions: The incidence of hypophosphatemia was 4.3%, with 72.2% being mild and 27.3% moderate. The causality was multifactorial for 78% of patients.

784 - Submission No. 1376

TIME IS KIDNEY

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Case Description: Chronic kidney disease (CKD): progressive deterioration of kidney function, whose symptoms develop slowly. It should be investigated as soon as possible because treatment should be focused on the etiology. In some cases, renal failure can develop within a few weeks or months. The intern presents a case of CKD without a previous etiological study, resulting in the progression of the disease with irreversible consequences. A 58-year-old man who had been experiencing dysuria, frequent urination, and low back pain for a month was sent to the emergency room. Other symptoms: pounding headache, occasionally accompanied by dizziness and impaired vision, that was relieved by the ibuprofen he had been using as self-medication for a month. Personal background: un-strategized CKD known for roughly a year.

Clinical Hypothesis: On admission: laboratory tests with an increase in creatinine of 5.15 mg/dL and proteinuria of 3847.9 mg/L. Kidneys with slightly lobulated outlines on an echogram and a minor loss of parenchymal thickness distinction are indicative of chronic nephropathy.

Diagnostic Pathways: Entire immunology, serologies, and virology tests were negative. p-ANCA assay (MPO) positive. Steroid pulses and Rituximab therapy were started after a biopsy indicated proliferative crescentic glomerulonephritis (GN) compatible with ANCA+ vasculitis. Due to maintenance of the headache, MRI was done: "lesional cortical areas at the temporal level, suggesting the presence of hematic residues (hemosiderin/ferritin)".

Discussion and Learning Points: Assumed proliferative crescentic GN compatible with ANCA+ vasculitis with a substantial decline in renal differentiation over time. The slow etiological diagnosis and subsequent therapy led to the disease's quick progression and involvement of the brain.

785 - Submission No. 1412

A BIG MISHAP

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Case Description: A 59-year-old woman came to the emergency department with abdominal pain in the left quadrants of the abdomen associated with nausea and non-selective anorexia since that morning. The patient had a personal history of hemochromatosis, polyglobulia, arterial hypertension, and dyslipidemia. However, there was no history of thrombotic events and/or family history of thrombotic pathology, neither from falls and/or trauma. She had no fever, or gastrointestinal and/or genitourinary complaints.

Clinical Hypothesis: Splenic infarction.

Diagnostic Pathways: The analytical evaluation revealed hemoglobin 16.8 g/dL and leukocytosis (14x10^3). Renal function and coagulation were normal. The reactive protein chain was negative. The abdominal CT scan revealed cortical infarction in the entire middle third of the left kidney. The patient was hospitalized for surveillance and further investigation. During hospitalization, she remained stable and maintained diuresis. Analytically, there was no worsening of renal function, coagulation was normal and thrombophilia screening was negative. The echocardiogram did not identify any intracavitary thrombi. The diagnosis of renal infarction was assumed in the context of polyglobulia and simple antiplatelet therapy was initiated. The patient was discharged for a hematology consultation for follow-up and surveillance.

Discussion and Learning Points: This case reinforces the importance of collecting a detailed clinical history. The underlying pathologies of the patients are often the key to the diagnostic process. Thus, it is essential to know the complications that are inherent to them in order to quickly establish a diagnosis and required treatment.

786 - Submission No. 1019

CHRONIC KIDNEY DISEASE IN PATIENTS WITH CARDIOVASCULAR DISEASES

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Background and Aims: Our aim was to study the frequency of the occurrence and the features of developing CKD in patients with cardiovascular diseases.

Methods: Clinical observations included conventional X-ray, ultrasound and functional studies of the kidneys and urinary tract. EGFR was assessed using the CKD-EPI formula, serum concentration of urea, creatinine, and electrolytes, 6-minute walk test and echocardiography was studied. The presence of cardiovascular disease with a severity assessment was established in accordance with the criteria.

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Results: Chronic heart failure was revealed in 32, arterial hypertension in 92, chronic coronary heart disease in 64, cardiomyopathies and valvular heart diseases in 27 patients. Among 215 patients with cardiovascular diseases CKD was found in 51 patients. CKD stage I was detected in 18 patients, stage II - in 11, stage III - in 15, stage IV - in 6 and stage V – in 1 patient. Latent CKD was detected in about half of the patients and correlated with age and the presence of concomitant diabetes mellitus and cardiovascular pathology. Among the comorbid conditions the most frequently found was AH (73%), anemia (63%), CHF (58%), diabetes (46%), AF (34%), MI (27%), dyslipidemia (25 %) and cerebrovascular diseases (21%).

Conclusions: CKD are detected in every fourth patient, increasing in presence of CVD, which is probably due to both systemic influence and the presence of heart failure. The presence of common links in pathogenesis forms a mutually aggravating effect on the cardiovascular and genitourinary systems - the cardiorenal continuum, revealing changes at the pre-nosological stage, which needs further study.

787 - Submission No. 450

WHEN THERE IS MORE TO A PYELONEPHRITIS

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Case Description: A previously healthy 33-year-old female was admitted with fever, nausea, vomiting and left flank pain, in the presence of Murphy sign. She was hypotensive with hyper-lactacidemia. Renal and hematologic dysfunction were also detected. Blood and urinary cultures identified Escherichia coli as the etiologic agent and the diagnosis of acute pyelonephritis (APN) was assumed. However, despite adequate antibiotic therapy and fluid therapy, the patient persisted with recurrent high temperature fever and hypotension for 4 days, which raised the suspicion for a local complication.

Clinical Hypothesis: Acute focal bacterial nephritis (AFBN) is an uncommonly reported complication of APN, that has usually been described in younger patients, characterized by several atypical clinical and radiological findings such as longer time to defervescence and to resolve hypotension; it is also more frequently linked with sepsis-associated hypoalbuminemia, and consequent perirenal fluid, ascites, pleural effusion.

Diagnostic Pathways: Ultrasound re-evaluation disclosed a focal hyper-echogenicity in the superior pole of the left kidney and newly-found ascites. Chest radiograph also showed new-onset pleural effusion. Increased inflammatory parameters sustained during the first days and a drop in the levels of albumin compared to admission was also noticed. With the before-mentioned treatment plan, she had a full recovery of all dysfunctions, albeit slower than expected for APN.

Discussion and Learning Points: The clinical evolution as well as the atypical manifestations and extrarenal findings raised suspicion to this intermediate form between acute pyelonephritis and renal abscess. Therefore, the adequate management of AFBN is to extend the course of antibiotic therapy, while avoiding escalation for broader-spectrum antibiotics or unnecessary procedures.

788 - Submission No. 1135

ACUTE RENAL THROMBOTIC MICROANGIOPATHY IN A PATIENT WITH DIABETIC RETINOPATHY TREATED WITH INTRAOCULAR ADMINISTRATION OF RANIBIZUMAB

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Case Description: A forty-year-old patient was admitted in the Internal Medicine Clinic of the General Hospital of Rhodes complaining about weakness and polydipsia. During his hospitalization type II diabetes and diabetic retinopathy with severe macular oedema and important decline of visual acuity were diagnosed. Laboratory showed mild renal dysfunction (creatinine 1.22 mg/dL, urea 68 mg/dL) and proteinuria 2988 mg/24h. The patient was discharged with instructions for diabetes managing, regular checkups of the renal function and regular intraocular injections of the anti-VEGF monoclonal antibody Ranibizumab. The following months his renal function showed gradual deterioration (creatinine 2.46 mg/dL) with increased proteinuria (4048 mg/24h) and concomitant hypoalbuminemia.

Clinical Hypothesis: We noticed that renal deterioration timely coincided with the intraocular injection of ranibizumab (4 doses in total). Therefore, a possible correlation between the intraocular therapy and renal disfunction was considered.

Diagnostic Pathways: Injections of ranibizumab were associated with transient eosinophilia and eosinophiluria (20%). Immunologic testing was negative. A renal biopsy was performed which revealed diabetic nephropathy lesions and acute renal thrombotic microangiopathy.

Discussion and Learning Points: Intraocular administration of anti-VEGF factors has been rarely connected to proteinuria and renal diseases due to low doses and minimal absorption to the bloodstream, even more rarely with ranibizumab, considering its improved safety profile. However, its administration should be performed considering and regularly evaluating renal function during all treatment courses. Acute renal thrombotic microangiopathy should be considered in the differential diagnosis of the deteriorating renal function of patients with diabetic retinopathy receiving intraocular ranibizumab treatment.

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789 - Submission No. 1152

A CASE OF ACUTE KIDNEY INJURY INDUCED BY TREATMENT WITH APIXABAN

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Case Description: The patient was a 69-year-old woman with history of arterial hypertension and paroxysmal, non-valvular atrial fibrillation treated with apixaban for the last 3 years (5 mg per oral, twice a day). She presented at the Nephrology Department with acute kidney injury (AKI). Serum urea and creatinine levels were 78 mg/dl and 2.7 mg/dl, respectively. Her renal function was previously normal. Urinalysis showed microscopic hematuria (28 RBC/hpf, 30% glomerular) with no albuminuria. Immunologic testing was unremarkable.

Clinical Hypothesis: A form of interstitial nephritis or glomerulonephritis as the cause of AKI. Considering the presence of microscopic hematuria, apixaban could be the etiologic factor of renal inflammation.

Diagnostic Pathways: A kidney biopsy was performed which showed extensive lesions of tubulointerstitial nephritis (TIN) with intratubular erythrocyte aggregates and IgA mesangial deposits. Other causes of TIN were excluded. Apixaban was stopped and treatment with methylprednisolone was initiated. Six months later renal function was stabilized (urea 56 mg/dl, creatinine 1.56 mg/dl) and there was no hematuria.

Discussion and Learning Points: Direct oral anticoagulants (DOACs) are indicated for prophylaxis and treatment of thromboembolic disease. Contrary to traditional anticoagulants, they do not require laboratory monitoring and present favorable pharmacological properties. Apixaban, an oral factor Xα inhibitor, is rarely associated with AKI. However, when initiating DOACs treatment, monitoring of renal function is necessary. DOACs treatment should be considered in the differential diagnosis of AKI and TIN in case of patients receiving this class of drugs.

790 - Submission No. 887

EUGLYCEMIC DIABETIC KETOACIDOSIS (EUDKA) AND ANURIC ACUTE KIDNEY INJURY: PITFALLS IN EARLY DIAGNOSIS

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Case Description: A 70-year-old female patient with T2DM receiving vildagliptin, metformin, lisinopril and empagliflozin, admitted with profound diarrhea over 72 hours. She had BP: 80/50 mmHg, glucose: 186 mg/dl, sCr: 1.44 mg/dl, Na: 132 mEq/l, pH: 7.135, pCO_2:17 mmHg, HCO_3: 9mEq/l, Cl: 89 mEq/l, lactate: 3.5 mEq/l and anion gap: 35. No urine sample was collected as she was anuric. Acidosis was attributed to diarrhea and lactate. She was administered N/S and $NaHCO_3$.

Clinical Hypothesis: 12h later she remained unstable and anuric with increasing sCr (4.3 mg/dl), worsening acidosis (pH: 7.08, HCO_3: 4 mEq/l, lac: 3 mEq/l) and anion gap: 42. Although β-hydroxybutyrate blood test is unavailable in our hospital, the diagnosis of euDKA was presumed. Rigorous hydration with N/S, D/W plus insulin and hemodialysis initiation led to resolution of acidosis after 48h. AKI was fully recovered in 5 days.

Diagnostic Pathways: SGLT2i promote glucose urine excretion causing hypovolemia, relative carbohydrate deficit and increased glucagon/insulin ratio that shifts metabolism towards lipolysis/ketogenesis. Relatively low blood glucose is misleading, causing delays in diagnosis and treatment of euDKA.

Discussion and Learning Points: In this case, several pitfalls hindered early euDKA diagnosis. The patient was anuric, so urine ketone detection was impossible, while β-hydroxybutyrate blood test was unavailable. Other possible causes of acidosis coexisted: diarrhea; lactate production due to circulatory shock or metformin use; AKI. Nevertheless, the extreme anion gap directed towards euDKA diagnosis despite lacking proof of ketoacids since lactate was only mildly increased and there was no history of poisoning. EuDKA, a life-threatening emergency, should always be considered in patients receiving SGLT2i, despite low blood glucose or absent urine ketones.

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791 - Submission No. 581

CANDIDA PYELONEPHRITIS

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Case Description: 70 years old patient was admitted with fever, lower abdominal pain and UTI symptoms. Past medical problems include renal calculi, ulcerative colitis, diabetes mellitus, ischemic heart disease and hypertension. Systemic examination confirmed findings suggestive of left pyelonephritis and he was treated with intravenous fluids and antibiotics. CT KUB confirmed chronic left-sided hydronephrosis along with a 4mm calculus in the left renal pelvis. He was reviewed by the Urology team who advised to continue urosepsis treatment. Blood and urine cultures did not grow any organism. His condition did not improve and was reviewed by a microbiologist who suggested the possibility of fungal infection. Positive beta glucan test raised the possibility of fungal infection in the urinary tract. Urology advised for anti-fungal and to consider nephrostomy if no improvement. The mycologist started him on high-dose fluconazole and his clinical condition gradually improved.

Clinical Hypothesis: Not applicable.

Diagnostic Pathways: Not applicable.

Discussion and Learning Points: Fungal infections are often difficult to diagnose and treat. 1,3-ß-D-glucan testing helps in supporting invasive fungal infection diagnosis. However, this can be falsely positive in certain conditions e.g., *Streptococcus pneumoniae* and Pseudomonas infection, the recent antibiotics course, IVIG and IV albumin. Also, it can be falsely negative in cryptococcosis and mucormycosis. The literature review suggests a 99% negative predictive value and makes it a useful test in clinical settings for invasive fungal infection diagnosis. Positive blood cultures are still the gold standard however they can be negative in deep-seated candidiasis. Tissue biopsy and PCR testing are more sensitive as per the latest evidence.

792 - Submission No. 1089

ANTIBIOTIC RESISTANCE IN URINARY TRACT INFECTIONS

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Background and Aims: Antibiotic resistance is one of the biggest threats to global health. Unsuccessfully treated bacterial infections due to antibiotic resistance are predicted to be associated with the death of 10 million people by 2050. It was found that in an emergency department, 63% of patients with urinary tract infections (UTI) were treated with antibiotics not according to UTI guidelines. The aim of the study is to identify the classes of drugs against, which resistance has emerged in treating UTI.

Methods: This is a cross sectional study conducted with a small size sample, 90 adult patients. These patients were identified with urinary tract infections according to urine culture. The champion was selected from outpatient visits in the Nephrology Department during 2019.

Results: The antibiotics with the highest percentage of resistance were amoxiclav (78%), followed by ampicillin (70%), cefaclor (54%), nalidixic acid (45%), cefuroxime (44%). Levofloxacin was the antibiotic with the highest sensitivity (68%), followed by Bactrim (61%), ciprofloxacin (58%). For *E. coli* bacteria, the most resistant antibiotic was amoxiclav (42%), cefaclor (21%), nalidixic acid (22%), nitrofurantoin (21%), cefuroxime (18%). The bacterium proteus sp. resulted in higher percentages of resistance to amoxiclav, ampicillin, cefuroxime, Bactrim, tazobactam. Against the *Staphylococcus* sp. was more sensitive tazobactam and vancomycin, while fluroquinolones and ampicillin had more pronounced resistance.

Conclusions: UTI are becoming ever harder to treat with common antibiotics. More patients will need intravenous treatment for UTIs we used to cure with simple oral antibiotic courses. Further studies should be done nowadays to compare antibiotic resistance before and after COVID era.

793 - Submission No. 1660

RENAL TUBULAR ACIDOSIS TO TRIMETHOPRIM/SULFAMETHOXAZOLE: A CASE REPORT

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Case Description: We describe the case of an 80-year-old male admitted to the emergency department (ED) with severe muscle weakness and fatigue. He had no history of previously established chronic kidney disease (previous eGFR of 60 mL/min/1.73 m^2), and had been medicated with TMP/SMX, which he completed in the 3 days prior to recurrence to ED.

Clinical Hypothesis: Renal tubular acidosis (RTA) occurs when the kidneys are unable to maintain normal acid-base homeostasis. There are four types of RTA. Type 4 RTA is caused by abnormal excretion of acid and potassium in the cortical collecting duct, which results in hyperkalemia, and hyperchloremic acidosis with normal anion gap. The use of Trimethoprim/Sulfamethoxazole (TMP/SMX) has been associated with the development of type 4 RTA and, more commonly, hyperkalemia. The mechanism is related to the trimethoprim component, which is structurally similar to the potassium-sparing diuretics, like amiloride.

Diagnostic Pathways: Initial evaluation revealed metabolic acidosis (pH 7.268, HCO_3 15.4 mEq/L), hyperchloremia (Cl 113 mEq/L) and normal anion-gap (6.6 mEq/l), plus severe hyperkalemia (K+ 8,0 mEq/L). Additional laboratory workup revealed aggravated kidney function (U 110 mg/dL, Ct 1.88 mg/

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dL with an eGFR 33 ml/min/1.73 m^2). He underwent therapy with insulin, bicarbonate supplementation and fluid therapy. However, his renal function failed to improve, and eventually stabilized around eGFR of 46 ml/min/1.73 m^2.

Discussion and Learning Points: After exclusion of other causes, type 4 renal tubular acidosis was assumed in the context of TMP/SMX intake. Cases of renal tubular acidosis should be carefully evaluated to prevent potentially life-threatening complications, such as hyperkalemia, and to prevent the progression to chronic kidney disease.

794 - Submission No. 2234

A RARE DISEASE; A HAPPY ENDING

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Case Description: A 60-year-old woman was admitted to the emergency department due to dyspnea and hemoptysis. Laboratorial study showed anemia (hemoglobin 6.2 g/dL) requiring blood transfusion, acute kidney injury (creatinine 4.09 mg/dL). The urine analysis revealed proteinuria (not in the nephrotic range) and nephritic sediment. A chest CT scan showed diffuse bilateral ground glass opacities in the lung, corroborating the alveolar hemorrhage hypothesis.

Clinical Hypothesis: The clinical picture of rapidly progressive glomerulonephritis with alveolar hemorrhage, raised suspicion of a small-vessel vasculitis, such as antineutrophilic cytoplasmic antibody (ANCA)-associated vasculitis or anti-glomerular basement membrane (anti-GBM) disease.

Diagnostic Pathways: The patient was admitted to the Intermediate Care Unit and further investigation revealed anti-GBM positive (78 U/mL) and ANCA negative titles. The diagnosis of Goodpasture's disease was assumed and plasmapheresis regimen in association with immunosuppressive therapy with glucocorticoids and cyclophosphamide was started. The patient showed favorable clinical course, with no need of renal function replacement technique. She was discharged under cyclophosphamide and Prednisolone (1 mg/kg/day) immunosuppressive therapy. presenting creatinine 2.2 mg/dL and negative anti-GBM antibody title on that day. She maintained follow-up consultations of Nephrology with no recurrent disease.

Discussion and Learning Points: Pulmonary renal syndrome is a term used to describe a combination of glomerulonephritis and pulmonary hemorrhage, with anti-GBM disease accounting for 20% of cases. Anti-GBM disease is rare condition, occurring in 2 cases per million population. It results in rapidly progressive glomerulonephritis, with alveolar hemorrhage affecting 30 to 40% of patients, completing the constellation of Goodpasture's disease. Without treatment, anti-GBM disease often progresses rapidly to end-stage chronic kidney disease, so early diagnosis and intervention are critical.

795 - Submission No. 2238

A SHORT STORY WITH A HUGE FINDING

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Case Description: A 34-years-old woman from Angola was hospitalized due to right low back pain in the past 10 months, for which she has been receiving medical care in her country, where she was submitted to multiple blood transfusions. She used to feel fluctuating swelling of the abdominal flanks and right lumbar region associated to chills, night sweats and 15 kg weight loss. On examination, she had a distended abdomen with stony, tenderness, voluminous swelling of the right quadrants and right lumbar region.

Clinical Hypothesis: The clinical picture looked like a consumptive state, so a neoplastic disease was suspected, such as ovarian cancer. Infectious diseases such as malaria or tuberculosis were also hypothesized.

Diagnostic Pathways: Laboratorial study showed severe anemia, raised inflammatory markers and mild kidney disfunction (creatinine 1.57 mg/dL), with preserved urinary output. An abdominal CT scan showed "enlarged hydronephrotic kidneys, bilateral staghorn worms and a right multiloculated collection in the posterior pararenal space, crossing the muscular wall to the hypodermis of the right lumbar region, measuring 105x127x110 mm". The diagnosis of xanthogranulomatous pyelonephritis was made and ESBL Klebsiella pneumoniae and Proteus were found at urine sample. The patient was submitted do total right nephrectomy and antibiotic therapy was started with progressive clinical improvement.

Discussion and Learning Points: This case is impressive due to the magnitude of the findings in a patient who did not present reduction of urinary output. It also raises the discussion about health care provided in developed countries, in a situation dragged out over time that could have been easily diagnosed with better access to health care.

796 - Submission No. 2325

COEXISTENCE OF ACUTE TUBULOINTERSTITIAL NEPHRITIS AND ACUTE PANCREATITIS, FROM DENTAL ABSCESS TO EMERGENCY HEMODIALYSIS

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Case Description: A 42-year-old female patient with no known chronic disease applied to our emergency department with complaints of nausea and vomiting that had developed for 2 days. Two weeks ago, she had used metronidazole for 1 week due to tooth abscess. Laboratory results showed urea 202 mg/dl and serum creatinine 7.65 mg/dl as stage 3 acute kidney injury

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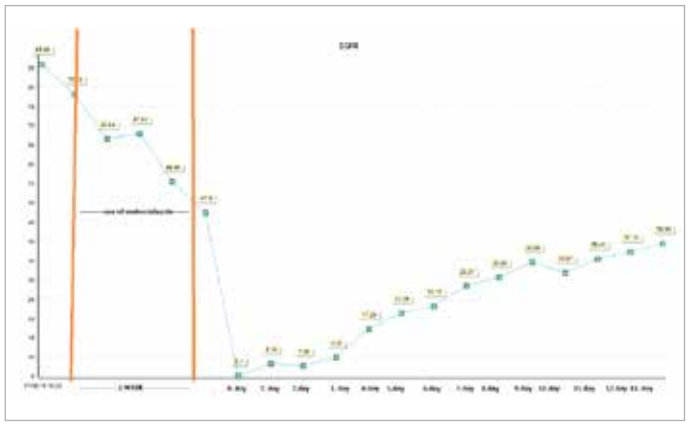
(AKI) according to KDIGO criteria. At the same time, serum amylase was 507 U/L and lipase was 2630. The patient was taken to emergency hemodialysis because of uremic symptoms. The creatinine value of the patient, who was taken to hemodialysis on the first day, started to decrease rapidly after metronidazole was stopped. Renal ultrasound was unremarkable. Our case revealed metronidazole as a cause of the picture that includes the features of acute interstitial nephritis and acute pancreatitis that we have not encountered before.

Clinical Hypothesis: Figure 1: Increasing EGFR value after drug discontinuation.

Diagnostic Pathways: After the patient's medication was discontinued, the creatinine value continued to decrease rapidly. When the need for dialysis was no longer needed, the hemodialysis catheter was removed. Patient's examinations for lipazemia, there was no finding in abdominal imaging, MRI cholangiopancreatography. The IGG4 level was found to be normal in the patient's examinations for IGG 4 related diseases. The autoimmune panel for autoimmune pancreatitis was negative. There were no stones in the gallbladder, there was no alcohol use. Within days, the patient's symptoms, creatinine decreased, and the lipase value decreased.

Discussion and Learning Points: Spontaneous recovery after discontinuation of the accused drug in tubulointerstitial nephritis confirms the diagnosis.



796 Figure 1.

797 - Submission No. 397

A RARE ASSOCIATION: COLLAPSING GLOMERULOPATHY WITH AUTOIMMUNE HEMOLYTIC ANEMIA

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Case Description: A 43-year-old female with a history of hypothyroidism presented with diarrhea and decreased urine output. She denied recent history of travelling, alcohol or tobacco use and her only medication was levothyroxine as needed for hypothyroidism. On physical examination she had edema in both legs. Laboratory findings revealed autoimmune hemolytic anemia(AIHA) (hemoglobin 5.6 g/dl, AST:78 U/L ALT:17 U/L LDH: 1096 U/L, total bilirubin/indirect bilirubin (mg/dL) 1.4/1.2, ANA+ (1:100 titer), D.Coombs +3/I.Coombs +2),severe renal insufficiency(serum creatinine 16.6 mg/dL, urea 252 mg/dl, low albumin levels (2.9 g/dL) with concurrent severe renal protein loss (urine protein/creatinine ratio 4.13 g/dL). Peripheral blood smear showed 4-5 schistocyte and anisocytosis. Urinalysis demonstrated +3 proteinuria/+3 hematuria.

Clinical Hypothesis: Our pre-diagnosis for the patient was thrombotic microangiopathy syndromes but kidney biopsy was decided due to accompanying nephrotic level proteinuria.

Diagnostic Pathways: Renal biopsy detected fifteen glomeruli. In two of the glomeruli, there was collapse in the capillary tufts and closure in the capillary loops, as well as free-floating hypertrophic and hyperplasic glomerular visceral epithelial cells (podocytes) in the urinary cavity. Immunofluorescence staining was negative for IgG, IgA, IgM, C1q, C3, fibrin, albumin. Work-up for secondary causes of collapsing glomerulopathy including human immunodeficiency virus (HIV), parvovirus B19, CMV and thrombotic microangiopathic syndromes were negative.

Discussion and Learning Points: After three sessions of hemodialysis and 64 mg/d of methylprednisolone treatment renal function progressively improved. Methylprednisolone treatment was terminated at the end of the fourth month and a year after admission her proteinuria in 24h urine analysis had decreased to 22.5 mg/day. Our case highlights a rare but important association between AIHA and collapsing glomerulopathy. If no treatment is provided, collapsing glomerulopathy has a poor prognosis. Quick and efficient diagnosis is important in order to prevent further decline in kidney function.

798 - Submission No. 65

KIM-1 AS A MARKER OF CONTRAST-ASSOCIATED ACUTE KIDNEY INJURY IN ELDERLY PATIENTS

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Background and Aims: Contrast-associated acute kidney injury (CA-AKI) is a sudden decrease in renal function within 48 hours following the administration of iodinated contrast medium. KIM-1 is a transmembrane glycoprotein expressed in the kidney that mediates phagocytosis of apoptotic bodies and cellular debris preventing the deterioration of renal function after renal injury. We aim to assess the utility of KIM-1 for early detection of CA-AKI in elderly patients undergoing a contrast-enhanced (CE) CT-scan.

Methods: Outpatients, over 65 years old who underwent a CE-CT

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scan, were included after giving written informed consent. CA-AKI: increase in serum creatinine >0.3 mg/dL or reduction >25% in glomerular filtration rate, within 48 hours after CE-CT scan. KIM-1 (pg/mL) measured before, 24 and 48 hours after CE-CT by ELISA [Enzo Life-Sciences Ultrasensitive Human KIM-1]. Variables as median [interquartile range], or frequency (%). Groups compared using the Mann-Whitney test.

Results: A total of 126 patients were included, median age 74 [9.2] years old, 92/126 (73%) were men. The most frequent comorbidities were hypertension 97/126 (77%), diabetes 89/126 (70%), chronic kidney disease 55/126 (44%), and heart failure 18/126 (14%). The incidence of CA-AKI was 4.8% (6/126). At baseline, creatinine and KIM-1 levels were not significantly different between those who developed and did not develop CA-AKI. However, KIM 1 was significantly higher in CA-AKI subjects at 24 hours (3063.1 [4191.2] vs. 956.9 [1122.3] pg/mL; p=0.013), and 48 hours (1637.5 [3320.1] vs. 926.4 [1218.9] pg/mL; p=0.048).

Conclusions: KIM-1 could be useful, alone or in combination with traditional biomarkers such as creatinine, for CA-AKI early detection in elderly patients.

799 - Submission No. 537

STOP THE FLOW

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Case Description: A 63-years-old man presented in ER with abdominal pain and oliguria. In 2011 left nephrectomy due to a Clear Cell Carcinoma; in 2019 a tumoral lesion in the right ectopic kidney was thermo-ablated. The patient had fever and tense and painful abdomen. Blood tests showed neutrophilic leukocytosis, increased C-reactive protein, and creatinine above 7.71 mg/dL.

Clinical Hypothesis: Abdominal CT-scan (no contrast-enhancement) revealed: ectopic, polylobed, extra-rotated right kidney located in the right pelvis and pyelocaliceal ectasia; fluid collection was extended from bladder to the right peri-renal space. Urinoma hypothesis was assessed.

Diagnostic Pathways: Due to acute kidney failure, he underwent hemodialysis twice and the following day a right ureteral stent was positioned. Forty-eight hours later, the CT scan still evidenced right renal hydronephrosis. An empiric tazobactam/piperacillin was started, after urine and blood samples collection. Due to allergic reaction, Tazobactam/Piperacillin was replaced by Trimethoprim/Sulfamethoxazole. Ten days later, an abdomen CT scan showed mild pyelectasis and a significant reduction of liquid collection in the right para-colic and perirenal space. Urological evaluation suggested removal of urinary catheter and ureteral stent removal one month later. Urine and blood cultures were negative. Spontaneous diuresis was restored. Antibiotic therapy was stopped, achieving a complete clinical resolution and restoration of normal creatinine levels. The patient was discharged.

Discussion and Learning Points: Considering abdominal fluid collection, acute renal failure, clinical presentation, and elevated CRP, urinoma and renal cyst rupture were the most likely causes. They are both rare and self-limiting events. The diagnosis between renal cyst rupture and urinoma is clinic.

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AS11. ONCOLOGIC AND HEMATOLOGIC DISEASES

800 - Submission No. 1166

PATTERNS OF INFECTION IN INPATIENTS AT AN ONCOLOGY SERVICE

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Background and Aims: Infection in solid organ tumors is related to tumor location, extension, and comorbidity. We explored factors related to different locations of infection.

Methods: We carried out an observational cohort study including all patients admitted to Oncology at Hospital 12 Octubre in 2014 and 2015 (1137 patients).

Results: The presence of COPD was significantly associated with infection (odds ratio 2.39) as was the presence of neutropenia (odds ratio 63.75). Locally advanced neoplasm favored infection (odds ratio 2.49), but not disseminated neoplasia. In respiratory infection logistic regression model, variables significantly associated were COPD (odds ratio 2.92), febrile neutropenia (odds ratio 30.95), immunosuppression (odds ratio 2.2) and lung cancer (odds ratio 1.91). Regarding abdominal infection, febrile neutropenia was associated with a higher frequency (odds ratio 68.15), as well as cancer in that location (odds ratio 3.85). Although not significant, locally advanced disease was associated with abdominal infection. In the case of urinary tract infections, febrile neutropenia increased the risk (odds ratio 31.67) and also the presence of cancer prostate or urinary tract (odds ratio 5.7) and the Charlson comorbidity index (odds ratio 1.4). Male gender conferred a 42% relative reduction in urinary tract infection. In relation to bacteremia and catheter-associated infections, influence of febrile neutropenia (odds ratio 32.11), abdominal (odds ratio 1.88) and gynecological neoplasia (odds ratio 7.56) was shown.

Conclusions: Presence of locally advanced neoplasia favors the development of infections, but 2 other factors are also significantly associated: the presence of COPD and the presence of neutropenia.

801 - Submission No. 1282

ANALYSIS OF SIXTY-FOUR PATIENTS WITH MONOCLONAL GAMMOPATHY OF UNDETERMINED SIGNIFICANCE (MGUS)

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Background and Aims: Monoclonal gammopathy of undetermined significance (MGUS) is characterized by the presence of a monoclonal protein in the blood. It is an asymptomatic, premalignant plasma cell disorder and has an annual risk of progression to multiple myeloma (MM) of around 1%. Autoimmune disorders, chronic infections and inflammatory conditions are associated with increased risk of MGUS. MGUS is typically diagnosed incidentally during investigation of unrelated medical problems. In this study we aimed to assess the demographic, clinical and laboratory characteristics, and outcome of MGUS patients followed up in our center.

Methods: We retrospectively reviewed the charts of 70 patients diagnosed with MGUS between November 2009 and May 2022.

Results: See Table 1.

Conclusions: Male sex is a risk factor for MGUS. The MGUS population in this study consisted mostly of women (70%). Abnormal serum free light chain (FLC) ratio is known to be a risk factor for progression in MGUS. The patient who developed light chain amyloidosis had immunoparesis and normal FLC ratio while the patient who progressed to MM had an abnormal FLC ratio in the absence of immunoparesis. Both patients had IgG/lambda monoclonal protein. Amyloidosis was suspected due to new onset albuminuria. MGUS patients should be followed according to guidelines and clinicians should be aware of disease progression to multiple myeloma and related diseases like amyloidosis.

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CASE	RESULTS
Median age > 50 > 40	63 (30-95) 7 3
Sex Female Male	 45 19
Type of paraprotein IgG Non-IgG	 44 (13 IgG/kappa, 21 IgG/lambda) 20 (12 IgA, 5 IgM, 3 light chain)
Alive/Dead	62/2
Median follow-up time	25

801 Table 1.

802 - Submission No. 1473

CONSTITUTIONAL SYNDROME: A CAREFUL INVESTIGATION FROM THE TIP OF HAIR TO THE TOES

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Case Description: A 41-year-old female with history of microcephaly, hypothyroidism, and depression. Six months before admission, started with asthenia and peripheral neuropathy. Reference to generalized muscular atrophy and weight loss of 20 kilograms in 5 months. Other symptoms as dysphagia, dyspnea, chest pain or altered gastrointestinal transit were denied. After admission, was observed alopecia, distal muscular atrophy, symmetrical abolition of osteotendinous reflexes of the lower limbs and bilateral lower limb hypoesthesia. Was observed an ulcerated plaque with peripheral macular pigmentation in the metatarsophalangeal joint of the first right toe.

Clinical Hypothesis: The clinical hypothesis was constitutional syndrome, peripheral neuropathy and suspicious skin lesion.

Diagnostic Pathways: -Laboratory tests revealed vitamin B12 deficiency (vitamin B12 163 pg/mL, homocysteine 25.1 µmol/L) -Computed tomography of the chest documented a nodule, 1.34 cm diameter, in the left upper lobe and a micronodule in the middle lobe of the lung. -Skin biopsy was performed, and pathological anatomy result revealed malignant melanoma with mutation in response to therapy with BRAF inhibitors.

Discussion and Learning Points: Malignant melanoma with pulmonary metastasis with vitamin B12 deficiency was assumed. For melanoma, encorafenib and binimetinib were started; as well as vitamin B12 replacement and motor rehabilitation with improvement of peripheral neuropathy complaints and improvement of the patient's general condition. Despite the poor prognosis associated with melanoma stage IV, this case serves to demonstrate how a rigorous physical examination allows a rapid diagnosis and targeted treatment. Also, elevated levels of homocysteine may be associated with increased oxidative stress as in advanced tumors.

803 - Submission No. 1471

MEDIASTINAL NEUROENDOCRINE TUMORS: A CASE REPORT

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Case Description: A 69-year-old male smoker and an active drinker, with a history of high-grade urothelial carcinoma. He reports dyspnea and asthenia of one week of evolution that have progressively increased. He also refers epigastric pain. He denies fever, weight changes, orthopnea, or lower extremity edema. Cardiopulmonary auscultation is normal. Abdominal examination revealed hepatomegaly and a mass extending to the left costal margin.

Clinical Hypothesis: Laboratory tests showed cholestasis with hyperbilirubinemia. Tumor markers were requested due to the suspicion of hepatic metastases, and CA 19.9 was elevated. Given the suspicion of pancreatic neoplasia with liver metastases, a thoraco-abdominal-pelvic computed axial tomography was requested, which showed a right neo formative paratracheal mediastinal mass. Perivascular adenopathies, metastatic liver, suprarenal and paravertebral nodules were also observed.

Diagnostic Pathways: The result of the liver biopsy was small cell neuroendocrine carcinoma. The patient did not receive chemotherapy treatment because of the extension of the disease (hepatic, bone, and lymph node metastases) and that he suddenly worsened, presenting hepatic failure and the extension of the disease. He died two weeks later.

Discussion and Learning Points: Neuroendocrine neoplasms of the mediastinum are rare tumors that may originate from the thymus or from paraganglionic structures, or they may be the result of neoplastic transformation in misplaced embryonal rests within the mediastinum. They can often also be the source of hormone secretion. The most common neuroendocrine neoplasms in the mediastinum are thymic neuroendocrine carcinomas.

References:

Suster, Saul; Moran, Cesar A. (2001). Neuroendocrine Neoplasms of the Mediastinum. Pathology Patterns Reviews, 115(suppl_1), S17–S27.

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804 - Submission No. 1573

MALIGNANT ORIGIN OF PLEURAL EFFUSION AND ASCITES. SOME THINGS ARE NOT WHAT THEY SEEM

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Case Description: A 65-year-old woman, ex-smoker, presented to the emergency department with asthenia, weight loss of 3 kg, progressive dyspnea, dry cough, and pleuritic pain in the left hemithorax for the last two weeks. Chest X-ray showed moderate left pleural effusion. Laboratory tests showed normocytic normochromic anemia. Chest CT angiography showed left pleural effusion and ascites, with no evidence of cause.

Clinical Hypothesis: Malignant pleural effusion and ascites.

Diagnostic Pathways: Diagnostic thoracentesis was performed, obtaining an exudate with negative culture and cytology, an abdominal CT scan concluded the presence of peritoneal carcinomatosis without being able to specify its origin, an upper endoscopy showed no findings of interest and blood tests showed iron deficiency and elevated tumor markers CA 125, HE-4, CA 15.3 and 21.1, suggesting an epithelial ovarian neoplasm. A gynecologist performed a transvaginal ultrasound scan that showed a normal uterus and left ovary, without being able to visualize the right ovary. An abdomino-pelvic MRI was requested, which indicated the existence of a mass with neoplastic characteristics in the sigmoid colon, as well as a heterogeneous mass in the right adnexa suggestive of Krukenberg tumor instead of primary origin. Two stenosing colonic neoplasms were identified during a colonoscopy, and biopsies revealed infiltrating adenocarcinoma.

Discussion and Learning Points: Krukenberg tumor is defined as a malignant neoplasm that metastasizes from a primary site, usually the gastrointestinal tract, to the ovary. However, it can occur in other tissues. This entity should be considered in the differential diagnosis of an adnexal mass, as its expression of tumor markers mimics that of a primary ovarian neoplasm.

805 - Submission No. 1941

SUPERIOR VENA CAVA SYNDROME – AN UNLIKELY DIAGNOSIS

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Case Description: A 62-year-old man presented to the emergency department with dyspnea and facial and right arm edema. Thoracic imaging was notable for cervical and thoracic masses which raised suspicion for lymphoproliferative disease. Through the next three days, the patient had rapid clinical deterioration with worsening dyspnea, dysphagia, and dysphonia, culminating in airway obstruction.

Clinical Hypothesis: Superior vena cava syndrome was suspected, with compression of the trachea from a mediastinal mass (168x105 mm). Lymphoma or metastasis from lung cancer were the probable diagnosis.

Diagnostic Pathways: After intubation (for airway obstruction), he underwent biopsy of the cervical mass and emergent radiotherapy plus methylprednisolone 1 g/day were started. Despite all the efforts, he showed cardiovascular, renal and severe hematologic dysfunction with anemia and thrombocytopenia. LDH was 4857 U/L. The histology of the supraclavicular mass revealed a tumor belonging to the Ewing Sarcoma family of tumors. The cytogenetic study could not be made due to the small sample available. A germline tumor was excluded (beta hCG and alfa fetoprotein were negative). After discussion of the case with the sarcoma treatment experts and considering the diagnosis, age of clinical presentation, tumor extension and unfavorable clinical evolution it was considered that he had no conditions for chemotherapy treatment. Comfort care was provided, and the patient died.

Discussion and Learning Points: It is important to promptly diagnose superior vena cava syndrome as it may cause respiratory compromise as seen in our case. Most cases are due to lung cancer or lymphoma. Ewing sarcoma family of tumors are rare tumors with poor prognosis.

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806 - Submission No. 955

LIGHT CHAIN MULTIPLE MYELOMA

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Case Description: A 56-year-old woman presented with right hypochondrium pain with lumbar irradiation, nausea, and vomiting. She reported a 1-month history of pollakiuria. She had a history of obesity, renal lithiasis, pulmonary thromboembolism and 5 spontaneous abortions in the first trimester. Blood gas analysis revealed a compensated metabolic acidosis. Urinalysis showed leukocytes, erythrocytes, and proteins. Blood tests were notable for anemia (hemoglobin 8.4 g/dL) and kidney injury (creatinine 4.5 mg/dL). Abdominal echography showed an enlarged right kidney with hydronephrosis, with no detectable obstruction point. The liver and biliary duct were normal.

Clinical Hypothesis: A renal colic was suspected, but it did not explain the magnitude of the analytic abnormalities.

Diagnostic Pathways: Screening blood tests for infections and autoimmune diseases were negative. Serum protein electrophoresis showed hypogammaglobulinemia, but immunofixation electrophoresis revealed monoclonal lambda light chain. The quotient between kappa and lambda light chains was diminished in the blood and urine. Proteinuria was 3.4 g/24h. Lambda light chain multiple myeloma was suspected. Bone marrow aspiration was notable for plasmacytosis, confirming the diagnosis. Treatment was started with bortezomib, thalidomide and dexamethasone. Kidney function remained stable with no need for plasmapheresis. The patient was discharged from the hospital and maintained treatment and follow-up with hematology.

Discussion and Learning Points: Multiple myeloma incidence is rising due to greater awareness of the disease and increasing laboratory testing. Light chain multiple myeloma does not appear as a monoclonal rise in serum electrophoresis, so high suspicion must be kept, and further exams must be made to pursue the diagnosis. Light chain cast nephropathy can be the first manifestation of multiple myeloma.

807 - Submission No. 2082

RECURRENT EPISTAXIS AND CHRONIC ANEMIA, THE KEY TO SUSPECT WALDENSTRÖM'S MACROGLOBULINEMA

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Case Description: A 94-year-old male patient with a personal history of long-standing chronic anemia of unknown origin. He consulted for recurrent epistaxis, finding anemia with a hemoglobin level of 6.4 g/dl. The examination revealed mild splenomegaly without other notable findings.

Clinical Hypothesis: Differential diagnoses include multiple myeloma, B-cell chronic lymphocytic leukemia, monoclonal gammopathy of uncertain significance, NHL, and Waldenström macroglobulinemia.

Diagnostic Pathways: Etiological analysis of anemia showed a significant increase in beta2microglobulin and protein-albumin dissociation, as well as monoclonal IgM Kappa gammopathy with a high monoclonal component and a pathological kappa/lambda index. A bone marrow aspirate was ordered, showing lymphocytic infiltration without lymphoplasmacytic differentiation, but with an immunophenotype compatible with lymphoplasmic lymphoma. All this information together with the identification of the L265P mutation in the MYD88 gene, allowing the diagnosis of Waldenström disease. The study was completed with a chest and abdominal CT without new findings. The patient received chemotherapy treatment, but he died of nosocomial pneumonia.

Discussion and Learning Points: Waldenström macroglobulinemia is a lymphoproliferative syndrome characterized by the presence of lymphoplasmacytic lymphoma in the bone marrow and lymphoid organs, producing IgM in large amounts. Classically it occurs in patients older than 65 years, representing 1-3% of monoclonal gammopathies. Initially, it is paucisymptomatic, manifesting asthenia due to anemia and hemorrhages due to hyperviscosity, lymphadenopathy and splenomegaly in 25% of cases. Less frequently, they present neurological, ocular or cardiac alterations. For the diagnosis, it is necessary analytical tests that include anemia study, serum immunoglobulin levels, electrophoresis and bone marrow aspirate with immunophenotype and determination of the MYD88 L265P mutation.

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808 - Submission No. 1499

TEMPI SYNDROME, AN UNUSUAL CASE REPORT

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Case Description: A 67-year-old non-smoking female presented to our institution with a distended abdomen and a random ultrasound compatible for ascites. Her exam was notable for telangiectasias, plethora and a palpable flank dullness. Ultrasound demonstrated fluid collection into the abdominal cavity. Ascitic fluid analysis revealed a transudative, sterile fluid with no cells and no protein. On top of that, laboratory evaluation showed erythrocytosis (Hb 15.4 g/dl, Hct 57.4%).

Clinical Hypothesis: TEMPI syndrome stands for telangiectasias, erythrocytosis with elevated erythropoietin, monoclonal gammopathy, perinephric fluid collections, intrapulmonary shunting, and it's a newly described clinical entity. Venous thrombosis is one of the other diagnostic criteria.

Diagnostic Pathways: Her serum erythropoietin levels were high and her serum protein electrophoresis and immunofixation revealed an IgM -lambda paraprotein. Hepatic function and renal function were normal, as well as abdomen computed tomography, except for the notable perinephric fluid collections. There was no intrapulmonary shunting depicted, but the patient developed left jugular vein thrombosis, confirmed by ultrasound, compatible with the TEMPI syndrome diagnostic criteria.

Discussion and Learning Points: TEMPI syndrome should be considered when longstanding and unexplained erythrocytosis with the combination of an elevated erythropoietin and monoclonal gammopathy occurred. This should prompt a careful examination for telangiectasias as well as imaging to evaluate for fluid collections and signs for venous thrombosis.

809 - Submission No. 1566

PLEURAL EFFUSION AS THE CHIEF CLINICAL PRESENTATION OF MULTIPLE MYELOMA: A CASE REPORT

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Case Description: A 85-year-old patient with a history of arterial hypertension, dyslipidemia, paroxysmal atrial fibrillation, an undetermined leucopenia under observation with annual blood tests, aortic stenosis and carotid stenosis was admitted due to dyspnea, with large bilateral pleural effusions.

Clinical Hypothesis: She had no signs or ultrasound findings compatible with uncompensated heart failure, with normal renal function (Cr= 0.8 mg/dL, urea= 40 mg/dL) and normal total protein and albumin levels. A contrast enhanced CT-scan of the chest and abdomen was performed to rule out malignant disease and pulmonary embolism. A diagnostic and therapeutic thoracentesis was performed, the fluid was exudative according to Light's criteria and the differential cell count showed 15% polymorphonuclear WBC and 85% lymphocytes, mainly plasma cells.

Diagnostic Pathways: Due to the patient's history of leucopenia, along with the findings of the pleural fluid cytology, plasma cell dyscrasias were added in the differential diagnosis. Neither the quantitative immunoglobulin serum test, nor protein electrophoresis were indicative of plasma cell dyscrasias. However, the serum free light chain assay showed a moderately increased κf/λf ratio (2.587). A bone marrow biopsy and aspiration were performed. The flow cytometry was indicative of plasma cell phenotypes compatible with multiple myeloma (cylgk+, $CD38^{DIM}$, CD138+, $CD45^{DIM}$) and the bone marrow biopsy showed extensive (>80%) malignant clonal plasma cell infiltration due to multiple myeloma.

Discussion and Learning Points: A myelomatous pleural effusion is rare and is present in less than 1% of the pleural effusions. The diagnosis is difficult and is supported by hematological evaluation and exclusion of other etiologies.

810 - Submission No. 709

HAIRY CELL LEUKEMIA - A DIAGNOSTIC CHALLENGE

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Case Description: The patient of 44 years, without known diseases, usual medication or specific diet, was admitted to the emergency department because of fatigue, asthenia, involuntary weight loss of about 8 kg with 2 months of evolution without other symptoms. Before going to the emergency department, the patient consulted a family doctor who passed blood tests that revealed pancytopenia not previously known. Physical examination revealed emaciated appearance, very marked skin pallor, jaundice of sclera, without palpable adenomegaly, organomegaly as well as other alterations.

Clinical Hypothesis: Lymphoproliferative disease, myelodysplastic syndrome, bone marrow infiltration (metastasis, myelofibrosis), nutritional deficiency, autoimmune hemolytic pancytopenia.

Diagnostic Pathways: The analytical study confirmed hyperchromic macrocytic anemia, leukopenia, neutropenia, thrombocytopenia. Study of iron kinetics, determination of vitamin B12 and folic acid without alterations. Biochemical analytical study without changes except for a slight increase in total bilirubin, but negative Coombs test with normal haptoglobin. Evaluation of the peripheral blood smear showed some lymphocytes with cytoplasmic extensions - hairy cell leukocytes.

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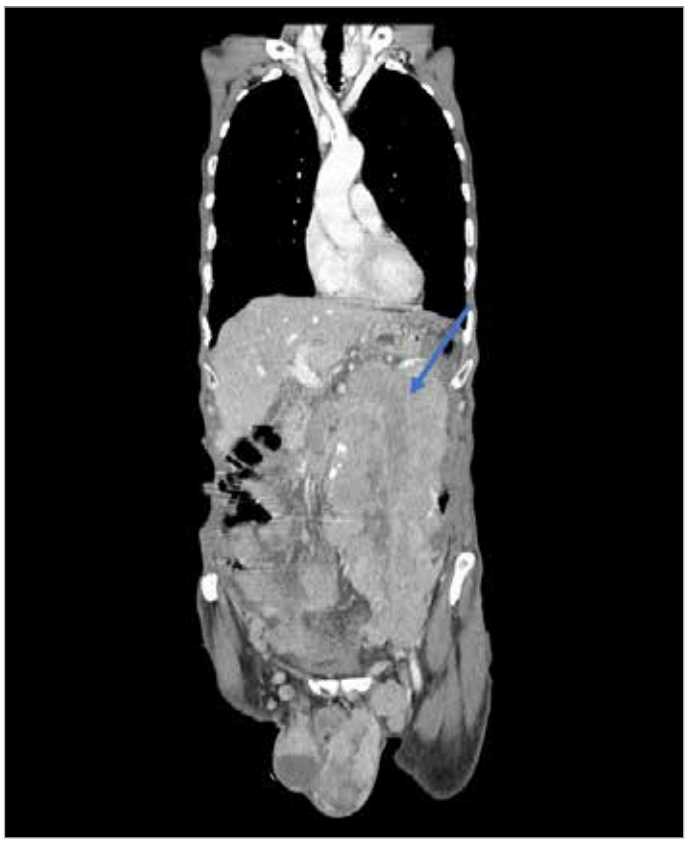
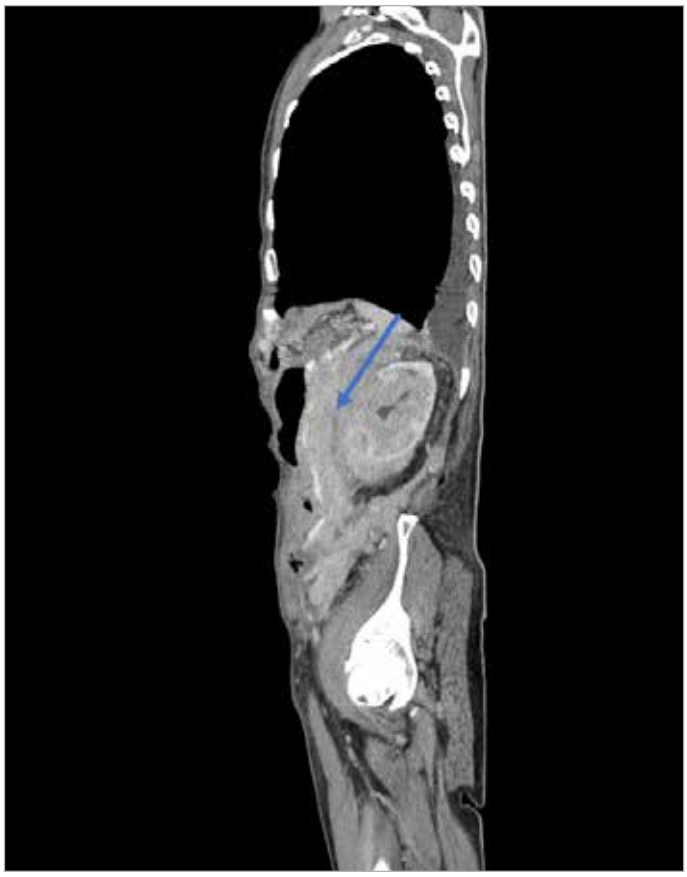
Thoraco-abdominopelvic computed tomography showed hepatosplenomegaly and diaphragmatic adenopathy, aspects that favor the diagnosis of lymphoproliferative disease. The diagnosis of hairy cell leukemia was confirmed by myelogram and bone biopsy.

Discussion and Learning Points: Hairy cell leukemia (HCL), a B-cell lymphoproliferative disease, represents about 2% of lymphoid neoplasms and is usually diagnosed in men over age 50 years with splenomegaly, lymphocytosis, and cytopenia, usually without monocytopenia. The authors emphasize the importance of considering the diagnostic hypothesis of hairy cell leukemia (HCL) in patients with 1 or more cytopenia, and a careful investigation of hairy cell leukocytes in the peripheral blood smear.



811 Figure 1.



811 Figure 1.

811 - Submission No. 1209

A MYSTERIOUS ABDOMINAL PAIN

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Case Description: A 69-year-old man presented to the emergency department with asthenia, anorexia, involuntary weight loss and abdominal pain in the middle quadrants and epigastric region with 2 months of evolution and worsening in the days prior. On examination, his blood pressure was 113/72 mmHg and his pulse was 107 beats per minute, with pain on deep palpation of abdomen, in the middle quadrants and bilateral scrotal edema more prominent on the left.

Clinical Hypothesis: The clinical hypothesis that could be raised would be lymphoma, intestinal or colon neoplasia and testicular neoplasia.

Diagnostic Pathways: Laboratory studies showed a normochromic normocytic anemia, lactate dehydrogenase was 1505 UI/L (reference range: 120-246) and an acute kidney injury stage 3. He underwent contrast-enhanced thorax and abdominopelvic computed tomography (CT), that showed an exuberant heterogeneous solid lesion with a neo formative aspect involving practically the entire retroperitoneum, with anterior displacement of the abdominal aorta, invasion of the kidneys and adrenal glands and with loss of cleavage plane with the spleen, pancreas and the right hepatic lobe, with possible invasion of the latter (Figure 1). This heterogeneous densification extended through the inguinal canal (Figure 2). Suspicious adenomegalies were noted in the inguinal regions, the dominant on the left with 29 mm. An image guided biopsy was performed. Histology revealed a diffuse large B-cell lymphoma.

Discussion and Learning Points: We report this case by its presentation at an advanced stage and aggressive evolution with multi-organ involvement. The differential diagnosis becomes a challenge. Histological diagnosis and stratification are necessary for an adequate treatment.

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812 - Submission No. 1142

WHEN THERE IS NO AGE LIMIT: AN ELDERLY PATIENT WITH MELAENA, EXTREME ANEMIA AND INCOMPATIBLE UNITS OF PACKED REB BLOOD CELLS

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Case Description: Thalassemia syndromes are a heterogeneous group of inherited disorders caused by genetic lesions leading to decreased synthesis of one or more of the globin subunits and characterized by reduced hemoglobin production and anemia. It is estimated that ~10% of the Greek population are carriers of some type of thalassemia. Herein we highlight an atypical diagnosis of δβ thalassemia in an elderly patient.

Clinical Hypothesis: A 76–year-old, Greek woman, was transferred to our Clinic due to melaena with significant anemia (Hb: 6.39 g/dL) and incompatible units of packed red blood cells. She suffered from pulmonary hypertension, atrial fibrillation, chronic kidney disease, a month ago she was also hospitalized due to decompensated heart failure.

Diagnostic Pathways: The patient was hemodynamically unstable, with type I respiratory failure, palpable hepatosplenomegaly, as well as severe anemia (Hb 5.7 g/dl, MCV 65, positive direct Coombs), acute renal injury. Vasoconstrictors, somatostatin IV, PPI infusion and corticosteroids/folic acid were administered along with multiple transfusions. Endoscopy revealed no cause of bleeding. Full-body CTs noted hepatosplenomegaly and a thoracic spinal mass (T9-T10 level) with soft tissue density. She underwent bone marrow biopsy and hemoglobin electrophoresis, which revealed homozygous δβ thalassemia. The spinal mass was then identified as extramedullary hematopoiesis focus. Despite the multifactorial support, the patient died due to fever/sepsis from multi-resistant nosocomial microorganisms.

Discussion and Learning Points: The diagnosis of δβ thalassemia at an advanced age is indeed unusual, hemoglobin electrophoresis is fundamental though, since the delay in diagnosis is accompanied by potentially fatal complications.

813 - Submission No. 1713

UNVEILING THE ETIOLOGY OF THROMBOPHLEBITIS MIGRANS THROUGH THE SKIN: AN UNCOMMON WAY TO DIAGNOSE A WELL-KNOWN MENACE

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Case Description: A 60-year-old male with past medical history of bariatric surgery and cavernoma presents with venous thrombosis in both superficial and deep territories resistant to correct therapy under low-molecular-weight heparin (LMWH). When asked further, he complains of recent-onset dyspnea thus being referred to the Emergency Department immediately where blood tests, electrocardiogram (EKG) and thoracic CT angiography are conducted. The latter shows signs of pulmonary embolism (PE) along with bilateral pulmonary nodules highly suggestive of metastasis.

Clinical Hypothesis: Thrombotic diathesis of paraneoplastic origin expressed as thrombophlebitis migrans and PE.

Diagnostic Pathways: Complete blood tests are carried out with appearance of dissociated cholestasis - gamma-glutamyl transferase and alkaline phosphatase values of 1574 and 594 U/L each with normal bilirubin measurements - and a significant increase in tumor marker CA19.9 - values higher than 59,160 U/mL. Body CT scan adds the presence of multiple hepatic nodules as well as a suspicious image in the pancreatic body. A thorough physical exam allows us to find newly-onset skin lesions on the scalp, so we consult our Dermatology colleagues who perform a punch biopsy on one of them. Histopathology informs the presence in skin of undifferentiated adenocarcinoma cells most concordant with pancreatic origin. Chemotherapy is initiated with a fatal outcome though a few days after the diagnosis.

Discussion and Learning Points: Thrombotic diathesis of paraneoplastic origin and specifically thrombophlebitis migrans, also known as Trousseau's syndrome, is a well-established red flag for clinicians. The means of diagnosis in our case reveal the capital importance of a complete anamnesis and physical exam in all patients.

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814 - Submission No. 1625

PERSISTENT LACTIC ACIDOSIS AND HYPOGLYCAEMIA, IN SEARCH OF THE CULPRIT

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Case Description: 70-year-old woman with a history of hypertension and Sjögren's syndrome. She was admitted to Internal Medicine ward for constitutional syndrome with a loss of 12kg in the last three months together with bilateral nephromegaly found incidentally on abdomino-pelvic CT scan. Exhaustive physical examination showed no relevant findings, except for the presence of several spontaneous hematomas. A complete blood test was initially requested revealing pancytopenia in addition to glycaemia 42 mg/dL and significant lactic acidosis. Successive several asymptomatic episodes of hypoglycemia were detected, as well as persistent severe lactacidemia up to pH 7.17 with lactic acid 17 mmol/L.

Clinical Hypothesis: Infiltrative disease with bone marrow and kidney involvement.

Diagnostic Pathways: A PET-CT scan was requested, which showed generalized bone, bilateral renal and splenic hypermetabolism. A bone marrow biopsy was performed, and the patient was finally diagnosed with common pre-B acute lymphoblastic leukemia. After the first cycle of chemotherapy, there was a complete cessation of hypoglycemia and resolution of lactic acidosis.

815 - Submission No. 1807

CANCERS OF THE BILE DUCTS: A MONOCENTRIC STUDY

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Background and Aims: Bile duct cancers (BDC) represent 2% of all cancers. The aim of this work was to identify the clinicopathologic and therapeutic characteristics of these tumors.

Methods: We report a retrospective series of 32 patients with BDC treated and followed at the medical oncology department at Habib Bourguiba hospital in Sfax between 2016 and 2021.

Results: The average age was 60 years old. The sex ratio was equal to 0.2. It was a carcinoma of the gallbladder in 15 cases, an intrahepatic cholangiocarcinoma in 10 cases and an extra hepatic cholangiocarcinoma in 7 cases. The tumor was localized in 20 cases with an R0 resection in 10 cases and an R1 resection in 12 cases. Lymph node involvement was present in 10 cases. The adjuvant treatment was radio-chemotherapy or chemotherapy alone based on capecitabine in 13 cases. Palliative chemotherapy was indicated in 19 cases. Overall survival at 1 year was 17.2%.

Conclusions: Surgical treatment is the only curative treatment in cancers of the bile ducts. In our series, more than half of the patients had surgical treatment. Overall survival at 1 year in our series was lower than that of the literature (25%) given the advanced stage of the disease.

816 - Submission No. 1808

BREAST CANCER AND PREGNANCY

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Background and Aims: Pregnancy-associated breast cancer (PABC) is defined by the discovery of breast cancer during pregnancy or within one year after delivery. It accounts for 7% of breast cancers in young women and is the second malignant tumor diagnosed during pregnancy. The purpose of this work is to study the particularities of this entity.

Methods: This is a retrospective study about cases of PABC collected at the oncology department of Sfax during a period of 22 years.

Results: 16 cases were included. The average age of our patients was 34 years (26-47 years). The average term of pregnancy was 23 weeks of amenorrhea. Eleven cases were diagnosed during pregnancy. SBR grading revealed grade II in 10 cases and grade III in 6 cases. Hormone receptors were negative in 11 cases and Her2 neu was strongly expressed in 5 patients among 11 who had Her 2 neu status studied. Patey-type surgery was performed in all cases, 9 of which were during pregnancy. Lymph node dissection was positive in 15 cases. Chemotherapy was performed in 3 cases during the 2nd trimester, during the 3rd trimester in 12 cases. The progress of the pregnancy was satisfactory with healthy term babies in all 11 cases. 9 patients showed complete remission.

Conclusions: In accordance with other studies, PABC often occurs at an advanced stage of the disease with a T3-4 and N+ stage in 87% and 93% respectively. The advanced stage associated with young age explains the poor prognosis of this entity.

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817 - Submission No. 1811

BRAIN METASTASES FROM BREAST CANCER

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Background and Aims: Breast cancer is the second leading cause of cancer death among women in Tunisia. The objective of our study is to study the anatomical and clinical characteristics and the therapeutic results of brain metastases (BM) from breast cancer.

Methods: This is a retrospective study including patients treated for metastatic breast carcinoma in the brain over a period of 20 years, between 1998 and 2018, at the medical oncology and radiotherapy departments in Sfax.

Results: 96 patients were included. Before the onset of BM, the disease was classified as stage III or IV in 40.6 and 29.2% respectively. The tumors were hormone receptor (HR) positive in 55.2%, expressing HER in 14.6% of cases and were triple negative (TN) in 8.3% of cases. The mean time to onset of BM was 32 months. The brain was the first site of metastatic relapse or the only site of recurrence in 21 and 8.3% of cases, respectively. BM were multiple in 79.2%. External cerebral radiotherapy was performed in 93 patients (96.9%). Sixty-three (65.6%) patients received systemic treatment; three patients (3.1%) reached the 4th line of chemotherapy. The overall survival (OS) at one year from BM diagnosis was 22.1%.

Conclusions: The OS seen in our study is similar to that reported in recent studies. Surgery is reserved for patients with controlled disease and a reduced number of BM. Radiation therapy and systemic treatment resulted in improved overall survival.

818 - Submission No. 1331

MECHANISTIC ASPECTS OF CIRCULATING ALPHA1-ANTITRYPSIN IN HEMATOPOIETIC STEM CELL TRANSPLANTATION

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Background and Aims: Graft-versus-host disease (GVHD) represents a grave outcome of allogeneic hematopoietic stem cell transplantation (HSCT). Chemotherapeutic conditioning interferes with tissue repair and causes immune dysregulation during stem cell engraftment, thus increasing the risk of developing GVHD. α1-antitrypsin (AAT), an acute-phase reactant similar to C-reactive protein (CRP), is a serine-protease inhibitor which harbors tissue-protective and immunomodulatory attributes and improves outcomes in patients with steroid-refractory GVHD, yet its direct effect on patient tissue and its prognostic value in HSCT are unknown. AAT induces immune tolerance by inhibiting proteinase 3 (PR3), a serine-protease released by activated neutrophils and a promotor of inflammation by cytokine processing. Inflammatory signals regulate AAT's functionality by altering its glycosylation patterns as part of the post-translational modification process.

Methods: In this prospective study, 53 patients receiving allogeneic-HSCT were recruited, and their serum samples were tested for AAT and CRP levels, anti-proteolytic activity, glycosylation patterns of AAT and capacity to promote intestinal epithelial gap closure in vitro. Whole blood and mononuclear cells collected on day +28 post-transplantation were tested ex vivo under treatment with exogenous AAT.

Results: Patients with poor anti-proteolytic capacity at pre-HSCT timepoint were significantly associated with subsequent acute GVHD. AAT levels alone were not sufficient for predicting non-relapse mortality (NRM) however, prediction was improved when anti-proteolytic activity and CRP were included. Patients'

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circulating myeloid dendritic cells treated with exogenous AAT displayed a favorable immune-regulated profile while maintaining antigen-presenting activity.

Conclusions: Functional insufficiency of circulating AAT precedes poor transplantation outcomes and supports future studies for early AAT augmentation in allogeneic HSCT.

819 - Submission No. 1937

T-LYMPHOMA WITHOUT PULMONARY INVOLVEMENT PRESENTED AS SEVERE PULMONARY HYPERTENSION

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Case Description: A 77-year-old woman attended the emergency room with a 2-months history of lower limbs edema and dyspnea. Examination revealed edema up to the knees, bibasal crackles and jugular engorgement. Laboratory tests showed increased proBNP, anemia and hypoxemia. Chest X-ray showed vascular redistribution and pleural effusion. Electrocardiography showed nonspecific T-wave changes. She was admitted to the internal medicine ward with a diagnosis of heart failure. Medical history included high blood pressure, hepatic steatosis and arthritis with positive ANA diagnosed a few months earlier, which improved with prednisone. On admission, an echocardiogram showed dilated right chambers and 80 mmHg pulmonary pressure. The left ventricle was normal.

Clinical Hypothesis: Pulmonary hypertension.

Diagnostic Pathways: HIV and autoimmune diseases were ruled out by blood tests. The patient had no history of pulmonary disease. Angio-CT excluded thromboembolism although it showed pleural effusion and pathological lymphadenopathies. The lung parenchyma was normal. Pleural fluid was found to be exudate. Skin lesions appeared and were biopsied with the result of angioimmunoblastic T-lymphoma (AITL), which was confirmed by biopsy of adenopathy. Despite the depletive treatment, she presented a poor evolution with the appearance of low- grade fever and respiratory worsening until presenting with respiratory failure, hemodynamic instability, and renal failure, requiring ICU admission. Clinical manifestations of heart failure and pulmonary hypertension improved with the initiation of chemotherapy.

Discussion and Learning Points: AITL is one of the most common subtypes of T-cell lymphoma. Patients typically presented with systemic symptoms, rash, pleural effusions, ascites, and autoimmune phenomenon but pulmonary involvement is rare and pulmonary hypertension is rarely presented without pulmonary disease.

820 - Submission No. 2386

PERIPHERAL T-CELL LYMPHOMA, NOT OTHERWISE SPECIFIED - A CASE REPORT

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Case Description: We present a case of a man admitted to the hospital with B symptoms, generalized lymphadenopathy and a pruritic exanthema. Laboratory workup reveled persistent eosinophilia and malignant hypercalcemia.

Clinical Hypothesis: Two hypothesis were contemplated. In one hand and most probable, a lymphoproliferative disease with a concomitant non-lymphoproliferative presentation (in this case, a DRESS syndrome); and on the other hand, a lymphoproliferative disease with cutaneous involvement.

Diagnostic Pathways: An excisional lymph node biopsy was performed and diagnosed PTCL-NOS; a skin biopsy was also performed and demonstrated a lichenoid dermatitis, compatible with the presumptive clinical diagnosis of a drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome. The patient was treated with topical betamethasone with good overall response and initiated the first cycle of chemotherapy before discharge.

Discussion and Learning Points: Peripheral T-cell lymphoma, not otherwise specified (PTCL-NOS) is the most common subgroup of peripheral T-cell lymphomas (PTCL) and constitutes a diagnosis of exclusion. At presentation, most patients exhibit B symptoms and generalized lymphadenopathy, with or without concomitant extra-nodal involvement. This case report describes a PTCL-NOS with a concomitant non-lymphoproliferative disease, the challenging diagnostic workup of the two diseases and reinforces the most important features of the lymphoproliferative neoplasm.

821 - Submission No. 2203

HEMIANOPSIA AND HEADACHE AS CLINICAL PRESENTATION OF METASTATIC LUNG CARCINOMA

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Case Description: A 33-year-old non-smoker male patient with no known prior diseases or chronic medication is observed in consultation after developing a five-day left temporal headache characterized as "stinging" and blurred vision of the right eye. On observation the patient displayed a discreet paresis of the right arm, alongside bilateral loss of the right visual field of the vertical midline on campimetry evaluation. A cranial MRI was performed, showing multiple lesions, affecting both the left occipital lobe

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and left frontal lobe without diffusion restriction with vasogenic edema and local mass effect.

Clinical Hypothesis: The clinical hypothesis of secondary neoplastic lesions (brain metastasis) was made and the patient was admitted to the hospital for further evaluation.

Diagnostic Pathways: A thoraco-abdominopelvic CT-scan was performed which revealed the presence of a 40x30 mm pulmonary mass in the left inferior lobe compatible with a primary neoplastic lesion, as well as mediastinal and left hilar adenopathy and an osteolytic lesion of the right iliac. A transcutaneous biopsy of the pulmonary lesion was performed revealing a non-small cell lung carcinoma.

Discussion and Learning Points: Brain metastasis are a frequent complication of advanced cancer, with lung carcinoma being the primary tumor most likely to metastasize to the brain in the absence of other systemic metastases. This case represents a rare form of presentation of lung cancer, with neurological focal signs being the first clinical manifestation of a metastatic non-small cell lung carcinoma. When evaluating patients with neurological focal signs it is important to consider brain metastasis as a potential cause.

822 - Submission No. 1705

T-CELL LARGE GRANULAR LYMPHOCYTIC (T-LGL) LEUKEMIA: A RARE DIAGNOSIS

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Case Description: A 54-year-old female with a history of smoking habits and bronchiectasis was referred for consultation due to a transient leukopenia, asthenia, and night sweats over the past 2 years. Observation showed no palpable lymphadenopathies, hepatomegaly, or splenomegaly. Laboratorial tests revealed Hb 14.7 g/dL, 4.3 x 10^9/L leucocytes, 0.8 x 10^9/L neutrophiles, 2.7 x 10^9/L lymphocytes, 248 x 10^9/L platelets, ESR 4 mm/h, normal peripheral blood smear and serum proteinogram. CMV, EBV and HIV tests were negative. On body tomography, multiple mediastinal ganglia with 1 cm of longest axis and slight hepatomegaly with globally regular contours were seen.

Clinical Hypothesis: Lymphoproliferative disease.

Diagnostic Pathways: Peripheral blood immunophenotyping revealed many atypical lymphocytes. By flow cytometry, 30.4% (1.0 x 10^9/L) of the 40.3% of CD8+ T lymphocytes with aberrant phenotype (absence of CD5 and under-expression of CD2 and CD7) were identified in overall cellularity. Research on T cell receptor (TCR) rearrangement confirmed clonality. The bone marrow study demonstrated > 10% proliferation of large granular T lymphocytes, with CD8+/CD3+/CD5- immunohistochemical phenotype and under-expression of CD2 and CD7. The diagnosis of T-cell granular lymphocytic leukemia was assumed, and the patient was referred to a hemato-oncological center.

Discussion and Learning Points: T-cell large granular lymphocytic (T-LGL) leukemia is a rare and probably underdiagnosed disease whose etiology is believed to be related to the activation of T lymphocytes by viral antigens. Its characterization requires immunophenotyping and clonality testing. Therefore, this pathology must be included in the differential diagnosis of cytopenia and lymphocytosis. As in 80% of T-LGL cases, it presented in an indolent way.

823 - Submission No. 2181

AGGRESSIVE STARRY SKY

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Case Description: A 63-year-old male consults on emergency service for epigastric pain with a duration of two weeks, associated with postprandial vomiting and fever. A computed tomography shows a retroperitoneal tumor with carcinomatosis, so the patient is hospitalized for study.

Clinical Hypothesis: The main clinical suspicion is lymphoma versus pancreatic adenocarcinoma.

Diagnostic Pathways: The computed tomography is informed as a tumor that englobes duodenum, proximal jejunum, and the uncinate process of the pancreas. Initial blood analysis show elevation of acute phase reactants, lactate dehydrogenase up to 800 IU/L, and uric acid levels of 20 mg/dL. Renal function is deteriorated along with the clinical situation of the patient, so treatment with rasburicase and methylprednisolone is initiated with clinical suspicion of tumor lysis syndrome. The patient is transferred to the intensive care unit. Computed tomography pulmonary angiogram shows bilateral pulmonary embolism. Bone marrow biopsy is made showing no neoplastic infiltration. Peritoneal implant biopsies are made with results compatible with Burkitt lymphoma. Finally, the patient dies of cardiac arrest before treatment of the lymphoma can be initiated.

Discussion and Learning Points: Tumor lysis syndrome occurs due to the massive destruction of malignant cells most often after the initiation of cytotoxic therapy. It rarely occurs in spontaneous cases without previous cancer treatment in tumors with high proliferative rate and large tumor burden, as in the case of Burkitt lymphoma. Burkitt lymphoma is a highly aggressive B cell non-Hodgkin lymphoma. The sporadic form usually has an abdominal presentation, often with massive disease and ascites, as in the case of our patient.

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824 - Submission No. 1590

TUMOR BIOMARKERS: DO THEY BRING US CLOSER OR FURTHER AWAY FROM A DIAGNOSE?

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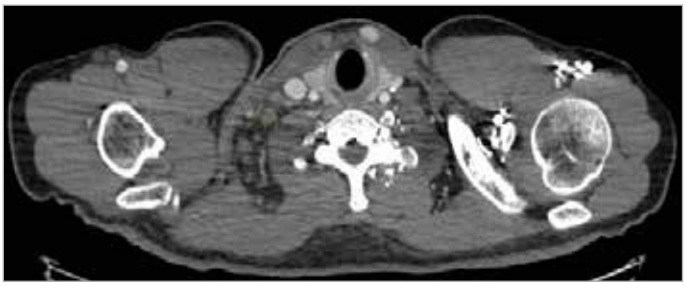
Case Description: A 48-year-old male presented left testicular pain especially with physical activity of 5-months evolution. Examination only revealed laterocervical, retroauricular and supraclavicular lymphadenopathies of about 1.5-2 cm in size. Also, the left testicle had a size increasing without pain or high temperature.

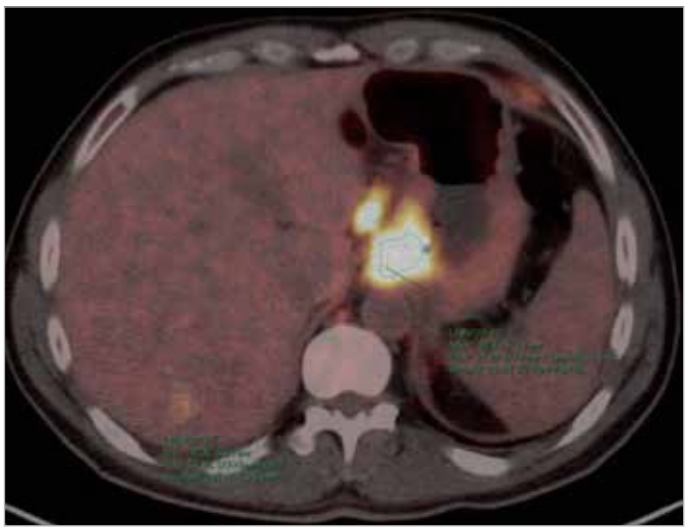
Clinical Hypothesis: Testicular cancer. Lymphoma.

Diagnostic Pathways: He was admitted as constitutional syndrome under study, with testicular cancer as first option. Tumor markers were requested, obtaining a very high alpha-fetoprotein, with a value of 1069.7 ng/ml (N< 9.8 ng/mL). A CT scan showed a conglomerate of lymphadenopathies with metastatic appearance in all the right lymph node chains of the neck, supraclavicular lymphadenopathies in the right side of the cervico-thoracic isthmus (image 1) and multiple retroperitoneal lymphadenopathies of significant size. With the suspicion of lymphoma, a positron emission tomography was performed, where an uptake of the esophagogastric junction was observed (image 2), later confirmed with a gastroendoscopy in which a biopsy was obtained, with histological result of infiltrating adenocarcinoma of the lower esophagus.

Discussion and Learning Points: There are two types of tumor biomarkers. Tumor tissue makers are those obtained in the biopsy while circulating tumor cells are those obtained from blood or another fluid. It must be remembered that biomarkers are not specific and may be elevated in other diseases. In the clinical case presented, the testicular pain and high level of alpha-fetoprotein could have led to the erroneous diagnosis of testicular cancer. However, the etiology of the disease was of digestive origin, although none of the markers associated with the digestive tract were elevated in the initial evaluation.



824 Figure 1.



824 Figure 2.

825 - Submission No. 1591

RECURRENT PLEURAL EFFUSION. ABOUT A CASE

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Case Description: Male, 85 years-old, independent in performing basic activities of daily living. History of arterial hypertension and prostatectomy in 2004 for adenocarcinoma. He went to the Emergency Department for fatigue and dyspnea with 2 months of evolution. On auscultation, there was a decrease in the vesicular murmur at the right base. In the radiological study, bilateral Pleural Effusion (PE) was identified, more accentuated on the right, and suspected of loculation. Diuretic therapy was started and admitted in the Medicine Department to the etiological study. A Computed Tomography (CT) of the chest was performed, documenting a more pronounced PE on the right with mediastinal adenomegaly and adenopathic conglomerates (lumbo-aortic, mesenteric, and inguinal) suggestive of lymphoproliferative disease (Ann Arbor stage IV). Thoracocentesis was performed: the pleural fluid showed characteristics of exudate, and biopsy of inguinal adenopathy compatible with low-grade follicular lymphoma, CD20 positive. Myelogram and bone biopsy with lymphocytic cellularity of predominance of adult cells, without blasts. Considering the recurrent PE, therapy with chemotherapy and rituximab was chosen, and the patient was discharged to the Hematology Day Hospital. In the reassessment consultations without PE.

Clinical Hypothesis: Low-grade follicular lymphoma.

Diagnostic Pathways: Thoracocentesis, myelogram and bone biopsy.

Discussion and Learning Points: PE is a frequent finding in Internal

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Medicine wards. The etiological study of PE can be challenging considering the multiplicity of differential diagnoses. The authors emphasize that the recurrence of PE after 3 thoracenteses determined the need for chemotherapy, even in the case of an indolent lymphoma.

826 - Submission No. 1612

AN INFREQUENT CAUSE OF LUNG CANCER

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Case Description: Female, 57 years-old, born in Guinea-Bissau, autonomous. No relevant background. She went to the Emergency Department (ED) with tiredness, weight loss and nodular mass in the inner thigh region right, with 6 months of evolution. Complementary exams in the ED: hemoglobin 5 g/dl; leukocytes e and 101 mg/l PCR; Chest CT with adenopathies and consolidation in the right with spiky contours. She made acid-alcohol resistant bacilli research in sputum, blood cultures and antigenuria that are revealed negatives. Due to probable lung cancer, hospitalization in Medicine Department is decided for a complementary study. Bronchoscopy evidencing endobronchial tumor, and cranioencephalic MR with intraparenchymal lesions suggestive of secondarization. The fragment biopsies from bronchial and inguinal adenopathies were diagnostic for germinal type Diffuse large B cell lymphoma (DLBCL), with CD20 expression. PET without capture in other topography besides of those described. HIV 2 positive, with a CD4 count of 65.13 cells/µl. Case review with Infectiology and Hematology, starting antiretrovirals (tenofovir/emtricitabine + dolutegravir) and CHOP (cyclophosphamide, doxorubicin, vincristine and prednisone), without rituximab because to uncontrolled HIV viral load. Referencing for consultations in Medicine, Infectiology and Hematology.

Clinical Hypothesis: Diffuse large B cell lymphoma.

Diagnostic Pathways: Biopsies bronchial and inguinal adenopathies.

Discussion and Learning Points: The authors highlight this case for illustrating an infrequent etiology of lung cancer. DLBCL is the most common lymphoma, being rapidly fatal if untreated. In this case DLBCL has not verified the usual involvement of the organs of the reticuloendothelial system, but verified involvement of the CNS, which occurs more commonly in some conditions such as of HIV infection.

827 - Submission No. 1666

LOW BACK PAIN: AN ALARM SIGN?

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Case Description: Female, 33-years-old, independent in performing basic activities of daily living. History of right breast cancer, treated with mastectomy and chemotherapy in 2019. Family history of breast cancer. She went to the Emergency Department for low back pain with 4 months of evolution, with worsening in last week. Computed tomography (CT) of the lumbar spine was performed, which revealed bone metastasis at cervical, dorsal, lumbar and left iliac wing, complicated by a pathological fracture of L5. Admitted to the etiological study and staging. Left mammography showed nodular densification with 3 cm of longest axis. Abdominal CT showing liver metastasis. Breast and bone biopsies confirmed histology of hormone receptor-positive and human epithelial growth factor receptor-negative breast carcinoma. Discussion with Orthopedics, with indication for stabilization and decompression surgery at the L5 level, and indication for radiotherapy and bisphosphonates to the remaining bone lesions. According to Medical Oncology, indication for tamoxifen therapy, genetic study, and referral to the Palliative Care.

Clinical Hypothesis: Breast cancer.

Diagnostic Pathways: Breast and bone biopsies.

Discussion and Learning Points: Breast cancer is the most common type of cancer in women, usually occurring after 50 years of age. The authors present this clinical case for illustrating an infrequent etiology of low back pain at a young age, as well as for the complexity and permanent need for articulation between the different specialties.

828 - Submission No. 2080

SINGLE OSTEOLYTIC LESION WITH TORTUOUS DIAGNOSIS

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Case Description: A 69-year-old woman, hypertensive, was admitted to Traumatology for an osteolytic lesion in the left femoral diaphysis seen on an X-ray due to left leg pain of weeks' evolution, without fever, general symptoms, or other focal clinical manifestations. Laboratory tests showed elevated acute phase reactants, alkaline phosphatase and slight hypo-gammaglobulinaemia. Total immunoglobulins (including

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IgG4), serum immunoelectrophoresis and urine were normal. Microbiological and autoimmune studies were also normal.

Clinical Hypothesis: In the differential diagnosis of osteolytic lesions we find benign bone tumors (hemangiomas, lipomas, eosinophilic granuloma, osteoid osteoma, non-ossifying fibroma, giant cell bone tumor...), malignant (osteosarcoma, chondrosarcoma, primary bone lymphoma...) and bone metastases.

Diagnostic Pathways: MRI and bone scintigraphy with osteolytic reaction at the level of the upper third of the left femoral diaphysis. Extension study with body TC with multiple hypodense splenic lesions without splenomegaly. PET-CT scan confirming the presence of focal hyper capillary splenic lesions and lytic lesion in the left femur. Multiple bone biopsies without diagnosis. Bone marrow aspirate with hypocellularity with dysplastic features, flow cytometry without evidence of infiltration. Splenic biopsy with foci of necrosis and diagnostic splenectomy with histology compatible with diffuse large B-cell lymphoma.

Discussion and Learning Points: Diffuse large B-cell lymphoma is the most common histological subtype of non-Hodgkin's lymphoma (30-35%). It is an aggressive lymphoma with an estimated incidence in Western countries of 5-6 cases/100,000 inhabitants/year and increases with age. Its etiology is unknown, although it generally appears after a previous indolent myeloproliferative syndrome. Diagnosis is made by lymph node biopsy with immunohistochemistry.

829 - Submission No. 2185

35-YEAR-OLD MAN WITH RADIOLOGICAL ALTERATIONS

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Case Description: A 35-year-old male who started a progressive dry cough 6 months earlier. He denied other associated symptoms (chest pain, fever, constitutional syndrome etc.). His primary care doctor requested a chest X-ray, which showed an increase in left parahilar density with a cavitated image.

Clinical Hypothesis: Given the radiological findings of the patient, the main differential diagnoses include tuberculosis, sarcoidosis, Wegener's syndrome, fungal or bacterial infections, and the lymphoma.

Diagnostic Pathways: Chest CT: Pulmonary mass located in segment 3 of the LSI, with a variegated, irregular appearance, with heterogeneous density, where a necrotic component dominates, and extensive areas of cavitation, and which sharpens the 3rd bronchus distally. Medially it invades the mediastinum anterior intimately contacting the anterior face of the ascending aorta and the main trunk of the pulmonary artery. It reaches transverse, anteroposterior and craniocaudal diameters of 13.2 cm x 6 cm x 4.8 cm. It is associated with the presence of numerous bilateral cavitated nodules. Pathological adenopathies also necrotic, paratracheal, intracarinal and left hilar. Microbiology: PCR of M. tuberculosis complex in sputum negative. Bacilloscopy and culture of sputum and mycobacteria in process. IGRA indeterminate. Analysis: Hb 12.8 leukocytes 18,690 (88% neutrophils). Coagulation: INR 1.29. Fibrinogen 756. Normal LDH. CRP 113 mg/L. Normal procalcitonin. Supraclavicular adenopathy biopsy: classic Hodgkin's lymphoma with extensive necrosis.

Discussion and Learning Points: Although lung involvement in Hodgkin's lymphoma throughout the course of the disease is common, cavitated lung lesions at the beginning of the disease are exceptional, almost before of chemotherapy. Cavitation is described in less than 1% of patients with lymphoma.

830 - Submission No. 712

DIFFUSE LARGE B CELL LYMPHOMA IN THE FORM OF HEPATIC NODULES

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Case Description: An 80-year-old male, with hypertension, diabetes with nephropathy, and obesity. The patient presents with nausea, vomiting, and anorexia with a 3-month evolution.

Clinical Hypothesis: Acute chronic renal disease with uremic symptoms Neoplasm by the time of evolution.

Diagnostic Pathways: Analytical study with normocytic normochromic anemia (hemoglobin 6.6 g/dL) with iron deficiency (serum iron 30 g/dL, transferrin saturation 6%, ferritin 133 ng/mL), acute chronic renal disease (creatinine 3.95 mg/dL, urea 283 mg/dL), discrete cytolysis, cholestasis, and hyperbilirubinemia (AST 118 U/L, ALT 44 U/L, GGT 119 U/L, FA 59 U/L, total bilirubin 1.8 mg/dL, conjugated bilirubin 0.90 mg/dL). Imaging studies showed countless nodules scattered throughout the hepatic parenchyma very suggestive of diffuse hepatic metastasis. No other changes. A liver biopsy was performed, and a histological exam revealed hepatic involvement by diffuse large B cell lymphoma.

Discussion and Learning Points: Diffuse large B cell lymphoma (DLBCL) is the most common histologic subtype of non-Hodgkin lymphoma and is more frequent in middle-aged men (60 years). The patients typically present with a rapidly enlarging symptomatic mass anywhere in the body. This case shows a rare presentation of DLBCL, with countless nodules scattered throughout the hepatic parenchyma.

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831 - Submission No. 713

ATYPICAL PRESENTATION OF GASTROINTESTINAL NEOPLASIA

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Case Description: A 66-year-old male, with previous history of type-1 diabetes mellitus, was admitted with non-bloody diarrhea, nausea, and vomiting within two weeks of evolution. Associated with fever and high inflammatory parameters, so he was treated with antimicrobial therapy (levofloxacin and metronidazole) with some improvement. After nine days in the hospital, the patient develops new abdominal pain and food intolerance. Objectively with a distended abdomen, bowel sounds loud, generalized tympanic weakness, and diffusely painful on palpation.
Clinical Hypothesis: Mechanical obstruction.
Diagnostic Pathways: Analytical study with microcytic anemia (hemoglobin 10.4 g/dL), hypoalbuminemia (albumin 24 g/L), and elevated C-reactive protein (138 mg/dL). Microbiological study negative. Positive fecal occult blood test. Abdominal radiograph shows dilated loops of small bowel with air-fluid levels. Abdominal computed tomography scan showing signs of colonic occlusion conditioned by an obstructive stenotic lesion, very suggestive of colonic neoplasia. A metal prosthesis was placed, and a biopsy of the lesion was performed through sigmoidoscopy. A histological exam revealed an adenocarcinoma.
Discussion and Learning Points: Colorectal cancer is a common and lethal disease. Typical symptoms/signs associated with this disease include hematochezia or melena, abdominal pain, otherwise unexplained iron deficiency anemia, and/or a change in bowel habits. In this case, the patient presents with a typical picture of infectious diarrhea/gastroenteritis. This shows that we should always be alert for serious situations such as neoplasms, particularly in older patients.

832 - Submission No. 2112

PERNICIOUS ANEMIA WITH HEART FAILURE PRESENTATION

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Case Description: The authors describe the case of a 44-year-old male, no relevant personal or family history, presenting in the ER with rapidly progressive dyspnea on exertion over the course of one week. After detailed oriented medical history, he complained of extreme progressive fatigue over several months. On examination also noted skin pallor and peripheral oedema. A full blood count showed pancytopenia with macrocytic anemia (hemoglobin 3.9 g/dL and mean corpuscular volume 122 fl) and low reticulocyte count. Peripheral blood smear displayed anisocytosis, polychromatophilia and basophilic stippling. Patient was admitted for blood transfusion and further investigation.
Clinical Hypothesis: Initial workup strongly suggested megaloblastic erythropoiesis most likely due to vitamin deficiency, myelodysplastic syndromes or even aplastic anemia.
Diagnostic Pathways: Additional studies revealed vitamin B12 deficiency (<45 pg/mL), and upper endoscopic study exhibited chronic pangastritis. Autoantibodies to intrinsic factor were negative but to parietal cells were positive. He immediately started treatment with intramuscular cyanocobalamin and showed a remarkable clinical and analytic improvement. Such findings were sufficient to diagnose pernicious anemia and to recommend lifelong treatment and increased monitoring for gastrointestinal malignancy in the future.
Discussion and Learning Points: We aim to highlight that in resource-rich settings most cases of vitamin B12 deficiency are due to malabsorption rather than dietary deficiency and that is urgent to intervene in those cases with symptomatic anemia, possibly manifested with clinical features of heart failure or neurologic findings, given the risk of adverse events and possibly irreversible deficits. Patients should be advised of the chronicity of their malaise, potential serious symptoms and the need for lifetime treatment and monitoring.

833 - Submission No. 2447

CLL-B: A COMMON NEOPLASM WITH A RARE COMPLICATION

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Case Description: The authors describe the case of a 91-year-old male with high cardiovascular risk and a recent diagnosis of chronic lymphocytic leukemia (CLL). Early on the patient had no indication for treatment, maintaining only avid surveillance by Hematology. He presented in the ER with hypotension and progressive severe asthenia over one week. On examination it was observed multiple nodules and papules mainly on his neck, upper and lower limbs (pictures available to illustrate).
Clinical Hypothesis: Given the patient's personal history the most probable clinical hypothesis was progression of his hematological disease with skin infiltration.
Diagnostic Pathways: Further investigation with blood workup showed a worsening of his known lymphocytosis and an ultrasound revealed subcutaneous edematous cellular tissue infiltration. Biopsy of the skin lesions to confirm the diagnosis was considered but not performed due to the poor prognosis and absence of clear benefits. Instead, comfort measures were optimized at this terminal stage.
Discussion and Learning Points: Although CLL is a mature B cell neoplasm relatively frequent in older adults and the most common leukemia in Western countries, leukemia cutis is seen only in fewer than five percent of the cases. We aim to highlight that even

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though CLL may infiltrate any organ, skin lesions can easily be recognized with a proper patient examination. While it might not affect overall prognosis in most cases, it is especially important in those with possible complications such as Richter transformation.

834 - Submission No. 802

RARE LABORATORY FINDINGS OF MYELOMA IN AN ELDERLY WOMAN

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Case Description: We herein report an unusual case of myeloma of a 75-year-old woman who presented in the Internal Medicine Department with dyspnea, lethargy, and general malaise for 2 weeks before referral. She had only cardiovascular history. At admission she had respiratory failure. Initial workup revealed leukocytosis with neutrophilia, moderate normocytic normochromic anemia and mild thrombocytopenia. Other tests showed mild nitrate retention, high levels of uric acid and hypercalcemia. CRP was high, but ESR was normal, and she had mild hypoalbuminemia.

Clinical Hypothesis: Given the symptoms, a brain CT was done to exclude an acute stroke and the respiratory failure was investigated using a lung radiograph and a chest CT, showing pneumonia. A hematological disorder was suspected given the bicytopenia and hypercalcemia.

Diagnostic Pathways: Serum protein electrophoresis and immunofixation showed monoclonal IgA protein with lambda chains. Peripheral blood smear showed rouleaux formation of RBC, with plasma cells. A bone marrow aspiration was performed and demonstrated the presence of myeloma plasma cells (80%). Skeletal survey showed lytic lesions of the skull. The patient underwent antibiotic therapy for the pneumonia and then she was referred to the Hematology Department.

Discussion and Learning Points: This case illustrates the importance of not ruling out a diagnosis of myeloma when the ESR is normal, but to consider all the other lab tests in the diagnostic approach. Moreover, the patient presented with thrombocytopenia, which is reported to be uncommon at diagnosis and IgA myelomas accounts of only 20% of cases[1].

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835 - Submission No. 1638

SUPERIOR VENA CAVA SYNDROME CAUSED BY MEDIASTINAL TUMOR: CLINICAL CASE REPORT

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Case Description: A 56 years-old man, with known medical history of arterial hypertension, non-smoker, was admitted in emergency department for dyspnea with 1 month of evolution. A chest X-ray was performed, and a widening of the superior mediastinum was identified.

Clinical Hypothesis: Given the findings, the possible existence of a mediastinal tumor was hypothesized.

Diagnostic Pathways: The chest computed tomography (CT) scan showed an anterior mediastinal mass, thrombosis of the superior vena cava (SVC) and a compression of the SVC. There were also predominantly peripheral lung metastases. Due to clinical worsening with exuberant facial and neck edema, the patient was admitted for etiological study of mediastinal tumor. Given the severity of the clinical situation, an emergent intervention was performed by the Vascular Surgery for placement of a venous stent in the SVC, with symptomatic improvement. A transthoracic aspiration biopsy (TTAB) of the mass was performed, identifying a malignant neoplasm described as sarcoma on histological examination. After recurrence of the symptoms described above, a new chest CT scan was required, in which tumor invasion of SVC stent was showed. In this context, the patient underwent 2 cycles of urgent radiotherapy. Given the absence of clinical improvement, a new life-saving surgical intervention was decided with placement of a new stent at the SVC overlapping the stent previously placed. Despite the measures, the patient died postoperatively.

Discussion and Learning Points: This case intended to show the aggressive behavior and rapid evolution of this type of mediastinal tumor and possible treatments for SVC syndrome, one of the most common manifestations in mediastinal tumors.

836 - Submission No. 2069

LUNG CANCER AT PROSTATIC GLAND? YES, IT'S TRUE

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Case Description: Male 67-year-old, heavy smoker, loosing 12 kilos in the last 3 months, complaining of fatigue, shortness of breath, headaches, and inappropriate thirst. Mild anemia, low serum sodium, high urinary sodium.

Clinical Hypothesis: The first suspicion of neoplasia is raised by the diagnostic of SIADH, as a paraneoplastic syndrome. Fast weight loss is another "vote " for neoplasia. Cigarette smoking

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can cause cancer almost anywhere in the body. The cough and the breathing problems rise the hypothesis of respiratory neoplasia but was not confirmed by computer scan. So, "many votes" for cancer, but where is the cancer?

Diagnostic Pathways: Computer scan indicates changes specific for diagnosis of chronic bronchitis, enlargement of abdominal lymph nodes and prostatic volume increased. At the anatomopathological examination of the prostatic tissue (biopsy) we discover a small cell carcinoma. Immuno-histochemistry examination discover the mixt structure of the tumor- the majority of the cells- small cell carcinoma -positive for chromogranin A and negative for PSA and the rest - adenocarcinoma cells- negative for chromogranin A and positive for PSA.

Discussion and Learning Points: The prognostic in this case is poor, less than one year, the bigger the percentage of small cells in the tumor, the less chances to survive more. Oncological treatment is the same like in the pulmonary small cell carcinoma, the tumor is not hormonal sensitive, no surgery and no radiation options available. Small cell carcinoma typically develops in the lungs, but there are some particular cases when anatomopathological examination is revealing it in other organs.

837 - Submission No. 525

EFFICACY AND SAFETY OF METFORMIN AS ADJUNCTIVE THERAPY FOR METASTATIC PROSTATE CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background and Aims: Prostate cancer (PC) is the second-most common malignancy in Filipino males. Moreover, metformin, a commonly used antidiabetic drug, has shown promise as adjunct for standard-of-care (SOC) treatment in patients with both localized and metastatic PC (mPC) in previous observational studies. This meta-analysis aimed to pool results of randomized controlled trials (RCTs) on the effect of the addition of metformin to SOC on progression-free survival (PFS), overall survival (OS), cancer-specific survival (CSS) of, and incidence of adverse events (AE) in mPC.

Methods: Databases were systematically searched for RCTs involving the use of metformin on mPC using the outcomes of PFS, OS, CSS, and AEs. Studies were assessed for their design and quality using the GRADEpro approach, and a systematic review/meta-analysis was conducted on the studies for the mentioned outcomes.

Results: Six RCTs were included in the study. The study revealed that metformin use had significant benefit on OS—HR 0.85 (0.73-0.98, 95% CI)—whereas it had only marginal benefit on PFS—HR 0.71 (0.47-1.08, 95% CI). No studies were retrieved using CSS. No significant difference in terms gastrointestinal and genitourinary toxicities were noted; addition of metformin to enzalutamide showed a possible increase in exposure-related cardiac adverse events.

Conclusions: While only a trend towards benefit was seen on the use of metformin in terms of PFS, significant benefit was seen in terms of OS. Metformin then can safely be given in patients with metastatic prostate cancer. Given the limited number of studies that were found, especially in terms of PFS and CSS, more RCTs that investigate these are advocated.

838 - Submission No. 306

POLYSEROSITIS, AN ATYPICAL PRESENTATION OF LUNG ADENOCARCINOMA

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Case Description: Male, 68 years old, non-smoker and former construction worker, with a history of arterial hypertension, type 2 diabetes mellitus, Dyslipidemia, and non-stratified COPD. Referred to the emergency department by the attending physician for 1st degree Atrial Ventricular Block, and Complete Right Branch Block detected on routine ECG and history of chronic cough, asthenia and loss of 8 kg for 5 months.

Clinical Hypothesis: Paraneoplastic syndrome.

Diagnostic Pathways: From the study carried out, the following stand out: HIV, ANA and ANCA negative, LDH 638 and chest CT with mediastinal and hilar adenopathies, pericardial effusion of moderate volume and loculated right pleural effusion. During hospitalization, due to sudden worsening of the pleural and pericardial effusion, he presented compromised cardiac function and hemodynamic instability requiring pericardiocentesis and diagnostic/evacuator thoracocentesis with outflow of hematic fluid with Light criteria compatible with exudate. Immunological and histochemical features compatible with primary neoplasia of pulmonary origin. The case was discussed in a multidisciplinary reunion, and it was decided to start palliative chemotherapy.

Discussion and Learning Points: Pulmonary adenocarcinoma may have atypical manifestations. Bearing this in mind, a polyserositis should always be investigated and the neoplastic causes excluded, especially when they are large volume effusions with rapid progression. Malignant pericardial disease is one of these manifestations, which, despite being uncommon, when it appears it is an indicator of poor prognosis due to the disease widespread. Timely diagnosis allows for faster patient orientation and therefore more effective treatment.

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839 - Submission No. 1558

"AHOY MATEYS" - A PULMONARY CANNONBALL METASTASIS CASE REPORT

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Case Description: The appearance of multiple pulmonary nodules in chest X-rays or computed tomography (CT) scans have multiple causes, in which metastasis is included. There is a specific appearance pattern, known as cannonball metastasis, that is associated with disseminated malignancy and poor prognosis.
Clinical Hypothesis: In this report, we describe a case of explosive cannonball metastasis of a lung cancer patient.
Diagnostic Pathways: We present a 55-year-old man with stage IV lung cancer at diagnosis, who had done 4 courses of chemotherapy and radiotherapy. A staging CT scan revealed stable disease with slight reduction of the lung mass and surveillance was initiated. A CT scan 3 months later documented the appearance of over 2 dozen pulmonary nodules that were not described in previous imaging.
Discussion and Learning Points: Cannonball metastases refer to large, round and well circumscribed nodules spread throughout the lungs that have a cannonball-like appearance. Renal cell carcinoma and choriocarcinoma are the most well-known causes and it normally implies a poor prognosis, although there have been rare reports of favorable outcomes. As of today, 1 year after disease progression, the patient is being treated with alectinib, a fourth line therapy for non-small-cell lung cancer with ALK-rearrangement.

840 - Submission No. 1050

THE MAN WITH PAINFUL PLASMACYTOMA

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Case Description: A 64-year-old male without allergies, diabetic. Herniated L5-S1 disc surgery 20 years ago. Acute low back pain 2 years ago, without bone lesions on CT and MRI. In the MRI it was observed an adrenal nodule and a monoclonal gammopathy of low risk of progression. Two months before admission, progressive neuropathic pain in the lumbar region and functional limitation, so he couldn't stand or sit. Fecal and urinary incontinence, without loss of sensation. He went to the emergency room. In the lumbar MRI we observed a mass of soft tissues that occupied the vertebral canal from L1-L2 to L2 - L3, compressing the thecal sac and the roots of the horsetail.
Clinical Hypothesis: Given this situation, we considered as possible differential diagnoses a metastasis of unknown primary tumor, a bone plasmacytoma or a multiple myeloma.
Diagnostic Pathways: The CT scans of the neck, thorax and abdomen revealed an increase in the size of the adrenal nodule. The analysis showed IgG 694 mg/dl, beta2microglobulin 1.32 mg/dl, albumin 3.7 mg/dl, monoclonal peak IgG 0.29 g/dl lambda, serum light chains and negative urine. Negative tumor markers. In bone marrow aspiration, 3% plasma cells. We performed a biopsy of the adrenal nodule, and it was found infiltration by plasma cells.
Discussion and Learning Points: The existence of an adrenal lesion with plasma cell infiltration, unique at first, with less than 10% of plasma cells in bone marrow, can lead to plasmacytoma. However, soft tissue injury in the spine and monoclonal peak give us the definitive diagnosis of multiple myeloma.

841 - Submission No. 1442

BEHIND MACROCYTIC ANEMIA – CLINICAL CASE REPORT

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Case Description: 47-year-old male patient with 2-month long fatigue, without other complaints. No relevant medical or surgical history. Denied alcohol consumption or dietary restrictions. On admission with moderate cutaneous pallor and scleral icterus. Blood tests requested by the family doctor with macrocytic anemia without other cytopenia (hemoglobin 7.1 g/dL; mean corpuscular volume 134 fl).
Clinical Hypothesis: Hospitalized for clarification of the clinical picture. Placed as main diagnostic hypotheses: megaloblastic anemia, hemolytic anemia, myelodysplastic syndrome, and hypothyroidism.
Diagnostic Pathways: Initial blood test were drawn showing mild hemolysis (total bilirubin 3 mg/dL; indirect bilirubin 2.12 mg/dL; lactate dehydrogenase 589 U/L; haptoglobin 70 mg/dL) but with below normal reticulocyte index (2,18) and blood smear with macrocytosis and hypersegmented neutrophils. In light of the results obtained, vitamin levels and thyroid function were requested revealing vitamin B12 deficiency, excluding hemolytic anemia and hypothyroidism. Given the presence of megaloblastic anemia, anti-gastric parietal cell and anti-intrinsic factor antibodies were solicited, both of which were positive, confirming the diagnosis of pernicious anemia. In view of the findings patient made an endoscopy showing no macroscopic changes but gastric biopsies with histology compatible with autoimmune metaplastic atrophic gastritis. Therapy with intramuscular B12 was begun, with good clinical response and indication for endoscopic surveillance within 3 to 5 years.
Discussion and Learning Points: The clinical case aims to demonstrate the multiplicity of diagnoses within macrocytic anemia and to highlight the need for endoscopy in patients with pernicious anemia, given the increased risk of cancer.

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842 - Submission No. 35

MULTIPLE MYELOMA AND THE REPUBLIC OF KOSOVO

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Background and Aims: Multiple myeloma represents a malignant proliferation of plasma cells derived from a single clone. The tumor, its products, and the host response to it result in a number of organ dysfunctions and symptoms, including bone pain or fracture, renal failure, susceptibility to infection, anemia, hypercalcemia, and occasionally clotting abnormalities, neurologic symptoms, and manifestations of hyper viscosity. This research aims to give insight into the incidence, and the treatment protocols used for multiple myeloma in the Republic of Kosovo during the January 2017- December 2021 period.

Methods: The study includes a retrospective method used in 105 patients who were hospitalized in the Hematologic Clinic at the University Clinical Center of Kosovo.

Results: Out of the 105 patients, the male gender was affected the most with 69 cases in total (65.71%), the main groupage consisted of >60-year-olds who make 59 cases in total (56.19%). The seven biggest population-based cities of Kosovo make up 42 cases in total (40%). Therapy-wise, the main therapeutic protocol that was used is CyBorD (Cyclophosphamide, Bortezomib, and Dexamethasone), used in 68 cases (64.76%).

Conclusions: Even though the average age of incidence for multiple myeloma is 70, this study shows that groupages 60> make up nearly half of the total cases thus being indicative that the younger population's susceptibility to multiple myeloma is not to be overlooked. Cities with easier accessible medical health care tend to have higher diagnosticating numbers compared to smaller cities whose population has a harder time accessing medical health care.

843 - Submission No. 26

MULTIPLE MYELOMA AND IMMUNE THROMBOCYTOPENIA: A RARE ASSOCIATION

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Case Description: Multiple myeloma (MM) is the second most common hematologic malignancy, whose diagnosis has doubled in recent years. MM has been associated with several hematologic, neurologic, rheumatologic, and autoimmune diseases. Immune thrombocytopenia (PTI) is an autoimmune disease characterized by a decrease in platelets, also frequently related to immunological conditions, such as lymphoproliferative disorders. However, PTI is rarely associated with MM. The authors present the case of a 68-year-old man referred by the attending physician to an internal medicine appointment to study thrombocytopenia.

Clinical Hypothesis: Thrombocytopenia study.

Diagnostic Pathways: Secondary causes of thrombocytopenia were excluded. The blood tests analysis revealed thrombocytopenia (52,000/μL), protein electrophoresis with a monoclonal peak IgG lambda (6249 mg/dL), immunoparesis and Lambda/Kappa light chain ratio 70.61. The study of target organ injury showed lytic lesions in the skull and right lower limb x-ray. The medullary study showed increased megakaryocytes and medullary infiltration by plasma cells (>23%). The findings are the diagnoses of MM and PTI simultaneously.

Discussion and Learning Points: PTI's treatment wasn't initiated due to the absence of bleeding or platelet count <30 000/μL. PTI in our patient was treated simultaneously with multiple myeloma with antineoplastic therapy (VRd - bortezomib, lenalidomide and dexamethasone) with platelet count normalization. The authors suggest this case as they consider that this knowledge can avoid using additional therapies and their side effects. In cases where the treatment of both clinical entities cannot be done at the same time, the conventional medicine of immune thrombocytopenia should be initiated. However, when refractory, the anticancer treatment for MM should be considered.

844 - Submission No. 1367

EWING'S SARCOMA - CLINICAL CASE ABOUT AN AGGRESSIVE TUMOR

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Case Description: The authors presented a 20-years-old-young man with no previous medical history admitted to emergency department with a left thoracic swelling, fever, diarrhea, and unintentional weight loss of about 10 Kg in two months. On clinical examination a tender, fixed mass of 10x10 cm on the left lateral thorax, between the 5th a 7th costal arch. No changes on lung auscultation.

Clinical Hypothesis: As for this clinical presentation a benign mass to a malignant solid neoplasm must be rule out, as other infectious causes.

Diagnostic Pathways: He had increased inflammatory parameters with neutrophilic leukocytosis and a C-reactive protein of 21 mg/dL on blood findings serologies (HBV; HCV; HIV; HTLV and syphilis) were negative and no pathogen isolation on blood cultures found The chest x-ray showed a mass on the left thorax and this was confirmed by a thorax computerized tomography (CT) scan that showed a large mass centered on the left thoracic wall with significant destruction of the 6th rib with approximately

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13x10x9.8 cm. Head, neck, abdominal a pelvic CT scans were negative for metastatic lesions. The definitive diagnostic of Ewing's sarcoma was made by biopsy histology. Chemotherapy was started after gametes collection and preservation done.

Discussion and Learning Points: Ewing sarcoma is a highly malignant and aggressive primary bone tumor that can develop in almost any soft tissue or bone and affects mainly children and young people and is slightly predominant in male. Typically presents with localized pain and swelling for a few weeks or months. Constitutional symptoms or signs as unintentional weight loss and fever can be present at presentation.

845 - Submission No. 1513

CONSTITUTIONAL SYNDROME IN THE INTERNAL MEDICINE HOSPITALIZATION WARD

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Background and Aims: The aim of this study is to identify the admissions to the Internal Medicine hospitalization ward for "constitutional syndrome under study" during 2019 at our hospital and subsequently analyze different variables of interest associated with them.

Methods: For data collection, all the medical records of patients admitted to our ward during 2019 were obtained, selecting finally 52 patients with "constitutional syndrome" as the reason for admission. SPSS was used to analyze the data.

Results: The baseline characteristics showed a predominance of female sex and a median age of 74 years. Among the most common signs and symptoms, asthenia, anorexia, and weight loss were described with more than 90% prevalence. Regarding diagnostic tests, the most frequently performed were CT, followed by quantification of tumor markers, digestive endoscopy, non-surgical biopsy, and PET-CT. The final diagnosis was obtained at discharge in 54% of the patients, and 2 months later in 92%. The most prevalent was tumoral disease (39%), followed by autoimmune, cardiovascular, infectious, and psychiatric diseases. No organic disease was evident in 23% of patients. In-hospital mortality was 8% and 42% at one year. A statistically significant association was obtained between patients diagnosed with tumor disease and mortality at one year. It was also obtained between patients with elevated tumor markers and final diagnosis of tumor disease.

Conclusions: Constitutional syndrome is a challenge in the internal medicine ward due to the severity and variability of its etiology and the complexity to achieve the final diagnosis.

846 - Submission No. 2094

FEVER AND RASH - COULD HYDROXYUREA BE THE CULPRIT?

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Case Description: A 63-year-old male patient, with a past medical history relevant for a polycythemia vera (PV) for which he initiated hydroxyurea (HU) two weeks before resorting to the hospital, presented with complaints of asthenia, fever and swelling of legs with a week of evolution. He had a non-pruritic rash with plaques on both lower limbs with extension to the thighs and papules and macules spread in the posterior aspect of the trunk (affecting thoracic, lumbar, and sacral region).

Clinical Hypothesis: He was hospitalized for etiological investigation of the rash considering the possibility of an infectious, neoplastic or iatrogenic cause.

Diagnostic Pathways: Considering a potential iatrogenic effect, the hydroxyurea was suspended. Blood analysis was only relevant for thrombocytosis and elevation of c-reactive protein without leukocytosis. The blood and urine culture and serologic tests were negative. A skin biopsy of the lesions showed features compatible with superficial lymphocytic dermatitis. He initiated corticosteroid and antihistamine therapy with good clinical and analytical response. Due to the worsening of the thrombocytosis, hydroxyurea was reintroduced, and the patient had a resurgence of fever with headache and arthralgias. Hydroxyurea was definitively suspended; the patient improved and was discharged apyretic and asymptomatic.

Discussion and Learning Points: This case illustrates unacceptable side effects of HU (drug-induced fever and mucocutaneous manifestations) which fulfills criteria to consider it as an intolerance. Intolerance to HU occurs in approximately 5– 13% of patients and although intolerance has no prognostic significance it is clinically relevant - HU needs to be discontinued as these patients are eligible for second-line therapy.

847 - Submission No. 1616

MULTIPLE PRIMARY CANCERS - WHERE DO THE BRAIN METASTASIS COME FROM?

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Case Description: A 65-year-old female patient was hospitalized for episodes of lipothymia and upper limb paresthesia. Her past medical history was relevant for the presence of microcalcifications of the upper quadrant of the left breast. The cranioencephalic computed tomography (CT) scan documented multiple encephalic lesions.

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Clinical Hypothesis: To better characterize the lesions, a cranioencephalic magnetic resonance imaging was made, doubts remain as to its nature - infectious or neoplastic.

Diagnostic Pathways: The possibility of neurocysticercosis was excluded once the patient had no criteria to establish a definitive diagnosis. The thoraco-abdomino-pelvic CT scan showed a neo formative lesion of upper left lobe of the lung. It was also made the evaluation of the microcalcifications of the breast with mammography and biopsy that revealed an invasive carcinoma. Due to its location and the impossibility of approaching that suspected primary lesion, it was made the biopsy of the encephalic lesions that confirmed brain metastasis of lung adenocarcinoma.

Discussion and Learning Points: Multiple primary cancers comprise two or more primary histologically distinct malignancies occurring in the same individual, which originate in a primary site or tissue and are neither an extension, nor a recurrence or metastasis. This case illustrates a little described association of tumors in literature that doesn't fit into any family cancer syndromes known. It draws attention to the possibility of the existence of multiple primary cancers and the importance of its recognition due to its implications in staging and in treatment management.

848 - Submission No. 2152

PANCYTOPENIA – IS IT PIPERACILLIN/ TAZOBACTAM THE GUILTY ONE?

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Case Description: A 79-year-old male, with history relevant for a recent hospital stay for cholangitis and choledocholithiasis, was admitted because of a new episode of cholangitis. He started empirical antibiotic therapy with Piperacillin/Tazobactam with good clinical and analytical response regarding the inflammatory and infectious process. After eight days of hospitalization the patient developed a severe thrombocytopenia with hemorrhagic dyscrasia – oral mucosa hemorrhagic suffusion and petechiae spread throughout the body.

Clinical Hypothesis: Given the sudden onset of the cytopenia, an iatrogenic cause was considered as the most probable hypothesis. Nonetheless, other causes of pancytopenia were investigated.

Diagnostic Pathways: Initially considering the intermediate probability of heparin-induced thrombocytopenia, enoxaparin was discontinued. It was made a therapeutic test with corticosteroids. The examination of the peripheral blood smear, iron studies, serum vitamin B12 levels, the Coombs and serologic testing had no relevant changes. There was a borderline serum folate level. The patient showed no improvement and investigations showed a decrease of the three-blood series, which reached minimum levels on day 12. Piperacillin/tazobactam was discontinued, and the blood count returned to normal levels within 6 days.

Discussion and Learning Points: Piperacillin/tazobactam is increasingly being used as a treatment for polymicrobial infections. This case illustrates an uncommon adverse reaction associated with its use. Although uncommon, myelosuppression is a condition that has a life-threatening potential, and it is important to take into consideration this cause as it is a reversible one. This case also draws attention to the need to maintain frequent hematological controls whenever therapy with piperacillin/ tazobactam is extended.

849 - Submission No. 1567

ACUTE MYOCARDITIS DUE TO PEMBROLIZUMAB - A CASE REPORT

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Case Description: Pembrolizumab is a monoclonal antibody used in immunotherapy and significantly improves the clinical outcomes in several oncological diseases. However, it also has several adverse effects, mostly autoimmune ones. We present a case of a 54-year-old man, with stage IV lung adenocarcinoma under immunotherapy with pembrolizumab who went to the emergency room due to three episodes of syncope 16 hours after his 7th administration of pembrolizumab. At physical examination he was asymptomatic with normal vitals. Blood tests showed an increased troponin I of 3220 pg/mL, followed by 3777 pg/mL at 3-hour revaluation, with negative d-dimers. The electrocardiogram showed no changes. In the day after the patient was bradycardic and the electrocardiogram showed a complete atrioventricular block, associated with two new episodes of syncope.

Clinical Hypothesis: Complete atrioventricular block, which led to a pacemaker placement, non-ST elevation acute coronary syndrome was considered which motivated the start of dual anti-platelet aggregation. Myocarditis and heart failure were also considered.

Diagnostic Pathways: Echocardiogram showed doubtful hypokinesia of interventricular septum with an ejection fraction of 56%. A coronary angio-CT was performed which didn't reveal significant coronary stenosis. Later a cardiac magnetic resonance was performed which showed myocarditis at resolution stage.

Discussion and Learning Points: Complete atrioventricular block and acute myocarditis are some of the adverse effects associated with pembrolizumab and, regarding to acute myocarditis, it has been showed in recent literature that it can be fatal. This case report highlights for the importance of cardiac monitoring of patients doing therapy with pembrolizumab.

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850 - Submission No. 1662

PLEURAL EFFUSION: IS IT INFECTIOUS OR MALIGNANT?

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Case Description: A 79-year-old man with a background of arterial hypertension and auricular fibrillation presented at the emergency room with dyspnea, hemoptysis, right posterior thoracic pain, and weight loss for three months, associated with fever for 4 days. At the emergency room pulmonary auscultation showed reduced vesicular murmur at the right, without peripherical edema. The arterial blood gas showed type I respiratory failure. The initial study showed a slightly elevated C-reactive protein (65 mg/dL) without leukocytosis or neutrophilia. Chest radiography revealed a large right pleural effusion.

Clinical Hypothesis: Parapneumonic pleural effusion which motivated the start of antibiotic therapy with ceftriaxone and azithromycin. It was also considered the possibility of malignant pleural effusion and decompensated congestive heart failure.

Diagnostic Pathways: Blood cultural exams were negative. Chest CT wasn't clear as it showed a right lung consolidation with peripherical small nodules of unknown nature. It was performed a diagnostic and therapeutic thoracocentesis. Analysis of pleural fluid showed an exudate with 2286 nucleated cells/µl (1220 mononucleated cells/µl, 1066 polymorphonucleated cells/µl); fluid cytology showed the presence of malignant cells compatible with PD-L1 negative lung adenocarcinoma. A positron emission tomography (PET) scan was performed, and it suggested the present of malignant lung lesions in the right lung associated with hilar adenopathy.

Discussion and Learning Points: The differential diagnosis of pleural effusion is essential as if there is a clinical suspicion of a malignant cause, additional investigation should be performed.

851 - Submission No. 1581

FLUOROPYRIMIDINES TOXICITY AND THE IMPORTANCE OF GENETIC SCREENING - A CASE REPORT

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Case Description: Fluoropyrimidines such as 5-Fluorouracil (5-FU) and capecitabine are used in many oncological diseases. Often well tolerated, it's known that gene DPYD (which codifies dihydropyrimidine dehydrogenase protein - DPD, whose function is the catalyzation of 5-FU) can have a mutation that leads to the deficiency of DPD and to aggravated adverse effects when chemotherapy with 5-FU and its derivates are given.

Clinical Hypothesis: We present a clinical case of a 72 year-old man with stage IV colon cancer doing adjuvant therapy with capecitabine; at the 14th day of the 2nd cycle the patient presented an erythematous desquamative rash in the thorax, abdomen, back, axillar and perineal regions, without affecting palmoplantar regions; he also presented with grade 4 mucositis, severe diarrhea and fever.

Diagnostic Pathways: Blood tests revealed neutropenia, and hemocultures isolated *Candida parapsilosis*; the patient also had pneumonia and a bronchoalveolar lavage showed the presence of *Acinectobacter baumanii* and Serratia. The patient needed invasive mechanical ventilation for 8 days. It was given antibiotic therapy with meropenem and vancomycin, associated with fluconazole, and after 39 days the patient was discharged.

Discussion and Learning Points: Gastrointestinal tract ulceration and myelosuppression are common adverse effects of capecitabine; however febrile neutropenia happens only at 10% of the patients. Severe toxicity of fluoropyrimidines, which is shown in this case, can happen at 30% of the patients, and it's associated with the deficiency of DPD. This clinical report shows the importance of doing the genetic screening of DPD deficiency to select which cancer patients should not be treated with the usual dose of 5-FU.

852 - Submission No. 2161

NIVOLUMAB-INDUCED PNEUMONITIS – A CASE REPORT

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Case Description: Although uncommon, pneumonitis, including fatal cases, have been observed in patients treated with nivolumab. It usually appears in the first months of treatment, although it can occur more than a year after starting treatment. We report a case of G2 pneumonitis in a nivolumab-related patient after 3 and a half years of treatment for clear cell renal cell carcinoma. A 72-year-old male, with stage IV clear cell renal carcinoma, under second-line treatment with nivolumab, with good clinical response. Observed at the Oncology Day Hospital due to irritating cough, feverish sensation, anorexia, and fatigue for at least 2 months. He had already taken several cycles of antibiotic therapy. On physical examination he was polypneic, subfebrile, SpO_2 91%, and bilateral wheezing on lung auscultation.

Clinical Hypothesis: Immune-mediated interstitial pneumonitis due to nivolumab.

Diagnostic Pathways: He had hypoxemia on arterial blood gas. Chest X-ray showed opacities in both lung bases, which motivated the performance of computed tomography of the chest, which revealed radiological alterations suggestive of interstitial pneumonitis. Patient was hospitalized for treatment and supervision. Prednisolone 1 mg/Kg was started, with progressive remission of symptoms. Nivolumab was discontinued. One month

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after the diagnosis, a reassessment chest CT was performed, showing a significant regression of the radiological alterations.

Discussion and Learning Points: Most patients with pneumonitis have G1 or 2 disease. The diagnosis is usually made by chest CT and requires a high degree of clinical suspicion. The treatment is based on corticosteroids. Pneumonitis can be potentially fatal, so early recognition and treatment are crucial.

853 - Submission No. 2060

PATIENT WITH RECURRENT INFECTIONS. ARE WE MISSING SOMETHING?

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Case Description: A 20-year-old woman with a history of recurrent respiratory, gastrointestinal, ear and urinary infections, pelvic inflammatory disease, tonsillectomy, and adenoidectomy in childhood. She attended due to abdominal pain, heartburn, defecation urgency with soft-liquid yellowish stools and cough with yellowish-greenish expectoration for two weeks. Weight loss of 5 kg in 3 months, with fatigue and profuse sweating at night. On examination, subfebrile and tachycardic, generalized pain on abdominal palpation. An abdominal-CT scan revealed hepatosplenomegaly, concentric thickening of the terminal ileum with multiple adenopathies with an inflammatory appearance, probably related to nonspecific ileitis and reactive adenitis of the infectious process.

Clinical Hypothesis: Initial suspicion of celiac disease because of IgA deficiency, performing endoscopic studies with findings suggestive of lymphoid nodular hyperplasia in the ileum, where biopsies confirmed non-specific lymphoid follicular hyperplasia.

Diagnostic Pathways: At the analytical, IgA, IgM and IgG deficiency, negativity for anti-transglutaminase antibodies and HLA DQ2/DQ8. The first diagnostic hypothesis of common variable immunodeficiency (CVID). An immunological study confirmed the diagnosis of CVID with a high risk of adenopathies. She was referred to preventive medicine for vaccination against influenza and 23-valent pneumococcal and start treatment with immunoglobulins.

Discussion and Learning Points: CVID presents with recurrent infections and a reduction in serum IgG and at least one other immunoglobulin (IgA, IgM) and a reduced/absent antibody production (decreased proliferation of CD4/CD5 T cells), poor or absent response to immunization. The use of subcutaneous immunoglobulin decreases the progression of chronic lung disease and reduces the incidence of acute bacterial infections. However, it doesn't address complications such as lymphoid hyperplasia and the development of neoplasms.

854 - Submission No. 847

BONE MARROW ASPIRATION FOR THE DETECTION OF OCCULT METASTATIC BREAST CANCER PRESENTING AS DISSEMINATED INTRAVASCULAR COAGULATION

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Case Description: A 51-year-old woman presented with jaundice and abdominal discomfort. She had a history of primary left-breast ductal carcinoma (T1, N1, M0) diagnosed six years ago, treated with mastectomy, axillary clearance, chemotherapy, and radiotherapy. Thereafter, considered in clinical remission. The rest of her medical history included heterozygous beta-thalassemia, arterial hypertension, and hypothyroidism under treatment. Clinical examination revealed jaundice, mild epigastral discomfort and low fever. Initial laboratory examinations were compatible with disseminated intravascular coagulation (DIC), as indicated by worsening anemia (Hb: 8 g/dL), thrombocytopenia (36 K/µL), indirect bilirubinemia (iBil: 4.6 / tBil: 7.9 mg/dl), prolonged prothrombin time (INR: 1.96), decreased fibrinogen (112 mg/dL), and 25-30 schistocytes per field in the peripheral blood smear. Coombs test was negative. ESR and CRP were normal. Gradually, she manifested hemorrhagic skin lesions such as ecchymoses and purpura.

Clinical Hypothesis: Sepsis or cancer related DIC.

Diagnostic Pathways: Blood cultures were negative, and no clinical response was observed despite the initial treatment with broad-spectrum antibiotics and FFPs. CT scan, mammography and breast ultrasound did not reveal cancer relapse. To further investigate the possibility of occult cancer-associated DIC, bone marrow aspiration was performed, which revealed atypical large cells with basophilic cytoplasm, later confirmed as breast cancer metastases by bone marrow histopathology (CAM5.2+, CK7+, CK20-). The patient was referred to the oncology department but deceased before the initiation of chemotherapy.

Discussion and Learning Points: In patients with a history of malignancy, DIC may be the first or even solitary manifestation of metastatic disease. Bone marrow aspiration is a useful simple diagnostic tool for cancer relapse and/or dissemination.

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855 - Submission No. 1918

LIGHT-CHAIN MULTIPLE MYELOMA IN A PATIENT WITH IGDΛ-MONOCLONAL GAMMOPATHY OF UNDETERMINED SIGNIFICANCE (MGUS): A PUZZLING DIAGNOSIS

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Case Description: A 76-year-old woman was admitted to emergency department due to generalized weakness, back pain, and oliguria in the setting of recent diarrhea and ibuprofen use. She had a history of hypertension, hypertensive myocardiopathy and atrial fibrillation as well a two-year history of IgDλ-MGUS, without active monitoring. On admission she was afebrile, hemodynamically unstable with peripheral edema and was found to have acute renal insufficiency and severe anemia.

Clinical Hypothesis: MGUS may progress to multiple myeloma (MM), lymphoma or AL amyloidosis.

Diagnostic Pathways: Laboratory investigations revealed no elevated levels of erythrocyte sedimentation rate (ESR), high-anion gap metabolic acidosis and normal calcium levels. Ultrasound assessment revealed normal kidney size and urinalysis showed inactive sediment. The 24-h urine protein was 1.89 gr. Serum protein electrophoresis detected no M spike, and all antibody serology tests were negative. Abdominal CT showed osteopenia and lytic lesions located on the lumbar vertebrae. Thereafter, serum and urine immunofixation tests were performed. On the basis of elevated λ-free light chain levels in serum and urine and β2-microglobulin levels, bone marrow aspiration was performed and confirmed the diagnosis of λ-light chain MM. Specifically, bone marrow aspirate report showed infiltrations up to 80% of monoclonal plasma cells with atypical morphology.

Discussion and Learning Points: Light-chain multiple myeloma is an uncommon type of MM characterized by aggressive course and poor prognosis. Clinicians should be aware that in patients with light-chain multiple myeloma M-Spike on serum protein electrophoresis may be absent accompanied by low ESR. Moreover, patients with MGUS should be monitored regularly given that 1% of those will develop MM annually.

856 - Submission No. 997

RELEVANCE OF WARNING SIGNS IN CERVICAL PAIN. A CASE REPORT

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Case Description: An 81-year-old patient, with no previous history, consults for neck pain of two months of progression with difficult pain control despite the use of major opiates, consulting up to three times for the same reason. The increase of pain intensity is accompanied by progressive functional limitation that makes ambulation difficult, as well as distal paresthesia of the upper limbs and progressive appearance of dysphagia to liquid food. Given the presence of numerous red flags, a cervical CT scan was performed showing a 40x37 mm mass located in the midline of the skull base, as well as numerous lytic bone lesions.

Clinical Hypothesis: Cervical plasmacytoma concerning multiple myeloma.

Diagnostic Pathways: The study is completed with blood tests, in which a monoclonal peak of free kappa light chains quantified at 12018 mg/L as well as deterioration of renal function and normocytic anemia stands out. Finally, the bone marrow puncture-aspiration shows 34% of plasma cells. Based on these results the patient is diagnosed as having kappa light chain multiple myeloma and treatment with bortezomib and dexamethasone is initiated. The cervical lesion is stabilized with a rigid collar.

Discussion and Learning Points: Cervical pain has a high prevalence in the population between 10 and 20%. Although the main causes are benign, it is important to identify warning signs that may suggest other causes, especially neoplastic ones. In our case, neurological symptoms, especially dysphagia with a neurological profile, are an indicative sign of a possible underlying malignant cause.

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857 - Submission No. 1990

A LONGITUDINAL ASSESSMENT OF THE NATURAL CHANGE IN HAEMOGLOBIN, HAEMATOCRIT AND MEAN CORPUSCULAR VOLUME WITH AGE

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Background and Aims: We aim to assess the natural annual trends in the levels of hemoglobin, hematocrit and mean corpuscular volume (MCV) in a population of adults, together with the influence of different clinical parameters on these trends.

Methods: A retrospective analysis was carried out on data from a large cohort of subjects attending a screening center in Israel. For each subject, the yearly average change of hemoglobin, hematocrit and MCV was calculated. Statistical analysis was performed for the whole cohort and for different subgroups.

Results: The study included 3551 subjects. The average annual rates of decline were found to be -0.0550 g/dl (95% confidence interval (CI): -0.0590 g/dl - -0.0503 g/dl) and -0.097% (95% CI: -0.112% - -0.083%) for hemoglobin and hematocrit, respectively. An average annual increase of the MCV level by 0.184 fl (95% CI: 0.168 fL-0.200 fL) was found. Among men, the rate of decline in hemoglobin was found to be twice as high compared with women -0.06 g/dl vs -0.03 g/dl, respectively (p=0.0063). In a multivariate analysis, gender remained the only parameter significantly associated with the annual decline of hemoglobin (p=0.0001).

Conclusions: An annual average decrease in the levels of hemoglobin and hematocrit together with an annual increase in MCV was found. These changes were more prominent in men.

858 - Submission No. 587

TOO LONG NEGLECTED ANEMIA: A CASE REPORT OF UNUSUAL COMPLICATIONS

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Case Description: We report a case of a 53 years old man admitted to our Unit due to persistent asthenia, arthralgia, weight loss and cough.

Clinical Hypothesis: Past medical history included chronic anemia never further investigated.

Diagnostic Pathways: Blood exams revealed microcytic anemia (Hb 6.5 g/dL, MCV 62) with anisopoikilocytosis, target erythrocytes and raise of A2 and fetal hemoglobin, findings compatible with β-thalassemia, increased CRP (64.8 mg/L) and hyperuricemia (14 .4 mg/dL). Thoracic-abdominal CT described enlarged spleen, pulmonary pseudonodulations with enlarged lymph nodes and angioma-like lesions of bones. Bronchoscopic lung biopsy was performed, resulting positive for tuberculosis, same as QuantiFERON test and mycobacterium tuberculosis DNA research. Echocardiography showed pulmonary hypertension (PAPs 45 mmHg) and mild mitral regurgitation with false chorda tendineae rupture.

Discussion and Learning Points: Antibiotic treatment for tuberculosis and therapy with NSAIDs, colchicine and allopurinol for suspected gouty arthritis were started. Molecular genetic analysis confirmed the diagnosis of β-thalassemia intermedia. As a result of chronic neglected anemia our patients developed uncommon complications. Hypertrophy of erythroid marrow led to severe splenomegaly and hemangioma-like lesions of bones. Chronic hemolysis and extramedullary hematopoiesis determined high cell turnover rate resulting in endogenous overproduction of uric acid and development of gouty arthritis. False chorda tendineae rupture may be associated to thalassemia-related pseudoxanthoma elasticum-like syndrome. Furthermore, despite commonly being a consequence of chronic inflammatory diseases, anemia could also have contributed to tuberculosis reactivation through nutritional imbalance and immune system impairment. We reiterate the importance of anemia screening, early diagnose and treatment, as neglected anemia could lead to unique, unpredictable, and life-threatening conditions.

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859 - Submission No. 2006

INTERSTITIAL LUNG FIBROSIS AND CANCER – A CONTINUUM?

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Case Description: A 65-year-old Caucasian woman with a history of limited cutaneous systemic sclerosis complicated with severe nonspecific interstitial pneumonitis and organizing pneumonia, under mofetil mycophenolate and nintedanib, is referred to the hospital due to right pleuritic pain, worse cough, and refractory dyspnea, with no response to increased debit of home oxygen therapy, bronchodilation or corticoid, in association with constitutional symptoms for 2 months. CT scan showed extensive lung consolidation in right inferior lobe as well as multiple bilateral peripheral nodes (in greater number and with larger dimensions than in the previous exam) as well as new bilateral pleural effusion and mediastinal and hilar lymphadenopathies.

Clinical Hypothesis: Based on clinical history and imaging pattern, it was hypothesized either lung tumor or foci of organizing pneumonia.

Diagnostic Pathways: Lung mass was biopsied, and evidenced metastases of mucus-producing adenocarcinoma. Extensive imaging and endoscopic work-up excluded tumors from other origin. Primary lung adenocarcinoma was staged as IVB (cT4N3M1c). NGS showed no target mutation. Due to ECOG 4, patient was not suitable for chemotherapy. She died in 1 month, on palliative support.

Discussion and Learning Points: Progression predictive biomarkers in lung fibrosis could be an important tool to forecast which patients will progress to lung cancer. While they are unavailable, individualized lung cancer screening with CT scan may be an option in order to diagnose earlier, in a stage and ECOG suitable for treatment with curative intent.

860 - Submission No. 982

PREFIBROTIC STAGE OF PRIMARY MYELOFIBROSIS PRIMARILY PRESENTING AS EXTENSIVE SPLANCHNIC VEIN THROMBOSIS: A CASE REPORT

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Case Description: A 36-year-old man with unremarkable previous medical history was admitted to the hospital because of chronic dyspeptic syndrome. On physical examination, the patient was afebrile, eupneic, his blood pressure was 130/80 mmHg, heart rate was 84/min and oxygen saturation value was 97%. Initial laboratory investigations revealed mild hyperbilirubinemia 26 umol/L (normal 5-21 umol/L), slightly elevated hepatic enzymes, i.e., GMT 1.87 ukat/L (normal 0.05-0.92 ukat/L) and ALP 4.6 ukat/L (normal 0.5-2 ukat/L) and serum D-dimer 1.5 mg/L (normal 0.03-0.5 mg/L). Esophagogastroduodenoscopy demonstrated esophageal varices Paquet I.

Clinical Hypothesis: Extensive splanchnic vein thrombosis may be the first manifestation of an early-stage myeloproliferative neoplasia in the absence of another hypercoagulable state.

Diagnostic Pathways: Abdominal ultrasound and CT revealed extensive splanchnic vein thrombosis (portal vein, splenic vein, and superior mesenteric vein) and spleen enlargement. Clinically significant thrombophilia was not confirmed. In peripheral blood JAK2 V617F allele positivity (28.7%) was detected, bone marrow examination showed pre-fibrotic stage of primary myelofibrosis. We initiated treatment with pegylated interferon alfa-2 and direct oral anticoagulant.

Discussion and Learning Points: We report the case of primary myelofibrosis in the early/pre-fibrotic stage, where the hematologic disease was primarily manifested by extensive splanchnic vein thrombosis. Myeloproliferative neoplasms are associated with a high risk of splanchnic vein thrombosis, which occurs most frequently in one of the main splanchnic veins (portal vein 60%, hepatic 17%, splenic vein 13% and superior mesenteric vein 10%). Involvement of more than one splanchnic vein as an initial sign is described very rarely.

861 - Submission No. 811

CHARACTERISTICS ASSOCIATED WITH DIAGNOSIS OF THROMBOPHILIA IN PATIENTS WITH VENOUS THROMBOEMBOLISM

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Background and Aims: Thrombophilia testing is usually performed in patients with venous thromboembolism (VTE). Our objective was to determine the characteristics associated with the presence of thrombophilia in patients with VTE.

Methods: Prospective observational study on 3527 patients diagnosed with VTE, selecting those patients tested for thrombophilia. We compared different characteristics according to the presence of thrombophilia.

Results: We obtained the results showed in Table 1.

Conclusions: Patients with thrombophilia were more frequently smokers and less frequently reported previous VTE. Since patients who undergo thrombophilia testing are selected according to

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clinical criteria, patients with negative tests are probably not representative of all patients without thrombophilia. This may also explain the absence of differences in other VTE risk factors, which we expected to be less frequent in patients with thrombophilia. Patients with thrombophilia were more frequently pregnant. Pregnancy constitutes a prothrombotic state, moreover with concomitant thrombophilia, especially high-risk thrombophilia and with familiar history of VTE. Patients with thrombophilia less frequently presented a negative D-dimer. Previous studies show no differences in D dimer values in patients with thrombophilia, nor basally nor in the setting of VTE. Isolated pulmonary embolism (PE) was more frequent in patients with negative thrombophilia tests. Bleeding was more frequent in patients with no thrombophilia. It is speculated that the prothrombotic state of thrombophilia associates a lower bleeding tendency, but further studies are needed to confirm this. In conclusion, patients diagnosed with thrombophilia after VTE are more frequently pregnant, have no VTE history, present less frequently with isolated PE, and present less bleedings in the follow-up.

		Negative thrombophilia tests (N=578)	Positive thrombophilia tests (N=184)	p value
	Age (years), mean ± SD	50,03 +/- 15,32	48,99 +/ 15,74	0,433
	Female sex	43,94%	38,59%	0,201
	Diagnosis during admission	5,36%	4,35%	0,586
	Previous anticoagulant treatment	0,52%	1,09%	0,406
	Recent bleeding	1,38%	0,54%	0,358
Cardiovascular diseases	**Smoking**	**20,42%**	**27,72%**	**0,038**
	Diabetes mellitus	7,44%	8,15%	0,751
	Hypertension	22,15%	22,28%	0,969
	Heart failure	3,11%	0,00%	
	Atrial fibrillation	1,21%	1,63%	0,663
	Dyslipidemia	11,76%	15,22%	0,219
	Ischemic cardiomyopathy	1,56%	1,63%	0,945
	Cerebrovascular disease	2,42%	1,09%	0,271
	Peripheral artery disease	1,56%	0,54%	0,293
	Dementia	0,35%	0,54%	0,71
	Enolism	2,25%	1,63%	0,61
	Cancer	5,71%	3,26%	0,189
	Recent surgery	6,92%	8,70%	0,422
VTE risk factors	Recent immobilization	13,49%	10,87%	0,354
	Previous VTE	**17,82%**	**10,87%**	**0,026**
	Family history of VTE	10,73%	12,50%	0,506
	Recent travel	3,29%	4,35%	0,498
	Hormonal treatment	12,46%	12,50%	0,988
	Pregnancy	**1,56%**	**4,89%**	**0,009**
	Recent labor	2,25%	0,54%	0,133
	Previous SVT	2,94%	3,26%	0,825
	Anemia (Hb < 12 mg/dL)	15,57%	10,33%	0,077
Analysis	Platelet count <50000/mm3	0,17%	0,00%	
	Chronic kidney failure	4,84%	4,89%	0,979
	Kidney failure	4,67%	2,72%	0,25
	D Dimer <250 ng/ml	**3,98%**	**0,54%**	**0,02**
	Recquired hospital admission	64,53%	64,67%	0,972
Type of episode	Isolated DVT	49,13%	56,52%	0,081
	Isolated PE	**30,80%**	**20,11%**	**0,005**
	PE and DVT	15,22%	19,57%	0,165
	Asymptomatic PE	2,42%	2,17%	0,847
	SVT	2,42%	1,63%	0,527
	VTE recurrence	8,48%	11,96%	0,157
Outcomes	VTE recurrence during anticoagulation	1,38%	2,17%	0,454
	Bleeding	**8,48%**	**3,80%**	**0,034**
	Major bleeding	2,25%	2,17%	0,952
	Mortality	0,87%	2,17%	0,152

861 Table 1. Basal characteristics, clinical presentation, and outcomes of patients with VTE, compared by the results of thrombophilia tests. VTE (venous thromboembolism), SVT (superficial venous thrombosis), DVT (deep venous thrombosis), PE (pulmonary embolism)

862 - Submission No. 1155

RICHTER TRANSFORMATION PRESENTING AS INTRACARDIAC MASS, TAMPONADE AND COMPLETE ATRIOVENTRICULAR BLOCK, A CASE REPORT

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Case Description: A 72-year-old patient with chronic lymphocytic leukemia (CLL) treated with ibrutinib presented due to abdominal pain and chest discomfort. On examination blood pressure 118/88, HR 79 bpm. Heart sounds were muffled, and the abdomen was soft but mildly tender with no organomegaly. Blood workup revealed: WBC 9.03 k/µL, hemoglobin 12.3 g/dL, thrombocytes 263 k/uL, LDH 773 U/L, calcium 9.7 mg/dL, creatinine 2.01 mg/dL. Electrocardiogram (ECG) showed sinus bradycardia with low QRS voltage. CT revealed large pericardial effusion and a right ventricular mass (Figure 1).

Clinical Hypothesis: Malignancy associated pericardial effusion.

Diagnostic Pathways: Shortly after admission the patient became hypotensive with a blood pressure of 104/58 and pulse 33/min. Repeated ECG disclosed a complete AV block and a pacemaker was implanted. Urgent echocardiogram confirmed a large pericardial effusion and a right ventricular mass (Figure 2). Pericardiocentesis was performed and hemodynamic stability was achieved. Cytology of the pericardial fluid showed large pleomorphic atypical lymphocytes stained positive for CD20 and CD23 - consistent with diffuse Large B cell lymphoma (DLBCL) – Richter Transformation. Conventional R-CHOP treatment protocol was initiated.

Discussion and Learning Points: Our case represents a rare clinical entity of Richter's transformation (RT) from CLL to DLBCL with estimated incidence of 0.5%[1] per year and a median survival of 10 months[2]. RT may have atypical presentation especially under BTK-inhibitors and is less responsive to therapeutic agents compared to de-novo DLBCL. Additional research is needed to further distinguish the 2 entities.

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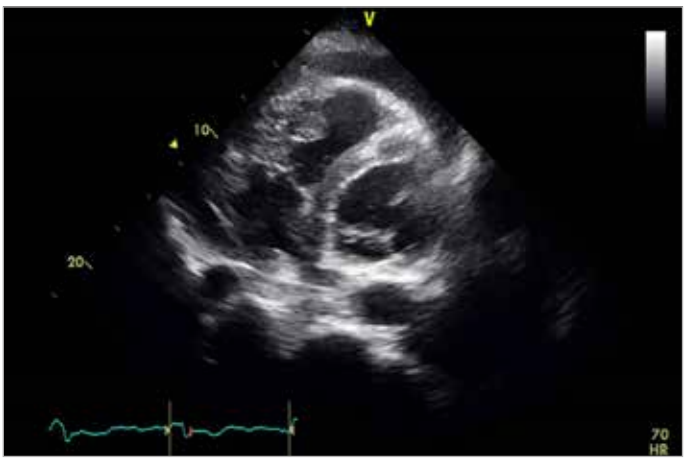
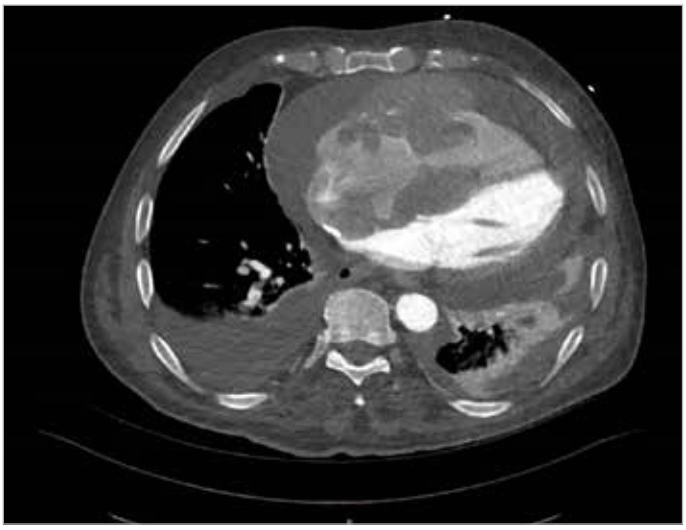


862 Figure 1.



862 Figure 2.

863 - Submission No. 2093

A CASE OF MULTIPLE MYELOMA IN A PATIENT WITH OSTEOLYTIC LESIONS AND HYPERCALCEMIA IN THE ABSENCE OF MONOCLONAL GAMMOPATHY AND NEGATIVE INITIAL BONE MORROW BIOPSY

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Case Description: Multiple myeloma (MM) is a malignancy characterized by plasma cell proliferation in the bone marrow, resulting in overproduction of monoclonal paraprotein (M-protein). MM can cause osteolytic lesions, fractures, renal failure, and bacterial infections; laboratory workup may reveal anemia and hypercalcemia. We report a case of a patient who was diagnosed with MM, without M-protein spike, due to high urinary light-chain excretion.

Clinical Hypothesis: A 58-year-old man was admitted with lower-back pain refractory to analgesics. A lumbar spine MRI and a PET/CT revealed a focal lesion on the L2 vertebra without osteolytic lesions. Laboratory results revealed high serum calcium, uric acid, urea, creatinine, and ALP levels; low serum γ-globulin, PTH and vitamin D levels; ESR, hemoglobin, total protein and albumin values were normal. The patient was treated with intravenous fluids, furosemide, zoledronic acid, prednisolone and p.o. allopurinol. Imaging revealed osteolytic lesions. Serum protein electrophoresis, Immunofixation, bone marrow biopsy and smear were not pathognomonic for MM. A standard evaluation for cancer of unknown primary site yielded no results.

Diagnostic Pathways: Since osteolytic lesions were found in the imaging studies (albeit not in scintigraphy), multiple myeloma remained in the differential diagnosis. Due to persistent moderate albuminuria, electrophoresis and immunofixation of a 24-hour urine sample were performed and showed a spike in γ-globulins and κ-light chains band. New bone marrow biopsy was performed, on the opposite iliac crest, which established the diagnosis.

Discussion and Learning Points: Urine light chain detection and quantification as well as performing the indicated bone marrow biopsies are important when suspecting the diagnosis of MM.

864 - Submission No. 1210

HIV-ASSOCIATED IMMUNE THROMBOCYTOPENIC PURPURA

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Case Description: A 19-year-old woman without significant prior medical history was referred to the emergency department due to new onset thrombocytopenia. The patient complained of febrile tonsillitis three weeks before initially treated with amoxycillin-clavulanic acid for six days and afterwards, due to fever relapse, levofloxacin for seven days. At admission she was hemodynamically stable, afebrile with a diffuse petechial non-irritating rash. Routine laboratory results were normal, apart from thrombocytopenia (platelets: 31,000/μL). Fundoscopy revealed no hemorrhagic lesions, while the peripheral blood smear no schistocytes. Abdominal ultrasound depicted no organomegaly.

Clinical Hypothesis: Immune thrombocytopenic purpura following upper respiratory tract infection treated with antibiotics.

Diagnostic Pathways: Blood cultures and further serologic tests were performed. Results revealed a positive HIV-1 antibody test (ELISA) with a viral load of 1.31 X10 ^{5} copies/mL, while CD4+ T-cell count was 559 cells/μL. Therefore, both hematologic and infection counselling were required. The patient was classified as A2B2 acute HIV, with a high suspicion of a primary infection. Immune thrombocytopenic purpura, in the setting of HIV infection, was

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treated with initially high doses of intravenous methylprednisolone (1 gr for 3 days) followed by 1 mg/kg/day and gradual tapering. She responded well, with rapid platelet count increase and rash remission. Corticosteroid treatment was stopped at four weeks, after which anti-retroviral therapy was initiated.

Discussion and Learning Points: We herein underline the need for HIV serology testing in patients with unexplained thrombocytopenia, since the acute phase of HIV infection can present with isolated thrombocytopenia in up to 15% of patients.

865 - Submission No. 1834

PAINLESS KIKUCHI-FUJIMOTO DISEASE

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Case Description: A 40-year-old man presented with a 1-month history of painless lumps in the right neck. He also had fever, malaise, sweating, and loss of appetite but no weight loss. Physical examination revealed non-tender bilateral neck lymphadenopathy.

Clinical Hypothesis: Kikuchi-Fujimoto disease, malignant lymphoma.

Diagnostic Pathways: Fluorodeoxyglucose positron emission tomography (FDG-PET) showed increased bilateral FDG uptake in the neck and axillary and mediastinal lymph nodes (Figure). Right cervical lymph node biopsy showed no atypical cells; however, diffuse necrotic tissue foci with karyorrhexis were noted, which are definitive indicators of Kikuchi-Fujimoto disease. Figure legend Figure: FDG-PET showing bilateral abnormal uptake in the cervical and mediastinal lymph nodes.

Discussion and Learning Points: Kikuchi-Fujimoto disease is a type of benign subacute necrotizing lymphadenitis that develops in young people and resolves spontaneously within a few weeks. Although commonly known as painful lymphadenopathy, it has been reported to be painless in as many as 40% of cases[1]. It may be thought of as the primary symptom, but this is not always the case. Affected patients have been reported to show small, highly accumulated cervical lymph nodes on FDG-PET. Some less frequently observed computed tomography findings include bilateral cervical (27.1%), axillary (30.6%), and mediastinal (14.3%) lymph nodes[2]. A histopathologic diagnosis is necessary when it is difficult to distinguish painless lymphadenopathy from malignant disease.

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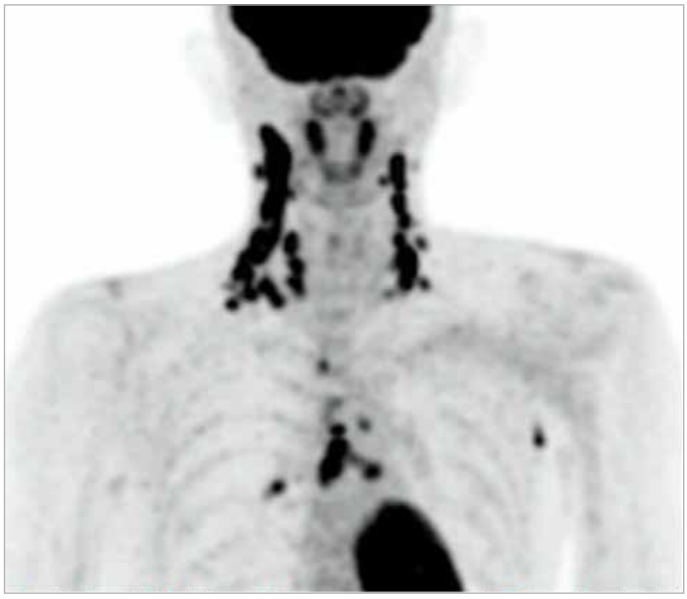

865 Figure 1.

866 - Submission No. 1720

A LETHAL CASE OF PROSTATE CANCER: NEUROENDOCRINE DIFFERENTIATION OF PROSTATE ADENOCARCINOMA

Paola Laracuente Roman, Dwayne Garcia Velez, Gabriela Negron Ocasio, Jose Lopez Puebla, Pedro Vargas Otero, Maria Marcos Martinez

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Case Description: A 60-year-old-male with medical history of metastatic prostate adenocarcinoma presented to our institution with a one-month history of rapidly progressive lower extremity weakness. The patient had been diagnosed with metastatic prostate adenocarcinoma seven months prior after presenting with severe lower back pain, a PSA at 349 ng/ml, a Gleason score greater than 8, and imaging evidence of metastatic disease to the axial skeleton. He was initially treated with gonadotropin-releasing hormone agonist and androgen receptor blockers, with significant improvement of symptoms.

Clinical Hypothesis: Neuroendocrine prostate cancer (NEPC) is an aggressive variant form of prostate adenocarcinoma.

Diagnostic Pathways: Abdomen and pelvis CT scan now showed metastatic hepatic disease, diffuse blastic bone lesions throughout the axial skeleton, and a soft tissue mass involving the sacrum at the level of S1 and S2 causing strain within the spinal canal. A liver biopsy was consistent with neuroendocrine carcinoma (synaptophysin positive, CD56 positive, chromogranin negative). The decision was made to begin chemotherapy with a platinum-based regimen. However, the patient at this time was critically ill, and died before starting therapy.

Discussion and Learning Points: NEPC may arise de novo or in patients previously treated with hormonal therapy as a resistance mechanism. Common features of neuroendocrine differentiation

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of prostate after therapy include rapidly progressive disease, low PSA levels, primary tumor with a high-grade Gleason score greater than 8, and unusual sites or patterns of metastasis. A high level of suspicion should be entertained as prompt diagnosis of this aggressive variant is crucial for rapid initiation of therapy and improvement of its progression-free survival.

867 - Submission No. 816

ERYTHRODERMA AS A PARANEOPLASTIC MANIFESTATION OF NON-HODGKIN'S LYMPHOMA. WOULD THE INTERNIST CONTRIBUTE TO THE ASSESSMENT OF SKIN PROCESSES?

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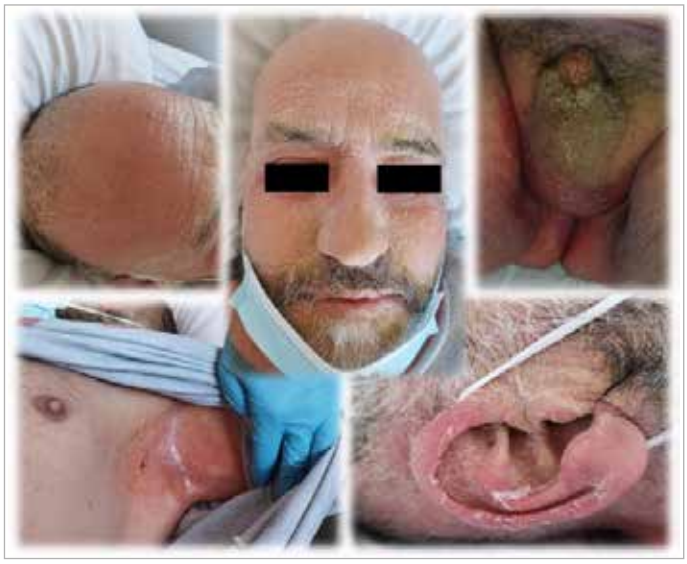
Case Description: 53-year-old male under dermatological follow-up since June 2022 due to erythroderma. On steroid treatment since August and one week cyclosporine treatment due to lack of response to steroids. Admitted to Internal Medicine in September due to leg weakness, worsening of skin lesions (Figure 1) and oliguria since cyclosporine onset. On admission, creatinine levels 1.8 mg/dL and <100 cc diuresis in 12 hours. Creatinine increased (3.1 mg/dL) despite of intensive serotherapy. On suspicion of cyclosporine toxicity, nephrology withdrawn it and optimizing serotherapy. On the other hand, the case was re-evaluated, the patient reported the onset of eczematous and pruritic lesions in June with subsequent generalization and progressive desquamation on the scalp with palmoplantar hyperkeratosis. In addition, hyporexia and weight loss.

Clinical Hypothesis: On physical examination, multiple adenopathies in bilateral laterocervical chains leading to the suspicion of Sezary syndrome.

Diagnostic Pathways: The body CT-scan showed multiple laterocervical adenopathies bilaterally, as well as mediastinal, thoracic, retroperitoneal, and other multiple abdominal node stations (Figures 2 and 3). Analytical study showed leukocytosis and neutrophilia without eosinophilia, in relation to over infection of axillary and inguinal folds. Normal LDH and CPK. Normal autoimmunity studies and viral serology. PBS without morphological alterations and normal flow cytometric immunophenotyping. A CNB of laterocervical adenopathy was performed with a preliminary report suggestive of Sezary syndrome, although this was later ruled out by immunohistochemistry and finally resulted in ALK-negative anaplastic large cell Non-Hodgkin's Lymphoma (CD30 positive).

Discussion and Learning Points: In conclusion, skin disorders are sometimes the first manifestation underlying entities. Joint assessment of this patients with the Internal Medicine team would probably speed up the diagnostic processes.



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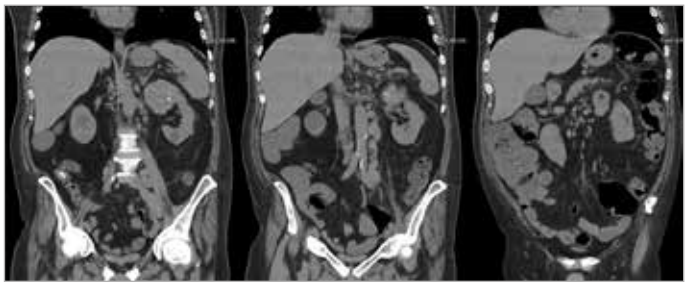

867 Figure 2.

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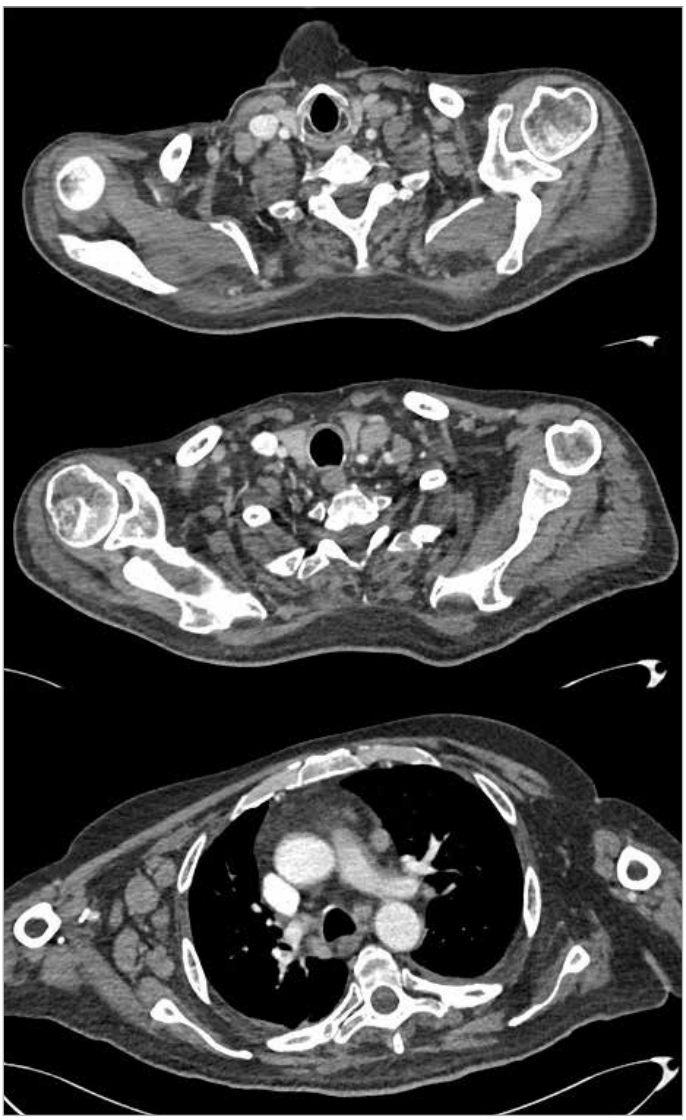

867 Figure 3.

868 - Submission No. 1480

HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS AS FIRST MANIFESTATION OF CHOLANGIOCARCINOMA: A CASE REPORT

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Case Description: A 71-year-old Caucasian male patient presented to emergency with 3 weeks duration of intermittent fever. Medical history included alcohol abuse and treatment for pulmonary tuberculosis in 2009, stopped because of hepatitis. Physical examination was unremarkable, but for the presence of fever (38.7°C). Blood analysis showed pancytopenia and elevation of ferritin, transaminases (AST 3xULN, ALT <1xULN) and C-reactive protein.

Clinical Hypothesis: Hemophagocytic lymphohistiocytosis (HLH) and disseminated tuberculosis were considered.

Diagnostic Pathways: Analysis of bone narrow suggested marrow inflammation and anti-CD25 positivity supported HLH. Computed tomography revealed a small lung densification and splenomegaly. Microbiologic (including mycobacteriology) analyses of blood culture, cerebrospinal fluid, bone narrow, bronchoalveolar and bronchial lavage was negative. The presence of intrahepatic cholangiocarcinoma was suggested by abnormal emission on hepatic segment II, that was a hypovascular infiltrative lesion on MRI. This lesion was not biopsied considering the risks associated with its location and the severity of pancytopenia. After a few weeks of stability, fever became higher and refractory to antipyretics, simultaneously with greater increase in inflammatory markers. Local infection of cholangiocarcinoma was presumed, and antibiotic therapy was started, but the patient succumbed.

Discussion and Learning Points: HLH is an hyperinflammatory state that results from excessive activation of the immune system. It is frequently associated with malignancy, but rarely with solid tumors. In this case, an extensive study was done, and cholangiocarcinoma was the only positive finding. Literature reviewed, this is the first case describing the association between HLH and cholangiocarcinoma.

869 - Submission No. 38

CLINICAL CHARACTERIZATION OF PATIENTS WITH MYELODYSPLATIC SYNDROME AND USE OF IPSS-R AND WPSS

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Background and Aims: To determine the clinical characteristics of patients with myelodysplastic syndromes using the revised international prognostic scoring system and WHO classification-based prognostic scoring system.

Methods: An observational, descriptive, retrospective, transversal study that included patients with myelodysplastic syndrome treated in an institution of high level of complexity between 2013 and 2018. Inclusion criteria were a confirmed diagnostic through blood smear, bone marrow aspirate, complete blood count and/or clinical presentation suitable with the disease.

Results: 86 patients were included, the male sex prevailed with 54.6% (47), 69 years was the median age (min 0 max 96), and the median age of diagnosis was 66 years. The main signs and symptoms associated with the onset of the disease were asthenia and adynamia with 62.8% (54) each. On associated conditions, 40.7% (35) of the patients had bacterial infections while 36% (31) had prior exposure to chemotherapy. On clinical features. The most common type of syndrome was blast excess with 38.3% (33).

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According to the IPSS-R, 30% (25) of the patients belonged on the high-risk group, while according to the WPSS 31.4% (27) did.

Conclusions: The myelodysplastic syndrome is a relevant hematologic disease as it is related to recurrent bacterial infections susceptibility, consequently it is necessary to use prognostic scales as the IPSS-R and WPSS aiming to precise a better treatment for these patients.

870 - Submission No. 1106

SIMPLE BRUISES?

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Case Description: A 54-year-old woman with personal history of discoid lupus. She went to the Emergency Department due to detection of pancytopenia in an outpatient analysis. She reported multiple bruises without associated trauma, asthenia, and drowsiness for two months. On examination, we observed hematomas and petechiae in different evolutionary periods in lower and upper limbs.

Clinical Hypothesis: The absence of response to corticosteroid therapy and hydroxychloroquine, normal complement, negative antiphospholipid antibodies, and the presence of a small PNH clone, suggested that it was not secondary to her lupus.

Diagnostic Pathways: A bone marrow biopsy revealed the absence of elements of the megakaryocytic series and severe hypoplasia of the other two series, without blastosis or neoplastic infiltration. Body CT revealed a right renal mass compatible with neo proliferative lesion and axillary, hilar, mediastinal, and lumboaortic metastasis. Radical nephrectomy was performed with diagnosis of clear cell renal carcinoma with rhabdoid and sarcomatous differentiation.

Discussion and Learning Points: Adult pancytopenia is often related to acquired disorders. Bone marrow aspiration and biopsy are useful in most cases. Subclinical paroxysmal nocturnal hemoglobinuria occurs mainly in bone marrow failure syndromes. In these patients, there are no data on hemolysis, but PNH clones are detected by flow cytometry techniques. The importance of this group lies in its prognostic and therapeutic relevance. Within this group, PNH-Aplastic Anemia (PNH-AA) accounts for up to 70% of patients diagnosed with aplastic anemia. This case illustrates the importance of the differential diagnosis of pancytopenia and its relationship with oncological processes, in which the speed of its approach is key to the patient's prognosis.

871 - Submission No. 57

PRIMARY SPLENIC DIFFUSE LARGE-B CELL LYMPHOMA: A RARE CASE

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Case Description: Malignant tumors of the spleen are rare. Diffuse large B-cell lymphoma (DLBCL) is the most common lymphoma in adults. However, it is one of the less prevalent types of splenic non-Hodgkin lymphomas (NHL). In fact, primary splenic diffuse large B-cell lymphoma (PS-DLBCL) accounts for only 1% of all malignant lymphomas. Because of its rarity there is a lack of data on optimal diagnostic and management. The aim of this clinical case is to alert to a rare diagnosis that may arise in the clinic context.

Clinical Hypothesis: A 36 years-old man, without relevant medical history, presented at the emergency department with inflammatory back pain with 5 months of evolution associated with constitutional symptoms. At presentation there was splenomegaly.

Diagnostic Pathways: From the investigation, analytic study showed Hb 10g/L microcytic hypochromic, RCP 103mg/L, LDH 500 U/L. Thoraco-abdominal-pelvic TC documented a splenic mass and periaortic adenopathies. Upper and lower digestive endoscopies, Lumbar MRI and Myelogram were unremarkable. Medullar study was negative to Gaucher and Leishmaniosis. Due to the absence of a diagnosis through a non-invasive study and the high probability of being a malignant disease, splenectomy was scheduled. Splenectomy was performed without complications. Histoanatomopathological study revealed DLBCL. The PET scan was unremarkable. PS-DLBCL was diagnosed. He started R-CHOP with complete resolution.

Discussion and Learning Points: We present a rare case of PS-DLBCL. Patients are usually diagnosed in later stages. Nowadays it is known that splenectomy at diagnosis improves survival, specifically in patients with early-stage disease. Thus, is essential to be aware of this condition in order to have better prognosis.

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872 - Submission No. 55

LIGHT-CHAIN AMYLOIDOSIS: A CLINICAL CASE

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Case Description: Light-chain AL is a heterogeneous life-threatening disease. The clinical presentation depends on organ involvement and the heart is the major determinant of survival. Treatment paradigm for AL amyloidosis aims to reduce the production of amyloidogenic immunoglobulin by suppressing the underlying plasma cell clone. Daratumumab with CyBorD became the first formally licensed treatment in 2021. The authors describe the case of a man with plasma cell dyscrasia who developed AL amyloidosis and is in remission.

Clinical Hypothesis: A 55-year-old male with clinical history of hypertension (which recently discontinued treatment) and CKD of unknown etiology (that progressed to nephrotic syndrome and required dialysis) presented constitutional symptoms with one year of evolution. From the study carried out it was discovered a MGUS IgG/lambda and suspicious nodular lesions on the left kidney. He was admitted at the hospital for elective radical nephrectomy. Kidney biopsy showed an oncocytoma.

Diagnostic Pathways: During hospitalization was documented macroglossia, elevated inflammatory parameters, elevated NT BNP, elevated troponin, pleural thickening and left moderate pleural effusion that was an exudate with predominance of mononuclear cells. Infectious and neoplastic diseases were excluded. He did an echocardiogram that showed findings of infiltrative cardiomyopathy. With all these findings, the hypothesis of AL amyloidosis was raised. Pleural and kidney immunofluorescence revealed Congo red positivity with apple-green birefringence. Thereby, diagnosed AL amyloidosis with pleural, renal, and cardiac involvement. He was evaluated by Hematology and completed eleven cycles Daratumumab with CyBorD. He presents remission of the disease.

Discussion and Learning Points: AL amyloidosis is underdiagnosed. Efforts should be made to increase awareness, especially with the improved outcomes with treatment.

873 - Submission No. 911

ERYTHEMA GYRATUM REPENS AS PARANEOPLASTIC SYNDROME OF PANCREATIC ADENOCARCINOMA: A VERY RARE ASSOCIATION

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Case Description: 74-year-old male with type 2 diabetes mellitus, chronic heart failure and chronic obstructive pulmonary disease. He was assessed for general deterioration and loss of 30 kg of weight in previous weeks. He reported epigastralgia, hyporexia and diarrhea alternating with constipation. He presented with mucocutaneous jaundice, and non-pruritic circular skin lesions with erythematous borders and a clear center distributed asymmetrically on the lower limbs and trunk (figure 1), which had appeared 2 weeks earlier. Laboratory tests showed creatinine 1.3 mg/dL (0.55-1), gamma glutamyl transferase 331 U/L (15-85), alkaline phosphatase 473 U/L (45-117), C-reactive protein 165 mg/L (<5). Abdominal CT scan (figure 2) reported pancreatic head neoformation with bile duct dilatation and liver metastases.

Clinical Hypothesis: Pancreatic neoplasia with liver metastases, and skin lesions suspicious of paraneoplastic syndrome.

Diagnostic Pathways: A skin biopsy was performed showing a superficial dense perivascular lymphocytic infiltrate consistent with erythema gyratum repens (figure 3). The skin lesions improved without specific treatment. Liver biopsy was not performed due to clinical worsening caused by acute liver failure. During the attempt to implant a biliary prosthesis endoscopically, the pancreatic mass was biopsied and found to be adenocarcinoma. The patient died a few days later.

Discussion and Learning Points: Erythema gyratum repens presents as erythematous, arching, scaly-edged, erythematous bands extending over the body surface. It is commonly associated with neoplasms, predominantly pulmonary, and usually appears before the diagnosis of cancer. In our case, it was associated with pancreatic adenocarcinoma, an occurrence that has so far only been described in one other case.

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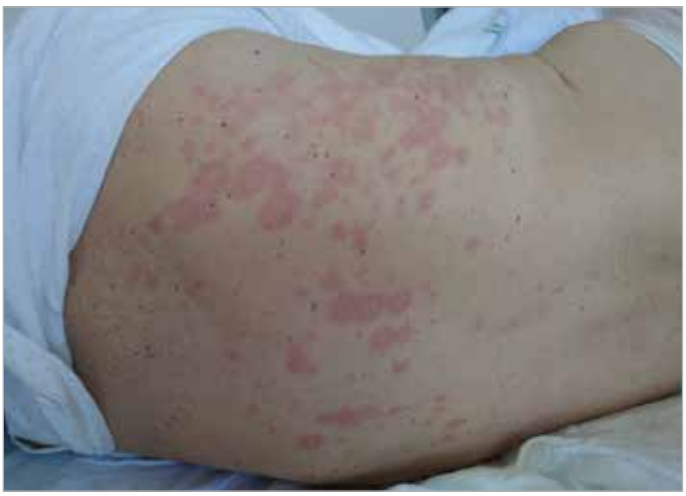

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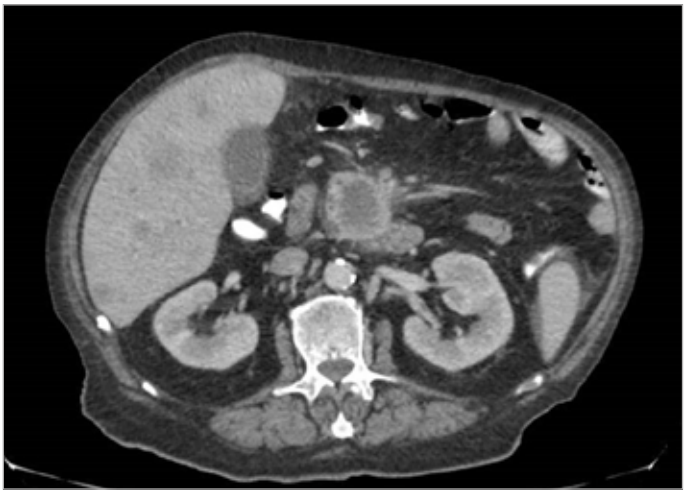

873 Figure 2.

873 Figure 3.

874 - Submission No. 2360

A MULTICENTER, RANDOMIZED PHASE II TRIAL ON THE EFFICACY AND SAFETY OF HETROMBOPAG FOR THE TREATMENT OF CHEMOTHERAPY-INDUCED THROMBOCYTOPENIA IN PATIENTS WITH ADVANCED SOLID TUMORS

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Background and Aims: Chemotherapy-induced thrombocytopenia (CIT) is associated with increased bleeding risk, chemotherapy dose reduction or delay, and undesirable prognosis. Current study is aimed to evaluate the efficacy and safety of Hetrombopag in patients with CIT.

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Methods: This phase 2 study (NCT03976882) was conducted in patients with solid tumor who had a chemotherapy delay ≥7 days due to thrombocytopenia (platelets <75×10^9/L). Patients were randomly assigned (1:1) to receive oral Hetrombopag at an initial dose of 7.5 mg QD or placebo. Primary endpoint was the proportion of responders, defined as patients resuming chemotherapy within 14 days (with PLT ≥100×10^9/L) and not requiring a chemotherapy dose reduction by ≥15% or delay by ≥4 days or rescue therapy due to thrombocytopenia for 2 consecutive cycles.

Results: Between Oct 9, 2021 and May 5, 2022, 60 patients were randomized, among which 59 received ≥1 dose of assigned treatment (Hetrombopag/placebo arm, n=28/31). The proportion of responders was significantly higher in Hetrombopag arm than in placebo arm (60.7% [17/28] vs 12.9% [4/31]; OR 10.4 [95% CI, 2.8-38.7; P=0.0001]). Grade ≥3 treatment-emergent adverse events (TEAEs) occurred in 39.3% of patients in Hetrombopag arm and 38.7% of patients in placebo arm, with the most common being decreased neutrophil count (35.7% vs 35.5%) and decreased white blood cell count (17.9% vs 19.4%). Serious AEs were reported in 3.6% of patients with Hetrombopag and 9.7% of patients with placebo.

Conclusions: Hetrombopag is efficacious and well tolerated for the management of CIT in patients with solid tumors.

875 - Submission No. 1804

"SO MANY AND SO LITTLE …" - A CASE REPORT OF ANGIOIMMUNOBLASTIC T-CELL LYMPHOMA

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Case Description: A 59-year-old woman with a history of osteogenesis imperfecta type 1 presented a 6-month history of multiple lymphadenopathies with unknown etiology after biopsy (infectious or immunological) with associated B symptoms and weight loss (>10 Kg). She was admitted to the Emergency Room for dyspnea, thoracic pain and worsening of B symptoms. At admission she presented hypertension, high cardiac rate, and fever (39.2ºC). Many cervical and axillary adenopathies were found. Analytically, anemia, leukocytosis with neutrophilia and eosinophilia, thrombocytopenia, and elevated CRP, procalcitonin, LDH (lactate dehydrogenase) and β2-microglobulin levels were evident. CT-scan confirmed the presence of countless supra and infra-diaphragmatic lymphadenopathies, as well as hepatosplenomegaly.

Clinical Hypothesis: Given the clinical and analytical evolution, our diagnostic hypothesis focused on a non-infectious etiology, such as Lymphoproliferative disease, T-cell Lymphoma or hypereosinophilic syndrome.

Diagnostic Pathways: After several biopsies and radiologic exams, including PET/CT, she was submitted to an exploratory cervicotomy with adenectomy, whose immunohistochemical study conducted to a final diagnosis: Angioimmunoblastic T-cell Lymphoma (AITL) Stage IV-B. Positivity for EBV was also reported. Consequently, CHOP regimen was started.

Discussion and Learning Points: AITL is a rare and typically aggressive form of Non-Hodgkin Lymphoma (NHL). The most commonly used classification system for adult NHL is the Ann Arbor Staging System. Our patient was Stage IV, indicating a disseminated disease, reaching extra lymphatic organs and tissues; and category B, since she presented unexplained fever and weight loss. A combination therapy with CHOP is recommended and has demonstrated a good initial response, which was also evident in our patient.

876 - Submission No. 1890

DIFFERENTIAL DIAGNOSIS OF LUNG INFILTRATES

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Case Description: A 59-year-old woman with a history of ex-smoking with an ICAT of 15 packs/year and high blood pressure. She was seen in the Internal Medicine Department for exertional dyspnea of 3 months' duration, productive cough that did not subside with the prescribed medication and bilateral pleuritic pain. She did not describe symptoms suggestive of heart failure. No weight loss or other alarming data suggesting cancer. On examination, the only thing that stood out was the auscultation of the lungs, which had bilateral crackles. Additional tests included a chest X-ray with bilateral interstitial infiltrate in the lower fields.

Clinical Hypothesis: interstitial lung disease.

Diagnostic Pathways: The different causes of progressive dyspnea with interstitial lung disease were considered: cardiogenic pulmonary edema, pneumonia, pulmonary tuberculosis, Interstitial lung disease, vasculitis, lymphangitic carcinomatosis and lung neoplasm.

Discussion and Learning Points: As complementary tests, we requested complete blood tests, sputum culture, sputum smear microscopy and Lowenstein's culture, all of which were negative. For imaging tests, a chest CT scan was requested, which showed areas of consolidation in all the pulmonary lobes, some of which had cavitations. Paratracheal adenopathies were also seen. A PET scan was also performed which did not help to differentiate the nature of the infiltrates. It was decided to discuss the case

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with Thoracic Surgery in order to biopsy one of the lesions and to establish the affiliation. The biopsy was finally confirmed as invasive mucinous adenocarcinoma.

877 - Submission No. 500

DYSPNOEA AND LARGE RIGHT PLEURAL MASS

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Case Description: A 72-year-old woman with a history of hypertension was admitted in the Internal Medicine Unit due to progressive dyspnea of weeks' evolution. Chest X-ray showed a large right pleural mass occupying the right upper lobe, together with pleural effusion. Complementary tests were performed, including a PET-CT scan that showed a large tumor of possible pleural origin, occupying the entire right upper lobe and with slight metabolism, which was not suggestive of malignant pathology.
Clinical Hypothesis: Benign pleural tumor.
Diagnostic Pathways: Surgical resection of the tumor was performed by Thoracic Surgery. The surgical specimen was sent to the Pathological Anatomy Unit, wherein it was diagnosed as a pleural fibrous tumor (PFT) with no evidence of malignancy.
Discussion and Learning Points: PFT are rare, representing less than 5% of all pleural neoplasms. They are originated from the visceral pleura tissue and from the parietal pleura tissue in 70% and 30% of the cases, respectively. They are diagnosed mainly in adults, between the 6th-7th decades of life, with no prevalence in either sex. PFT are usually benign, although up to 12% may be malignant. They are generally asymptomatic, and their diagnosis is incidental. The intrathoracic compressive effect of the tumors is usually the responsible for its clinical manifestations, including progressive dyspnea (as in the case of our patient). It PFTs may present with associated paraneoplastic syndromes, such as hypertrophic osteoarthropathy (34% of the cases) or hypoglycemia (4% of the cases). The presence of pleural effusion is rare and is usually associated with a worse prognosis. The gold-standard treatment is surgical resection.

878 - Submission No. 829

IN THE ATRIUM "BOUNCES" THE CLUE TO THE DIAGNOSIS

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Case Description: A 64-year-old man presented to the emergency department with a one-month history of fatigue and edema of the lower limbs. His personal history was remarkable for hypertension, multifactorial chronic liver disease – alcohol and hepatitis C virus infection (treated four years earlier) – former smoking and opioid use. On physical examination, he was hemodynamically stable, SpO_2 95% (at rest in room air), cardiopulmonary auscultation was normal, he had gynecomastia, chest telangiectasias and exuberant bilateral lower limb edema without ascites were noted.
Clinical Hypothesis: Inaugural right-sided heart failure and portal vein thrombosis were the main hypotheses considered.
Diagnostic Pathways: Laboratory tests showed Hemoglobin 11.6 g/dL, sodium 128 mEq/L, aspartate aminotransferase 78 U/L, gamma glutamyl transferase 84 U/L and NT-proBNP 392 pg/mL. The transthoracic echocardiogram revealed a large (28x32 mm) poorly mobile round mass in the right atrium. The differential is between thrombus and myxoma, though no visible attachment to the interatrial septum. A thoracoabdominal CT angiography further showed nodular lesions in the right hepatic liver determining invasion of the inferior vena cava with neoplastic thrombus extending to the right atrium. A biopsy was compatible with Hepatocellular Carcinoma (HCC). Hypo coagulation was started, and the patient was referred to Oncology.
Discussion and Learning Points: Although tumor thrombus formation is common in HCC, expansion of the thrombus to the right atrium is rare and predicts a poor prognosis. This case highlights the benefit of performing echocardiogram early in the diagnostic approach of patients with heart failure symptoms, not only to stratify the cardiac function, but as a possible clue to an unsuspicious diagnosis.

879 - Submission No. 1948

HEART FAILURE AND NEOPLASIA – WHAT PRICE TO PAY?

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Case Description: 45-year-old male with a history of lymphoma at age 21 undergoing chemotherapy and radiotherapy, obesity, hypertension of difficult control and dyslipidemia. Medicated with spironolactone, amlodipine, nebivolol, rilmenidine, candesartan, hydrochlorothiazide and simvastatin. He went to the Emergency Room due to a 2-month progressively worsening dyspnea, up to dyspnea on minor exertion associated with orthopnea and edema of the lower limbs. Physical examination with signs of overload. From the study carried out NT-pro-BNP 358ng/mL, ECG with left ventricular hypertrophy criteria and chest x-ray with increased cardiothoracic index and bilateral pleural effusion.
Clinical Hypothesis: The hypothesis of acute heart failure with the possible etiologies were hypertension, valve disease, cardiomyopathy, drug-induced and endomyocardial disease.
Diagnostic Pathways: From the study carried out a transthoracic

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echocardiogram was performed which revealed "Concentric ventricular hypertrophy. Very thickened and calcified aortic valve, apparently tricuspid, with severe limitation of valve opening amplitude, apparently moderate degree of aorta regurgitation; mitral valve also thickened, with slight limitation of the amplitude of opening. Mild and moderate mitral regurgitation and ejection fraction 25%". No history of childhood rheumatism, no alcohol consumption. Assumed heart failure with reduced ejection fraction with multifactorial etiology – valvular and toxic, secondary to RT and CT.

Discussion and Learning Points: Heart failure (HF) is a prevalent disease in patients over 60 years- old. This case was interesting due to its early age and severity at the time of presentation, as well as to remember the association with treatments performed during adolescence. In this, as in other cases of HF, it is crucial to initiate prognostic-modifying treatment to improve quality of life.

880 - Submission No. 671

MULTICENTRIC CASTLEMAN'S DISEASE: A CASE REPORT

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Case Description: We present a 79-year-old woman, with a history of hypothyroidism, vertigo syndrome and osteoporosis, medicated for these pathologies, that presented at the consultation with complaints of diarrhea and constipation and fatigue. On physical examination, there were no relevant findings. Analytically with anemia (Hb 11g/dL). A computed tomography thoraco-abdomino-pelvic was performed, which documented bilateral axillary, mediastinal and along the mesenteric root.

Clinical Hypothesis: Axillary adenopathies are a very common finding in internal medicine consultations and are the form of presentation of several pathologies. We should consider lymphoma as a differential diagnosis of mediastinal masses. This clinical case describes a rare cause of localized or generalized adenopathies.

Diagnostic Pathways: She performed an excisional biopsy of one of the axillary nodes which revealed lymph nodes with histological changes compatible with angiofollicular lymphoid hyperplasia, very suggestive for hyaline vascular Castleman disease. For this reason, she was referred to the oncology center for further study and stratification.

Discussion and Learning Points: Castleman disease (CD) is a rare polyclonal lymphoproliferative disease that frequently affects the mediastinum or the lymph nodes of the pulmonary hilum, although it may have other locations, in a multicentric form. It is a disease that, due to its presentation, should be considered in the differential diagnosis of mediastinal masses, namely with lymphomas.

881 - Submission No. 1494

PULMONARY METASTASIS OF COLON CANCER

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Case Description: A 85-year-old male, presenting in the emergency department with dyspnea and thoracic pain on his left side with pleuritic characteristics and tenderness. The patient had a prior history of colon cancer diagnosed in 2017, with liver, bone, and lung metastasis. A pulmonary metastasectomy was done, and he was placed under palliative care only. Had no follow-up during the COVID-19 pandemic. He had no other relevant medical history.

Clinical Hypothesis: Given the medical history of cancer, the current dyspnea and pleuritic pain, the first possible diagnosis was a pulmonary thromboembolism. Another hypothesis, given that this took place in the winter, was an acute respiratory infection of the lower respiratory tract such as pneumonia. Moreover, new pulmonary metastasis as result of disease progression were also a likely possibility.

Diagnostic Pathways: A chest radiography and a thoracic computerized tomography (CT) were performed. The chest radiography showed multiple bilateral pulmonary nodules as did the thoracic CT: "… multiple bilateral pulmonary nodules of various dimensions, the biggest was in the anterior segment of the left superior lobe with approximately 49x29 mm, illustrating multiple pulmonary metastasis in a "cannonball" pattern".

Discussion and Learning Points: Given the short-term unfavorable outcome, the patient was medicated symptomatically and referred to the palliative care team for follow-up. Approximately one month later, the patient returned to the emergency room with aggravated dyspnea and ended up passing away. This characteristic image of pulmonary metastasis, known as "cannonball", must alert to the missed opportunities leading to a silent deadly ending.

882 - Submission No. 1319

LEUKEMOID REACTION AS A VASCULAR RISK FACTOR IN PROGRESSIVE NEOPLASTIC PROSTATE DISEASE

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Case Description: 66-year-old male, with medical history of ex-smoking and stage IV prostate carcinoma. He consulted the emergency department due to limb oedema and cardinal symptoms of heart failure, with no other manifestations. On examination, he showed signs of ventricular dysfunction, right pleural effusion, and pulmonary and systemic congestion on

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clinical ultrasound. Laboratory tests showed LDH 741 U/L, leukocytes 108,900/µL and neutrophils 106,500/µL (reviewed microscopically and classified as a possible leukemoid reaction).

Clinical Hypothesis: Leukemoid reaction, leading to decompensated heart failure and tumor lysis syndrome.

Diagnostic Pathways: He was admitted to the Internal Medicine Department. A bone marrow study was performed (which confirmed a leukemoid reaction with no evidence of direct tumor invasion), and IL-6 determination (58.3 pg/mL, upper limit 6.4), initiating treatment with hydroxyurea. Tumor lysis syndrome was also identified with uric acid 11.2 mg/dL, managed with rasburicase and allopurinol. Finally, the patient was abruptly disconnected from the environment and died due to a probable thromboembolic stroke.

Discussion and Learning Points: Leukemoid reaction is defined as leukocytosis > 50,000/µL and may occur as paraneoplastic syndrome. Leukostasis manifestations are consequence of hyper viscosity syndrome (neurological and cardiovascular) and blast division (local hypoxemia, tumor lysis, endothelial damage by inflammatory cytokines and migration to the pulmonary interstitium). This means a significant vascular risk, with respiratory distress syndrome and death from cerebrovascular event in our patient. For diagnosis, ruling out underlying infection, bone marrow study (to exclude direct tumor invasion or hematological disease), and determination involved interleukins (e.g., IL-6) must be carried out. Its treatment requires neoplasm management and hydroxyurea used as cytoreductive agent.

883 - Submission No. 678

FEVER OF UNKNOWN ORIGIN AS A PARANEOPLASTIC MANIFESTATION OF NASOPHARYNGEAL CARCINOMA

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Case Description: A 32-year-old patient with a history of advanced locoregional nasopharyngeal carcinoma with positivity for Epstein-Barr virus, treated with chemo-radiotherapy a year ago and with no activity to date, consulted for fever of two weeks evolution, asthenia, and left chest pain. No relevant evidence was found on physical examination. Analytically, we discovered an increase in acute phase reactants (leukocytes of 22,480/microL with neutrophilia, C-reactive protein of 161.2 mg/L and procalcitonin of 2 ng/mL), normocytic anemia and dissociated cholestasis.

Clinical Hypothesis: Fever of unknown origin in a cancer patient.

Diagnostic Pathways: After numerous microbiological cultures, serologies, transthoracic and transesophageal echocardiography, all negative, the possibilities of an infectious disease got reduced. An abdominal CT and a hepatic MRI were performed with the finding of multiple adenopathies in different locations associated with hepatic and lytic bone lesions that, after confirmation by PET-CT, reinforced the suspicion of metastatic tumor involvement. The diagnosis was confirmed by a bone marrow biopsy which showed malignant infiltration in the context of nasopharyngeal carcinoma recurrence.

Discussion and Learning Points: According to the prevalence and the risk of not starting adequate treatment on time, infection diseases must be ruled out in all cancer patients in first place. However, we must not forget that nasopharyngeal carcinoma is associated with multiple paraneoplastic conditions, highlighting fever of unknown origin and neutrophilia associated with a leukemoid reaction due to tumor infiltration of the bone marrow.

884 - Submission No. 476

SEVERE LACTIC ACIDOSIS CAUSED BY AUTOIMMUNE HEMOLYTIC ANEMIA

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Case Description: A 53-year-old female, was referred to the ER due to extreme weakness. On admission, she appeared somnolent and pale, vital signs were within normal range except for tachypnea, her examination revealed jaundice and palpable spleen. she was preventively intubated. Laboratory tests showed a severe high anion gab metabolic acidosis, with high lactate (18.32 mmol/L), a macrocytic anemia combined with high reticulocytes, indirect bilirubin and LDH, haptoglobin undetectable. Lactic acidosis caused by severe autoimmune hemolytic anemia was further diagnosed, confirmed by Coombs test.

Clinical Hypothesis: The presence of elevated lactate levels in critically ill patients has important implications for morbidity and mortality. Usually increased due to tissue hypoxia caused by systemic or local hypoperfusion, increased glycolysis, critical decrease in oxygen delivery (DO_2) and carrying capacity e.g., severe anemia. These conditions are associated with anaerobic metabolism and, therefore, lactic acidosis.

Diagnostic Pathways: An infectious and autoimmune disease investigation ruled out differential diagnosis causing AIHA. Imaging study of the abdomen and chest revealed an enlarged non homogenous spleen, and free peritoneal fluid (Figure 1 and 2). After consultation with a surgeon, she underwent a splenectomy. Pathology showed extensive areas of parenchymal necrosis, consistent with hemorrhagic infarct (Figure 3). No evidence of lymphoproliferative disease (Figure 4).

Discussion and Learning Points: Autoimmune hemolytic anemias are rare and heterogeneous disorders characterized by hemolysis, which is a well-recognized risk factor for thrombosis. Multiple pathophysiological mechanisms for thrombosis have been proposed, involving hemolysis itself and additional effects of the immune system. This case report emphasizes the differential diagnosis of lactic acidosis to include severe anemia, spleen infarct and necrosis as presented in this case.

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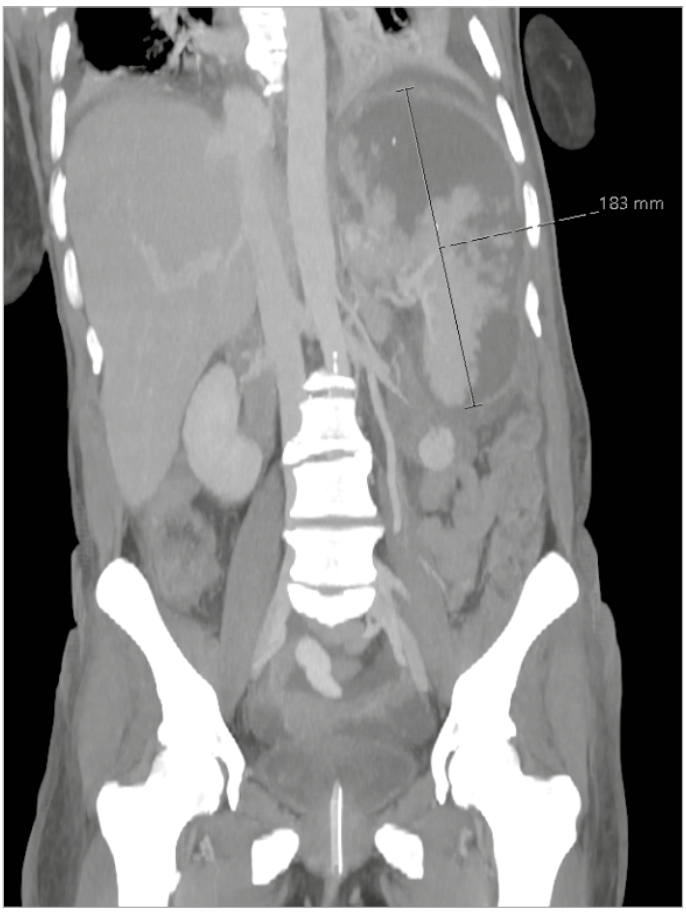

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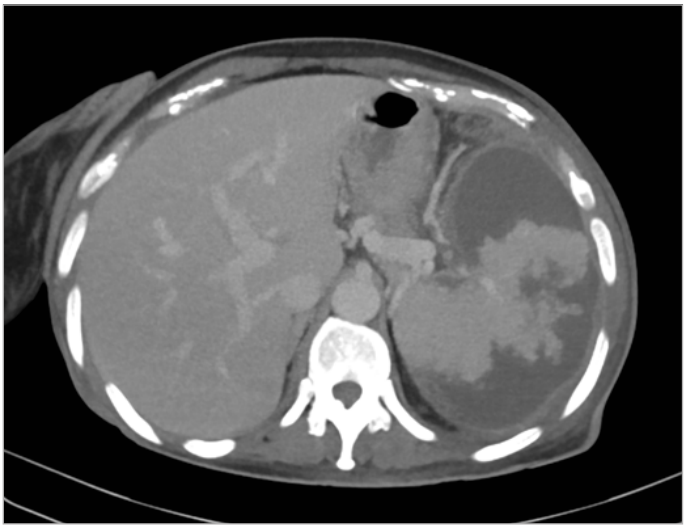

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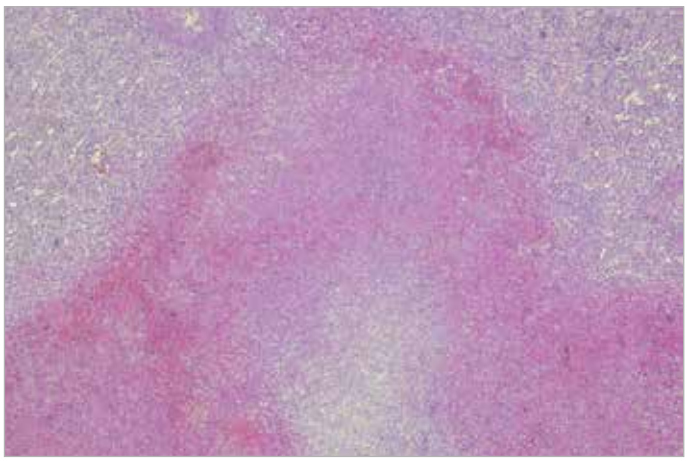

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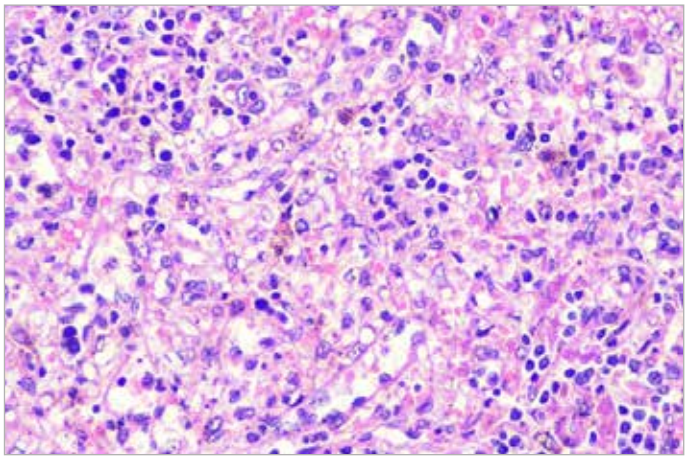

884 Figure 4.

885 - Submission No. 225

THE CHANGING FACE OF LUNG CANCER

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Case Description: A 69-year-old Caucasian gentleman, diagnosed with Stage IIIb, locally advanced, unresectable non-small cell lung cancer (NSCLC) completed chemoradiotherapy followed by 1 year of immunotherapy. After a disease-free interval of 33 months, surveillance CT of the thorax, abdomen and pelvis (TAP) showed an ill-defined hypodense material in the interpolar region of the left kidney. The patient himself, was asymptomatic.

Clinical Hypothesis: Primary renal carcinoma versus recurrent NSCLC with metastatic disease.

Diagnostic Pathways: Magnetic resonance imaging (MRI) of his brain was negative for metastasis. CT guided biopsy was consistent with metastasis from the known bronchogenic squamous cell carcinoma. The patient was commenced on intravenous neo-adjuvant pembrolizumab (200 mg, q3w) and underwent a left radical nephrectomy without complications. Post-operative pathological diagnosis was consistent with the initial renal biopsy results. 5 months post-op, CT TAP did not identify any signs of recurrence.

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Discussion and Learning Points: Lung cancer represents the leading cause of cancer death in Ireland (NCRI Annual Report, 2020). Renal metastases were historically demonstrated predominantly in autopsy studies (Zhou, 2017). Despite being an exceedingly uncommon site of metastasis, any mass manifesting in the kidney in the context of previous NSCLC warrants the full battery of investigations. A combination of systemic treatment followed by radical local resection appears to be a promising strategy (Mentink, 2021). (Verma, 2017) on the other hand, reported early tumor control, ability to spare surrounding tissues and symptomatic relief in patients with renal metastasis who received stereotactic body radiation therapy (SBRT). At present, there are no prospective randomized studies comparing surgery versus SBRT.

886 - Submission No. 2049

CLINICOPATHOLOGIC AND TREATMENT PATTERNS OF URINARY BLADDER CANCER

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Background and Aims: Bladder cancer is the sixth most common cancer in the world, the seventh most common cancer in men, and the seventeenth most common cancer in women. Although the incidence of malignant tumors of the bladder is increasing in developing countries, like Ethiopia, there is a lack of evidence regarding the overall profile of bladder cancer in Ethiopia.

Methods: An institution based descriptive cross-sectional study was conducted in TASH, department of Oncology and Urology unit, Addis Ababa, Ethiopia, and comprised medical records related to urinary bladder tumors.

Results: Of 158 cases, 81% were of males while 19% were of females making a male to female ratio of 6.74:1. The mean age was 57.41±13.662 years (ranged from 22 to 88 years). Hematuria was the most common presenting symptom occurring in 143 (90.5%). Transitional cell carcinoma (urothelial carcinoma) was the most common histology which accounted 87.4% followed by squamous cell carcinoma (6.3%), adenocarcinoma (1.9%), sarcoma (1.3%) and mixed histology variants (1.3%). Overall, 45.6% was non-muscle invasive, 37.3% was muscle invasive and the remaining 17.1%was metastatic at presentation. Majority of patients were treated with radical intent. TURBT was the most commonly practiced type of treatment. Intravesical chemotherapy, perioperative chemotherapy and cystectomy were rarely practiced as compared with standard guidelines and textbooks.

Conclusions: The most common type of bladder cancer in TASH is TCC. Bladder tumor is more frequent in men than in women. Hematuria was the most common presenting symptom. The commonest procedure for bladder tumors was TURBT which is the golden standard for non-muscle invasive tumors.

887 - Submission No. 744

SHOULD WE TRANSFUSE HOSPITALIZED MEDICAL PATIENTS WITH CHRONIC ANEMIA IN THE RANGE OF 7-9 GR/DL?

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Background and Aims: Chronic anemia is associated with an increase in falls, frailty, dementia and mortality. There is currently a lack of data on the effect of packed cells (PC) transfusion in patients hospitalized with chronic anemia.

Methods: We performed a retrospective, propensity score matched analysis, examining patients hospitalized between 2005-2019 at the Soroka University Medical Center (SUMC) internal medicine departments with hemoglobin (Hb) levels between 7-9 gr/dL without evidence of acute blood loss. We excluded patients who died within 3 days of hospitalization. We compared patients who received up to two PC transfusions with individuals who were treated conservatively. Primary outcomes were 30-day mortality and rehospitalization. To estimate PC treatment effect, we used a logistical regression test.

Results: 1833 patients were included, 611 (%) of which received PC transfusions. Demographic characteristics and baseline hemoglobin levels were similar between both groups including age (72.7 years), sex and Charlson comorbidity index. Patients receiving PCs had a higher Hb level at discharge (9.3 vs 8.9, $p < 0.001$) and a reduced 30-day mortality (27.7% vs 33.5%, $p < 0.012$). However, rehospitalization rate was higher in this cohort (44.8% vs 36.6%, $p<0.001$). Logistical regression confirms a significant reduction in 30-day mortality amongst patients who received PC (OR = 0.76 95% CI- 0.58-0.99, p=0.044).

Conclusions: Primarily elderly patients with chronic anemia in the range of 7-9 gr/dL, who received PC transfusions had a reduced 30-day mortality risk.

888 - Submission No. 1630

A RARE AND EXUBERANT PRESENTATION OF COLORECTAL ADENOCARCINOMA

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Case Description: We report the case of a 30-year-old, previously healthy, Caucasian woman; with family history of breast cancer (BC) and BRCA1 mutation (paternal aunt at age 26 and her daughter at age 34). The patient had not been tested previously. Admitted to the hospital with abdominal pain in the right upper quadrant (RUQ) and abdominal distention with one-week evolution. Her physical examination showed abdominal distention, tenderness and nodular irregularities in the RUQ. Computed tomography (CT) revealed exuberant hepatomegaly

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caused by multiple hypodense nodules suggestive of metastasis (maximum 75 mm) and polyserositis. No other neck-to-pelvis CT abnormalities were found.

Clinical Hypothesis: Given the family history, we started by excluding breast cancer.

Diagnostic Pathways: A lesion biopsy was performed, the histology revealed adenocarcinoma and immunohistochemistry pointed to colorectal cancer (CRC) as the primary, which was later confirmed by colonoscopy. Microsatellite instability testing was negative. Unfortunately, the patient showed rapid deterioration, making it impossible to perform any treatment or further research.

Discussion and Learning Points: It is widely known that the BRCA1 mutation confers increased susceptibility to breast and ovarian cancers. However, increasing evidence shows that it could also be responsible for the development of young-onset CRC[1]. Freire et al[2] suggests that BRCA1 testing should be considered in young patients with microsatellite stable CRC.

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889 - Submission No. 1046

FROM ACUTE PROMYELOCYTIC LEUKEMIA TO SEVERE FOLIC ACID DEFICIENCY

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Case Description: A 30-year-old female with history of agoraphobia under antidepressant treatment was admitted to the emergency room after being found by her mother on her bathroom floor unresponsive to stimuli. Initial blood tests showed hemoglobin levels of 3.5 g/dL, 14,000 platelets and 6,300 leukocytes with moderate presence of blasts. Her mother reports a two-months history of asthenia, refusal to leave her room, and very poor intake.

Clinical Hypothesis: The differential diagnosis included acute leukemia, autoimmune diseases, microangiopathic anemia and myelofibrosis.

Diagnostic Pathways: The first peripheral blood smear was consistent with acute promyelocytic leukemia (APML) due to presence of hatchet nuclei and granular cytoplasm and there was no evidence of hemolysis. One day later, a second peripheral blood smear was performed, ruling out the diagnosis of acute leukemia and showing the presence of megaloblastic erythroblasts. A bone marrow biopsy with immunofluorescence was also performed, which did not show significant alterations. Autoimmunity was negative. Finally, a nutritional analytical profile was requested, where an undetectable value of folic acid was evidenced. Intravenous replacement with folinic acid was started immediately, achieving rapid improvement in hemoglobin and platelet counts until complete normalization after 4 days.

Discussion and Learning Points: Megaloblastic anemia is a relatively frequent entity in the population, although it is not usually given much relevance at the clinical level. It is usually limited to a slight decrease in hemoglobin levels, also associated with a high corpuscular volume. Involvement of the megakaryocytic lineage is very rare and reveals a major vitamin deficiency.

890 - Submission No. 1927

PARANEOPLASTIC URTICARIA AND PROSTATE CANCER: A RARE FINDING

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Case Description: A 78-year-old male patient presented for multiple, intensely pruritic, erythematous papules, which gradually developed over the course of one month, starting from the anterior thorax and spreading towards the abdomen and limbs. The lesions subsided following antihistamine and corticosteroid administration but reappeared after treatment discontinuation. The patient had no history of allergies, was afebrile, had no palpable lymphadenopathies, no arthralgia, but presented with nocturia and pollakiuria. Laboratory findings showed mild leukocytosis, eosinophilia, elevated total IgE, CRP 5.98 mg/dL.

Clinical Hypothesis: Systemic mastocytosis, cutaneous lymphoma, urticarial vasculitis and prostate cancer were suspected.

Diagnostic Pathways: Systemic mastocytosis was excluded by bone marrow biopsy, serum tryptase measurement and c-Kit gene mutation analysis. Skin biopsy showed no signs of cutaneous lymphoma or urticarial vasculitis. HBs antigen and HCV antibodies were non-reactive, excluding the pre-icteric phase of viral hepatitis. Autoimmune urticaria, systemic autoimmune disorders (autoimmune thyroid disease, systemic lupus erythematosus), IgM or IgG paraproteinemia were excluded by in vitro histamine release assay, ANA, antithyroid autoantibodies, serum immunoglobulin dosing and protein electrophoresis. Abdominal and cervical ultrasound was normal. On digital rectal examination, the prostate was indurated, irregular, and painless. PSA was 36.4 ng/dL. A prostatic biopsy was performed, which showed a Gleason 6 acinar adenocarcinoma. CT scan showed no metastases, and treatment with leuprorelin acetate was commenced, resulting in remission of symptoms.

Discussion and Learning Points: Paraneoplastic urticaria in prostate cancer is a rare finding, and its diagnosis is one of exclusion. A broad differential diagnosis should be considered, and the causative link is supported by the symptomatic remission following antineoplastic treatment.

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891 - Submission No. 1028

EXTENDED CORTICOSTEROID THERAPY IN IMMUNE THROMBOCYTOPENIA WITH BLEEDING RISK

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Case Description: A 70-year-old woman, diagnosed with COVID-19 in the prior month, developed persistent epistaxis followed by oropharyngeal bleeding, petechiae (on the face, thorax and lower limbs) and hematuria. On admission, she had thrombocytopenia (<10,000/mL) and anemia (11.6 g/dL), but no coagulopathy, hemolysis or multiorgan dysfunction.

Clinical Hypothesis: ITP was suspected, presumed to be primary or secondary to COVID-19. Infectious and immunological disorders were excluded, but malignant causes could not be eliminated.

Diagnostic Pathways: The patient began a trial with dexamethasone pulses (40 mg/day) for 4 days and immunoglobulin for 2 consecutive days, but there was no rise in platelets count, and she maintained mucocutaneous bleeding. Steroid therapy was then extended with prednisolone (80 mg/day), achieving a complete response within 3 days. No more dexamethasone pulses were administered.

Discussion and Learning Points: Dexamethasone pulses have been associated with similar outcomes compared to prednisolone (1 mg/kg/day), but with faster responses and lower toxicity, requiring no tapper. In this patient, with active bleeding and critical bleeding risk, an extension of steroid therapy with prednisolone after dexamethasone pulses helped to achieve a fast recovery. Extension of corticosteroid therapy after dexamethasone pulses could be useful to achieve a faster recovery in patients with active bleeding, however, further investigation would be required to prove the modification of the disease course. Previous studies have linked ITP to COVID-19, despite having no proven causal relation, with documented delayed cases up to 3 months post-infection. In fact, regarding the time frame, it could be a potential inciting event, however, other causes should be suspected and investigated.

892 - Submission No. 1974

AN UNUSUAL PRESENTATION OF A SECONDARY EXTRAMEDULLARY PLASMACYTOMA

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Case Description: In this case we report a 76 old Israeli woman with an unusual presentation of extramedullary plasmacytoma.

Clinical Hypothesis: Plasmacytoma mostly arises in the bone marrow (intramedullary), presenting as the multiple myeloma (MM) or solitary plasmacytoma of bone. In contrast, extramedullary plasmacytoma (EMP) which arises from soft tissues is a rare entity, accounting for about 3% of the plasmacytoma. The presence of soft tissue plasmacytomas represents an aggressive form of MM.

Diagnostic Pathways: CT without contrast revealed some unexpected features such as moderate quantity of ascites, huge mass in ascending colon with near total bowel obstruction, colonoscopy was compatible with a large mass un the right colon. Our patient underwent right hemicolectomy Histology confirmed diagnosis of plasmacytoma. Unfortunately, the patient died due to sepsis resistant to antibiotic therapy.

Discussion and Learning Points: Involvement of colon and rectum is extremely rare and so far, only 20 cases of extramedullary plasmacytoma of colon and rectum have been reported in the literature. The involvement of the gastrointestinal tract years after an initial diagnosis of multiple myeloma (MM) is exceptional and, when reported, it is always associated with a poor prognosis.

893 - Submission No. 1079

ANAPLASTIC LYMPHOMA KINASE (ALK) - POSITIVE LUNG ADENOCARCINOMA INITIALLY PRESENTING AS HEMATURIA IN A SMOKING INDIVIDUAL

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Case Description: A 55-year woman presented in December 2020, with hematuria and abdominal pain. The patient was a heavy smoker and denied the presence of respiratory symptoms.

Clinical Hypothesis: Hematuria and flank pain as initial manifestations of NSCLC is a rare occurrence. When the diagnosis is established, identification of mutations is fundamental in targeted therapy.

Diagnostic Pathways: A PET CT scan revealed a right renal mass and left lung mass with increased metabolic activity. Histopathological analysis of the renal mass revealed adenocarcinoma with Thyroid transcription factor-1 (TTF-1) expression, indicating lung as primary site. Immunohistochemical analysis was positive for ALK gene rearrangement, and ALK inhibition with alectinib was initiated. Within a month, the renal mass was substantially reduced, while the lung mass disappeared. The patient remains asymptomatic without new lesions since.

Discussion and Learning Points: This is a rare case of solitary kidney metastasis in NSCLC with ALK gene rearrangements[1]. ALK positivity is seen in 2-4% of patients with NSCLC, and most of them identify as light- or non-smokers[2].

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894 - Submission No. 837

RISK FACTORS FOR CANCER AFTER HEART TRANSPLANT

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Background and Aims: Cancer is the second cause of death in heart transplant recipients (HTR). For these patients, immunosuppressive therapy plays an important role in oncogenesis, related to either reduced immune surveillance or direct pro-oncogenic effects of opportunistic viruses. Aim of this study is to assess predictors of cancer in a large cohort of HTR.

Methods: This was a retrospective observational analysis of clinical and biochemical data obtained from 335 HTR admitted to Monaldi Hospital, between January 2005 and December 2019. According to the diagnosis of cancer after heart transplant, patients were divided in two groups and studied for several variables, including medical history, comorbidities, exposure to known cancer risk factors, post-transplant complications, immunosuppressive regimens and, with regard to neoplasia, age at diagnosis, histology, staging, treatment and outcome.

Results: Thirty-four patients developed malignancy, equal to an incidence of 18.03 cases per 1000 patient-years. Most of them were non-melanoma skin cancers (29.4%) and lung cancers (23.5%). In our cohort, pre-transplant ischemic cardiomyopathy ($p=0.002$), older age ($p=0.034$), alcohol exposure ($p<0.001$), family history ($p=0.030$) and smoking history ($p=0.006$) correlated with cancer occurrence. No associations with cancer were found as regards immunosuppressive regimens, graft dysfunction, rejection events and other comorbidities.

Conclusions: Although there are, to date, no obvious differences in oncology screening programs between HTR and the general population, our data suggest efforts should be focused on patients with a pre-transplant cancer family history, cigarette smoking and alcohol exposure.

895 - Submission No. 1572

CASE REPORT: A RARE CAUSE OF FATIGUE

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Case Description: A 40-year-old man presented to the emergency department with fatigue evolving and worsening since a month before, along with darkened urine and abdominal cramps. The patient denied hemorrhages, fever, weight loss, respiratory or cardiac symptoms. He had a previous diagnosis of anemia in 2019 resolved after iron supplementation. At present only self-medicated with vitamin supplements (glucosamine, Mg, Zn and Ca). On physical examination revealed pallor, without other relevant finding.

Clinical Hypothesis: Laboratory analyses showed pancytopenia with hemolytic anemia (Hb 4.4 g/dL), elevated bilirubin and LDH, low haptoglobin and acute kidney injury. Urinalysis had presence of proteins and hemoglobin. Proceeding the investigation of hemolytic anemia, direct antiglobulin test was negative and peripheral blood smear confirmed the pancytopenia, had macro-ovalocytes but no schistocytes. Additional analytical alterations included complement consumption, iron deficiency however reactive bone marrow (reticulocytes 10%). An abdominal ultrasound displayed splenomegaly.

Diagnostic Pathways: Due to analytical findings combined with the symptoms the hypothesis of PNH was raised. A flow cytometry was conducted with 0.2% of RBC without CD59 (undervalued due to hemolysis), 7.9% neutrophil and 75.7% of monocytes without expression of FLAER. Bone marrow examination excluded myelodysplastic syndrome (erythroid hyperplasia, reduced stainable iron and blasts <1%). Another diagnostic hypothesis also raised but excluded, although even rarer, was copper deficiency in a patient who took unsupervised zinc supplementation.

Discussion and Learning Points: During hospitalization the patient received RBC transfusion and after the diagnosis referred to Hematology outpatient clinic to initiate appropriate treatment. This clinical case, despite a linear diagnosis, has its relevance for reiterating the less frequent causes of common diseases.

896 - Submission No. 1528

UNUSUAL CLINICAL PRESENTATION OF A PATIENT WITH NSCLC AND A HETEROGENEOUS EGFR MUTATION PATTERN TREATED WITH A NOVEL TYROSINE KINASE INHIBITOR (TKI)-CHEMOTHERAPY COMBINATION

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Case Description: The initial chief complaint of the 73-year-old patient was right-sided hearing loss accompanied by ear pain. A

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strong, immobilizing pain was also present in the right shoulder. A pulmonary mass in the right upper lobe as well as osteolytic metastases in the right petrous bone and the proximal humerus were found. Transthoracic biopsy revealed an adenocarcinoma of the lung (G2, TTF-1 positive) with an EGFRp.G719D mutation. To address tumor heterogeneity regarding the metastases, we started systemic therapy with carboplatin, pemetrexed, and osimertinib.

Clinical Hypothesis: Better outcomes can be achieved with targeted cancer treatments adapted to the mutational landscape of the disease. Tumor heterogeneity is complicating this approach but can be addressed with innovative combinations.

Diagnostic Pathways: After finding the cause of the insidious symptoms of the patient, reassessment of the findings complicated the final treatment decisions. False positive polymerase chain reaction (PCR) results had to be corrected via next-generation sequencing (NGS).

Discussion and Learning Points: EGFR mutations typically occur in the exons 18-21 and are driver mutations in NSCLC. Recent results have shown that EGFR mutations can be divided into 4 different subgroups and based on this classification available TKIs can be better selected compared to traditional exon-based groups. Clonal evolution with newly arising resistance mutations and loss of activating mutations can make this approach increasingly complicated and complex. For optimal outcomes, we have to be aware of this problem and consider multiple biopsies, repeated testing and implement novel methods like NGS. Combination treatments are less prone to treatment escape mechanisms and might diminish the above-mentioned problems.

897 - Submission No. 1307

A FATAL OUTCOME OF A HYPERCOAGULABLE STATE: A CASE REPORT OF A PULMONARY NEOPLASM

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Case Description: A 63-year-old man, with type 2 diabetes mellitus and recently hypo coagulated because of a left femoral-popliteal deep venous thrombosis, presented three weeks later with sudden dyspnea. On exam he was hemodynamically stable and without any pulmonary alterations. A thoracic CT scan demonstrated a right interlobar artery thrombus and two suspicious pulmonary lesions. Anticoagulation with enoxaparin was begun and hospital admission was decided for surveillance and further investigation.

Clinical Hypothesis: Pulmonary neoplasm. Pulmonary embolism. Paraneoplastic thrombosis.

Diagnostic Pathways: Transthoracic needle biopsy revealed a lung adenocarcinoma (ADC). Laboratory analysis with elevated tumor markers (neuron-specific enolase and CYFRA 21-1). Cranioencephalic MRI, in the course of cancer staging, with parietal and occipital embolic lesions and without metastatic lesions. Abdominal-Pelvic and left thigh CT angiography showed left femoral venous thrombosis with extension to the iliac veins and secondary bone lesions in the iliac, sacred wings and femoral proximal ends with a soft tissue component. Due to severe pain, coldness, and right foot cyanosis, a doppler ultrasound was performed and revealed an anterior tibial artery thrombosis. Given the multiple thrombotic events, a transesophageal echocardiography was also performed, showing a marantic endocarditis.

Discussion and Learning Points: The diagnosis of a lung ADC in an advanced stage with bone metastasis and associated with deep venous and artery thrombosis, and marantic endocarditis was established. In this case, because of the disease stage, and besides having a life expectancy higher than one year after initiating direct targeted oncologic therapy, the management of the disease was challenging due to the multiple paraneoplastic thrombotic events caused by the hypercoagulable state.

898 - Submission No. 1489

PERNICIOUS ANEMIA AND MYELODYSPLASTIC SYNDROME – CONCURRENT OR EXCLUSION DIAGNOSES?

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Case Description: An 81-year-old female followed up at the Hematology consultation due to macrocytic anemia and leukopenia. In the clinical study, there was evidence of vitamine B12 (VitB12) deficiency and bone biopsy and medullogram agreeing with myelodysplasic syndrome (MDS). In the cytogenetic study, 5q- mutation was found. Due to an increase in aPTT, she was referenced to an Internal Medicine consultation.

Clinical Hypothesis: Presence of Lupus anticoagulant? Coagulation factors deficiency?

Diagnostic Pathways: A positive lupus anticoagulant was found, with normal values of intrinsic coagulation pathway factors. From the clinical history, there were no complaints that could be associated with systemic Lupus erythematosus. Thus, complementary autoimmune study was requested. Positive anti-gastric parietal cell antibody and intrinsic factor were found, assuming the diagnosis of pernicious anemia. The patient began VitB12 supplementation, and the start of lenalidomide was delayed until the response to the treatment was evaluated. In fact, after VitB12 levels were normalized, the cytopenia recovered.

Discussion and Learning Points: VitB12 deficiency may present with pancytopenia due to medullary dysplasia. MDS is also characterized by ineffective hematopoiesis. Often, these diagnoses are considered mutually exclusive, although there are cases in

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the literature in which the two pathologies occur simultaneously. Pancytopenia may be due to MDS or secondary causes such as VitB12 deficiency. This explains why Pernicious Anemia can mimic MDS. In this case, the presence of the 5q-, concomitantly with positive anti-parietal cell and intrinsic factor antibodies, favors the hypothesis of both diagnoses at the same time. The fact that the patient responds to treatment with cyanocobalamin supports the diagnosis of pernicious anemia.

899 - Submission No. 2431

APPEARANCES CAN BE DECEITFUL: SARCOIDOSIS – A DIAGNOSIS OF EXCLUSION

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Case Description: 69-year-old male, autonomous, history of dyslipidemia and bilateral uveitis. Reached out to Urgent Care with constitutional syndrome – nausea, asthenia, anorexia, and weight loss – 2 months developing. Objective study, no adenopathy nor hepatosplenomegaly were detected. Bloodwork confirmed LRA AKIN 2, hypercalcemia (Ca 14.1 mg/dL), normocytic normochromic anemia (hemoglobin at 9.7 g/dL, no vitamin/iron deficits) and VS 75 mm/h1. Imaging excluded renovesical obstruction, thorax-abdomino-pelvic CT scan showed extensive mediastinal adenopathy and bilateral hilars. Started IV fluids, loop diuretics and zoledronic acid.

Clinical Hypothesis: Lymphoma. Sarcoidosis.

Diagnostic Pathways: Elevated ACE at 161.30 UI/L (82-52 UI/L), IGRA negative, immunoglobulin and electrophoresis and PTH were normal, PTHrp negative, negative serology (HIV, CMV, syphilis, HCV, HBV, HVS 2, HVS 1, Borreliella, toxoplasmosis, EBV), normal total PSA, immune study without complement consumption, rheumatoid factor, antinuclear antibodies and antineutrophil cytoplasmic antibodies both negative. The flow cytometry of the bronchoalveolar lavage revealed intense, neutrophilic lymphocytic alveolitis with very elevated CD4/CD8 ratio (9.11), we excluded bacterial, mycological and mycobacterial agents, cytology study negative for malignant cells. Performed EBUS-TBNA with phenotypic findings compatible with mantle B-lymphoma.

Discussion and Learning Points: Sarcoidosis is a rare condition of unknown etiology; complex pathogenesis and its diagnosis is a process of exclusion. Its evolution as a lymphoproliferative disorder has been described, however, the relationship between the two entities is not yet fully clear. In this case, sarcoidosis was the more likely diagnosis, however, the level of gravity of clinical expression warranted deeper investigation at the time, which went past the bronchoalveolar lavage and applied more advanced technic, allowing for an earlier diagnosis.

900 - Submission No. 919

PARANEOPLASTIC NEPHROTIC SYNDROME ASSOCIATED WITH BRONCHO-PULMONARY CANCER

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Case Description: Male patient 68-year-old was admitted to the hospital due to peripheral edema and progressive weight gain. From the clinical examination he has pitting edema on both legs and elevated blood pressure. From his medical history he had hypertension, SARS-CoV-2 infection and recently an episode of superficial thrombophlebitis.

Clinical Hypothesis: NS is defined as a constellation of clinical signs and symptoms including massive proteinuria (urine protein ≥3.5 g/d), hypoalbuminemia (serum albumin ≤3 g/dL), peripheral edema and hyperlipidemia. There is always the possibility that nephrotic syndrome is a paraneoplastic syndrome due to a malignancy. Lung cancer is among the malignancies commonly associated with a paraneoplastic nephrotic syndrome mostly related to membranous nephropathy Paraneoplastic syndromes occur in approximately 10% of all patients with lung cancer.

Diagnostic Pathways: CBC: Hb=11.8 gr/dl, MCV=90.5 fl, MCH=30.3 pg. CMP: serum creatinine was 3.39 mg/dl, urea was 129 mg/dl, cholesterol was 361 mg/dl, albumin was 2 gr/dl. The urinalysis revealed proteinuria at a level of 6 gr/d. These clinical findings are consistent with the diagnosis of NS. Chest computed tomography revealed a solid lesion 4.2 cm in diameter, oval with radial projections and pleural effusion bilaterally >right. Mediastinal lymph nodes the largest 2.4 cm. To identify the lesion an EBUS bronchoscopy was performed, and the results was compatible with non-small cell lung adenocarcinoma.

Discussion and Learning Points: Among all types of lung cancer, squamous and adenocarcinoma are the most common pathologic type which presents nephrotic syndrome. The syndrome can be presented before, after or at the time of the diagnosis. It is important to investigate the potential development of cancer in these patients.

901 - Submission No. 1946

WHAT CAN WE FIND BEHIND A PARAESOPHAGEAL MASS?

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Case Description: Male, 57 years-old, with a pathological history of arterial hypertension under pharmacological treatment, obesity and a recent Legionella pneumonia treated with azithromycin. The patient came to the emergency room for central thoracic pain of 2

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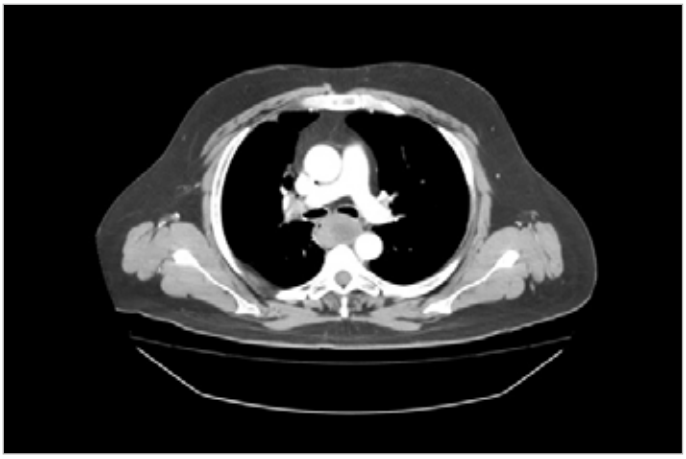
weeks of evolution, that worsened with meals, with mild dysphagia and that did not subside with the usual analgesia. Initial baseline examinations were normal except for an elevated D-dimer (1534 mg/dL). Urgent CT angiography excluded the presence of pulmonary thromboembolism, but a paraesophageal mass was observed with obliteration of the esophageal lumen (figure 1). To complete the study, he was admitted in Internal Medicine.

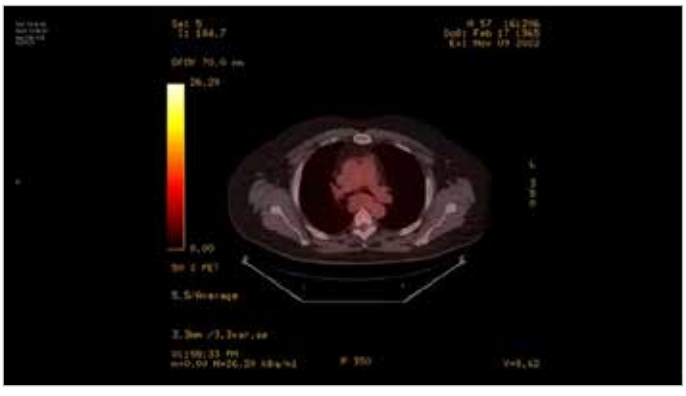
Clinical Hypothesis: The diagnosis between duplication diverticulum, leiomyoma and GIST tumor was initially considered.

Diagnostic Pathways: Fibrogastroscopy showed a rounded esophageal wall protrusion with normal mucosa compatible with extrinsic compression. A PET/CT showed a paraesophageal mass that obliterated the esophageal lumen, without avidity for FDG, suggesting the presence of leiomyoma versus GIST tumor (Figure 2). A transesophageal endoscopic ultrasound showed an esophageal-dependent submucosal lesion. Fine needle aspiration biopsy was taken, with an anatomopathological exam compatible with the diagnose of leiomyoma. The patient is actually awaiting the decision of the surgical committee.

Discussion and Learning Points: In this case, without being able to rule out a duplication diverticulum or the presence of esophageal material inside the mass, there was a high risk of causing a mediastinitis with the biopsy, so it was of utmost importance to characterize the mass before the procedure. Currently, enucleation of esophageal leiomyomas by video thoracoscopy is the technique of choice for this benign tumor.



901 Figure 1.



901 Figure 2.

902 - Submission No. 527

PAGET'S DISEASE AND NON-HODGKIN'S LYMPHOMA: AN UNLIKELY COMBINATION

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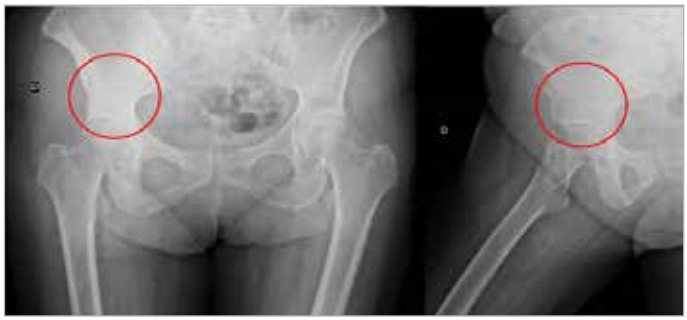
Case Description: We present a case of a 63-year-old female with a personal history atrial fibrillation. Patient had pain in the right hip for two years. Physical examination showed right inguinal adenopathy measuring 5x3 cm. Analytically, she had hemoglobin 11 g/dL, sedimentation rate 40 mm/h, iron and vitamin D deficiency, transferrin saturation 9.1%, ferritin 368, LDH 334 ng/mL, alkaline phosphatase 185 U/L. Normal protein electrophoresis, immunofixation of proteins in serum without evidence of monoclonal gammopathy. Pelvic radiography and bone scintigraphy were performed, which showed features suggestive of Paget's disease in the right iliac bone (Figure 1). A computed tomography scan showed alterations in the bone morpho structure of the right iliac, with a necrotic soft tissue component associated with retroperitoneal adenopathies (Figure 2). An excisional biopsy of the inguinal ganglion was performed, which revealed diffuse large B-cell lymphoma of the germinal center type. A bone marrow biopsy was performed, which showed osteomedullary tissue, without infiltration by lymphoma and without other particularities. The patient was referred to the hematology department and started chemotherapy treatment.

Clinical Hypothesis: Osteosarcoma or lymphoproliferative disease?

Diagnostic Pathways: Paget's disease has the potential for malignancy, although osteosarcomas are rare, they take part in differential diagnosis.

Discussion and Learning Points: Paget's disease of bone is characterized by changes in bone's turnover. It can be asymptomatic, but the main manifestation is bone pain. It usually affects the skull, pelvis, femur. It makes a differential diagnosis with metastatic disease, osteomalacia and osteosarcoma. Treatment is indicated in symptomatic patients with increased alkaline phosphatase. The first line of therapy is bisphosphonates. Association with lymphoproliferative diseases is rare.



902 Figure 1.

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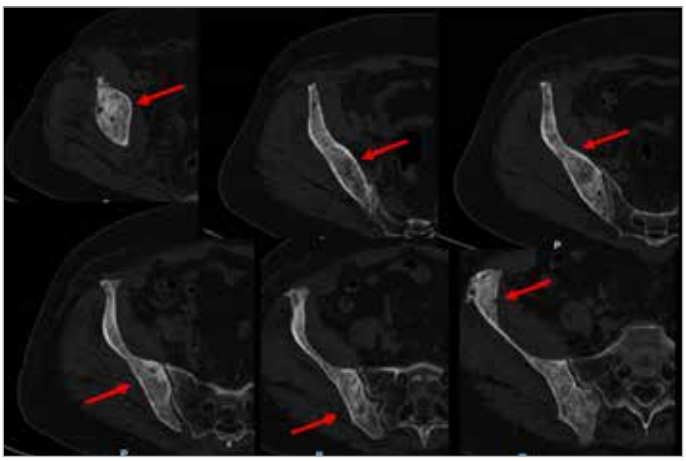

902 Figure 2.

903 - Submission No. 1365

ACQUIRED ICHTHYOSIS - THE FIRST MANIFESTATION OF CHRONIC MYELOMONOCYTIC LEUKEMIA

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Case Description: We report the case of a 61-year-old male whose first manifestation of CMML was the appearance of a generalized cutaneous dermatosis two years before the diagnosis of the oncological disease. The patient also reported complaints of tiredness and weight loss with one year of evolution. The skin lesions were consistent with acquired ichthyosis and histology showed perivascular dermatosis (Figure 1). Analytically he presented anemia, leukocytosis with neutrophilia, monocytosis, increased velocity of sedimentation and polyclonal increase in immunoglobulins, with negative serum immunofixation, without other relevant analytical changes. On thoraco-abdomino-pelvic computerized tomography, he presented hepatomegaly, splenomegaly and cervical, axillary and inguinal adenopathies. Bone biopsy and myelogram confirmed the diagnosis of CMML, with features of myelodysplasia. The lymph node biopsy showed changes consistent with dermatopathic lymphadenopathy.

Clinical Hypothesis: Can skin lesions be the first manestation of CMML?

Diagnostic Pathways: Clinical timeline and biopsy set the diagnosis.

Discussion and Learning Points: Chronic myelomonocytic leukemia (CMML) is a hematologic disease described as a hematopoietic stem cell disorder with features of myelodysplastic (MDS) and myeloproliferative (MPS) syndromes, associated with a risk of acute leukemic transformation. It is characterized by sustained (>3 months) peripheral blood monocytosis (≥1 × 10^9 cell/mm^3; monocytes ≥10% of leukocytes) and the presence of blasts, associated with dysplastic features in the bone marrow. Its prevalence has increased and is currently classified as a single myeloid neoplasm. Usually asymptomatic, but the most frequent symptoms are weight loss, fatigue, asthenia, the presence of hepatomegaly and splenomegaly, skin manifestations are rare. With this case we show atypical clinical presentations that should always be considered.

904 - Submission No. 1303

LUNG ADENOCARCINOMA WITH MULTIPLE METASTASES PRESENTED ONLY AS SHOULDER PAIN: A CASE TO REMEMBER

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Case Description: A 62-year-old woman with a history of fibromyalgia and without toxicophilic habits is brought to the hospital for a fall from standing height, further aggravating the persistent right shoulder pain she had for the last month despite optimal treatment. Plain radiograph of the right humerus revealed a pathologic fracture.

Clinical Hypothesis: The hypothesis of carcinoma of unknown primary with bone metastases was posed and she was admitted for a thorough evaluation.

Diagnostic Pathways: The full blood count and the ABG analysis were unremarkable. Plain chest radiograph revealed diffuse pulmonary nodules. Thoraco-abdomino-pelvic computed tomography (TAP-CT) scan revealed bilateral lung lesions suggestive of lung cancer, with diffuse lymph node involvement and spreading to bones (humeral and cervical), left adrenal gland and hepatic parenchyma. MRI brain imaging showed three enhanced non-edematous nodular lesions in the left temporo-parieto-occipital region, consistent with brain metastases. Histopathological examination and immune-cytochemical analysis of a pulmonary nodule yielded adenocarcinoma cells positive for EGFR gene mutation. She was diagnosed with stage IV lung cancer, and palliative treatment with Osimertinib, brain radiotherapy and surgery and consolidative radiotherapy of humeral fracture was ensued.

Discussion and Learning Points: Stage IV lung cancer can present with metastases in various distant organs, with unusual manifestations, which poses a diagnostic challenge. In this stage, prognosis may be poor, and despite early diagnosis patients' chances of survival are decreased. Our case highlights the importance of recognizing the atypical manifestations of cancer in this stage, by mimicking such a trivial symptom as persistent shoulder pain.

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905 - Submission No. 1318

RECURRENT MALIGNANT PLEURAL EFFUSION AS THE INITIAL PRESENTATION OF ENDOMETRIAL ADENOCARCINOMA – A CASE REPORT

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Case Description: A 93-year-old woman with a history of breast cancer diagnosed in 2012 and cardiovascular disease risk factors (dyslipidemia and former smoker) was admitted due to dyspnea and productive cough for the last 3 days. The laboratory tests were unremarkable. Complete withe-out of the right hemithorax on the chest radiograph was noted.

Clinical Hypothesis: The hypothesis of respiratory tract infection or neoplastic disease (primary neoplasm vs recurrence) were considered.

Diagnostic Pathways: She underwent thoracentesis with drainage of pleural effusion with bloody appearance, which after work-up was consistent with exudative pleural effusion, with adenocarcinoma cells being identified. Thoraco-abdominopelvic computed tomography (TAP-CT) scan was performed, showing recurrence of the large right pleural effusion, without lung parenchyma involvement, and marked heterogeneous distension of the endometrial cavity. Another 2 recurrences of pleural effusion with acute dyspnea and desaturation refractory to chest tube insertion demanded the need for a pleurodesis. A pelvic MRI (magnetic resonance imaging) scan revealed multiple endometrial polyps, and histopathological examination yielded an endometrial papillary serous adenocarcinoma.

Discussion and Learning Points: Endometrial carcinoma is the most common gynecological malignancy. At the time of diagnosis, only 2 to 4% of neoplasms present with distant disease, with the lungs being infrequently involved (3.6%) and pulmonary metastasis rarely reported in literature. The cause of pleural effusions should be actively sought, particularly when they are recurrent and malignant, and endometrial carcinoma must be considered in the differential diagnosis when imaging studies raise suspicion.

906 - Submission No. 1239

PULMONARY EMBOLISM AS THE INITIAL PRESENTATION OF PULMONARY ADENOCARCINOMA – A CASE OF FATAL ASSOCIATION

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Case Description: A 70-year-old smoker woman with irrelevant medical history and no daily medications was admitted due to dyspnea and right pleuritic chest pain for the last 3 weeks. At admission, the altered tests were an ECG with sinus tachycardia, elevation of C-reactive protein and D-dimers, and a CT angiography showing a subsegmental acute pulmonary embolism (PE), a right hilar mass in the middle lobe with atelectasis and signs of carcinomatous lymphangitis. The ABG analysis, troponin-I, BNP, color doppler ultrasound of the lower limbs for deep vein thrombosis and transthoracic echocardiogram were within the normal limits.

Clinical Hypothesis: Primary lung neoplasm versus lung metastases was hypothesized as a causative factor for PE.

Diagnostic Pathways: Hypo coagulation was initiated and suspended 24h before a bronchoscopy, which showed extensive neoplastic infiltration at the level of the upper lobe bronchus, secondary carina and terminal portion of the intermediate bronchus. Twelve hours later, sudden clinical worsening requiring vasopressor support and invasive mechanical ventilation ensued, and she was transferred to the ICU. CT angiography revealed multiple thrombi scattered throughout the bronchial tree. Despite immediate thrombolysis, she did not survive. Histopathological examination of lung biopsies yielded a primary lung adenocarcinoma.

Discussion and Learning Points: Bilateral association between pulmonary embolism and neoplasia is classically recognized and demands prompt treatment. The incidence of PE in patients diagnosed with lung cancer reaches about 4%. We draw attention to a rarer presentation, reported in most cases as the fatal occurrence of high-risk PE in the context of metastatic lung adenocarcinoma.

907 - Submission No. 687

ASSOCIATION OF HIGH B12 SERUM CONCENTRATIONS WITH DISEASE AND MORTALITY

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Background and Aims: Due to the lack of consensus regarding the correlation between high levels of B12 and the increased rate of disease and mortality, we aimed to evaluate it.

Methods: Retrospective review of clinical charts of patients with serum B12 > 1000 pmol/L at the Moisés Broggi Hospital (Barcelona, Spain) between January 2018 and December 2019. Non-parametric statistic tests were used to compare the characteristics of patients who died in the first year of follow-up versus those who did not.

Results: Serum B12 levels were analyzed in 14,050 patients, of which 433 (3.1%) presented B12 > 1000 pmol/L. Three patients were excluded due to insufficient data, therefore, a total of 430 patients were analyzed. Median age was 74.4 [63-83] years and 48.8% were female. Median Charlson Comorbidity Index was 3 [1-6]. High B12 levels were associated with solid cancer (29.8%), hematological cancer (13.7%), B12 supplementation (22.1%),

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active infection (32.9%), alcohol abuse (18.6%) and chronic liver disease (13.7%). In the first year of follow-up 142 (33%) patients died with a median survival of 31 [10-107] days. Patients who died in the first year were older (75.5 vs. 69.8 years; p=0.0005), had a higher Charlson Index (6 vs. 2; p<0.0001) and more frequently presented solid cancer (50.7% vs. 19.4%; p<0.0001). However, hematological cancer was similar in both groups (12.7% vs. 14.2%; p=0.6584).

Conclusions: High serum B12 levels were associated with solid cancer and significant mortality, especially in the first month following its detection.

908 - Submission No. 1692

A CASE OF ASCITIS

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Case Description: Female patient, 69 years-old, with cardiovascular risk factors, went to the emergency service due to an increase in abdominal circumference, with two months of evolution. She also reported abdominal discomfort, more intense in the left hypochondrium, with an intensity of 7/10, without irradiation and without relieving or worsening factors. She denied asthenia, anorexia, or weight loss. She denied fever, appearance of adenomegaly, night sweats, or bleeding.

Clinical Hypothesis: Ascites corresponds to the accumulation of fluid in the peritoneal cavity. There are numerous causes of ascites - the most common include mechanisms of portal hypertension, in which cirrhosis or heart failure are inserted. When serum-ascitic albumin gradient lower than 1.1, the etiology of ascites may be infectious, oncologic diseases, etc.

Diagnostic Pathways: The analyses showed microcytic/hypochromic anemia. The abdominopelvic CT showed voluminous homogeneous ascites of diffuse distribution with heterogeneous and suspicious densification of the omentum and retrouterine thickening. Diagnostic paracentesis was performed with an increase in leukocytes, with a predominance of mononuclear cells; slightly increased LDH and normal ADA. The serum-ascitic albumin gradient was 0.6, not suggestive of portal hypertension. The histological result of the biopsy of the peritoneal implant showed a neoplastic structure with morphological features consistent with high-grade serous carcinoma, of probable origin in the ovary. The patient was referred to the Oncology consultation.

Discussion and Learning Points: The diagnosis of ascites is based on physical examination and imaging, with abdominal ultrasound being the gold standard. After diagnosing ascites, the study of the etiology is started and, therefore, all patients who present with ascites should undergo diagnostic paracentesis.

909 - Submission No. 2242

POLYSEROSITIS: A DIAGNOSTIC CHALLENGE

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Case Description: A 43-year-old woman was evaluated for fever and dry cough of 4 weeks' duration. She also had anorexia and fatigue in the week before coming to the Emergency Department (ED). On examination, respiratory sounds were absent in the lower half of the thorax and the abdominal palpation was painful at the epigastric and right hypochondriac areas and a fluid wave was identified. No organomegaly was noted, neither rebound tenderness. The hemoglobin level was 11.8 g per deciliter (normochromic and normocytic). Computed tomography (CT) of the chest revealed a large, bilateral pleural effusion and a moderate pericardial effusion. Abdomino-pelvic CT showed a gastric parietal thickening and a moderate peritoneal effusion.

Clinical Hypothesis: Hospitalization was proposed, to clarify the diagnosis: polyserositis vs malignant neoplasm.

Diagnostic Pathways: Diagnostic thoracocentesis was performed, for which pleural fluid analysis came positive for neoplastic cells, and Esophagogastroduodenoscopy proved the existence of a vegetative, infiltrative, extensive neoplastic lesion, stretching from the cardia to the antrum. HIV serological testing negative. Gastric biopsy performed at that time was conclusive for non-Hodgkin lymphoma (NHL), type B, high grade, Burkitt type. Single-photon emission computed tomography revealed multiple lymphadenopathies (left supra-clavicular, abdominal, hilar, mediastinal, pleural, pericardial, gastric, hepatic capsule and peritoneum) and lumbar puncture was positive for neoplastic infiltration. The patient was enrolled on a chemotherapy program.

Discussion and Learning Points: NHL are the most prevalent hematologic malignancies. The non-endemic form of Burkitt lymphoma represents <1% of all NHL, with a male predominance 3-4:1. The authors present this case, reviewing the causes of polyserositis, which can be secondary to malignant neoplasms.

910 - Submission No. 2250

AN UNCOMMON CAUSE OF GASTROINTESTINAL BLEEDING

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Case Description: A 75-year-old male, with Stage 2 chronic kidney disease and hypertensive cardiopathy, was evaluated for syncope and traumatic brain injury. He presented with diffuse abdominal pain, more intense at the epigastric region, melena, and fatigue, that developed over two weeks. Upon initial observation, there

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was a noticeable mucocutaneous pallor. The hemoglobin level was 6.5 g per deciliter (microcytic and hypochromic, sideropenic). Computed tomography (CT) of the chest and abdomen was inconclusive.

Clinical Hypothesis: Hospitalization was proposed, to clarify the etiology behind the upper gastrointestinal bleeding, associated with severe sideropenic anemia.

Diagnostic Pathways: Esophagogastroduodenoscopy identified a polypoid gastric lesion, with 4-5 cm of diameter, centrally ulcerated, without major bleeding stigmata. Colonoscopy was performed as well, which showed no lesions. Since the gastric lesion didn't show any bleeding stigmata, a capsule endoscopic was carried out and identified the same gastric lesion, as well as a non-bleeding erosion at the jejunum. Seric immunofixation revealed an IgG/Kappa oligoclonal pattern. Gastric biopsy came positive for malignant neoplasm with plasmocytic differentiation, supporting the hypothesis of gastric plasmacytoma. The patient needed three blood transfusions, with hemoglobin level at discharge of 8.3 g per deciliter.

Discussion and Learning Points: Plasma cell tumors are an uncommon entity, characterized by proliferation of a single plasma cell. It can present as a single lesion (solitary plasmacytomas) or as multiple lesions (multiple myeloma). Extra-medullary plasmacytomas usually affect either head or neck and represent approximately 3% of all plasma cell tumors. The authors present this case by its uncommon etiology of upper gastrointestinal bleeding.

911 - Submission No. 2253

WHEN CLINICAL SUSPICION JUSTIFIES IT, WE MUST BE TENACIOUS

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Case Description: A 35-year-old female, with history of asthma and smoking, looked for her primary care physician because of a painful left axillary swelling, growing over the last six months, associated with B symptoms (apart from unintentional weight loss). Skin inflammatory signs were obvious, as well as positive acute phase reactants, so antibiotic therapy was started after isolating a *Serratia marcescens* on purulent exudate. No relevant epidemiologic history was evident.

Clinical Hypothesis: The patient was evaluated at the Internal Medicine and Hematology departments, being most likely a pathological lymphadenopathy, with either neoplastic or infectious etiology.

Diagnostic Pathways: Neutrophil predominant leukocytosis was noted (white-cell count 19.9 $x10^9$/L, neutrophils 16.8$x10^9$/L, 84.2%), as well as nearly normal C-reactive protein (1.8 mg/dL). Autoimmune and infectious study was negative. Positron emission tomography was performed and identified numerous hypermetabolic lesions (left lower cervical, left axillary and mediastinal regions), with malignant stigmas. In total, four invasive interventions were performed (left axillary fine-needle aspiration (FNA) and incisional biopsy, left supra-clavicular FNA and again a left axillary incisional biopsy): all inconclusive for neoplastic diseases, only describing inflammatory cells. It was then proposed a fifth approach: an incisional biopsy of an aortopulmonary lymphadenopathy, which revealed a classic Hodgkin lymphoma, nodular sclerosis type.

Discussion and Learning Points: The definitive diagnosis was hard to reach, but it allowed the most accurate treatment. The authors present this case as it reflects the need to, in cases with strong clinical suspicion of neoplastic etiology and with significant inflammatory signs, adopt an aggressive approach, by thinking earlier about a more invasive type of biopsy.

912 - Submission No. 1002

AGRANULOCYTOSIS AND TONSILLITIS ASSOCIATED WITH THE USE OF METHIMAZOLE: A CLINICAL CASE

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Case Description: A 61-year-old female with a personal history of Graves' disease, arterial hypertension, Type 2 diabetes mellitus, pernicious anemia and vitiligo. She presented with odynophagia, mild dysphagia, and fever for 2 days. She would have started methimazole 90 mg/day 6 weeks ago due to clinical hyperthyroidism of autoimmune etiology. Upon observation, there was hyperemia of the oropharynx compatible with tonsillitis. Analytically with leukopenia of 1400 cells/mm^3 with absolute neutropenia of 0 cells/mm^3 and CRP of 201.3 mg/L. She was hospitalized under protective isolation and with immediate suspension of methimazole. She performed a cervical and thoracic tomography to exclude local complications, which revealed a diffuse inflammatory alteration of the lymphoid tissue of the base of the lingula on the right, coexisting discrete obliteration of the vallecula and right piriform sinus, without regional abscesses.

Clinical Hypothesis: Due to suspicion of febrile neutropenia secondary to methimazole, she completed a 5-day cycle of filgrastim and broad-spectrum antibiotic therapy with piperacillin-tazobactam for 1 week.

Diagnostic Pathways: Serologies for Human Immunodeficiency Virus, Hepatitis B and C, Infectious Mononucleosis and Rickettsiosis were requested, which were negative. Thoracic-abdomino-pelvic tomography excluded neoplastic diseases, and a medullogram excluded lymphoproliferative diseases.

The patient evolved favorably, with sustained apyrexia and normalization of the granulocyte count after 1 week of hospitalization.

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Discussion and Learning Points: This clinical case highlights the importance of knowing adverse drug effects when starting a new drug, since agranulocytosis is a very uncommon adverse effect in patients treated with Methimazole. Treatment involves discontinuing the drug and using granulocyte colony stimulators, corticosteroids, and antibiotics in case of concomitant infection.

913 - Submission No. 456

NEUROLOGICAL IMPAIRMENT OF ATYPICAL CAUSE

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Case Description: A 43-year-old woman with history of obesity came to the ER due to headache of fluctuating intensity of two weeks of evolution. In the last two days she began with language alterations, erratic behaviors, and decreased level of consciousness. A cranial CT scan showed no abnormalities and blood cultures were negative. Blood tests showed anemia (hemoglobin 5.2 g/dL), thrombocytopenia (platelets 10,000/µL) and elevation of indirect bilirubin (2 mg/dL) and lactate dehydrogenase (5481 U/L). In addition, a peripheral blood smear revealed 10% schistocytes.

Clinical Hypothesis: Autoimmune hemolytic anemia, thrombotic thrombocytopenic purpura (TTP).

Diagnostic Pathways: The direct Coombs test was negative, which rules out an autoimmune cause. Blood was sampled to determine ADAMTS13 activity, and it was <1%, and positive inhibitor antibodies were present so the diagnosis of TTP was confirmed. We started treatment with plasma replacement, methylprednisolone pulses, rituximab and caplacizumab. However, the patient presented a new neurological worsening, with seizures, oculobuccal myoclonus and pupillary areactivity. A new cranial CT scan revealed an extensive hypodense area at the left temporo-occipital level, and it was decided to limit the therapeutic effort.

Discussion and Learning Points: Untreated TTP leads to death in 90% of patients and is mainly due to ischemic episodes in the brain or heart. Plasma exchange allows the elimination of antibodies directed against ADAMTS-13. This treatment is complemented with immunosuppression using corticosteroids and rituximab, which has been related to a lower risk of relapse. Caplacizumab, which inhibits platelet adhesion, reduces the time to normalization of platelet counts and recurrences, although there is an increased risk of bleeding.

914 - Submission No. 1251

MYELOMA-RELATED KIDNEY DISEASE: A CASE REPORT

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Case Description: 67-year-old woman with known light chain (lambda) monoclonal gammopathy, detected the previous year, and chronic nephropathy of undetermined etiology, was admitted to the emergency department after routine analytical work-up revealed non-oliguric severe acute kidney injury and acute macrocytic anemia. Further investigation showed non-albumin-nephrotic proteinuria, elevated serum, and urinary free light chains (FLC) with reduced serum kappa/lambda ratio, monoclonal precipitation of light-chain on serum and urine immunofixation, and diastolic dysfunction on echocardiogram.

Clinical Hypothesis: Light-chain multiple myeloma (MM) with myeloma-related kidney disease due to light-chain cast nephropathy (MCN) was the main diagnostic hypothesis. Diastolic dysfunction on echocardiogram also raised the suspicion of associated AL amyloidosis. Therefore, deposition of amyloid fibrils could also contribute to kidney dysfunction.

Diagnostic Pathways: Non-paraprotein-related kidney disease was excluded. Myelogram confirmed the MM diagnosis, revealing 33% plasmacyte rate. Salivary glands biopsy was performed, confirming suspicion of AL amyloidosis showing congophilic fibrils, although specific identification for light-chain fibrils was inconclusive. Suspected lung nodule after disease staging was biopsied, excluding plasmacytoma. Progression to kidney failure led to initiation of hemodialysis. Pathway-directed (PD) therapy was started, first 2 cycles on bortezomib-dexamethasone, followed by DVRd (daratumumab, bortezomib, lenalidomide, and low-dose dexamethasone). Good hematologic response was observed.

Discussion and Learning Points: Several mechanisms can target the kidney on MM. MCN is the most frequent mechanism of myeloma-related kidney disease. However, it might coincide with other rare paraprotein-related diseases like AL amyloidosis. Progressive organ failure is a great threat. Therefore, time is essential, as PC-therapy might reduce secretion of FLC, indirectly halting progressive organ dysfunction.

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915 - Submission No. 2097

HORNER SYNDROME

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Case Description: Female patient, 27 years-old, comes to the Internal Medicine consultation for the etiological investigation of a left cervical adenopathy. The clinic had a month of evolution, and without other constitutional or other symptoms. The existence of Horner's Syndrome on the left-ptosis, miosis and anhidrosis on the left - and posterior cervical adenopathy of about 4 cm without other complaints were verified. The patient was investigated with analytical study, thoracic CT and ultrasound-guided biopsy, with the result of the biopsy of the adenopathy revealing Hodgkin's disease and the thoracic CT revealed jugulocarotid and spinal accessory and mediastinal adenopathies.

Clinical Hypothesis: Cervical lymphadenopathy secondary to infections, sarcoidosis, lymphoproliferative disorders, lung cancer.

Diagnostic Pathways: Ultrasound-guided biopsy, thoracic CT scan and anatomopathological study.

Discussion and Learning Points: Horner's syndrome is rare and can appear in lesions from the brain, spinal cord, cervical region, thorax, requiring multiple investigations of the sympathetic pathway.

916 - Submission No. 2110

METASTASIS OF NEUROENDOCRINE CARCINOMA

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Case Description: Female patient, 47 years-old, referred to the emergency department due to abdominal pain in the right hypochondrium, asthenia and anorexia with one month of evolution. In personal history there was no relevant pathology, except for marked drinking and smoking habits. In objective terms, he had a globular abdomen and exhibiting hepatomegaly with an abdominal CT study showing a giant liver extending to the pelvic excavation, with multiple nodules suggestive of massive liver metastases and an ultrasound-guided biopsy of liver metastases from neuroendocrine carcinoma of the small cells lung tumor.

Clinical Hypothesis: Primary tumor liver metastases, multiple hepatic hemangiomas, liver abscesses.

Diagnostic Pathways: Abdominal CT scan, ultrasound-guided biopsy, lung CT scan.

Discussion and Learning Points: Subacute presentation of constitutional symptoms and hepatomegaly evidencing multiple metastases as a presentation of small cell neuroendocrine carcinoma of the lung.

917 - Submission No. 473

A CASE OF SUPERELDERLY PATIENT WITH TAFRO SYNDROME WITH ACUTE INTERSTITIAL PNEUMONIA

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Case Description: An 88-year-old man presented with fever, a dry cough, and progressive dyspnea that had continued for three days. After treatment with antibiotics, but with no subsequent improvement, he was transferred to our hospital.

Clinical Hypothesis: Other laboratory workup data indicated the following: WBC 23000 /μL (seg 87.5%, lymph 2.5%, blast 0%), Hb 9.0 g/dL, platelets 10100/μL, LDH 286 U/l, albumin 2.5 g/dl, BUN 50.9 mg/dl, Cr 3.23 mg/dl, CRP 16.15 mg/dl, and IL-6 1830 pg/ml. SP-D 28.6 ng/ml. Computed tomography showed bilateral increased attenuation without traction bronchiectasis, but with the spread of anasarca consistent with acute interstitial pneumonia (IP).

Diagnostic Pathways: The patient had progressive kidney injury. Bone marrow (BM) aspiration was performed because his pancytopenia continued. Lymph node biopsy was performed because of the high IL-6 concentration. BM aspiration showed reticulin fibrosis. Right inguinal lymph node biopsy showed hyaline vascular (HV) type with high serum IL 6 concentration. TAFRO syndrome was diagnosed based on 3 major criteria and 3 minor criteria. He was administered m-PSL pulse therapy and antibiotic therapy, neither of which was effective. Respiratory failure progressed rapidly. On hospital day 30, the patient died.

Discussion and Learning Points: TAFRO syndrome, a very rare and rapidly progressive disease, is characterized by thrombocytopenia, anasarca, fever, reticulin fibrosis or renal dysfunction, and organomegaly with appearance resembling Castleman's disease. No report of the literature describes acute IP with TAFRO syndrome. However, IP attributable to cytokine production along with lymphoproliferative disease and related diseases has been reported.

918 - Submission No. 2290

"CANNON BALL" METASTASES AS A PRESENTING FEATURE OF CERVICAL CANCER

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Case Description: An 83-year-old woman with history of hypertension, diabetes, and chronic kidney disease, presented with dyspnea and productive cough for 2 weeks. Her family referred she had occasional episodes of vaginal bleeding for the past 6 months but refused going to the hospital. Physical

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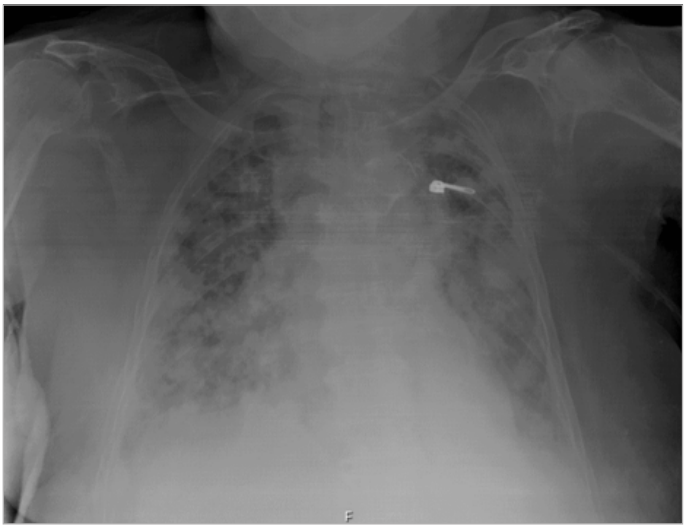
examination: crackles on pulmonary auscultation; a necrotic hemorrhagic uterine mass was visible on gynecologic exam. Laboratory results: normochromic normocytic anemia (Hb 10 g/dL), mild leukocytosis and C-reactive protein of 6 mg/dL. Chest radiography showed multiple pulmonary opacities with "cannon ball" appearance (Figure 1). Thorax-abdominal-pelvis CT scan revealed round diffuse pulmonary nodules with moderate bilateral pleural effusion and cervix enlargement with microlobulated borders (Figures 2 and 3).

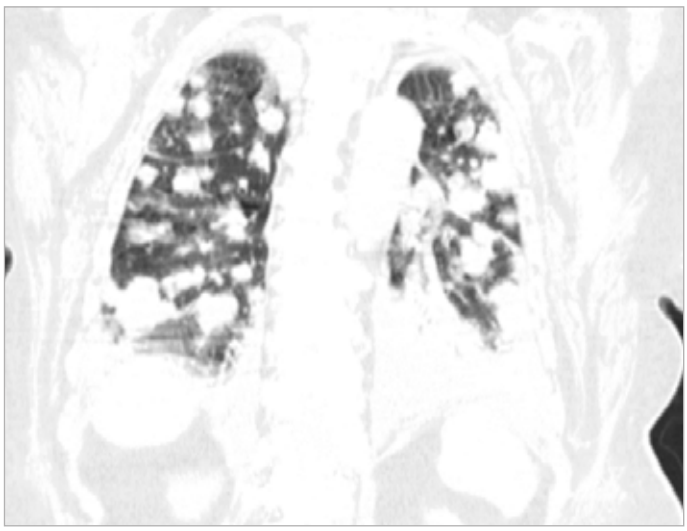
Clinical Hypothesis: Metastatic cervical cancer.

Diagnostic Pathways: Biopsy of the uterine cervical mass revealed invasive moderately differentiate squamous cell carcinoma associated with human papillomavirus (HPV). Given the diagnosis of a cervical squamous cell carcinoma stage IV B in an elderly patient with multiple comorbidities, she was referred to palliative care consult and started palliative hemostatic radiotherapy.

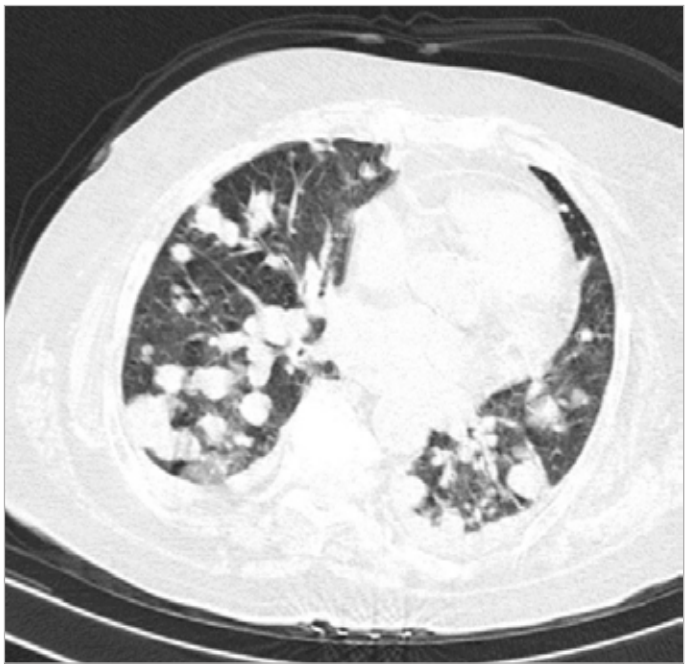
Discussion and Learning Points: Large, round, well-circumscribed metastatic pulmonary nodules are called "cannon ball" metastases. They are usually associated with disseminated malignancy and indicate a poor prognosis. Cervical cancer is the fourth most frequent cancer in women worldwide and majority of cases are caused by HPV. About 1% to 2% of patients with cervical carcinomas present with lung metastases, and 5% to 35% eventually develop pulmonary metastases. Regardless of the several strategies for prevention, diagnosis, and treatment that are applied to the disease, the prognosis of cervical cancer patients remains poor, especially in metastatic patients.



918 Figure 1.



918 Figure 2.



918 Figure 3.

919 - Submission No. 1830

POLYARTRALGIA AND FEVER. SPOILER: IT IS NOT COVID-19

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Case Description: We present a 19-year-old female with no medical history who consulted in the emergency room due to 24-hours-evolution polyarthralgia. It started with pain in both knees and ankles, and it continued with pain in both elbows and wrists the day after. Furthermore, limitation of mobility was added so she was unable to stand up. She only reported cold symptoms and fever two weeks before the symptoms started. On physical

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examination no medical findings were reported (no insect bites, no skin lesions nor arthritis). Laboratory test revealed elevation of acute phase reactants and anemia of 12.5 g/dL, increased bilirubin (4.69 mg/dL) with expense of the indirect fraction (4.17 mg/dL) and elevated LDH (2135 U/L) with undetectable haptoglobin. Therefore, a diagnosis of hemolytic anemia and associated polyarthralgia was raised.

Clinical Hypothesis: We suspected hemolytic anemia caused by infectious disease.

Diagnostic Pathways: First of all, serologies of viral infections were requested: HIV, Epstein Barr virus (EBV), Cytomegalovirus (CMV), Mycoplasma, Parvovirus, measles, mumps and varicella. A positive IgM EBV was received. Smear, immunophenotype and autoimmunity test (antinuclear bodies) were all negative. Coombs test was positive to C3d and negative to IgG, a cold autoimmune hemolytic anemia diagnosis was made. The study was completed with cold agglutinin titer, which was also positive.

Discussion and Learning Points: AIHA may be warm or cold-mediated with either primary or secondary etiologies. Presenting symptoms of AIHA can be heterogenous and thorough clinical evaluation may highlight an underlying cause.

920 - Submission No. 1942

A RARE CAUSE OF LOWER EXTREMITIES EDEMA. NOT EVERYTHING IS CANCER

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Case Description: We present a 48-year-old female with history of non-Hodgkin's lymphoma mantle cell diagnosed in 2019. She received R-CHOP treatment and after documenting central nervous system infiltration, MATRix-regimen was administered too. Autologous stem cell transplantation was done in 2020. She receives treatment with Rituximab every two months as consolidation lymphoma treatment. She is admitted to hospital because of painful bilateral lower extremities edema, with first diagnostic hypothesis of disease recurrence. Blood tests revealed anemia and severe hypoproteinemia, TAC and PET-TAC didn't show signs of active disease. At this point, the patient started with neurological symptoms consistent in central facial paralysis and left lower extremity paralysis. Cerebrospinal liquid showed lymphocytosis and protein increase, MRI was performed with results of bilateral and symmetrical hyperintensity in the posterior region of the pons and midbrain region. PCR of LCR was positive to Enterovirus. In a few days neurologic clinic progressed to lower cranial pairs with clinic of dysphagia.

Clinical Hypothesis: After CNS infiltration and ischemic stroke have been discarded, we are facing to a lymphocytic meningoencephalitis due to Enterovirus. In this context of a patient in treatment with anti-CD20 drug (rituximab) and severe hypoalbuminemia, the probability of disseminated enterovirus disease is higher.

Diagnostic Pathways: We requested blood Enterovirus-RNA detection to confirm disseminated disease, which was positive. A flow cytometric immunophenotyping was done with normal result too.

Discussion and Learning Points: Enterovirus meningoencephalitis with disseminated disease attributed to anti-CD20 therapy is a rare disease and its diagnosis is often elusive. Treatment with intravenous immunoglobulin is recommended. Our patient died without evidence of lymphoma progression.

921 - Submission No. 933

METASTASIS TO THE LUNG FROM EPITHELIAL-MYOEPITHELIAL CARCINOMA OF THE PAROTID GLAND AND CONCURRENT NON-SMALL CELL CARCINOMA OF THE LUNG

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Case Description: In July 2022 a 77-year-old man underwent a surgical resection of the left parotid gland due to an EMC. In September 2022 CT chest examination revealed two different masses in upper (1.5 cm) and lower lobe (0.5 cm) of the right lung. The patient underwent surgical resection of both lesions. Microscopically the larger mass composed of groups of atypical squamous cells embedded within desmoplastic stroma. The second mass was composed by two different populations of tumor cells of epithelial and myoepithelial phenotype.

Clinical Hypothesis: The two masses had distinct microscopic appearances. The smaller mass would fit for a metastasis from EMC. The larger mass was an undifferentiated carcinoma. Immunohistochemical analysis was performed (Figures).

Diagnostic Pathways: The tumor cells of the undifferentiated carcinoma expressed p40, p63. CK7 and myoepithelial markers were negative. The diagnosis was that of a primary squamous cell carcinoma of the lung. The smaller mass demonstrated a mixed epithelial and myoepithelial cellular population positive for p63, p40, calponin and S100 immunostains. Immunohistochemical profile supports a metastasis from EMC.

Discussion and Learning Points: Discussion and learning points Metastasis to the lung from epithelial -myoepithelial carcinoma of the parotid gland and concurrent non-small cell carcinoma of the lung haven`t been reported previously in English speaking literature. Furthermore, some studies have suggested an increased aggressiveness of salivary gland tumors with accompanying second primary malignancy. Appropriate therapy in such cases needs a balanced evaluation of the more aggressive component.

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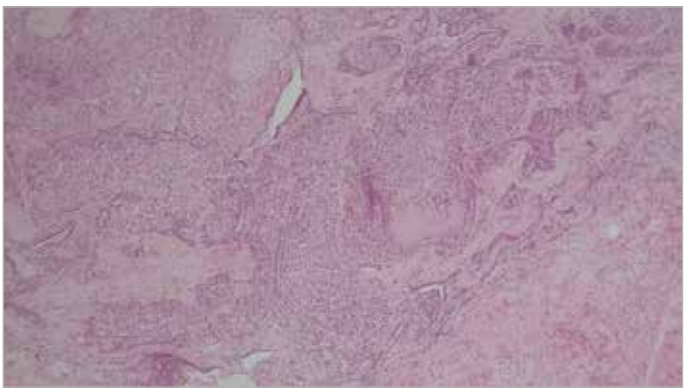
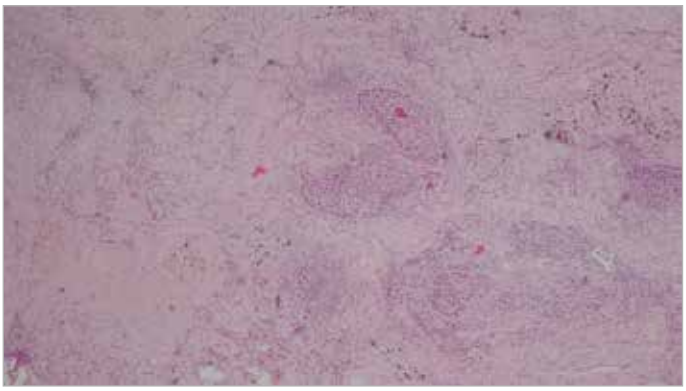


921 Figure 1.



921 Figure 2.

922 - Submission No. 971

GASTRIC CARCINOMA WITH LYMPHOID STROMA: A RARE CASE REPORT

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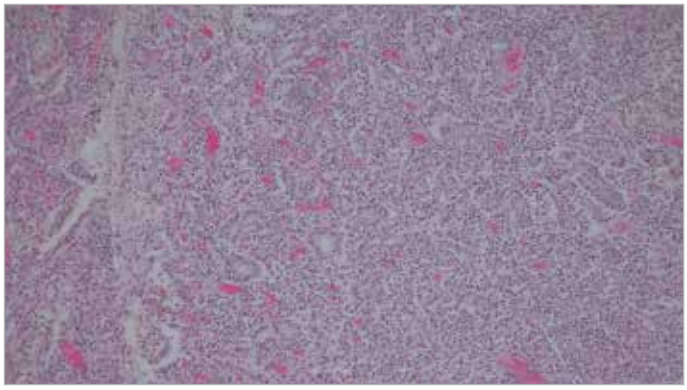
Case Description: A 72-year-old man presented with fatigue, loss of weight and epigastric pain. An upper endoscopy showed an ulcerated mass on the lesser curvature. The biopsy taken from the lesion was diagnosed as poorly differentiated carcinoma. Total gastrectomy was performed. Gross examination of the gastrectomy specimen revealed the presence of a mass measuring 4.7 cm in largest diameter. Microscopic examination revealed solid nests and sheets of malignant epithelial cells with a prominent lymphoid stroma.

Clinical Hypothesis: Differential diagnosis includes reactive lymphoid hyperplasia, mucosa associated marginal zone lymphoma MALT and gastric carcinoma with lymphoid stroma. Immunohistochemical analysis was performed with markers pancytokeratin, CD45, EBER (Figures 1-3).

Diagnostic Pathways: Pancytokeratin stain confirmed the presence of malignant epithelial cells and CD45 stain highlighted the lymphoid stroma. EBV positivity was detected in lymphoid cells. In reactive lymphoid hyperplasia no epithelial component is present. In MALT lymphoma epithelial cells are not atypical. The diagnosis was gastric cancer with lymphoid stroma.

Discussion and Learning Points: Discussion and learning points gastric carcinoma with lymphoid stroma is an uncommon type of gastric cancer (GC) with better prognosis than other forms of gastric cancer. Studies demonstrated that EBV positive cases have a low incidence of lymph node metastasis. Cases with microsatellite instability have a better outcome independently of tumor stage.



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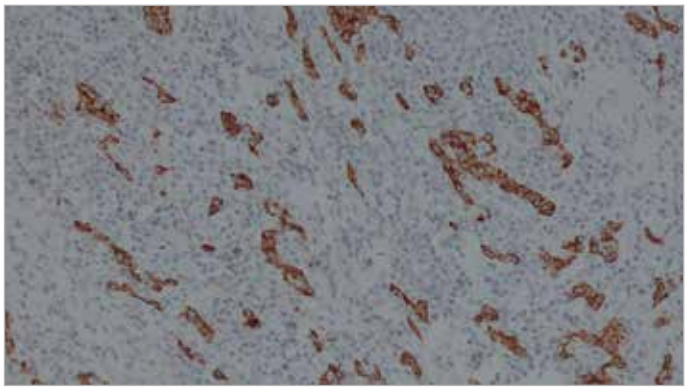

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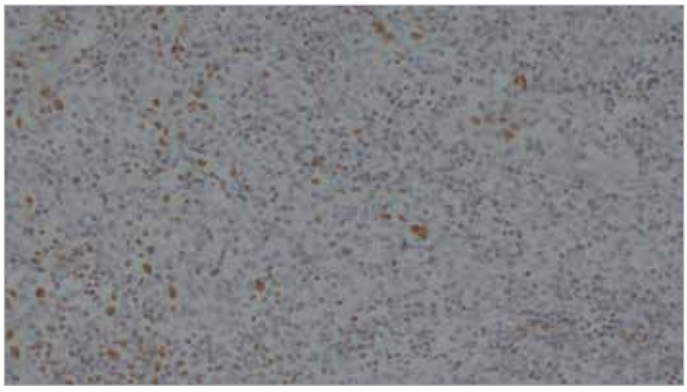

922 Figure 3.

DOI: 10.12890/2023_V10Sup1

923 - Submission No. 983

PRIMARY SQUAMOUS CELL CARCINOMA (PSCC) OF THE PAROTID GLAND: CASE REPORT

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Case Description: A 79-year-old man presented with painless mass at the right angle of mandible. The mass was firm to tender, fixed to skin but free from deeper tissues. The overlying skin was nodular. CT scan of head and neck revealed a single tumor confined to the superficial lobe of the right parotid gland. Surgical resection of the mass was performed. Gross examination of the specimen showed an irregular hard tumor measuring 3x2.2 cm with solid cut surface and foci of necrosis. Microscopically, the tumor was composed of single population of poorly differentiated malignant cells in nests and sheets within desmoplastic stroma.

Clinical Hypothesis: Differential diagnosis of any tumor with squamous differentiation at the area of parotid should include mucoepidermoid carcinoma, and metastatic squamous cell carcinoma.

Diagnostic Pathways: The histochemical stain PAS didn't reveal intracellular mucous production. So, the possibility of high grade mucoepidermoid carcinoma was dismissed. Myoepithelial markers S-100, calponin, actin were negative. Malignant cells were positive for p63 and p40 immunostains. Clinically no other obvious tumor was identified in head and neck, therefore the diagnosis of primary squamous cell carcinoma of the parotid gland was made.

Discussion and Learning Points: PSSC of the parotid is an extremely uncommon aggressive malignancy occurring in <1% of parotid neoplasms. Treatment of resectable disease must be aggressive with radical surgery, regional lymph node dissection and adjuvant radiotherapy to reduce rate of recurrence and improve outcomes. Metastatic disease would require a therapeutic strategy tailored to the molecular profile in order to improve the currently disappointing results.

923 Figure 1.

923 Figure 2.

923 Figure 3.

924 - Submission No. 994

THE IMPACT OF NON- INVASIVE FOLLICULAR THYROID NEOPLASM WITH PAPILLARY -LIKE NUCLEAR FEATURES (NIFTP) ON THE DIAGNOSIS OF THYROID NODULE

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Case Description: A 56-year-old woman underwent investigation for a thyroid nodule. Ultrasound revealed a nodule (0.8 cm) in the left thyroid lobe markedly hypoechoic, solid, with regular borders. Due to the size and ultrasound characteristics thyroidectomy was performed. Gross examination of thyroid revealed an encapsulated nodule. Microscopically the tumor showed a follicular growth pattern with papillary Ca-like nuclear features. The lesion was fully encapsulated without foci of capsular breach or vascular invasion.

Clinical Hypothesis: Differential diagnosis includes papillary thyroid cancer.

Diagnostic Pathways: The diagnosis of NIFTP requires the primary criteria defined as encapsulation or clear demarcation of the lesion with no vascular invasion or capsular invasion,

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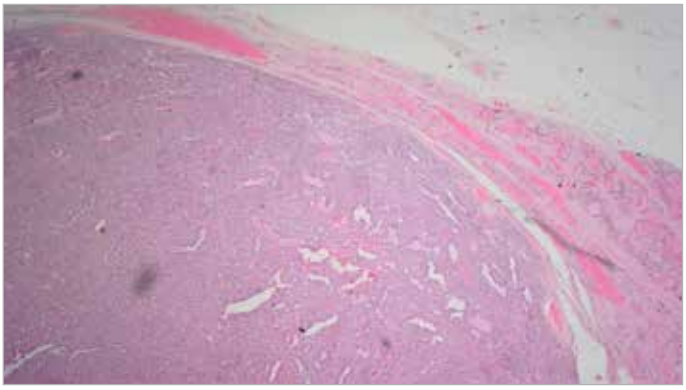
follicular growth pattern without papillae, or psammoma bodies. Tumor necrosis and high mitotic activity are not acceptable. The diagnosis of the nodule was NIFTP.

Discussion and Learning Points: The NIFPT concept is recent and is still a work in progress. Studies proved that NIFTP have molecular profile as other follicular thyroid neoplasms with frequent RAS family mutations and PAX8-PPA P_{γ} fusions. Clinicians and Pathologists must be familiar with the histological criteria of diagnosis of NIFTP to protect patients from overtreatment, since this entity is characterized by low-risk nature follow up series.



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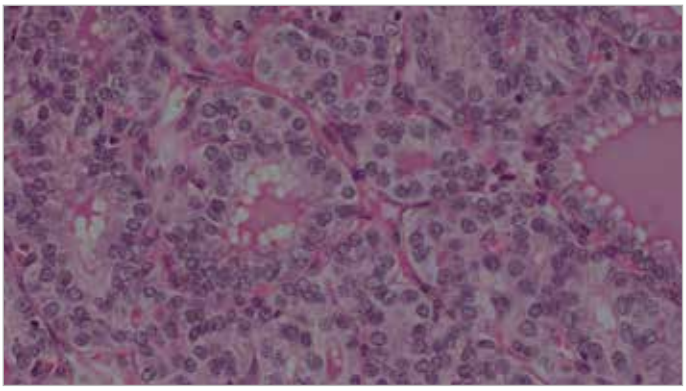

924 Figure 2.

925 - Submission No. 1003

MIXED EPITHELIAL AND STROMAL TUMOR OF THE KIDNEY (MESTK) : A RARE CASE REPORT WITH MALIGNANT TRASFORMATION OF STROMAL COMPONENT

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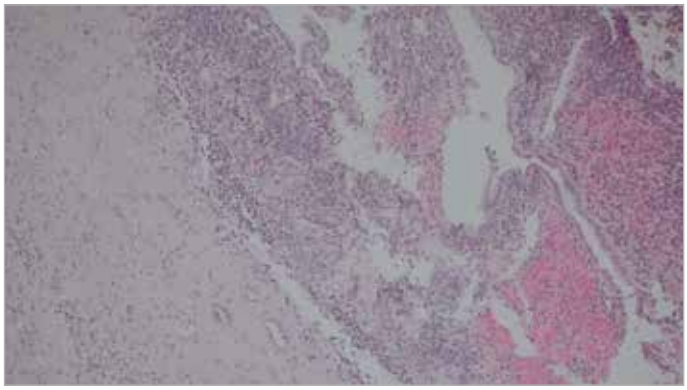
Case Description: A 67-year-old woman presented with abdominal pain, hematuria, and weight loss. The abdominal CT showed a 5x4 cm well defined mass lesion of the left kidney. The patient underwent a left complete nephrectomy. Macroscopically the mass presented multiloculated cystic structures and solid components. Microscopically the tumor showed mixed epithelial and stromal component. Epithelial cells were arranged in tubules with hobnail morphology. Stromal component showed areas of increased cellularity, nuclear atypia, and increased mitoses.

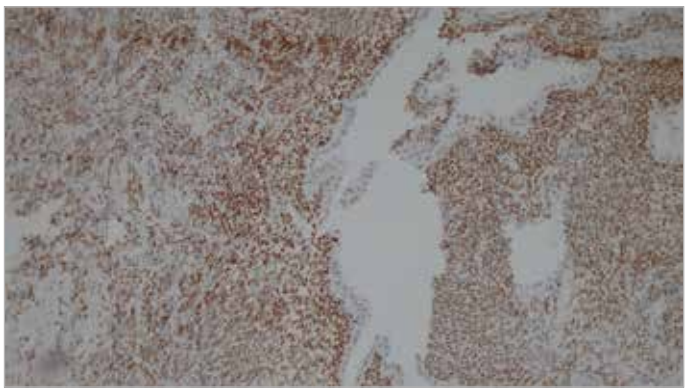
Clinical Hypothesis: Differential diagnosis includes adult cystic nephroma, multilocular cystic neoplasm of low malignant potential, sarcomatous renal cell carcinoma, synovial sarcoma, and mixed epithelial and stromal tumor.

Diagnostic Pathways: Immunohistochemical analysis was performed (Images). Epithelial component was positive for pancytokeratin, vimentin, CK19, CAM5.2, CK7, EMA stains and was negative for CK20, CD10. Mitotic index (Ki67) was less than 1%. Stromal component was positive for vimentin, SMA, Desmin, TLE1, CD56, BCL2 and negative for pancytokeratin, CK19, CK20, S-100, CD117, ER, PR, CD10, RCC, Synaptophysin, Chromogranin, WT-1, GATA 3, Inhibin, Calretinin and CD34. Mitotic index (Ki 67) was in the range of 40%. The diagnosis was MESTK with malignant transformation of stromal component (undifferentiated sarcoma).

Discussion and Learning Points: MESTK is a rare neoplasm and is more commonly seen in perimenopausal women or in patients on long-term estrogen replacement therapy. Malignant transformation of MESTK has been reported. To improve the current understanding of this disease, comprehensive studies on pathogenesis are needed. Due to rarity of this condition, close postoperative clinical follow up of the patient is advised.



925 Figure 1.



925 Figure 2.

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926 - Submission No. 24

MYELOPROLIFERATIVE SYNDROME – A DIAGNOSIS ON THE BORDER BETWEEN MEDICAL SPECIALTIES: CASE REPORT

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Case Description: A 81-year-old female patient was admitted to the Department of Internal Medicine with moderate-to-intense spontaneous pain in the left hypochondrial and in the left abdominal flank, associated with generalized fatigue and loss of appetite. According to the personal medical history, the patient is known with type II diabetes mellitus, being under treatment with oral antidiabetics and arterial hypertension. Upon admission, the physical examination revealed cutaneous and mucosal pallor and marked physical weakness, pain in the left hypochondrial and in the left abdominal flank, massive splenomegaly. Abdominal ultrasound confirmed massive splenomegaly and hepatomegaly.

Clinical Hypothesis: Blood analysis revealed hypochromic normocytic anemia, associated with lymphocytosis, thrombocytopenia, and neutropenia. C-reactive protein serum levels were normal.

Diagnostic Pathways: Massive splenomegaly, associated with anemia and thrombocytopenia in elderly patients, indicate a leukemogenous or lymphoid malignancy and a thorough differential diagnosis and collaboration between internists and hematologists is required.

Discussion and Learning Points: Splenic marginal zone lymphoma (abbreviated as SMZL) is defined as a rare variant of a non-Hodgkin lymphoma determined by the malignant proliferation of B lymphocytes within the marginal zone of secondary follicles . Massive splenomegaly and bone marrow involvement are frequently detected clinical manifestations, resulting in pain residing in the left hypochondrial and left abdominal flank and anemia. It should be noted that, in SMZL, superficial lymph node enlargement is minimal or absent, but on abdominal computed tomography there is enlargement of the lymph nodes in the hepatic and splenic hilum. Biologically, lymphocytosis is a common hematological modification and cytopenia, most frequently represented by anemia, are mostly related to the associated hypersplenism.

927 - Submission No. 1238

HYPERTROPHIC PULMONARY OSTEOARTHROPATHY (HPOA): A CHALLENGING DIAGNOSIS IN PATIENTS WITH ATYPICAL IMAGING FINDINGS

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Case Description: We present a 66-year-old man, current smoker who presented with clubbing of fingers and toes and acute onset of symmetrical synovitis of lower and upper extremities.

Clinical Hypothesis: Paraneoplastic arthralgia in lung cancer.

Diagnostic Pathways: Routine chest x-ray showed a mass in the right upper lung. Staging CTs followed without disease spread. During the clinical examination, clubbed fingers and pitting edema of the knees were observed, without respiratory symptoms. Laboratory workup demonstrated high liver enzymes and ESR. RF and anti-CCPs were negative. RA was excluded because of the acute onset of the symptoms, but also because the criteria of RA in this case were not satisfied. BAL cytology revealed NSCLC, adenocarcinoma. Bone scintigraphy revealed lightly increased radiopharmaceutical uptake on the medial malleolus at the radiocarpal joints, and a linear-like uptake at the tibiae cortical area, more prominent and intense on the upper third of the bone (Figure 1 and 2). These finding reveal a mild joint arthritis and possible hypertrophic osteoarthropathy. Finally, the patient underwent lobectomy and demonstrated gradually improvement in his symptoms.

Discussion and Learning Points: The diagnosis of HPOA is an uncommon diagnosis hence very challenging. Bone scintigraphy is considered the gold standard of HPOA. However, the typical finding of tramline is no 100% pathognomonic. Therefore, physicians should be aware of this condition as a rare cause of an acute onset of non-resolving pain in the extremities.

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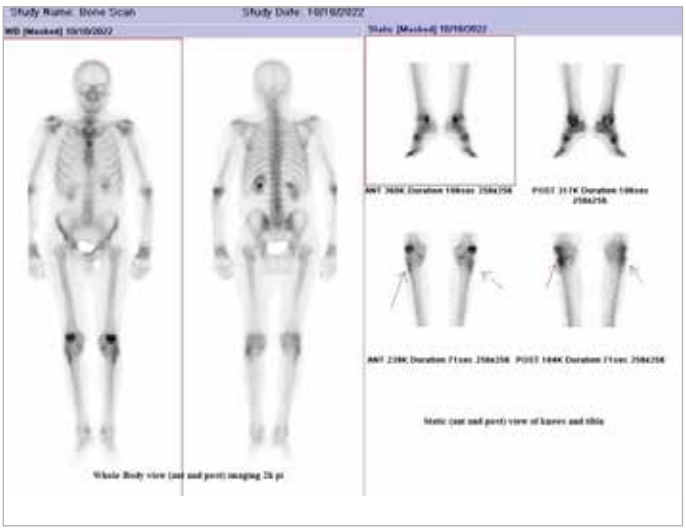
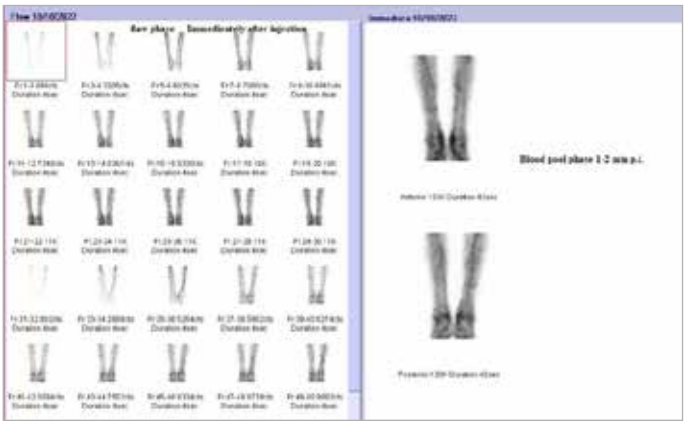


927 Figure 1.



927 Figure 2.

928 - Submission No. 1562

A CASE OF ACUTE MYELOID LEUKEMIA

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Case Description: A 73-year-old woman with hypertension, gastritis and left kidney cancer with nephrectomy, presented to the internal medicine consultation due to tiredness, vomiting, weight loss (3 kg) and pallor over the past month, and pancytopenia: leukocytes 1.85x10^3/uL, neutrophils 0.49x10^3/uL, hemoglobin 10.7 g/dL, platelets 67,000/µL. Physical examination: mucocutaneous pallor.

Clinical Hypothesis: Pancytopenia may be caused by: bone marrow infiltration or aplasia, blood cell destruction or sequestration.

Diagnostic Pathways: Investigations excluded drug induced pancytopenia, alcohol consumption, viral infection, nutritional deficiencies, autoimmune diseases and monoclonal peaks on protein electrophoresis. Abdominal ultrasound: no spleen/liver lesions. Immunophenotyping of peripheral blood: 45% myeloid line blasts, maturation alterations in neutrophil, monocytic, erythroid lines - acute myeloid leukemia (AML), probably secondary to myelodysplastic syndrome. Myelogram: 52.8% blasts - AML with maturation (AML-M2). The patient was referred to Hematology and started azacytidine. After 4 cycles, with successive dose adjustments and several transfusions, she maintained severe cytopenia with identification of blast cells in peripheral blood, then repeated bone marrow evaluation showed an increase in blasts (75%) - AML without maturation (AML-M1). Venetoclax was started. She was referred to Palliative Care. After 4 days, she presented to the emergency department for vomiting and diarrhea. Blood tests: leukocytes 3.14x10^3/uL, hemoglobin 7.0 g/dL, platelets 3,000/µL, creatinine 6.64 mg/dL, sodium 124 mmol/L, potassium 7.1 mmol/L, lactate dehydrogenase 8585 U/L. Despite therapy she died.

Discussion and Learning Points: Pancytopenia has many possible etiologies. Detailed history, laboratory studies and bone marrow evaluation are key to diagnosis. Hematologic malignancies must be excluded. We report an AML case, which is the most common acute leukemia in adults.

929 - Submission No. 2128

CHRONIC MYELOMONOCYTIC LEUKAEMIA: A CAUSE OF PERSISTENT MONOCYTOSIS

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Case Description: Male, 77 years-old, with a medical history of arterial hypertension, type 2 diabetes mellitus and chronic kidney disease admitted with acute heart failure. On admission, monocytosis was observed and persisted after resolution of the acute condition in values of 3.19x10^9/L. Additionally, iron deficiency anemia, thrombocytopenia and hepatosplenomegaly were documented. A peripheral blood smear showed anisopoikilocytosis and monocytosis, without evidence of immature cells or platelet aggregates.

Clinical Hypothesis: He was subsequently referred to a hematologist, who performed a bone marrow biopsy (BMO) three months later. During this period, he only complained of easy bruising, with no other symptoms.

Diagnostic Pathways: The myelogram revealed moderate dysplasia of the erythroid and megakaryocytic series, with 10% of monocytes and 2% of blasts. BMO showed a markedly hypercellular bone marrow, with predominance of the myeloid series and a marked increase in monocyte forms (CD34 and CD117/c-kit negative). Thus, the diagnosis of CMML was made, with a low prognostic risk. The patient remained asymptomatic, without critical cytopenia, so a strategy to monitor the progression of the disease was adopted.

Discussion and Learning Points: Chronic myelomonocytic leukemia (CMML) is a clonal disorder of hematopoietic stem cells, with overlapping features between myelodysplastic syndromes and myeloproliferative neoplasms. It is characterized by absolute and relative monocytosis in the peripheral blood and

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myeloid lineage dysplasia in the bone marrow. CMML occurs more commonly in elderly males between 65 and 75 years. Many patients are asymptomatic at the time of CMML diagnosis. In these cases, suspicion usually arises from alterations in a routine blood count, leading to early diagnosis.

930 - Submission No. 1975

RETROSPECTIVE REVIEW OF PRESCRIBING PATTERNS IN CANCER-ASSOCIATED THROMBOSIS: A SINGLE CENTER EXPERIENCE IN SPAIN

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Background and Aims: To evaluate the epidemiology and characteristics of anticoagulant treatment in patients diagnosed with cancer-associated thrombosis (CAT) in a hospital in southern Spain. Recognize the comorbidity and pathology associated with anticoagulant treatment in CAT.

Methods: This study was a retrospective record review of patients referred to the CAT clinic between September 2019 and October 2022 at the Hospital Puerto Real, Spain. Patients are referred to the clinic after experiencing a thrombotic event associated with previously known, or newly diagnosed cancer. Patients are seen by an internist in the clinic after their thrombosis diagnosis, and most are followed every 3 months until stable, and then every 6-12 months thereafter.

Results: We included a total of 113 patients. Median age was 72.3 years (IQR 61-83), 47.1% were male, and pulmonary embolism (PE) was most common (81.2%). Most common cancer types were colorectal (15.2%), lung (14.8%), and genitourinary (12.8%). The majority (60.5%) had metastatic disease and 58.2% were on active therapy for cancer during the acute phase of CAT treatment. Most patients were prescribed LMWH (90/113; 79.6%) and a few were prescribed only DOACs (9/113; 7.9%). Most of the changes were from LMWH to a VKA (10/14; 71.4%) and the most common reason was patient preference. In 11 patients with a hemorrhagic event, the predominant type of cancer was genitourinary (6/11; 54.5%). Seven patients (63.6%) had metastatic disease.

Conclusions: When comparing patients with predominantly oral or parenteral therapy within the acute phase, those with parenteral therapy were more likely to have metastatic disease. This demonstrates that cancer severity likely influenced LMWH prescribing decisions.

931 - Submission No. 1750

A RARE METASTASIS, LEPTOMENINGEAL CARCINOMA

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Case Description: A 46-year-old woman without relevant medical history was admitted with back pain, shortness of breath, and fatigue. Her general condition was moderate. Physical examination was unremarkable. Hemoglobin: 9 g/dl, kidney and liver functions are normal in biochemistry examination; CRP: 110 mg/L, LDH: 1200 U/L. Headache and facial numbness developed in the follow-up of the patient.

Clinical Hypothesis: Leptomeningeal metastasis is one spread that is known to decrease survival in solid tumors. Generally, meningeal thickening gives a suspicious appearance on cranial MRI, and the detection of malignant cells in cerebrospinal fluid confirms it.

Diagnostic Pathways: Subsegmental pulmonary embolism, extensive liver, bone lesions and a wall thickness increase in the stomach was observed in thorax-abdomen CTs. The dual thickness was observed in the diffusion MRI, CSF pressure was found to be 34 cmH_2O, protein slightly high, and glucose normal. In the follow-up, vomiting, unresponsive headache to analgesia, and diplopia developed. There was no papilledema in the fundus examination, but acetazolamide and dexamethasone were started, considering raised ICP because of neurological findings. The gastroscopy was normal, but the biopsy was consistent with gastric adenocarcinoma. CSF cytology was consistent with malignancy.

Discussion and Learning Points: I should keep patients who are thought to have leptomeningeal metastases in mind in terms of raised ICP during follow-up. Persistent headache, nausea, vomiting, diplopia, mental changes, hypertension, and bradycardia can be seen. Lung and breast cancers are common primary malignancies, whereas leptomeningeal metastasis of gastric adenocarcinoma is rare. It was emphasized that a biopsy should also be taken in macroscopically normal gastroscopies.

932 - Submission No. 1078

HYPOGLYCEMIA, NOT JUST A THING OF DRUGS

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Case Description: An 83-year-old woman with history of arterial hypertension and bladder hemangiopericytoma treated with

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chemotherapy 20 years ago, was admitted for heart failure with favorable evolution. During hospitalization, glucose levels of 30 mg/dl were detected in capillary blood test, predominantly at night, accompanied by sweating and dizziness. It resolved by the intake of carbohydrates. She has had these symptoms at home for months. She has never been diabetic nor consumed hypoglycemic drugs.

Clinical Hypothesis: -Consumption of opiates, alcohol, very long fasts, or states of starvation. -Acute disease (heart, kidney, or liver failure). -Hormonal deficiency of cortisol. - Endogenous hyperinsulinism caused by primary tumor or beta-cell hyperplasia of the pancreas (insulinoma), insulin autoimmune hypoglycemia, administration of beta-cell secretagogues (sulfonylureas), ectopic secretion of insulin, non-islet cell tumors hypoglycemia (Table 1).

Diagnostic Pathways: In our case, low levels of insulin 0.4 mIU/L (2.5-25) and C-peptide 0.1ug/L (0.9-4.0) were found. Plasma levels of intact proinsulin, IGF-2 and IGF-1 were normal. Anti-insulin and anti-insulin receptor antibodies were negative. Chest-abdominal-pelvic CT shows tumor progression with countless hyper vascular liver and peritoneal lesions.

Discussion and Learning Points: Severe hypoglycemia has been described in patients with tumors of mesenchymal (solitary fibrous tumor, fibrosarcoma or hemangiopericytoma) or epithelial lineage (hepatocellular carcinoma) and the term Doege-Potter syndrome or non-islet cell tumors hypoglycemia (NICTH) is adopted. It is a rare paraneoplastic phenomenon in which hypoglycemia is associated with a high tumor burden with overproduction of high molecular weight insulin-like growth factor type 2 ("big"IGF2 insulin-like), with greater affinity for insulin receptors causing hypoglycemia with suppression of normal insulin.

CARCINOMAS	OTHER TUMORS
Adrenal cortex	Carcinoid
Bile duct	Soft tissue sarcoma
Breast	Solitary fibrous tumor
Cervical	Hemangiopericytoma
Colon	Hepatocellular carcinoma
Esophagus	Hypernephroma
Laryngeal	Lymphoma
Lung	Leiomyosarcoma
Ovary	Liposarcoma
Pancreatic	Meningioma
Prostate	Mesothelioma
Gastric	Multiple mieloma
	Schwannoma
	Neurofibroma
	Pheochromocytoma
	Wilms tumor

932 Table 1. Tumors reported as causing non-islet cell tumor hypoglycemia

933 - Submission No. 1982

RECURRENT PHLEBITIS IN A 67-YEAR-OLD WOMAN: MIGRATORY THROMBOPHLEBITIS A CASE REPORT

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Case Description: A 67-year-old heavy smoker woman who presented a history of three episodes of painful subcutaneous nodules located in the lower limbs compatible with superficial thrombophlebitis within a year in different vascular territories with no involvement deep-vein thrombosis.

Clinical Hypothesis: Due to the similarities the lesions can be clinically confused with entities such as nodular vasculitis, erythema nodosum, Polyarteritis nodosa, cellulitis, or lymphangitis. Once the diagnosis of thrombophlebitis has been made, it is mandatory to search for hidden neoplasia.

Diagnostic Pathways: A CT scan of the thorax-abdomen and pelvis was performed to search for occult neoplasia with the finding of a hypodense lesion in the head of the pancreas measuring 25x20x31 mm with marked involvement of peripancreatic fat. Multiple lesions with hepatic ring uptake in all hepatic segments. 36 mm splenic lesion. All of this is compatible with pancreatic neoplasia with liver and spleen metastases: stage IV pancreatic cancer.

Discussion and Learning Points: Superficial migratory thrombophlebitis is characterized by recurrent episodes of superficial veins thrombosis involving the limbs and trunk. Superficial migratory thrombophlebitis is associated with several systemic diseases and advanced-stage neoplasms such as carcinoma of the pancreas (up to 50%), lung, prostate, stomach, and colon. It is important to recognize it and make a comprehensive evaluation of the patient. There is no established consensus to rule out underlying disease or detect occult neoplasia. However, the cancer can manifest late and even years after the appearance of the superficial migratory thrombophlebitis, so follow-up is necessary.

934 - Submission No. 2230

DISSEMINATED INTRAVASCULAR COAGULATION IN ADVANCED PANCREATIC NEUROENDOCRINE TUMOR

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Case Description: A 61-year-old female presented to the Emergency Department with nausea, vomiting, abdominal pain, and massive melena. Three weeks before, she underwent the first chemotherapy cycle of the second line-chemotherapy with capecitabine and temozolomide due to pancreatic neuroendocrine tumor, with multiple hepatic metastasis. Her

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medical history included also partial splenic vein thrombosis and ischemic stroke. She was medicated with low molecular weight heparin. Blood tests revealed pancytopenia, prolonged PT and aPTT, and fibrinogen was unrecordable suggesting disseminated intravascular coagulation. She underwent upper gastrointestinal endoscopy which did not reveal upper gastrointestinal bleeding until 3/4 duodenal segments. The most probable hemorrhage origin was presumed to be the angle of Treitz.

Clinical Hypothesis: The diagnosis of disseminated intravascular coagulation was admitted and transfusion of erythrocytes, platelets, fresh frozen plasma, and fibrinogen were started in a medical ward with improvement of coagulation parameters. Perfusion of pantoprazole and octreotide was proceeded during the first 48 hours without another bleeding episode.

Diagnostic Pathways: Malignancy is a common cause of disseminated intravascular coagulation and often manifests with insidious clinical symptoms.

Discussion and Learning Points: Its incidence in patients with solid tumors was approximately 7% in several clinical studies. The management consists of treatment of the underlying cause and supportive measures. This case describes an unusual presentation of disseminated intravascular coagulation in a neuroendocrine tumor.

935 - Submission No. 1710

T-LARGE GRANULAR LYMPHOCYTE LYMPHOPROLIFERATIVE DISORDER: A DISEASE OR JUST AN NON-PATHOLOGICAL CLINICAL FIND?

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Case Description: Male, 62 years old, self-employed. He has a personal history of arterial hypertension and carpal tunnel syndrome in the right hand. He was referred to the Medical Outpatient Unit for arthralgias of mixed nature with predominance at night and leukocytosis with sustained lymphocytosis (N 17840, L 69.6% - 12420). No other associated symptoms. On examination, namely the joints, there were no significant changes.

Clinical Hypothesis: Reactive lymphocytosis, infection, leukemia, lymphoma.

Diagnostic Pathways: A radiograph of the shoulders, knees and ankles was performed, revealing only degenerative changes. From the analytical study carried out, peripheral blood smear with 75% of large granular lymphocytes stands out. The peripheral blood immunophenotyping study revealed NK cell expansion - 36% of lymphocytes, 4500/mm^3 - with an immunophenotype characteristic of a chronic lymphoproliferative disease of CD56-/+weak NK cells. The autoimmune study was negative and chronic viral infection was excluded. A cranioencephalic and thoraco-abdomino-pelvic CT was performed and excluded further involvement, including on the bone and cartilage. It has indication for careful surveillance.

Discussion and Learning Points: The lymphoproliferative disease of large granular lymphocytes, first described in 1985, is a type of rare lymphoproliferative disease, characterized by large and granular lymphocytes, which are divided into two groups: T cells or Natural Killer [NK] cells, the last less frequent. The NK cell lymphoproliferative disease may have an indolent clinical course, but it can also be aggressive and rapidly evolving, so an early diagnosis can influence the prognosis of the disease. Treatment may involve surveillance alone or, in more aggressive cases, immunosuppression, chemotherapy or even splenectomy.

936 - Submission No. 1506

CHRONIC DIC THE UNLIKELY SUSPECT

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Case Description: Disseminated vascular coagulation (DIC) is frequently associated with entities such as sepsis, neoplasms, trauma/surgery, and eclampsia. The association between chronic DIC and aortic aneurysms is very rare, occurring in only 0.5-0.7% of large aortic aneurysms, is life-threatening, and can even occur after surgery. 71-year-old male with a history of hypertension, dyslipidemia, BPH, aortic aneurysm with type A dissection in 2013, submitted to surgical repair. He reported several episodes of hemorrhage and spontaneous bruising. He goes to the ER with disabling right low back pain, it was assumed muscle contracture and he was discharged.

Clinical Hypothesis: A week later, returns to the ER due to worsening low back pain, objectively with extensive lumbar hematoma, analytically with anemia (7.3 g/dL), thrombocytopenia (86x10^3/uL), hypofibrinogenemia (77 mg/dL), PT 21.5 sec , INR 1.6, APTT 37.8 sec, D-dimers >20 µg/mL, abdomen CT revealed a right lumbar intramuscular hematoma, with 16x9x6 cm.

Diagnostic Pathways: He required transfusion support and was hospitalized. He presented good clinical evolution, hematoma resorption and pain control. After reviewing history and previous complementary exams, a diagnosis of chronic DIC in the context of the aortic aneurysm was assumed. After discussing with Cardiothoracic Surgery and taking into account the high surgical risk associated with reintervention, the patient maintained conservative treatment, being currently followed by Internal Medicine.

Discussion and Learning Points: Association of chronic DIC with aortic aneurysms is characterized by a long history of bleeding disorders, as observed in this patient. The curative treatment is the repair of the aneurysm, however non-candidate patients can undergo conservative treatment with transfusion support and others blood products.

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937 - Submission No. 1208

MULTIPLE MYELOMA AND END-STAGE RENAL FAILURE - IS IT POSSIBLE TO GET OFF OF DIALYSIS?

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Case Description: An 88-year-old man diagnosed in 2018 with multiple myeloma (MM) with pathological fractures of the dorsolumbar spine causing disabling severe pain, was treated with 5 cycles of bortezomib/melphalan/dexamethasone, with very good partial response and recovery of autonomous activity, although he didn't perform the sixth cycle due to bortezomib's neurological toxicity. He remained stable until 08/2021, when he was hospitalized for recurrence of the disease with an increase of monoclonal peak to 3.36 g/dL, hematological worsening with hemoglobin of 5.8 g/dL, and acute renal injury with creatinine of 7.5 mg/dL, requiring urgent hemodialysis.

Clinical Hypothesis: Myeloma multiple recurrence.

Diagnostic Pathways: He started treatment with bortezomib/lenalidomide/dexamethasone as a bridge for treatment with ixazomib, while awaiting authorization. After four weeks, he started the planned regimen with ixazomib/lenalidomide/dexamethasone, with good clinical response after the first cycle and improvement of renal function, stopping hemodialysis before the second cycle with the new regimen. In follow-up consultation, he remained stable and without hemodialysis after five months.

Discussion and Learning Points: The paradigm of MM has changed from an incurable to a chronic disease, due to a huge evolution in the therapies available. Treatment of MM with renal attainment is based on a proteasome inhibitor (PI), and bortezomib is the most widely used PI. However, its neurological toxicity and injectable administration make it difficult to manage in elderly patients. Ixazomib is a PI of oral administration with a better toxicity profile, allowing to privilege comfort and quality of life. This case demonstrates that even in more frail patients, recurrence of MM with severe renal impairment can be successfully managed.

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AS12. ORGANIZATION AND QUALITY OF HEALTH CARE

938 - Submission No. 1121

EXPERIENCE OF HOSPITALISM IN INPATIENTS AT AN ONCOLOGY SERVICE

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Background and Aims: In recent years, Oncology has made important advances at the cost of increasing the complexity of hospitalized patients. Hospital care of oncology patients by internists in a shared care model can be beneficial for patients, reduce the length of stay and improve the use of antimicrobials.

Methods: We carried out an ambispective observational cohort study that included all patients admitted to Oncology at "Hospital 12 de octubre" in 2014 (control) and 2015 (intervention year with shared care with Internal Medicine).

Results: After excluding patients who were admitted for a procedure, chemotherapy or last days situation, the final sample was 1137 (541 in 2014 and 596 in 2015). Overall, the mean length of stay was significantly shorter in the year after the intervention (7 days – interquartile range RI 5-12 vs 9 days – RI 6-13) (p=0.003). There were no differences in mortality between both periods (17.3% in 2015 vs. 16.3%; p=0.676). Regarding the use of antimicrobials, in 2014 the mean duration of antibiotic treatment was 6.01 ± 5.67 days vs 4.02±4.17 days in 2015 (p < 0.001). By antibiotic subgroup, the defined daily dose (DDD) of linezolid (52%), vancomycin (43%), meropenem (40%), and daptomycin (37%) was reduced. Total pharmaceutical spending was significantly reduced from 348,721.21€ in the control year to 181,284.72€ in 2015 and spending on antimicrobials from 135,137.03€ in 2014 to 74,120.42€ in 2015 (p < 0.001).

Conclusions: Hospitalism in Oncology significantly reduced the use of antimicrobials and the average length of stay.

939 - Submission No. 663

DISMISSED PATIENTS REFERRED TO A QUICK DIAGNOSIS UNIT: CHARACTERISTICS AND OUTCOMES

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Background and Aims: Quick diagnosis units (QDU) have proved to speed up the diagnosis of potentially severe diseases. It is essential to make an accurate selection of patients referred to this type of resource, in order to maximize its efficiency. Our aim is to analyze the characteristics and outcomes of patients that were rejected for a standard diagnosis pathway of a QDU.

Methods: Prospective longitudinal study of patients seen in a QDU in one year (1/11/2021-1/11/2022). We analyzed patients who were dismissed after preliminary evaluation. Clinical and demographic variables were collected. We identified the fulfillment of Guy's Rapid Diagnostic Clinic (RDC) criteria among discharged patients, and final diagnosis categories were recorded.

Results: A total of 265 patients were included, among which 62 (23.4%) did not continue the QDU standard pathway. These rejected patients had a mean age of 61.9 years (24-92) and were mostly women (56.5%). 71% of them were referred from the Emergency Department. Main reasons for referral were weight loss (25.8%), malaise (12.9%), anemia (9.7%), and fever (6.4%). Most frequent reasons for rejection are shown in Figure 1. Of the patients rejected for in-person consultation, only six had a final diagnosis of cancer, one of which had not been initially scheduled for follow-up. Of the patients diagnosed with cancer, three would not have been evaluated in QDU according to RDC criteria.

Conclusions: Comprehensive and telematic assessment of patients referred to the QDU is a safe and efficient way to select patients for a priority diagnostic process. It seems non-inferior to standardized objective criteria.

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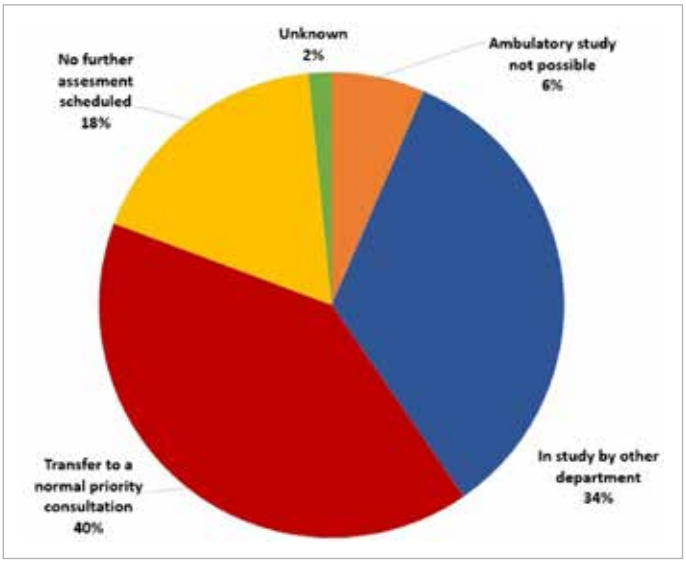

939 Figure 1.

940 - Submission No. 62

HOSPITALIZATION AT HOME. A BEFORE AND AN AFTER

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Background and Aims: To describe the clinical characteristics of patients admitted to the Internal Medicine Department who were transferred to home hospitalization in different periods of time and to see if there are differences.

Methods: Retrospective descriptive study of patients transferred for different reasons from the Internal Medicine Department of a tertiary hospital to home hospitalization during the month of February 2018 and February 2022.

Results: A total of 76 patients were included in our study sample, of whom 31 were admitted in February 2018 as inpatients at home and 60 in 2022. Of the patients admitted as in-patients at home in February 2018, 12 were female and 19 were male, with a mean age of 75 years. The main reason for admission was to continue intravenous antibiotic therapy for various infectious pathologies (30% urinary tract infection, 13% cellulitis, 18% pneumonia and 5% endocarditis). The second reason was for depletive treatment for heart failure in 28%. The mean length of stay was 7.3 days. Of the patients admitted for home hospitalization in February 2022, 31 were women and 29 were men, with a mean age of 71 years. The main reason for admission was to continue intravenous antibiotic therapy for various infectious pathologies (35% urinary tract infection, 20% cellulitis, 18% pneumonia and 3% endocarditis). The second reason was for depletive treatment for heart failure in 40%. The mean length of stay was 8.2 days.

Conclusions: Hospitalization at home is a care model capable of providing patients at home with medical and nursing care typical of a hospital. The increase in resources and coverage has been reflected in the consequent increase in activity as shown in our study.

941 - Submission No. 775

HIGH RESOLUTION INTERNAL MEDICINE CIRCUIT (HRC) AT CIUDAD REAL HOSPITAL

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Background and Aims: The current trend to limit hospital admissions to improve the patients' quality of life and reduce health-care-costs led to star of HRC. One of the causes of hospital admission are cases in which diagnostic delays are expected on an outpatient basis. The main objective was to evaluate the impact of HRC on hospitalization at the Ciudad Real Hospital. Specific objectives included description of: speciality from which most referrals are generated, time between the inter-consultation and the first visit, time to discharge from the circuit, most common diagnoses, hospital stays avoided and hospital stays for invasive complementary tests.

Methods: It's a longitudinal descriptive study. We used the following patient's data included in the HRC from December 2018-May 2022; origin and dates of the referral, first consultation and discharge, definitive diagnosis.

Results: There were 1004 referrals,167 without inclusion criteria. 48.98% of patients were women and 51.02% men, with an average age of 60.88 years. Most were referred from the emergency department (62.01%) and primary care (22.94%) for anemia 32.14%, constitutional syndrome 31.66%, radiological findings 10.51%, DVT 9.68%, prolonged fever 8.12%, polyadenopathy 7.29% and other 0.48%. The average time of delay in the first consultation was 2.50 days and the time spent in the circuit was 24.25 days. The 22.82% were diagnosed with neoplasms, 9.56% with thromboembolic disease, 2.99% with systemic pathology, 4.06% with infectious pathology and the majority (60.57%) with other pathologies. Only 6.21% required hospital admission for complementary tests, 93.79% underwent complementary tests on an outpatient basis, avoiding 785 admissions.

Conclusions: The aim is to ensure quick diagnosis, support patients and families, avoid hospital morbidity and mortality, improve accessibility and interaction between the Emergency and Internal Medicine Departments in the processes that require early attention, optimize hospital admissions and stays, and reduce health-care-costs.

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942 - Submission No. 776

EVALUATION OF TREATMENT ADHERENCE - ACCESSIBILITY OF MORISKY SCALE IN A INTERNAL MEDICINE DEPARTMENT

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Background and Aims: In the conditions of finding an increased rate of intentional or unintentional patient non-adherence to treatment, we decided to evaluate this parameter in a slot of patients admitted in our Internal Medicine ward using a scale commonly used in the USA namely Morisky scale (MMAS-8), which is a widely used questionnaire that has proven validity/ease of use.

Methods: We used the scale on a group of 75 patients of the Internal Medicine Department 1 of the Sibiu County Emergency Hospital, main diagnoses being High blood pressure, permanent atrial fibrillation, liver cirrhosis, chronic alcoholic or viral hepatitis, anemias, malnutrition. The MMAS-8 scale contains 8 questions clearly and easily understood regardless of the social or educational status of the patient. The doctor can later discuss the results with the patient in order to identify the degree of adherence, the factors that lead to its decrease and the type of intervention required.

Results: The results of the study show moderate scores (between 6 and 7.9) in most patients, which suggests average or low treatment adherence in the studied group. The most frequent causes of non-adherence are the misunderstanding of the importance of the therapy, insufficient communication with the prescriber, the lack of access or availability of the doctor for any questions or concerns of the patient.

Conclusions: Using the scale is extremely accessible and easy. The physician's awareness of the predictive and evaluable factors for non-adherence is an important step in complying with drug treatment indications and increasing therapeutic success.

943 - Submission No. 1856

TIME, WOUNDS CAN HEAL

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Case Description: A 64-year-old patient, with no known drug allergies, habitual drinker and smoker. He is brought by the social services to the emergency room due to deterioration in his general condition, poor hygiene habits and a foul-smelling ulcer on the right thigh. Situation of indigence, without family support. History of pain in the lower right limb since months that limits his mobility. We found him conscious but with temporal-spatial disorientation. With a tendency to hypotension, tachycardia although afebrile. We observed an ulcer on the right thigh of about 10cm x 5cm in size, with tendinous and muscular involvement, with purulent and foul-smelling exudate (Figure 1). CT showed two collections in the muscle thickness probably infected.

Clinical Hypothesis: After the state of malnutrition, ulcer in the right thigh with suspicion of concomitant osteomyelitis and probable withdrawal syndrome, he was admitted to the Internal Medicine ward to continue intravenous treatment.

Diagnostic Pathways: MRI showed signs of osteomyelitis and septic arthritis. After intravenous antibiotic for 2 weeks and extended treatment with oral antibiotic 4 weeks more, he had a good clinical evolution (Figure 2). He also received hyper-proteic supplements and preventions for alcohol withdrawal syndrome. Subsequently, the case is discussed with Traumatology and Plastic Surgery, which take a conservative approach with daily dressings and a vacuum-assisted closure therapy by secondary intention.

Discussion and Learning Points: The importance of this clinical case lies in the multidisciplinary management in the care of ulcers (Internal Medicine, Traumatology, Plastic Surgery, Nursing). Our case is an example that conservative management can overcome the risks of surgery with similar results.

943 Figure 1.

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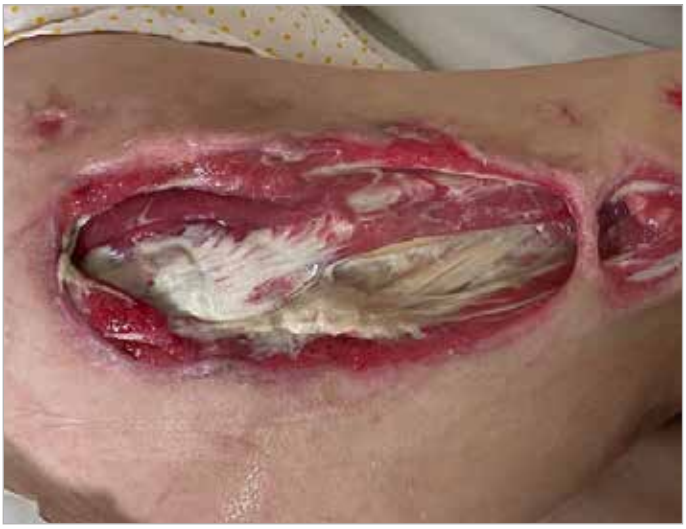

943 Figure 2.

944 - Submission No. 2393

DIMINISHING THE AMOUNT OF ANESTHETIC GAS RELATED EMISSIONS (DAMAGE) A MULTIPHASIC STUDY

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Background and Aims: Climate change is a major threat to global health and programs to reduce greenhouse gases emission related to healthcare are being developed worldwide. Anesthetic gases (AG) are responsible to up to 4% of the total CO2 equivalent of emissions of healthcare systems, while total venous anesthesia (TIVA) has significant lesser impact. Our objective was to evaluate the current practice of anesthesia in a large academic hospital in northern Italy as part of a multistep program to reduce CO_2 emissions.

Methods: We obtained data on surgical interventions and pharmacy orders of sevoflurane, desflurane, isoflurane, nitrous oxide and propofol from 2017 to 2022 from the administrative database of the IRCCS Cà Granda Ospedale Maggiore Policlinico. As primary outcome we considered the amount of drug used per-hour of intervention for each medication. We then calculated semestral variation of such parameter. Finally, to estimate the environmental impact, we calculated equivalent of CO_2 production for each drug per semester and per hour of intervention.

Results: AG use did not vary between 2017-2022, while propofol use slightly increased. Sevoflurane was the most used AG for general anesthesia. While used only in selected cases desflurane accounted for 53% (median range 40-70%) of the CO_2-equivalent production of AG.

Conclusions: Despite the extensively available research calling for a reduction in the usage of AG, there are no signs of reduced use in a large hospital in northern Italy.

945 - Submission No. 261

COMPLEXITY OF CARE IN INTERNAL MEDICINE PATIENTS AND ITS IMPACT ON HOSPITAL STAY LENGTH AND PROGNOSIS: PRELIMINARY DATA FROM A MULTICENTER STUDY IN LOMBARDY (ITALY)

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Background and Aims: Evolving demographic, epidemiological and social context are profoundly changing the complexity of care of patients hospitalized in internal medicine wards, in terms of clinical and social conditions. A better characterization of patients is crucial in order to tailor future interventions based on the effective patient's needs.

Methods: Aim of this prospective, multicenter study is to describe complexity of care and social frailty of patients hospitalized in 15 internal medicine wards in Lombardy (Italy) during a one-year observation period. The complexity of care was defined by a multidimensional approach through the combination of clinical instability (NEWS score) and care dependency scales (mICD). Social frailty was defined as absent, low, moderate or critical by a simplified BRASS scale.

Results: In this ad-interim analysis 1092 patients were enrolled, 44% male, mean age 75 years (63% ≥75 years), 73% with Charlson Comorbidity Index ≥ 5. Complexity of care was high in 15%, medium in 44%, and low in 41%. One-fifth of the patients presented at least moderate social frailty. Both NEWS and mICD scores were predictive of in-hospital mortality. Only social frailty was independently associated with hospital stay length.

Conclusions: Our data show that different levels of clinical instability and dependency coexist in internal medicine wards, with a relevant percentage of patients characterized by high complexity of care. Thus, organization models should consider the allocation of appropriate technological (monitoring) and human resources to allow a patient-centered assistance based on real needs.

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946 - Submission No. 1380

ANALYSIS OF MEDICATION-RELATED SAFETY INCIDENTS IN AN INTERNAL MEDICINE DEPARTMENT

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Background and Aims: According to the World Health Organization (WHO), the negative impact caused by medication represents 50% of avoidable healthcare damage. Thus, the motto for WHO Day in 2022 is ''Medication without harm''. Our study is framed by its objectives: to raise awareness of medication errors, to advocate for urgent action, to engage and empower stakeholders.

Methods: Retrospective observational study, from November 2020 to November 2022, based on patient-safety incidents reported in an Internal Medicine department.

Results: 20.65% of notifications are related to medication (19 of 92). The most implicated drugs are: psychoactive (47.3%), anticoagulants (10.5%) and antimicrobials (10.5%). In the route of administration, the duplicity of transdermal patches stands out. The main notifications are: dose errors (31.6%), lack of home medication conciliation (15.8%) and prescription program problems (15.8%). The physicians record 84% of incidents and in all cases, improvements are proposed. The proposals for improvement are: training, implementation of prescription information and inclusion of drug safety in briefings.

Conclusions: Despite the high involvement of professionals, medication-related safety incidents are an important problem to solve in our department. It should be noted that reporting systems are essential to identify as well as to analyze errors and develop medication-related improvements.

947 - Submission No. 1488

ANALYSIS OF PATIENT-SAFETY RELATED INCIDENTS IN AN INTERNAL MEDICINE DEPARTMENT IN THE LAST TWO YEARS

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Background and Aims: Patient safety is defined by the World Health Organization (WHO) as the absence of real or potential unnecessary harm related to health care and is considered a primary objective in quality health care.

Methods: Retrospective observational study, from November 2020 to November 2022, based on patient-safety related incidents (PSI) reported in an Internal Medicine department.

Results: 92 incidents are reported: 23% in relation to healthcare, 21.17% to falls, 20.65% to medication, 8.7% to administration, 5% to care-related infections and the rest to infrastructures. Within the subtype related to healthcare: problems in diagnosis stand out (especially due to performing tests on the wrong patient), in treatment (highlighting thrombosis associated with a venous line and the wrong administration of treatments due to confusion with the identity of the patient) and in care (abusive use of mechanical restraints). In most cases the degree of involvement is medium (41%), happening during hospitalization and the patient caregiver not being informed. 62% of the PSI are notified by the doctor and 30% by the nurse. Some of our proposals for improvement are: changing the prescription program, increasing communication with the nurse, improving the use of mechanical restraints and checking identification bracelets.

Conclusions: Although PSIs rarely lead to severe outcomes in patients, they represent a great problem in clinical practice. Therefore, PSI reporting systems are considered of big importance as a key strategy to identify areas for improvement, learn from errors and avoid recurrence of the latter.

948 - Submission No. 1432

A CORRELATION STUDY OF DRUG ALLERGIES IN THE DIGITAL MEDICAL RECORD AND IN THE ELECTRONIC-PRESCRIPTION PROGRAMME IN AN INTERNAL MEDICINE DEPARTMENT

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Background and Aims: A search for drug allergies (DAs) found in the digital medical record and their comparison with those registered by the electronic-prescription programme (EPP).

Methods: An observational cross-sectional study is performed based on patients received in the Internal Medicine department of a secondary care hospital, on 23rd June 2021. The DAs identified in the digital medical record are compared with the corresponding entries in the EPP.

Results: A total of 51 patients with a mean age of 76.8 years were inspected, 53% of them males. Regarding the DA identification in the digital medical record, the existence or absence of DAs was found in 41 patients (80.4%). On the other hand, the EPP contains a documented absence of DAs in 38 patients (74.5%), a complete record of DAs for 7 patients (13.7%), 1 patient (1.9%) entry missing information, and 5 patients (9.8%) lacking references to either absence or presence of DAs.

Conclusions: Despite the strong correlation found between DAs identified in the digital medical record and those registered in the EPP, we detect 6 patients (11.7%) with incomplete or completely missing DA-related information. To avoid medical prescription errors is a priority objective within the patient safety culture. In advance of a more effective interoperability between the digital

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medical record and the EPP, a more proactive attitude seeking for an exhaustive and complete registry of DAs is desired.

949 - Submission No. 257

THE ENVIRONMENTAL COST OF UNWARRANTED VARIABILITY IN THE USE OF MRI AND CT SCAN. A CHOOSING WISELY APPROACH

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Background and Aims: Pollution is a major threat to global health, and there is growing interest on strategies to reduce greenhouse emissions caused by health care systems. Unwarranted clinical variability, i.e., variation in the utilization of health services unexplained by differences in patient illness or preferences, may be an actionable source of avoidable CO_2. Our objective was to evaluate the CO_2 emissions attributable to unwarranted variability in the use of MRI and CT scan exams among countries of the G20-area.

Methods: We selected countries of the G20-area with available data on CT and MRI scan use from the Organisation for Economic Co-operation and Development repository. We calculated and compared with the median and lowest value each nation's annual electric energy expenditure for 1000 inhabitants for such exams ($T\text{-}En_{ex\text{-}1000}$). Based on such differences we estimated the national energy and corresponding tons of CO2 that could be potentially avoided every year.

Results: We extracted data from seven countries. We found a significant variability in $T\text{-}En_{ex\text{-}1000}$ (median value 1781.5 kWh, range 1200.4-3078.5 kWh) and estimated a significant amount of potentially avoidable emissions each year (range 2047.53-175,120.17 tons of CO_2). In concrete terms such emissions would need, in the case of Germany, 71,900 and 104,210 acres of forest to be compensated each year, which is 1.2 and 1.7 times the size of the largest German forest park (Bavarian National Forest).

Conclusions: Among countries with similar rate of development, unwarranted clinical variability in the use of MRI and CT scan causes significant emissions of CO_2.

950 - Submission No. 466

AGGRESSIONS AGAINST HEALTH CARE PROFFESIONALS AFTER COVID-19

Mª Galindo-Andúgar, Libertad López De Pablo-Bermejo, Noelia Lerín-Herrada, Carlos Clemente-Sánchez, Sara Rodríguez-Fernández, Mariola Maestre-Martínez, Ana Alonso-Robles, Antonio Cantillo-Berni, Isabel Ríos-Santiago, Miguel García Sánchez-Manjavacas, Juan Albendea-Bascón, Alberto Forero-Sotilla

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Background and Aims: Aggressions on healthcare workers are increasing in our country after the COVID-19 pandemic. Our objective is to analyze the aggressions against professionals in our hospital in the last two years.

Methods: We designed a survey to collect data. It was conducted by paper sheet during October 2022, and the participation was voluntary and anonymous. We included the definition of the World Health Organization (WHO) for 'Aggression'.

Results: 104 surveys were collected, with the following distribution: physicians 45 (44%), nurses 26 (25%), infirmary assistants 24 (23%), hospital attendants 4 (4%) and administrative assistants 4 (4%). Most of them were women (70%) and the main workplace was the Medical Ward (58%) followed by Emergency Unit (21%) and Consulting Area (21%). A third of the professionals suffered at least one aggression during the last two years (32%) meanwhile 8 of them were attacked twice. The aggression was physical in 3 cases and non-physical in the rest. Only 1 professional chose to report the aggression (3%). Regarding the aggressor's profile, most of them were relative or companion (62%), males (67%) and age between 35-55 years-old (65%). Overall, only 44 workers knew how to report an aggression (42%). The percentage was similar within the attacked professionals (39%).

Conclusions: A third of healthcare workers suffered an aggression, most of them were non-physical. The number of reported aggressions is very low (3%). It is necessary to improve the knowledge of the healthcare professionals about the way to response against aggressions.

951 - Submission No. 510

HOW WE FEEL ABOUT OURSELVES AFTER COVID-19: ALLEGRO MA NON TROPPO

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Background and Aims: The COVID-19 pandemic has overloaded the Public Health System in Spain. Patients have more discomfort because of the increasing delay in surgery or diagnosis test, among

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others. Our objective is to analyze the effect in the relationship with the healthcare workers, and the consequences in their mental health.

Methods: We designed a survey to collect data. It was conducted by paper sheet during October 2022, and the participation was voluntary and anonymous.

Results: 104 surveys were collected, with the following distribution: physicians 45 (44%), nurses 26 (25%), infirmary assistants 24 (23%), hospital attendants 4 (4%) and administrative assistants 4 (4%). Most of them were women (70%) and the main workplace was the Medical Ward (58%) followed by Emergency Unit (21%) and Consulting Area (21%). 57 professionals referred worsening in their mental health after COVID-19. The amount of work was no reduced, so 64 workers (61%) told that in the last months the tasks were even greater, and 75 (71%) had difficulty to catch up on work. On regard to the professional-client relationship in the last two years, it was necessary an extra effort to establish a good interaction in 60%. Although the relationship was mostly acceptable/good, half of patients and companions (46%) blamed professionals for delays and bureaucracy. Finally, 28% professionals were thinking about giving up the job and/or working abroad.

Conclusions: The COVID-19 pandemic has an impact in the mental health. To establish a good relationship with patients could be most difficult.

952 - Submission No. 2226

DEVELOPING A SUSTAINABLE MULTIDISCIPLINARY AMBULATORY CARE PATHWAY FOR ULTRASOUND-GUIDED BIOPSIES IN A TERTIARY NHS HOSPITAL

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Background and Aims: With the effects of the COVID-19 pandemic, the backlogs in cancer care have caused increased wait times nationally. This means Cancer Waiting Times (CWT) are struggling to be met. We performed a service evaluation to see how the ultrasound (US) guided biopsy service of our ambulatory assessment unit performs compared to the 28-day and 62-day cancer standards.

Methods: We audited all 14 reports of US Guided biopsies that were requested over a 6-month period (16/1/22-16/7/22) via our AAU. We then process-mapped and compared the patient outcomes against 2 current NHS CWT targets: 28-day and 62-day cancer standards. 5 patients were excluded from the latter group (non-cancerous findings or premature deaths).

Results: Patients meeting the 28-day CWT standard (n=14): 10 (71%). The average wait time was 17 days in this group. Patients meeting the 62-day CWT standard (n=9): 7 (78%). The average wait time was 27 days in this group. Of patients who missed the CWT standards (n=4), all had insufficient biopsy samples taken. The CWT was 60 and 91 days in relation to the 28 and 62-day CWT standards respectively.

Conclusions: Insufficient biopsy sampling has been identified as a major factor in limiting our US-guided biopsy service from meeting the 75% and 85% targets in relation to the 28 and 62-day CWT standards. We propose a new ambulatory pathway for US-guided biopsies supplemented with a weekly MDT consisting of Acute Oncology, Ambulatory Care, and Radiology, to ensure early review of biopsy reports and early requests for repeat biopsies when insufficient sampling occurs.

953 - Submission No. 1215

ONE WAY OF BUILDING SUSTAINABLE BRIDGES WITHIN AN AMBULATORY CARE SERVICE OF A TERTIARY HOSPITAL: AAU INTERFACE DAY

Ehsan Ghaffari[1], Barbara Onen[2], Saniya Naseer[2], Mridula Rajwani[2], Richard Debutts[2], Joseph Gaied[2], Oliver Madge[2], Jordan Bowen[2], Amy Thomson-Anderson[2], Katarzyna Slabiak[2], Anurup Kumar[2], Raymond Atienza-Hawkes[2], Sarah Ross[2], Kiren Dennehy[2], Nana Amoasi[2], Tanzia Ruhunia[2], John Spence[2], Daniel Lasserson[2], Daniel Mitchener[2], Atit Ghoda[2], Nicola Fawcett[2], Kyriakoula Marinou[2], Wasim Akram[3], Barbara Batty[2], Iman Ghaffari[4]

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Background and Aims: On any day in our Ambulatory Assessment Unit (AAU) we could have >20 sources of referrals. Without discussion and collaboration between AAU and our referring partners, it is easy for areas of friction to develop and persist within our joint services. The AAU Interface Day 2022 was a full day's program between key stakeholders from AAU and

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partnering services, to discuss the joint challenges in the interest of finding sustainable solutions.

Methods: An Ambulatory Care Fellow was assigned to foster engagement with each of the following services: AAU, Hospital at Home, Radiology, A&E, GP, and Paramedics. Joint agendas were set for an hour-long hybrid discussion between the teams, around the theme of sustainability in joint services. Following the AAU Interface Day program, we gathered anonymous feedback via a survey.

Results: 143 participants partook in the various sessions. From the discussions, 14 joint quality improvement (QI) project ideas were identified. Survey results: 1) Overall experience out of 5 (n=26): 93% voted 5/5 (62%) or 4/5 (31%). 7% rated it 3/5. 2) What participants enjoyed (n=23): 77% said they liked the team working, the sense of enthusiasm, or the new understanding of joint challenges.

Conclusions: We conclude that the AAU Interface Day was an engaging way for our AAU to build increasing understanding with key stakeholders around improving joint services. The shared learning forms the foundation for new QI projects which can bring sustainable solutions to intra-departmental, inter-departmental, and inter-organizational challenges. We will jointly undertake the QI projects identified prior to next year's Interface Day.

954 - Submission No. 686

DISCHARGE DIAGNOSES OF PATIENTS HOSPITALISED IN AN INTERNAL MEDICINE DEPARTMENT

Spyridon Kazanas, Eleni Athanassoula, Stavroula Asimakopoulou, Ioannis Vergos, Stefanos Vlachos, Ekaterini Kamiliou, Georgios Xynos, Maria Saridaki, Helen Gogas, Michael Samarkos

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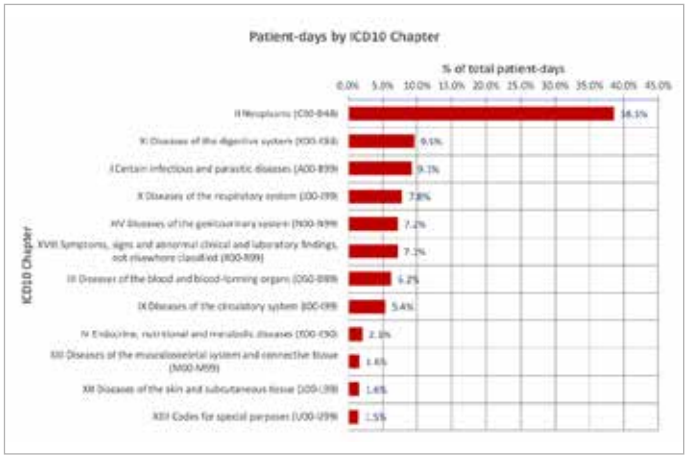
Background and Aims: The scope of Internal Medicine is wide, however in many hospitals there are various autonomous subspecialty Departments. The aim of the present study is to describe the case mix of an Internal Medicine Department.

Methods: Laikon Hospital is a General Hospital with 550 beds. There are separate Hematology, Gastroenterology, Nephrology, Cardiology Departments. We have extracted anonymous data from the HIS for all patients admitted to one of the Internal Medicine Department from January 1st to December 31st, 2021. We have excluded patients discharged on the same day. We have extracted age, length of stay (LOS) and discharge diagnosis. Discharge diagnoses were classified according to the IDC-10.

Results: During the study period there were 2203 hospitalizations of 1771 unique patients (52% male). The median age was 73 years (IQR 59 – 83 years) and 34.8% of patients were ≥80 years old. The most common ICD-10 chapter (Figure 1) was neoplasms accounting for 38.5% of all patient-days, followed by diseases of the digestive system (9.5%) and infectious and parasitic diseases (9.1%). The most common individual ICD-10 codes were J22 (unspecified acute lower respiratory infection 4.9%), A41 (other sepsis 3.6%), D46 (myelodysplastic syndromes 3.0%), N39.0 (urinary tract infection, site not specified 2.9%), and K92 (including various types of GI bleeding (2.6%).

Conclusions: Hospitalizations of patients >80 years old account for over a third of patient-days of an Internal Medicine Department. Most common discharge diagnoses are neoplasms and infections. Myelodysplastic syndromes are also frequent, as these patients are elderly and usually require supportive care.



954 Figure 1.

955 - Submission No. 702

RESOLUTION OF A CASE THROUGH NARRATIVE MEDICINE

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Case Description: 61-year-old female referred for positive ANA. No treatment or diseases. Drinker of 2 liters of beer and smoker. She does not hear so visited an otolaryngologist and hearing aids were recommended. She had gait instability so was referred to a neurologist and she underwent an MRI, ultrasound, EEG and her ANA was positive. Her problem is the panic to go out in the street because she is afraid of seeing the road so close. She lives with her husband, but she is not happy. The patient has been married for 43 years. He abused her psychologically. She would like to die. For years she has been drinking two liters of beer daily. She had never related this because no one had ever asked her about her life. Examination: conscious and oriented. Cranial nerves normal, symmetrical strength, flexor skin-plantar reflex. Palmar erythema. Rest normal.

Clinical Hypothesis: Other conditions were occurring like alcohol toxicity and psychiatric disorder. The immune cause was ruled out.

Diagnostic Pathways: Blood test: Hb 16.5, normal coagulation, normal renal and hepatic biochemistry, normal CPK, high titer ANA with Dots nuclear pattern, with negative ENA. Cranial MRI:

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small atrophy in cortical gray matter of left front lobe. Small vessel vascular-ischemic lesions.

Discussion and Learning Points: Narrative medicine is a type of practice that goes beyond the relationship with the patient and involves ethical reflection and recognition of social situations paying special attention to the patients' lives. In our case, it was the tool to identify the problem. The referral of this patient to the internal medicine department is a reflection of a reductionist medicine based on analytical tests without a global assessment of the patient.

956 - Submission No. 1451

POINT-OF-CARE-ULTRASOUND AT A SECOND LEVEL HOSPITAL INTERNAL MEDICINE SERVICE. FELLOWSHIP AT A GLANCE

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Background and Aims: The ultrasound use has changed clinical care in recent years. Incorporating its learning into the training curriculum is a statement of main scientific societies, including EFIM.

Methods: We describe different teaching activities of an Internal Medicine POCUS fellowship.

Results: Firstly, the latest new updates described in medical magazines are exposed to improve our clinical ultrasound knowledge. Secondly, ultrasound imaging is used as a powerful tool to examine inpatients and outpatients. For example: 1) An 80-year-old woman presented with fever and abdominal discomfort. Hemodynamic instability was established. The exam revealed jaundice and positive abdominal Murphy sign. Acute cholangitis was confirmed by radiologic ultrasound. However, clinical ultrasound demonstrated that high levels of saline solution were needed because of the 15 mm diameter cava vein and a non-collapsible vein with cardiac kissing walls (hyperdynamic heart: RUSH protocol) improving clinical status by this guided treatment. 2) A 65-year-old woman outpatient presented with constitutional syndrome. Exam didn't reveal anomalies. Clinical ultrasound showed hypoechoic liver lesions and hypoechoic pleural lesions. Suspecting metastasis, the patient was admitted to the hospital for a quick approach, changing medical behavior (FOCUS protocol). Additionally, simulating practices are developed once a month with a robotic ultrasound simulator at a local Advanced Clinical Simulator Center. Finally, vascular imaged-guided interventions are frequently made due to non-appropriate vascular access or extensive administration of medication and nutrition.

Conclusions: Acquiring skills and incorporating POCUS into our clinical daily practice aligns with a modern Internal Medicine Department and EFIM training curriculum.

957 - Submission No. 1446

QUALITY OF LIFE IN A POPULATION ADMITTED TO HOME INPATIENT REGIME

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Background and Aims: We know that improving the perception of the patient's health status over hospitalization is the goal of any health team. The EQ-5D is an instrument for measuring the quality of life that allows for generating an index representing the value of an individual's health status. Based on five dimensions: mobility, personal care, usual activities, pain/malaise, and anxiety/depression. Each of these dimensions has three levels of gravity. The two most commonly used components are the classification system composed of the five scales and the thermometer EQ-VAS. The author intends to present data for the last four months of evaluation of patients admitted to a Home Hospitalization Unit of a District Hospital.

Methods: A retrospective study of four months of activity.

Results: Of the 41 patients admitted, 31 responses were obtained (17 women and 14 men). The mean age was 65.81 years (range 23 to 92 years). Fifteen patients were over 73 years of age. The dimension in which patients were most limited was that of Personal Care. The overall health assessment at the EQ-VAS meter at admission was 52.90 and at the discharge date 65.16, with a gain of 12.26 points. In the overall assessment, only one patient considered worsening her health status (oncologic disease).

Conclusions: We intend to highlight the importance of assessing patients' global health. With this knowledge, the complementary attitudes to the therapy instituted can direct to the main limitations felt by the patient contributing to an overall improvement of their health status at the time of clinical discharge.

958 - Submission No. 1457

SATISFACTION OF PATIENTS HOSPITALIZED IN HOME INPATIENT REGIME

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Background and Aims: The success of any organization depends on its ability to mobilize and organize the means and resources necessary to perform services that meet its users' requirements, needs and expectations. In this sense, assessing the needs of the population is fundamental. With this study, the author intends to emphasize the importance of assessing the level of satisfaction of users admitted to a Home Hospitalization Unit of a Hospital in a rural environment during the first year of activity.

Methods: A retrospective study of twelve months of activity.

Results: During this period, 116 patients were admitted, and 92 responses were obtained (in the form of paper questionnaires answered voluntarily and anonymously). Of these, 42 were given

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by male patients and 50 by female patients. The mean age of the respondents was 65 years, and the age group with the highest number of responses was the age group over 66 years (37 users - 40.22%). Concerning the data obtained in the item ' Global Satisfaction', most users (86 - 93.48%) reported being 'Totally Satisfied' and the remaining 6.52% 'Very Satisfied'. Ninety users (93.83%) would recommend the service to a family member or friend.

Conclusions: We intend to stress the importance of assessing the degree of user satisfaction to improve the services provided by the Unit in meeting the needs of the population for which it is intended.

959 - Submission No. 1891

PATIENTS' NAVIGATION AND COMMUNICATION IN ONCOLOGY CARE

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Background and Aims: Patient navigation has emerged as a promising strategy to reduce disparities between different cancer patients. Navigators are newcomers to the multidisciplinary cancer care team and regardless of background are working to reduce fragmentation and address barriers to oncology care, given the diversity of patient needs. The purpose of the study is to highlight the role of navigation and communication between oncology patients and interdisciplinary oncology care team.

Methods: Systematic review of last 5 years studies in PUBMED, with keywords "cancer care" and "patient navigation". 49 articles were identified,10 were included in the study.

Results: Communication in integrated cancer care is essential for treatment adherence, reducing the risk of error and complications and managing comorbidity. Multidisciplinary team meetings can lead to appropriate care planning, guideline creation, structured data collection. AI tools can facilitate care allocation and risk prediction. A nurse navigator is necessary to take advantage of specific needs, time, distance, and cost. Cancer care planning should rely on navigators with knowledge of patient culture drawn from the patient community to mitigate mistrust of racial/community minority patients.

Conclusions: Navigation in Oncology has demonstrated benefits such as shorter time to diagnosis and initiation of treatment, increased patient and caregiver communication, better adherence to recommended care and improved quality of life. The goal of navigation is to reduce cancer morbidity and mortality by eliminating barriers to timely access to oncology care and to equity in health care delivery, ensuring immediate access to quality health and psychosocial care throughout all phases of the cancer continuum.

960 - Submission No. 1589

A PRACTICAL ALGORITHM TO OPTIMIZE TREATMENT OF A PATIENT WITH POLYPHARMACOTHERAPY

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Background and Aims: Aging of the population and advances in pharmacotherapy of many diseases entail the risk of taking more drugs, polypharmacotherapy, which increases the risk of adverse drug reactions and reduces adherence to treatment with possible detrimental consequences. An important aspect of the physician's work is to optimize each patient's pharmacotherapy.

Methods: We searched and reviewed literature for papers published between 2010-2022 with the following key words: polypharmacotherapy, old age frailty, geriatrics, adherence. Our aim was to propose a simple algorithm for internists to optimize the pharmacotherapy of the multimorbid internal and geriatric patients.

Results: First steps of the algorithm are based on reviewing complete patient medication, checking for correct indications and presence of contraindications, correct drug dosage and presence of drug duplications or interactions. Further, we suggest the use of tools to assess the appropriateness of therapy for geriatric patients such as STOPP/START criteria, use of fixed combinations, assessment of medication adherence, medication reconciliation in care transitions, deprescribing in particular circumstances, and treatment of comorbidities. Communication with the patient and consideration of his or her preferences is necessary and remains the cornerstone of successful treatment.

Conclusions: Our algorithm suggests 12 steps to follow in practice. Its widespread use by the internists might help to decrease the polypharmacotherapy burden of multimorbid patients.

961 - Submission No. 571

CLINICAL PATHWAY TO REDUCE FEEDING TUBE INSERTIONS IN PATIENTS WITH ADVANCED DEMENTIA: RESULTS AFTER FOUR YEARS

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Background and Aims: In June 2017 we implemented a clinical pathway to avoid enteral nutrition (EN) in advanced dementia patients (ADP), following the recommendations of all scientific

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societies. We held information sessions with different specialties to show them the clinical pathway.

Methods: We review hospital discharges of ADP, analyzing whether or not EN during admission was started, by nasogastric tube (NGT) or percutaneous endoscopy gastrostomy (PEG).

Results: In the second half of 2015, 472 ADP were discharged. In 16 of them EN was started during admission: 6 NGT feeding and 10 PEG feeding. In the same period in 2017, after implementing the protocol, among the 452 discharges, only one EN was started (PEG); and in the second half of 2021, 410 patients were discharged and EN was started in two of them (both NGT). All differences (NGT, PEG and total) when analyzing 2017 versus 2015, and 2021 versus 2015, reached statistical significance ($p<0.05$, Fisher´s Exact Test).

Conclusions: Most families of ADP state that comfort is the primary goal of care. However, a large number of these patients receive treatments that are inconsistent with this goal. This can be due to factors such as an inadequate advance care planning. The 2015 European Society for Clinical Nutrition and Metabolism guidelines advise against EN in ADP. Other authors consider EN a marker of poor-quality end-of-life care in these patients. We verified that once the good clinical practice of avoiding EN has started, professionals went along with that practice, without needing any further intervention.

962 - Submission No. 2308

EFFECTS OF AR-BASED DUAL-TASK PROPRIOCEPTION TRAINING ON BALANCE, POSITIONING SENSATION, AND COGNITION

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Background and Aims: The purpose of this study is to investigate augmented reality (AR) based proprioceptive exercise appears to be more effective in improving balance, sense of position, and cognition when implementing a combination of dual tasks.

Methods: The participants of 45 regular people who voluntarily participated in this study were randomly distributed into three groups. Then dual task (DT), AR and physical therapy (PT)-based interventions were respectively applied to each group. Measurements were analyzed using one-way ANOVA, Bonferroni, paired t-test and independent t-test.

Results: The exercise program of this study improved the ST of the static balance in three groups after the intervention, and the p-value was less than 0.05 ($p<.05$) at PO and PC positions. In addition, regarding the case of dynamic balance, the p-values of DT, AR and PT groups for reaching in all directions were less than 0.05 ($p<.05$). In the case of positioning sensation, the p-value was less than 0.05 ($p<.05$) in three group, and the Recognition and calculation was less than 0.05 ($p<.05$). As a result, augmented reality-based interventions show similar efficacy to therapy with a therapist, show cognitive enhancement when performing dual tasks, and can replace therapists in some treatments.

Conclusions: DT and AR had similar effects on balance ability and position sense when compared to PT. It is the time delayed in the process of re-recognizing due to a sudden body recognition error in performing exercise.

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AS13. PALLIATIVE CARE

963 - Submission No. 1587

ARE INTERNAL MEDICINE AND GERIATRIC HOSPITALIZATION UNITS DIFFERENT IN TERMS OF PALLIATIVE NEEDS?

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Background and Aims: Difficulties exist regarding the identification of the need for palliative care in chronic progressive diseases. We intend to analyze the possible differences in the identification of the need for palliative care in patients hospitalized in Internal Medicine (IM) and Geriatrics (GER).

Methods: Retrospective transversal study in patients over 65 years admitted to these departments of the Complejo Asistencial de Segovia (Spain) in January 2022.

Results: We analyzed 80 patients (41 Internal Medicine/39 Geriatrics), with similar mean age in both groups (88.6 years). 62.5% in Geriatrics (29.3% IM) came from a nursing home. No patient in Geriatrics was independent for the basic activities of daily living (22.5% MI) and 47.4% in Geriatrics (22% MI) presented total dependence by Barthel (p=0.02). Palliative care needs were recognized on admission in 4.9% of IM patients (15.4% GER) (p=0.117). Positive NECPAL 4.0 was met by 39% of patients admitted in Internal Medicine and up to 69.2% in Geriatrics (p=0.013). IDC-PAL complexity criteria were present in 43.6% in GER (26.8% IM). Palliative care needs were recognized at discharge in only 12.8% in GER and 12.2% in IM (p=0.7), and just one patient was referred to the home palliative care unit.

Conclusions: At a similar age, patients admitted to Geriatrics are more dependent, with greater cognitive deterioration. We identified palliative necessities in 39% in Internal Medicine and 69.2% in Geriatrics. Nevertheless, the difficulty of both services in recognizing palliative care needs is noteworthy, being necessary to screen in order to improve access to this care necessity.

964 - Submission No. 2158

THE QUESTION THAT AN INTERNIST NEEDS TO CONSIDER IN THE CLINICAL EVALUATION OF PATIENTS. THE NECPAL TOOL IN NON-ONCOLOGY PATIENTS AND THE RELATION WITH MORTALITY

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Background and Aims: The NECPAL programme was born to respond to the challenge of early palliative care for people with advanced illness. By using "the surprise question" (I would not be surprised if this patient died within the year) and some clinical criteria, we can determine the prevalence of palliative needs in our patients. No routine screening is applied in our center, and we aim to analyze the unmet palliative care needs and the relation with mortality.

Methods: The NECPAL 3.1 and 4.0 tool was used in pluri-pathological patients over 65 years admitted for non-oncological pathology after internal medicine evaluation in the Complejo Asistencial de Segovia in January 2022. A 6-month follow-up was performed after hospital admission.

Results: Eighty patients (mean age 88 years and 68.8% women) were included. 45% were from nursing homes and 25% had total dependency on Barthel's scale. Palliative needs at admission were recognized in 10% and at discharge in 12.5%. After NECPAL screening, identification increased up to 53.8% (correlation 97.8% version 3.1 vs. 4.0). 81.25% of patients who died during admission and 93.75% who died after 6 months of discharge met NECPAL criteria. Survival was considerably lower in NECPAL patients during the 6-month retrospective follow-up (figure 1).

Conclusions: We found a real and concerning deficit regarding the identification of palliative needs. By using the NECPAL tool routinely, it was possible to increase detection rates by 211%, with statistically significant correlations with both in-hospital and out-of-hospital mortality. This action can help to redefine objectives, activating, if necessary, a gradual palliative approach early.

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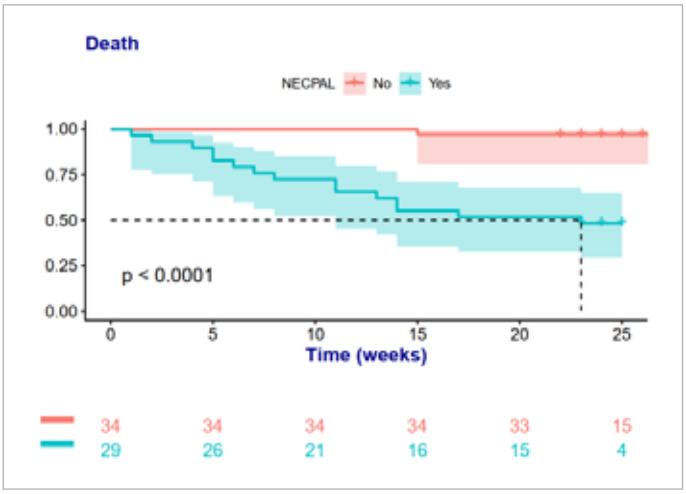

964 Figure 1.

965 - Submission No. 1510

CAN WE CORRECTLY DETECT PATIENTS WITH NON-ONCOLOGIC PATHOLOGY WHO ARE ADMITTED TO OUR DEPARTMENT AND NEED PALLIATIVE CARE?

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Background and Aims: About 50% of hospitalized patients and 70% in residential care have an advanced disease, but only 20% of them benefit from specific palliative care programs. Our objective is to detect non oncological palliative patients admitted to our area.

Methods: Retrospective transversal analysis in pluri-pathological patients over 65 years of age admitted to the Complejo Asistencial de Segovia (Spain) in January 2022.

Results: We found 80 patients (68.8% women, mean age 86 years). 45% came from a nursing home, and 35% presented total dependence by Barthel. About 40% had falls in the last year, 33.8% pressure ulcers, 38.8% dysphagia and 20% had confusional syndrome. The need for palliative care was recognized in only 10% at admission. Screening with NECPAL with a positive result ("it would not surprise me") in 55% of the sample (97.7% fulfilled definitive criteria for NECPAL 4.0). 35% presented complexity data by IDC-PAL. Palliative needs were present in 83.3% of those coming from nursing homes, 81.25% of those who died in hospital and 93.75% 6 months following discharge. Nevertheless, just 3.8% of the patients had a specific palliative care follow-up.

Conclusions: More than half of hospitalized patients present NECPAL criteria, a much higher percentage than described in the literature, mainly in institutionalized patients (>80%), who die in hospital (>80%) and within 6 months of hospital discharge (>90%). We propose combining instruments ("NECPAL") with individual patient care to identify a growing and unmet need in the detection of the beneficial effects of palliative care.

966 - Submission No. 1809

EVALUATION OF FATIGUE IN ELDERLY CANCER PATIENTS

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Background and Aims: Cancer-related fatigue is often an underdiagnosed symptom. The aim of this study was to screen and to assess fatigue in elderly cancer patients.

Methods: This was a prospective study of 50 patients followed in the university department of medical oncology in Sfax during a 6-month period. We evaluated fatigue according to the fatigue assessment scale (FAS). The fatigue was defined with a FAS greater than 21. Extreme fatigue was defined with a FAS greater than 34.

Results: The mean age was 68 years with 25 men (57%) and 19 women (43%). The disease was metastatic in 58%. The site of the tumor was the breast in 45% and colorectal in 35%. In the non-metastatic subgroup, 48% of patients had fatigue. No patient had extreme fatigue. 51% of the patients were operated. 52.9% of the patients had a sleep disorder. 29.6% of patients had anorexia and 20% had depression. In the metastatic subgroup, 68.9% of patients had fatigue, with 13.5% having extreme fatigue. 37.1% of metastatic patients had a sleep disorder. 58.9% of patients had anxiety and 19.4% of patients had depression. Anxiety was correlated with fatigue (p=0.015). Extreme fatigue was correlated with metastatic disease (p=0.001) and pancreatic site (p=0.01).

Conclusions: Fatigue is an extremely common complaint among cancer patients (75%-80%). Extreme fatigue was correlated with metastatic disease and pancreatic site.

967 - Submission No. 1810

MALNUTRITION AND CANCER: A PROSPECTIVE STUDY

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Background and Aims: Malnutrition is a pathological condition that occurs when the energy intake provided by food fails to meet the energy needs of the body. The aim of this work was to detect malnutrition in cancer patients in southern Tunisia.

Methods: This is a prospective study carried out in the department of medical oncology in Habib Bourguiba Hospital during a period of 3 months. We assessed the Body Mass Index (BMI), the rate of albumin clearance and the Nutritional Risk Index (NRI).

Results: Among 105 patients, 37% had colorectal cancer, 17% had breast cancer and 12% had gastric cancer. 56% of patients were metastatic and 44% were non-metastatic. 80% of patients were not malnourished, 14% had moderate malnutrition, and 6% had severe malnutrition. The highest malnutrition rates (NRI) were found in patients with colorectal cancer (19%). 64% of metastatic patients were malnourished, according to the NRI, against 50%

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of non-metastatic patients. The causes of malnutrition were dominated by nausea (54%), aversion (46%), anorexia (41%) and depression (30%).

Conclusions: In medical oncology, the incidence of weight loss varies from 5-10% depending on the pathologies and the stages. In our series, there was a predominance of malnutrition in metastatic patients and those with colorectal cancer.

968 - Submission No. 721

IMPROVING ADVANCE CARE PLANNING REFERRALS IN INPATIENTS ADMITTED TO GENERAL MEDICAL WARD

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Background and Aims: Advanced care planning (ACP) can empower patients to make decisions about their care according to their values and preferences. To improve the rate of advance care planning referral amongst inpatients admitted to the Department of internal medicine. 164 inpatients were referred for ACP discussion in a 12-month period in 2019 but only 7 patients successfully completed their ACP following an inpatient referral. The goal of this quality improvement project was to improve rates of referral and completion of ACP.

Methods: Awareness amongst physicians was identified as a key factor limiting referrals and advocacy for advance care planning. Efforts was driven towards advocacy at the ward level. In this pilot project, efforts were made at educating doctors via department meetings of referral workflow and encouraging completion of ACP on the ward.

Results: 72 referrals for advance care planning with were received over 4-month duration, with 7 completed from December 2020-March 2021 as compared to 46 referrals and 1 completed ACP during a similar time frame in Dec 2019-March 2020. At the point of data collection in April 2021 there were 60 referrals who were pending follow up in the outpatient setting.

Conclusions: Understanding and exposure to ACP is still growing. Opportunities need to be opened up for training physicians as ACP facilitators and ACP advocates. Pathways are required to ensure continuity of discussions initiated in the inpatient to the outpatient setting to follow up on patients who have been referred for ACP.

969 - Submission No. 2064

ADVANCED MYELOFIBROSIS - A CLINICAL CASE ABOUT THE DECISION OF WITHHOLDING REGULAR BLOOD TRANSFUSIONS IN PALLIATIVE CARE

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Case Description: A 85-year-old woman with a previous history of essential thrombocytosis was admitted to the hospital for an acute pyelonephritis. The year before she was enrolled on a regular transfusion schedule because of progression of her condition to myelofibrosis, becoming transfusion-dependent with progressively shorter intervals between transfusions. During that year, the patient had a severe functional deterioration and became more fragile, and Palliative Care assistance was sought by the hemato-oncologist. At the time of hospitalization, the patient was receiving blood products every two weeks (or even weekly depending on the symptoms).

Clinical Hypothesis: Due to its severe functional impairment, a difficult decision with several options ensued: either the transfusion support could be continued based on a symptom-relief goal (instead of a hemoglobin-threshold transfusion support) or transitioning to comfort-focused care, withholding blood-product support.

Diagnostic Pathways: Palliative care assistance was sough regarding the decision to withhold transfusion support, and a literature review and multidisciplinary discussion ensued in regard to the best end-of-life care options for the patient.

Discussion and Learning Points: The decision to transition from life-prolonging goals of care to comfort-focused care is often very challenging and might be difficult for patients and specially their caregivers. It is important to clarify to patients that the goals of care change as the patient condition progresses, and to understand what the patient/family expectations are regarding the treatment. These clinical scenarios show the importance of a multidisciplinary approach, including a timely Palliative Care follow-up, always remembering the patient wills and expectations.

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970 - Submission No. 2068

HEADACHE AS A MANIFESTATION OF GASTRIC CANCER

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Case Description: A 39-year-old woman, previous history of thyroidectomy due to papillary thyroid cancer 5 years ago, medicated. Presented with a 6-week headache and neck pain, worsening with orthostatism and walking and relief with decubitus, associated to nausea and vomiting. Neither photo, phonophobia, fever or trauma was present. Decrease in left upper limb strength, associated with paresthesia in both hands was present. Analysis of cerebrospinal fluid (CSF) showed mononuclear pleocytosis cranioencephalic (CE) computed tomography (CT) scan showed enhanced infra and supratentorial ventricular systems, with symmetrical pattern in the supratentorial compartment.

Clinical Hypothesis: Meningitis, neurosarcoidosis, primary or secondary neoplasm.

Diagnostic Pathways: No microorganism was isolated from the CSF. Venous CT, CE and cervical magnetic resonance imaging and electromyography were normal. Electroencephalogram showed mild encephalopathy with right temporal predominance. Abdominal CT showed bilateral adnexal lesions, solid, with heterogeneous contrast enhancement, with more than 50 mm. An upper endoscopy showed an excavated ulcer (about 2 cm) in the small curvature of the middle/distal stomach body, with a whitish base, the surrounding mucosa was congestive and with limited distensibility. Anatomopathology showed gastric mucosa ulceration and involvement by malignant epithelial neoplasia. The immunohistochemical study showed CK CAM5.2 expression. *Helicobacter pylori* was negative.

Discussion and Learning Points: She had an aseptic meningitis due to meningeal carcinomatosis secondary to gastric adenocarcinoma. Developed hydrocephalus, requiring external ventricular drain. This clinical case led us to reflect on the causes of headache, as well as the differential diagnosis for it. Palliative care team was activated for symptom relief, support of caregiver needs and coordination of care.

971 - Submission No. 630

A DESCRIPTIVE STUDY OF REFERRALS TO THE PALLIATIVE CARE UNIT FROM NON-ONCOLOGICAL SPECIALTIES IN A TERTIARY REFERRAL HOSPITAL

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Background and Aims: To analyze the characteristics of referrals to the Palliative Care Unit (PCU) from non-oncological specialties in our hospital.

Methods: A descriptive retrospective study by reviewing the medical records of patients included in our PCU from non-oncological specialties since January to May 2022. We analyzed the specialty of origin, the amount of oncological and non-oncological patients, the degree of complexity, the mortality rate, and the area of deceases.

Results: 517 patients included in PCU were reviewed, 34% (n=205) of them came from non-oncology specialties. The main specialty requesting inclusion was Primary Care (22%), followed by Internal Medicine (17%), Pneumology (16%), and Gastroenterology (11%). 76% were oncological patients of whom 74% were considered complex and 18% highly complex. 24% were non-oncological chronic patients, being 69% considered complex and 6% highly complex. The mortality rate was 40% in the group of non-oncological patients, 79% of whom died at home. Of oncology patients, 16% died, 88% of whom at the hospital.

Conclusions: Although the prevalence of chronic non-oncological patients is higher than oncological patients, they are under-represented in PCUs because of the clinical heterogeneity, the absence of fair rules of referral, the rare doctor training, and the difficulty of access to these units. Just 25% of the patients referred to PCU are non-oncological, being the majority classified as complex patients. During the observed period, the mortality rate was higher in the non-oncological patients' group with a higher representation of deaths at home.

972 - Submission No. 1920

ATRIAL FIBRILLATION AND ITS IMPACT ON THE ADVANCED CANCER PATIENT. EXPERIENCE OF A SPANISH 3RD LEVEL HOSPITAL

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Background and Aims: Objectives of our study were: 1) to know the incidence of atrial fibrillation (AF) in advanced cancer patients in our cohort; 2) propose a relationship between AF and comorbidities/readmission in cancer patients.

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Methods: Carrying out a secondary analysis of a retrospective observational study of cancer patients included in the Palliative Care program. The selected patients were obtained from the data provided by the hospital database who required any type of assessment during the period 1 from October 1, 2021 to October 31, 2022 and presented complete compatible data. Data were obtained from those patients who presented an episode of AF regardless of its duration and/or characteristics. Identification of risk factors for AF among cancer patients using the adjusted Cox proportional hazards model.
Results: A total of 209 patients were examined. Women: 39.5%; men: 60.5%. After assessment of the patients, a total of 40 patients with AF (16.5%) were observed. Charlson index: 13.9+/-4.1. IQ25-75: 11-14. paroxysmal AF: 62.5%; persistent AF 10% (4); permanent AF 27.5%. AF related to drugs 22.5% (9), AF with previous cardiac pathology 20% (7). Admission with respect to AF: OR 1.99[1.2-2.94] p<0.01. AF in patients with advanced stages: OR 1.61 [1.01-2.33] p<0.01.
Conclusions: The incidence of AF is significantly higher after diagnosis and inclusion of the patient in a palliative care program than the epidemiology indicated in the current literature in patients without cancer. Higher stages of cancer at diagnosis are significantly associated with increased risk of atrial fibrillation. New-onset AF in the new cancer diagnostic environment increases the incidence of hospital admission compared to advanced cancer patients without AF.

973 - Submission No. 1083

VARIABILITY OF THE ECOG SCALE IN PATIENTS ADMITTED TO A PALLIATIVE CARE UNIT

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Background and Aims: The ECOG scale is a practical way to measure the quality of life of oncologic patients, whose life expectancies change over months, weeks, and even days.
Methods: All patients in charge of our Palliative Care Unit during 2021 were analyzed. The variables collected were ECOG, age, gender, the origin of hospital admission, cancer or non-cancer patient, and classification according to the primary tumor. A bivariate analysis was performed, reviewing the influence of all variables on ECOG.
Results: A total of 296 patients were analyzed, with a mean age of 68 years, 55% men. 46.6% of the patients were ECOG 4, 42.6% were ECOG 3, 8.1% were ECOG 2, and only 1.7% were ECOG 1. The most common origin was other services (54%), followed by emergencies (39%) and primary/home care (7%). Age was not significantly correlated with ECOG (p=0.059), nor was gender (p=0.414). Cancer patients had a worse ECOG than non-cancer patients (p=0.017). There were significant differences concerning the primary tumor (p=0.044). Patients with breast cancer and hematological patients presented the worst ECOG on admission, with 62% and 59% ECOG 4, respectively. There were significant differences between the ECOG and the origin of the patient (p=0.024), with a better ECOG in patients from primary and home care (30% ECOG 4 and 50% ECOG 3), compared to other specialties (48% ECOG 4 and 41% ECOG 3) and emergencies (48% ECOG 4 and 44% ECOG 3).
Conclusions: The type of disease and the origin of the patient upon admission are differentiating factors for ECOG.

974 - Submission No. 1095

VARIABILITY OF THE VISUAL ANALOG SCALE OF PAIN IN PATIENTS ADMITTED TO A PALLIATIVE CARE UNIT

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Background and Aims: The visual analog scale (VAS) is a psychometric response scale that can be used in questionnaires. It is an instrument for measuring subjective characteristics or attitudes that cannot be measured directly.
Methods: All patients who were in charge of our Palliative Care Unit during the year 2021 were analyzed. The variables collected were age, gender, type of disease, and VAS. A bivariate analysis was performed, reviewing the influence of all variables on VAS.
Results: VAS was performed in 263 patients at admission, with a mean value of 3.65 (median of 3 and standard deviation of 2.5). A negative Pearson correlation (-0.261) was observed between age and VAS (p<0.001). Women presented higher VAS values (p=0.047) with a mean value of 4 points, versus a mean value of 3 in men. Cancer patients had higher VAS (mean of 4) than non-cancer patients (mean of 2) (p=0.013). There were significant differences in VAS according to the primary neoplasm (p=0.023), with a higher value in the case of patients with tumors of the musculoskeletal system (mean of 8), followed by hematological, mammary, and gynecological tumors (all three with a mean of 5).
Conclusions: VAS is a suitable tool to differentiate the level of pain of patients under palliative care. There are especially noteworthy differences according to the type of tumor that the patient presents.

975 - Submission No. 681

LEVELS OF INFORMATION IN PATIENTS ADMITTED TO A PALLIATIVE CARE UNIT

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Background and Aims: The conspiracy of silence in palliative care is a type of communication breakdown that is common in patients, their families, and health-care providers. The conspiracy of silence

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in palliative care results in a lack of autonomy, overburdening, family dysfunction and coping, and health-care dehumanization.

Methods: All patients who were in charge of the Palliative Care Unit of the University Hospital of Jerez de la Frontera during the year 2021 were analyzed. The variables collected were age, gender, type of disease (oncologic and non-oncologic), and level of information of patient at our first evaluation (1 = does not know the diagnosis, 2 = suspects something, 3 = knows diagnosis but not prognosis, 4 = knows diagnosis and prognosis). A bivariate analysis was performed, reviewing the influence of age, and gender on the level of information.

Results: A total of 296 patients with a mean age of 68 years (median 69 and range from 21 to 97) were analyzed, of which 55% were men and 45% were women, 90% of them being oncologic patients. 7.4% did not know the diagnosis, 12.2% suspected something, 50.7% knew the diagnosis but not the prognosis, and 26.7% knew the diagnosis and prognosis. Age was significantly related to the level of information ($p < 0.001$). There was no relationship between the level of information and gender or type of disease.

Conclusions: Older patients know less information about their disease. This study discovered that especially in older patients, strategies that take into account the palliative care communication process are required.

976 - Submission No. 465

USEFULNESS OF THE DECAMIRT SCORE IN PATIENTS ADMITTED TO A PALLIATIVE CARE UNIT

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Background and Aims: The effective management of the therapeutic regimen is associated with quality of life and with chronic patients' use of health resources. The DecaMIRT score is a valid tool to measure therapeutic adherence and can help improve the care of people with chronic conditions.

Methods: All patients who were in charge of the Palliative Care Unit of the University Hospital of Jerez de la Frontera during the year 2021 were analyzed. The variables collected were age, gender, cancer or non-cancer patient, and DecaMIRT score at our first evaluation. A bivariate analysis was performed, reviewing the influence of age, gender, and type of patient on the score.

Results: A total of 296 patients with a mean age of 68 years (median 69 and range from 21 to 97) were analyzed, of which 55% were men and 45% were women, 90% of them being oncologic patients. Age was significantly correlated with the DecaMIRT score ($p<0.001$), while it was not related to gender or type of patient (cancer or non-cancer).

Conclusions: The older the age, the more ineffective management of the therapeutic regimen was observed using the DecaMIRT scale, this being a predictor of greater use of health resources and worse quality of life in older patients. We must pay special attention to the treatment of these patients since most of them are poly-pathological and poly-medicated. An adequate therapeutic conciliation and deprescription of futile medication are essential.

977 - Submission No. 1922

POLYPHARMACY IN THE ADVANCED CANCER PATIENT. DO THEY AFFECT THE SITUATION OF OUR PATIENTS?

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Background and Aims: Polypharmacy is an important issue in the care of older cancer patients, as it increases the risk of unfavorable outcomes. We estimated the prevalence of polypharmacy, the use of potentially inappropriate medications (PIM) and drug interactions (DDI) in patients included in the Palliative Care program and their associations with clinical outcomes.

Methods: Retrospective observational study of patients included in the Palliative Care program. The selected patients were obtained from the data provided by the hospital database that required any type of assessment during the period from January 1, 2022 to October 1, 2022. We reviewed the daily medications that the patients were taking at the time during the period previously established. PIMs were assessed according to the Beers 2015 criteria, and DDIs were assessed using Lexi-comp Drug Interactions.

Results: In total, 89 patients were enrolled (Mean age: 72.25 years; IQ range, 55–84); the most common types of cancer were lung cancer (21.4%) and colorectal cancer (20.2%). The mean number of daily medications was 5.7 (±4.1; range, 0-17). The prevalence of polypharmacy (≥5 drugs) was 51.3% and that of excessive polypharmacy (≥10 drugs) was 10.2%. The use of PIM was detected in 24 patients (26.9%). Clinically significant DDIs were detected in 26 (29.2%) patients. Polypharmacy was significantly associated with adverse effects (odds ratio: 1.63 [1.01–2.37], $p<0.01$) and with hospital admission (OR:1.48 [1.24–1.99], $p=0.02$).

Conclusions: Polypharmacy, PIM use, and major potential DDIs were frequent in patients included in palliative care. Polypharmacy was associated with a higher risk of adverse effects and potential toxicity in relation to chemotherapy treatment. Patients with polypharmacy had more hospital admissions.

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978 - Submission No. 1924

USE OF ANTIDEPRESSANTS IN ADVANCED CANCER PATIENTS. MAYBE THEY ARE INSUFFICIENT?

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Background and Aims: To describe the pattern of change in antidepressant medication prescriptions in advanced cancer patients included in the Palliative Care program. Assess the characteristics of the patient who requires said treatment.

Methods: Carrying out a secondary analysis of a retrospective observational study of cancer patients included in the Palliative Care program. The selected patients were obtained from the data provided by the hospital database who required any type of assessment during the period from January 1, 2022 to October 1, 2022. The characterization of the prescription of antidepressants was carried out within the indications for treatment of these patients. Symptom control and possible related adverse effects were assessed.

Results: A total of 89 patients were examined. Women: 31.5%; Men: 68.5%. Of the patients evaluated, they were used in a total of 38% of the patients evaluated during the period indicated above. The most used antidepressants were sertraline 24.2% (8), amitriptyline: 15.1% (5), duloxetine 21.2% (7), antidepressant use was significantly associated with being female (odds ratio: 2.01 [1.34–2.72], p=0.01). No relationship was found with the type of tumor. Adverse effects secondary to treatment with antidepressants (OR: 0.81 [0.4-2.38], p=0.31).

Conclusions: The use of treatment with antidepressants is not used in a majority way in our cohort. Their use is more linked to the female sex, and, despite the possible interactions, they do not present a higher incidence of adverse effects compared to their controls.

979 - Submission No. 1929

USE OF MAJOR OPIOIDS IN ADVANCED CANCER PATIENTS. RESULTS OF A COHORT IN A 3RD LEVEL HOSPITAL

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Background and Aims: To know the rate of treatment with major opioids in cancer patients in our health care area and the characteristics of their prescription and associated comorbilities.

Methods: Retrospective observational study of cancer patients included in the Palliative Care program. The selected patients were obtained from the data provided who required any type of assessment during the period January 1,2022 to October 1,2022. The characterization of the prescription of fentanyl, morphine, oxycodone, tapentadol was carried out among other opioids within the indications for treatment of these patients. Symptom control and possible related adverse effects were assessed.

Results: A total of 89 patients were examined. Women:31.5%; men: 68.5%. Transdermal drugs and transmucosal preparations of fentanyl were most frequently used for baseline pain and breakthrough pain. Use of major opioids: 52.8%, of which transdermal fentanyl (83.0%), transoral fentanyl (67.8%), modified-release morphine 29.2), oral morphic chloride (38.9), subcutaneous morphic chloride (20.3%). The use of fentanyl was associated, although not significantly, with lung cancer and colorectal cancer (odds ratio:1.89 [0.89–3.62], p=0.13). The use of fentanyl is associated with a higher hospital assessment (OR: 1.78 [1.04-2.34], p<0.01). Adverse effects secondary to treatment with fentanyl (OR:0.92 [0.4-3.21], p=0.58).

Conclusions: Treatment with fentanyl provides a clinical benefit for pain control, but is associated with more hospital care, probably related to uncontrolled +/- breakthrough pain and its complexity. In our cohort, the need for rotation due to toxicity was observed in a minority, which shows that it is a very useful tool for symptom control in our cohort. The limitations of our study must be taken into account, requiring more study to corroborate these findings.

980 - Submission No. 1100

AN AUDIT OF DOCUMENTED REFERRAL INFORMATION TO SPECIALIST PALLIATIVE CARE SERVICES FOR ADULTS IN AN IRISH INNER-CITY HOSPITAL

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Background and Aims: Nationalized proformas are valid triaging tools to allow for appropriate allocation of services. We audited the completeness of the documented referral information to adult specialist palliative care (SPC) services in an Irish inner-city hospital setting and have put forth recommendations with the objective of improving the quality of referrals.

Methods: Data was collected retrospectively by auditing 100 referrals made to the SPC services between September 2021 and May 2022. Referrals were evaluated against the standard determined by the minimum dataset required by the national SPC referral form, for their extent of completeness. Data was inserted into a Microsoft Excel spreadsheet and analyzed using descriptive statistics.

Results: 43 distinct data points were assessed in this audit. Of the 100 referrals assessed, 37 used the new proforma and 63 used the former, outdated version. Analysis of the referrals demonstrated that zero forms achieved 100% completion and on average, clinicians provided 36 out of 43 (83.8%) data points required. Information most likely to be excluded were details involving patient demographics, patient background, medication history

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and GP details. Recommendations include a grid system for the medication section with two columns; “Name” and “Dosage” as prompts for physicians and to create a separate category phrased as “Treatment to date, Further treatment planned and Other relevant information”.

Conclusions: This study highlights the inadequacy of referral information and raises awareness of the continued use of the outdated proforma. Steps such as local education interventions should be undertaken to ensure standards of care are accomplished.

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AS14. PERIOPERATIVE MEDICINE

981 - Submission No. 2040

CEMENT PULMONARY EMBOLISM AFTER PERCUTANEOUS VERTEBROPLASTY: A CASE REPORT

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Case Description: An 83-year-old man with chronic obstructive pulmonary disease was admitted to hospital for scheduled vertebroplasty after compression fracture of D9-D11 vertebrae. On the first day after surgery, he developed sudden tachypnea and chest pain, constant and not irradiated, accompanied by 88% oxygen saturation. Pulmonary angio-CT showed segmentary hyperdense filling defects in several branches of the right lung artery, as well as a hyperdense mass in the right ventricle.

Clinical Hypothesis: The development of chest pain with respiratory failure after vertebroplasty with calcium-intensity images in pulmonary arteries and right ventricle suggested cement migration causing pulmonary embolism (PE).

Diagnostic Pathways: Transthoracic echocardiogram confirmed the presence of a hyperechoic mass in the right ventricle, with normal cavity size and function. Extension study with abdominopelvic angio-CT ruled out cement embolisms at other levels.

Discussion and Learning Points: Complications of percutaneous vertebroplasty are mainly derived from cement extravasation, either local (medullary compression) or intravascular (renal failure, right cardiac embolism). Cement PE is derived from the latter, with a frequency of 2.1-26.0%. State of the art consists of antithrombotic therapy in case of symptomatic or central PE, using therapeutic anticoagulation in most of reported cases. In our patient, therapeutic-dose enoxaparin was started; surgical removal was dismissed. Nine days after surgery, the patient developed anemia and hemodynamic instability. Abdominal angio-CT was performed, showing a wide hematoma on the left abdominopelvic wall without active bleeding, thus not subsidiary of embolization. After benefit-risk considerations, it was decided to maintain anticoagulation. After 46 weeks of treatment, cement embolus persisted stable, and hematoma was reabsorbed in control body-CT.

982 - Submission No. 41

UNCOMMON CAUSE OF CONSTITUTIONAL SYNDROME

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Case Description: A 55-year-old male with a family history of a father with gastric neoplasia, hypertension, and chronic kidney disease, who had undergone right radical nephrectomy two years earlier for chromophobe renal cell carcinoma (T1bN0M0), with annual radiological review with no signs of recurrence. He consulted for constitutional syndrome and progressive dysphagia to solids up to practical oral intolerance of 4 months of evolution. On physical examination, vital signs were normal, as was cardiorespiratory auscultation. Abdomen with diffuse discomfort in the epigastric-mesogastric area. The analytical parameters showed elevation of C-reactive protein (87 mg/L), procalcitonin (31.58 ng/dL) and leukocytes 9160.

Clinical Hypothesis: The patient was admitted with antibiotic therapy and total parenteral nutrition and an upper gastrointestinal endoscopy was performed, which showed no findings due to the suspicion of neoplasia at the digestive level.

Diagnostic Pathways: PET-CT was requested (Imagen I-II), in which increased metabolism with ovoid morphology was observed at the level of the right hemiabdomen without dependence on the gastrointestinal structure and causing an extrinsic duodenal obstruction. With the radiological suspicion of a foreign body, the surgical sheet corresponding to the nephrectomy was reviewed, during which it was necessary to place oxidized cellulose gauzes due to retroperitoneal bleeding, with an adequate gauze count. Nuclear Medicine was contacted, confirming the clinical suspicion of "gossypiboma".

Discussion and Learning Points: He underwent an exploratory median laparotomy with discovery and drainage of a retroperitoneal abscess posterior to the hepatic flexure of the colon with necrotic and purulent material and gauze inside, proceeding to its removal.

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983 - Submission No. 573

VALUE OF ROUTINE ECG AND CHEST X-RAY IN THE PREOPERATIVE MANAGEMENT

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Background and Aims: Our aim was to evaluate importance of routine ECG and chest X-ray (CXR) on changes in preoperative management (PM) in hospitalized patients before non-cardiac surgery (NCS), and finding predictors of these changes.

Methods: We retrospectively reviewed records of 2362 hospitalized patients who underwent preoperative internal examination in years 2015-2021. 72% of patients had abnormal ECG, 33% had abnormal CXR. Changes in PM included postponement or complete cancelation of surgery (PCCS) due to pathological findings on ECG or CXR.

Results: Mean age was 63 years, 48% were women. Mean heart rate (HR) was 79 bpm and median CRP 7 mg/l. PCCS due to pathological ECG or CXR occurred in 4, respectively 5 patients from entire group (0.20%). In all cases, reason for change in PM was supraventricular tachyarrhythmia (SVT) on ECG or pneumonia on CXR. Patients with PCCS due to SVT had rapid ventricular rate (mean 141 bpm). HR cut-off <124 bpm had 100% negative predictive value (NPV) for PCCS. Patients with PCCS due to pneumonia had higher CRP (median 189 mg/l). CRP cut-off < 62 mg/l had 100% NPV for PCCS. No other ECG or CXR findings led to PCCS. 8 patients required adjustment of beta-blocker therapy for rapid ventricular rate without need for PCCS.

Conclusions: ECG and CXR are of very limited value in routine PM of hospitalized patients undergoing NCS. Based on our findings, ECG could be limited to patients with HR >124 bpm during clinical examination, and CXR to patients with CRP > 61 mg/l.

Parameter		No delay N = 2 357	PCCS N = 5	P
Age	Mean (± SD)	63 (± 15)	81 (± 7)	**0,007**
CRP [mg/l]	Median (IQR)	7 (3–42)	189 (108–231)	**0,001**

Mann-Whitney U test. SD = standard deviation

Table 2. Relationship between selected patient characteristics and PCCS due to pathological ECG

Parameter		No delay N = 2 358	PCCS N = 4	P
Age	Mean (± SD)	63 (± 15)	77 (± 6)	**0,048**
Heart rate [bpm]	Mean (± SD)	79 (± 16)	141 (± 15)	**0,001**

Mann-Whitney U test. SD = standard deviation

Table 3. Age and CRP as predictors of change in preoperative management due to CXR

Predictor	AUC (95% CI)	P	Cut-off	Sensitivity	Specificity	PPV	NPV	Overall accuracy
Age	0,850 (0,744–0,955)	**0,007**	≥ 70	100,0 %	61,5 %	0,5 %	100,0 %	61,6 %
CRP [mg/l]	0,913 (0,855–0,971)	**0,001**	≥ 62	100,0 %	80,6 %	1,2 %	100,0 %	80,6 %

AUC = area under the ROC curve; NPV = negative predictive value; PPV = positive predictive value

Table 4. Age and heart rate as predictors of change in preoperative management due to ECG

Predictor	AUC (95% CI)	P	Cut-off	Sensitivity	Specificity	PPV	NPV	Overall accuracy
Age	0,786 (0,696–0,876)	**0,048**	≥ 72	100,0 %	67,1 %	0,5 %	100,0 %	67,2 %
HR[bpm]	0,995 (0,991–1,000)	**0,001**	≥ 125	100,0 %	98,8 %	12,1 %	100,0 %	98,8 %

AUC = area under the ROC curve; NPV = negative predictive value; PPV = positive predictive value

983 Table 1.

984 - Submission No. 229

DEVELOPMENT OF THE GOÑI-MORENO TECHNIQUE IN HOSPITAL-AT-HOME PROGRAM

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Background and Aims: Progressive preoperative pneumoperitoneum (PPP) was described by Goñi-Moreno as a prior step to intervention of giant incisional hernias of abdominal wall with loss of domain in order to prevent postoperative complications such as compartment syndrome and restrictive lung disease. Previous reported series have developed it during usual hospitalization. This communication describes our experience with PPP in Hospital-at-home program.

Methods: Two patients were enrolled with large incisional defects after previous laparotomy surgery. The PPP was carried out firstly injecting 200 IU of botulinum toxin. A double-lumen central venous catheter was placed with local anesthesia in the left hypochondrium, whose distal lumen was connected to a three-way stopcock and an antibacterial filter. After monitoring first insufflation sessions, patients were transferred to Hospital-at-home. Between 500-1000 cc were insufflated daily under sterile conditions, with surveillance of alarm symptoms and monitoring vital signs. Both received prophylactic anticoagulation and were educated in respiratory physiotherapy. No prophylactic antibiotic was used.

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Results: Both patients attended ten insufflation sessions with a total average instilled air volume of 9.25 liters. As associated complications, both presented pain of mild intensity controlled with first step analgesics. After being completed this preparation period, in-hospital readmission was scheduled and surgical repair of wall defects concluded successfully, without major incidents.
Conclusions: Our experience developing PPP in Hospital-at-home regimen has been satisfactory. Teamwork and a multidisciplinary approach are essential. Safety of the technique in addition to the possibility of avoiding complications and costs related to prolonged hospital admission support further exploration. Nevertheless, larger study population is required.

985 - Submission No. 998

ORTHOSTATIC HYPOTENSION: A DIFFERENT CAUSE

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Case Description: 69-year-old man with history of locally advanced left pyriform sinus epidermoid carcinoma was submitted, three weeks before admission, to total laryngectomy with selective cervical ganglion emptying and sacrifice of the left internal jugular vein, XIth cranial nerve and branches of the cervical plexus. He complained that since then he couldn't tolerate orthostatism, with several episodes of syncope with prodromes (malaise, blurred vision and diaphoresis). He implanted a pacemaker a week before admission because of suspicion of sinus node dysfunction, with no improvement despite of controlled heart rate. He had no hypotensive drugs prescribed. Physical exam confirmed orthostatic hypotension: reduction of more than 20 mmHg in systolic pressure and reduction of more than 10 mmHg in diastolic pressure after five minutes standing, with reproduction of symptoms.
Clinical Hypothesis: The first hypothesis was surgery-related complication with nerve damage or oedema leading to carotid sinus dysfunction. Other possibilities were damage of neck vessels or paraneoplastic autonomic neuropathy.
Diagnostic Pathways: A carotid ultrasonography showed some stenosis in both internal carotid arteries, with no hemodynamic repercussion and bilateral vertebral artery stenosis with some variation on speed flux. A cervical ultrasound showed marked thickening, oedema, and hyper-echogenicity of subcutaneous tissue in the entire anterior cervical region. The patient started treatment with fludrocortisone and midodrine with good results and remission of symptoms, confirmed with no blood pressure fall on physical exam.
Discussion and Learning Points: This case presents a diagnostic challenge in a complex patient. It is probable that the main contributor to this patient's symptoms was his past surgery and the exuberant oedema secondary to it.

986 - Submission No. 1021

DESCRIPTIVE STUDY OF INFECTIOUS DISEASES ATTENDED BY AN INTERNAL MEDICINE SHARED CARE UNIT IN A CARDIOVASCULAR SURGERY SERVICE

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Background and Aims: To describe the infections treated by an Internal Medicine shared care unit in a Cardiovascular Surgery hospitalization service in a tertiary care hospital.
Methods: Epidemiologic and clinical data of patients attended to between April and May 2022 in a shared care unit in a Cardiovascular Surgery service were gathered.
Results: From a total of 104 patients included, 45 displayed infectious complications. 29 patients presented with wet gangrene in the moment of the admission and 14 developed an infection of the surgical wound, 9 of which required negative pressure wound therapy. 25 patients showed symptomatology of nosocomial infection. We confirmed 3 cases of aspiration pneumonia, 3 cases of pneumonia from COVID-19, 7 urinary tract infections associated with catheter, 3 *Clostridium difficile* infections and 1 bacteriemia associated with catheter. In relation to the empiric therapy: 13 patients received monotherapy (10 with ciprofloxacin, 2 with clindamycin, 1 with amoxicillin/clavulanic acid). 12 patients received anti-pseudomonal antibiotics. 4 patients received treatment for multidrug-resistant organisms (extended-espectrum beta-lactamases (ESBL) and methicillin-resistant *Staphylococcus aureus*). The mean exposure time to antibiotics was 20 days (2-65). Organisms more frequently isolated were *S. aureus*, *Pseudomonas* sp, *Enterococcus* sp, *Proteus* sp and *E. coli* (3 producing ESBL). 5 patients died from infectious complications.
Conclusions: Infectious comorbidities are highly prevalent in these patients. We observed that therapy applied at the admission date was inadequate in more than a third of patients. During the hospitalization, a large percentage of nosocomial infections was detected. Medical and surgical co-management could improve the quality of care for surgical patients.

987 - Submission No. 765

A CHALLENGING DIAGNOSIS OF AN UNEXPECTED THYMOMA

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Case Description: We report a case of a healthy 36-year-old female that presented at emergency service with two weeks history of dyspnea, dry cough, and chest pain. Physical examination was

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normal, as well as electrocardiogram. Blood analysis showed iron deficiency anemia with no other alterations, including leukogram patterns, troponin, C-reactive-protein and thyroid function. A chest angio-CT and cervical CT scan showed an anterior mediastinal mass with 6.3x4.2x3.9 cm without infiltration of the adjacent structures.

Clinical Hypothesis: The most common anterior mediastinal masses are thymoma, teratoma, thyroid goiter and lymphoma. Exclusion of associated paraneoplastic syndromes is important.

Diagnostic Pathways: Holter, echocardiogram and pulmonary function tests were normal. There was no evidence of other neoplasms based on: negative tumor markers, endoscopic studies, abdominopelvic CT scan, brain MRI and gynecological examination. The PET-CT showed anomalous uptake in the thymic region. The autoimmune panel, including anti-acetylcholine receptor antibodies, and virologic tests were negative. Excluding the anemia, which was supplemented with iron, hematological/biochemical tests were normal, including peripheral blood smear and immunoglobulins. The patient was submitted to transthoracic biopsy under CT scan guidance, but the results were inconclusive. Finally, it was performed a median sternotomy for mass resection. Pathological examination excluded lymphoproliferative diseases and diagnosed thymic hyperplasia.

Discussion and Learning Points: Thymoma is the most common tumor of the anterior mediastinum. It's associated with paraneoplastic syndromes, such as myasthenia gravis, hypogammaglobulinemia and pure red cell aplasia. Histologic classifications have not accurately predicted the tumor behavior so all thymomas should be considered for complete resection due to their malignant potential.

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AS15. PREVENTIVE MEDICINE

988 - Submission No. 269

VENOUS THROMBOEMBOLISM PROPHYLAXIS IN INFLAMMATORY BOWEL DISEASE INPATIENTS – SYSTEMATIC REVIEW AND META-ANALYSIS

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Background and Aims: Inflammatory bowel disease (IBD) patients are three-times more likely to develop venous thromboembolism (VTE). Guidelines recommend prophylaxis during all hospitalizations, though data are sparse. In this systematic review and meta-analysis, we sought to pool all data on VTE prophylaxis in hospitalized IBD patients.

Methods: We performed a systematic review and meta-analysis. We searched MEDLINE and others up to 2/2022, for studies on IBD inpatients treated with non-therapeutic dose anti-coagulation during hospitalization, compared to no prophylaxis. Primary efficacy and safety outcomes were any VTE and major bleeding, respectively. Results were pooled using random-effects models, calculating odds-ratios (OR) and 95% confidence intervals (CI). The ROBINS-I tool was used to assess bias.

Results: We extracted data from 18 observational studies, and two randomized trial subgroups. The studies were highly variable regarding the included populations, interventions, and outcome definitions. Meta-analysis of all studies showed a non-significant effect of prophylaxis on VTEs (OR 0.97 [95%CI: 0.49-1.95]). An analysis of eight low and moderate risk-of-bias studies showed a significant reduction in VTEs (OR 0.27 [95%CI: 0.13-0.55), number needed to treat 34.8 [95%CI: 26.8-49.8]. A significant protective effect persisted in several subgroups. Major-bleeding was reported in three studies and showed a significant increase with prophylaxis (OR 2.02 [95%CI: 1.11-3.67], number needed to harm 113.6 [95%CI: 40.7-very-large-number]).

Conclusions: Sensitivity analyses of lower-risk-of-bias studies showed a significant reduction in VTEs in prophylaxis-treated IBD inpatients (NNT=35). This should be carefully considered against an increased major-bleeding risk (NNH=114). Current data is limited, and randomized trials dedicated to IBD inpatients are needed before universal VTE prophylaxis can be recommended.

989 - Submission No. 2077

ROLE OF BMI AS A RISK FACTOR FOR TYPE 2 DIABETES MELLITUS IN THE AFRO-CARIBBEAN POPULATION OF SINT MAARTEN

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Background and Aims: The risk factors for Type 2 Diabetes Mellitus (T2DM) have been understudied on the Caribbean island of Sint Maarten. The aim of this study is to verify the results of previous community outreach data and to provide the Ministry of Public Health in Sint Maarten with a better understanding of the risk factors for T2DM that are unique to the Afro-Caribbean population to institute proper preventative measures.

Methods: In this descriptive study, data was collected from community outreach projects and has evolved into retrospective data collection from local physicians. Statistical analysis was conducted on HbA1c and BMI of diabetics compared to controls from data collected from three, well-established physician offices around the island.

Results: Findings indicate a statistically significant lower BMI in diabetics than in controls ($p<0.05$) and that BMI does not correlate with HbA1c levels ($P>0.05$) in these groups. In Western populations it is well established that BMI is higher in diabetics when compared to control, however, the data suggests that these risk factors for diabetes may not be applicable to the Afro-Caribbean population in Sint Maarten.

Conclusions: In this descriptive study, we demonstrate that the relationship between BMI and the development of T2DM in the Afro-Caribbean population of Sint Maarten does not follow the pattern found in Western society. This raises the need for further investigation and the potential to introduce a new category for obesity-independent diabetes in the Afro-Caribbean population of Sint Maarten.

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AS16. RARE DISEASES

990 - Submission No. 428

HYPOKALEMIA IN DUCHENE MUSCULAR DYSTROPHY

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Case Description: A 21-year-old male patient with history of Duchenne muscular dystrophy (DMD) was admitted to the Intensive Care Unit intubated in the context of acute respiratory failure type II. The patient was sedated and placed on pressure-controlled mechanical ventilation and vasoconstrictor therapy due to hemodynamic instability. Laboratory testing revealed increased markers of inflammation as well as chest CT revealed infiltrates bilaterally at the bases of the lungs. He was put on appropriate antibiotic treatment. During his hospitalization, his potassium levels were at the lowest normal levels. Due to pulmonary congestion, he was treated with diuretics (furosemide) and experienced an episode of non-sustained ventricular tachycardia (NSVT) without hemodynamic instability. The patient died after 8 days of hospitalization due to respiratory failure.

Clinical Hypothesis: Non-sustained ventricular tachycardia could be attributed to electrolyte disturbances due to furosemide administration.

Diagnostic Pathways: Immediately after the episode of NSVT a complete laboratory work-up was obtained which revealed hypokalemia. An electrocardiogram was performed which revealed no ischemic lesions and an echocardiogram revealed no segmental hypokinesia or other cause for the arrhythmic event. Intravenous potassium supplements were administered and after potassium levels were restored, the patient had no further arrhythmic episodes.

Discussion and Learning Points: Patients with DMD have decreased total potassium levels due to loss of functional muscle mass but serum potassium levels usually remain at the lower normal levels. Administration of diuretics may worsen serum potassium levels. Hypokalemia is a rare complication of DMD, with potentially lethal consequences. Therefore, potassium levels should be closely monitored and adjusted with appropriate potassium supplements as needed.

991 - Submission No. 1545

GINGIVITIS AND PALMOPLANTAR HYPERKERATOSIS: FAMILY HISTORY IS THE KEY

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Case Description: A 38-year-old female presents with aggressive gum inflammation and palmoplantar hyperkeratosis. The latter exists since childhood in association with episodes of gingivitis coincidental with first dentition. Physical examination is consistent with the aforementioned palmoplantar hyperkeratosis and allows to find hyperemic retracted gums with dental exposure and teeth loss. Family history is carried out and an identical clinical picture appears to be suffered by her mother, maternal grandmother and uncles, her brother, and her nephew. One son of hers shows skin lesions without periodontal disease.

Clinical Hypothesis: Family association highly suggests a hereditary disease. Although there are multiple rare disorders with participation of skin and gingiva, Papillon-Lefèvre syndrome is the most appropriate explanation for our patients' specific clinical features.

Diagnostic Pathways: Blood tests and body image studies are conducted without pathological findings. cathepsin C gene (CTSC), which is the only genetic correlate described in this disease, is sequenced with a negative result. Furthermore, other keratin-related genes are studied without evidence of either pathogenic or unknown significance genetic variables.

Discussion and Learning Points: Despite negative results in genetic studies, clinical presentation and family history is still concordant with the diagnosis of Papillon-Lefèvre syndrome which is usually an autosomal recessive disease but can appear as

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an autosomal dominant one. The absence of an identified mutation does not rule out the diagnosis for there might be other genetic variables yet to be discovered.

Reference:
AlBarrak Z, Alqarni A, Chalisserry E, Anil S. Papillon-Lefèvre syndrome: a series of five cases among siblings. J Med Case Rep. 2016;10(1):260.

992 - Submission No. 761

ELEPHANTIASIS NOSTRA VERRUCOSA

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Case Description: A 85-years-old woman, obese, hospitalized for acute heart failure with hypoxemic respiratory failure. Examination of the lower limbs showed swelling, thickened and dry skin, with papillomatous adipose deposition and cutaneous fibrosis (Figure 1). It was bilateral and symmetrical. When asked, the patient said that the edema had a chronic presentation, within more than ten years of evolution. She reported multiple skin infections over the years. At the time of observation, her limbs had no signs of infection.
Clinical Hypothesis: This entity called elephantiasis nostras verrucosa is related with chronic venous stasis.
Diagnostic Pathways: Arterial Doppler had ruled out thrombosis.
Discussion and Learning Points: Treatment of infectious complications is central, as well as postural drainage and diuretics.

992 Figure 1.

993 - Submission No. 555

POPEYE, THE SAILOR MAN

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Case Description: A 65-year-old multimorbid woman was admitted to hospital due to lower back pains and progressive bilateral lower limb weakness. Blood tests showed elevated CRP (C-Reactive Protein) and a worsening renal function. A lower back X-ray revealed spondylarthrosis. The patient therefore initiated an empiric antibiotic therapy and was admitted to our Internal Medicine ward. Hospitalization was complicated by sepsis, caused by lower limb diabetic ulcers which were the source of an osteomyelitis of the first and third metatarsal bones of the right foot, diagnosed through a PET scan.
Clinical Hypothesis: Contrast uptake was also localized at D6-D9; a spinal MRI showed lumbar paraspinal muscle involvement compatible with diffuse myositis.
Diagnostic Pathways: The muscle biopsy showed a myophosphorylase deficiency associated with glycogen granules in the cytoplasm of the muscle cells; this resulted compatible with McArdle's Disease. A carbohydrate-rich diet and carnitine supplements were started; the patient was later discharged at a neuro-rehabilitative facility.
Discussion and Learning Points: McArdle's disease, or Glycogen Storage Disease (GSD) type 5, is caused by myophosphorylase deficiency and is inherited recessively. It is the most frequent GSD in Europe and is characterized by muscle weakness, muscle contractures, myoglobinuria and rhabdomyolysis (Gandhi S., 2021). This condition severely impairs physical activity which is dependent on anaerobic glycolysis (Scalco R., 2014). It equally affects males and females of all ages and needs to be suspected whenever muscle weakness and exercise intolerance are the predominating symptoms. Despite no cure has been found, lifestyle changes help mitigate the condition.

994 - Submission No. 898

THE DEVIL WAS IN THE MASTOCYTES – A RARE CASE OF SYSTEMIC MASTOCYTOSIS (SM) IN A 50-YEAR-OLD MALE PATIENT, MISSED FOR ALMOST 20 YEARS

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Case Description: A 50-year-old comatose male was admitted to the ED after sudden loss of consciousness at work. Upon arrival, the patient was hypotensive and was intubated shortly thereafter for airway protection (GCS: 3/15). Assessment of cardiac function, including an echocardiogram, did not reveal any abnormalities.

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Emergency CT scans of the brain, chest and abdomen were also unremarkable. Clinical examination revealed hepatomegaly and multiple, monomorphic, reddish-brown macules of the trunk and extremities, but no evidence of tongue biting or urinary incontinence. Upon recovery, the patient recalled several episodes of flushing, tachycardia and presyncope in the past. Previous in-depth assessments in tertiary care hospitals during the past 20 years failed to pinpoint to a specific cause for these episodes, pointing out anxiety as the most likely trigger factor.

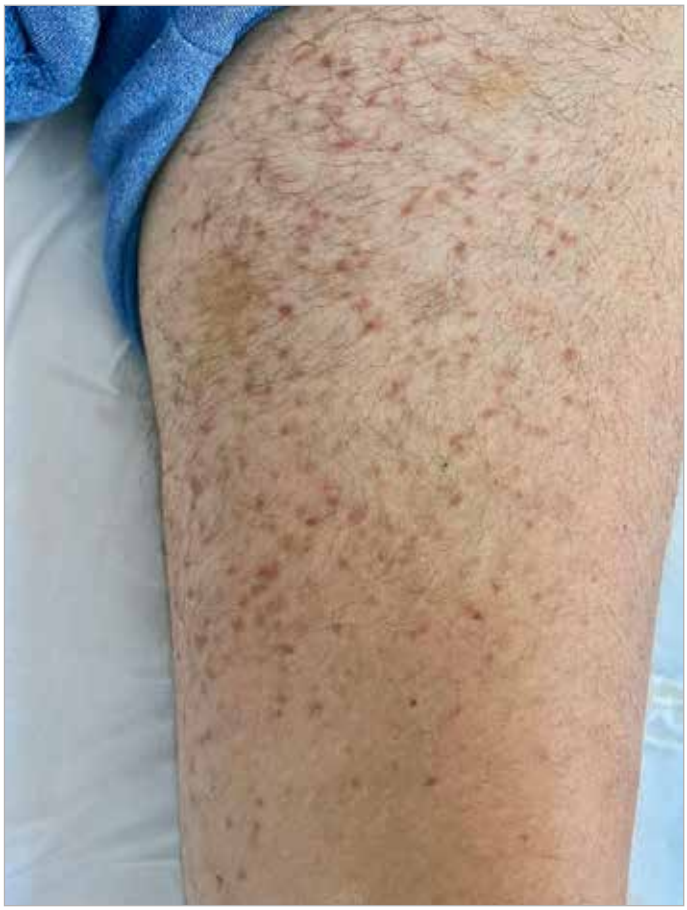
Clinical Hypothesis: Based on clinical presentation and imaging findings, we assumed a non-cardiogenic, non-neurogenic cause for the recurrent anaphylactoid episodes, and turned our attention to endocrine disorders (pheochromocytoma, carcinoid syndrome) as well as SM.

Diagnostic Pathways: Urine VMA, (nor)metanephrine and 5-hydroxyindoleacetic acid (5-HIAA) levels were normal, significantly reducing the probability of pheochromocytoma and carcinoid syndrome, respectively. Intriguingly, total serum tryptase levels were abnormally high (41.7 ng/ml; NR: < 11.4 ng/ml). Subsequent bone marrow (BM) biopsy and histologic examination revealed increased (~10%) BM infiltration by $CD117^{str}SS^{high}CD2^{+}CD25^{+}$mastocytes, consistent with the diagnosis of indolent SM.

Discussion and Learning Points: We describe a rare case of previously missed SM. A high level of suspicion is required for the diagnosis of this disease, due to its often-atypical presentation and indolent course.

994 Figure 1.

994 Figure 2.



994 Figure 3.

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995 - Submission No. 1537

NEUROLOGICAL FEATURES IN SCLEROSIS TUBEROSA: A 21 PATIENTS CASE SERIE

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Background and Aims: This observational, descriptive, retrospective study included a cohort of adult patients (≥ 18 years old) with definite diagnosis of tuberous sclerosis (TS) followed up at a tertiary care hospital (HGUGM) between January 2012 and January 2022.

Methods: Review of consecutive medical data (both clinical and radiological) of adult patients diagnosed with TS between January 2012 and January 2022 and analysis of the data collected using the SPSS® 22 (IBM) and Epidat® 4.2 (SERGAS) programs.

Results: 21 patients with a mean age of 39.3 years (range 20-69) were included. 14 were women (66.7%) and 7 men (33.3%). The mean age at diagnosis of TS was 13.5 years (range 0-49). Central nervous system involvement was the most frequent. 90.5% of the patients presented parenchymal lesions in the radiological tests. Cortical tubers were the most prevalent finding (90.5%), followed by subependymal nodules (SEN) in 85.7%, white radial migration lines (76.2%), and subependymal giant cell astrocytoma (14.3%). Regarding clinical manifestations, 47.6% presented epilepsy and in 80% of these, the crises were the first manifestation of the disease. Other 47.6% presented tuberous sclerosis associated neuropsychiatric disorders and most frequent were intellectual disability (19%), depression (14.3%), behavior disorders (9.5%) and attention deficit disorders and hyperactivity (9.5%).

Conclusions: Cortical tubers and subependymal nodules are the most frequent neurological findings, with prevalence similar to those described in the literature. The prevalence of epilepsy is lower than in other clinical series, which could be explained by the older age at diagnosis and the milder involvement of the subjects in the current series.

996 - Submission No. 1361

BETTER LATE THAN NEVER: A CASE OF JOB SYNDROME DIAGNOSED AT 64 YEARS OF AGE

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Case Description: A 64-year-old female visited the Emergency Department complaining of persistent fever up to 38.5°C for around a month, occurring after an injury to the left shoulder joint, which was treated with left upper extremity immobilization. The patient's history was remarkable of recurrent staphylococcal skin and lower respiratory tract infections, including a lung abscess, starting in childhood. Surgical removal of right oviduct due to inflammation in young age was also mentioned, as well as chronic eczema. Clinical examination revealed a pale edematous and painful left shoulder joint, with reduced mobility. A joint aspiration took place and analysis of synovial fluid revealed over 50,000/mm^3 neutrophils. Blood and synovial fluid cultures were positive for MSSA. Cardiac ultrasound showed no signs of endocarditis. A total of 21 days of antibiotic for blood stream infection and septic arthritis was given.

Clinical Hypothesis: Due to the patient's history of recurrent staphylococcal infections, a primary immunodeficiency syndrome was suspected.

Diagnostic Pathways: Quantitative analysis of immune globulins revealed very high levels of IgE. Genetic analysis of the STAT3 pathway later confirmed the diagnosis of autosomal dominant Hyper-IgE Syndrome. Patient was referred to an immunology center and was started on trimethoprim/sulfamethoxazole.

Discussion and Learning Points: Job syndrome is characterized by skin eczema and chronic recurrent staphylococcal infections. In many cases, infections have subacute and mild signs as was the case with our patient. This clinical case should serve as a reminder that clinicians should have a low threshold for investigating patients for immune deficiencies when a history of recurrent infections is evident.

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997 - Submission No. 812

A PLEASANT SURPRISE

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Case Description: A 73-year-old male goes to the Emergency Room complaining about dyspepsia, malaise, hyporexia, asthenia and loss of weight (10kg) in the last six months. He had no significant medical background. A blood test revealed mild hypochromic anemia with no other disturbances.

Clinical Hypothesis: Gastrointestinal neoplastic disease.

Diagnostic Pathways: An abdominopelvic CT scan was performed, evidencing a big, heterogeneous, and edematous gallbladder. It was unclear whether it was an incidental finding or if a neoplastic disease was lying underneath. Since no other findings were made in blood tests, infectious serology or endoscopic studies, surgery was performed to resect the gallbladder and analyze it. Finally, histologic findings reported the diagnosis of xanthogranulomatous cholecystitis.

Discussion and Learning Points: Xanthogranulomatous cholecystitis is a rare benign inflammatory disease that may be misdiagnosed as carcinoma of the gallbladder on imaging. Presenting symptoms include abdominal pain, nausea, vomiting and in up to 10% weight loss and anorexia. Complications comprises perforation, bile duct obstructions and fistulas into adjacent structures. Diagnosis is made based on clinical suspicion, imaging, and surgical pathology. Surgery is the only definitive treatment and is usually performed since it confirms diagnosis and evaluates presence of local complications.

998 - Submission No. 569

A DANGEROUS BLOOD TEST

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Case Description: A 67-year-old male went to the Emergency Room complaining about pain and tenderness in his left arm that showed up in the last five days. He reports that the previous week he had a blood test performed (extraction in the same arm). Pain was increased when the proximal part of his arm was pressed; no signs of hematoma were found.

Clinical Hypothesis: Deep venous thrombosis in left arm secondary to traumatic blood extraction.

Diagnostic Pathways: It was quite appealing that the patient had no other apparent thrombosis predisposition. It was performed a blood test that showed D-dimer elevation without other significant disturbances. Then, left arm ultrasound revealed no deep venous thrombosis but it was observed a 17 mm juxtacortical calcified lesion in the proximal humerus with mild associated edema. This finding suggested the diagnosis of myositis ossificans, confirmed by CT scan and MRI.

Discussion and Learning Points: Myositis ossificans is a rare disease with unknown pathogeny which typically affects teenagers and young adults. Most of times it is unchained following a trauma and symptoms usually appear after two or three weeks. Diagnosis is generally made with imaging tests, especially CT scan and MRI. Treatment is based on analgesia, and it is really important to know that surgery can significantly worsen the disease, inducing creation of more bone tissue.

999 - Submission No. 1016

TOO MANY SYMPTOMS FOR QUICK DIAGNOSIS

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Case Description: A 25-year-old girl comes to the emergency department for an episode of fever (up to 40°C), intense lower quadrant abdominal pain, vomiting and diarrhea. In history Hashimoto's thyroid on hormone replacement therapy, bronchial asthma on inhalation therapy, and use of estroprogestins contraceptive vaginal ring with improvement in dysmenorrhea from which the patient suffers but persistence of blood loss. Objective examination was negative except for Blumberg's sign positivity.

Clinical Hypothesis: The main clinical hypothesis appears to be appendicitis, although the differential diagnosis is complex in view of the no specificity of the symptoms.

Diagnostic Pathways: Imaging performed did not confirm the hypothesis of appendicitis but documented pericarditis and mesenteritis for which hospitalization was performed. Endoscopic and culture examinations were negative. The patient was also negative for anti-transglutaminase antibodies, presence of hyperamylasemia. The hospital stay ended with a nonspecific diagnosis of mesenteritis and pancolitis of unknown origin. Several similar episodes with prolonged diarrhea occur over the next two years, with exacerbation during menstrual cycles. Following gynecologic examination, the diagnosis of endometriosis is made, and after several visits, genetic research for suspected familial Mediterranean fever confirms the diagnostic hypothesis.

Discussion and Learning Points: Could a diagnosis have been reached more quickly? Were there aspects overlooked? This case teaches to always consider even less frequent diseases and to remember that diseases often do not present individually.

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1000 - Submission No. 894

RAPIDLY PROGRESSIVE ADULT-ONSET STILL'S DISEASE

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Case Description: This is an interesting case report of adult-onset Still's disease (AOSD) in a 63-year-old Caucasian man with no prior medical background. He presented to a small district general hospital with sore itchy eyes, fevers, generalized rash, and joint pains. Despite being treated with broad-spectrum antibiotics, whilst sources of infections were ruled out, he continued to clinically deteriorate.

Clinical Hypothesis: The authors explore how this patient's disease burden rapidly progressed, the importance of quickly eliminating differentials in pyrexia of unknown origin (PUO), and how AOSD was eventually diagnosed. There were a broad range of differential diagnosis for this patient's presentation. Initially we focused on ruling out infection and malignancy, before investigating further for inflammatory conditions.

Diagnostic Pathways: This gentleman had a thorough set of investigations for a pyrexia of unknown origin. These included a large panel of tests such as full blood count, biochemistry, bone profile, liver function, C-reactive protein, vasculitis screen, myositis panel, full respiratory viral and atypical pathogen panel, fungal screen, tuberculosis screen, and sexual health screen. We performed multiple sets of blood, urine, and sputum cultures. He had a range of imaging including chest x-ray, ultrasound abdomen and pelvis, ultrasound both shoulders, PET CT whole body, and transthoracic echocardiogram.

Discussion and Learning Points: Learning points are discussed, including the difficulties small district general hospitals face in organizing investigations in a timely manner. A literature review is conducted, and we discuss the latest diagnostic methods, treatment options, and prognostic factors of this rare, variable, and potentially disabling disease.

1001 - Submission No. 1406

WHAT IS BEHIND AA AMYLOIDOSIS?

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Case Description: 67-year-old female, medical history of hypertension, dyslipidemia, chronic kidney disease in hemodialysis (HD), complicated with anemia and secondary hyperparathyroidism. Admitted for hypotension. Anorexia, asthenia, sickness, and blurred vision over the previous 2 months. Clinical signs of fluid overload with low tolerance for HD and altered state of consciousness. Evolution to death after 12 days of hospitalization. Clinical autopsy was performed.

Clinical Hypothesis: Dysautonomic conditions were considered. A wide range of etiologies were included on the differential diagnosis, including amyloidosis.

Diagnostic Pathways: Laboratory study showed elevated inflammatory markers, NT-proBNP >35,000 pg/nL and anemia. Immunology studies revealed serum amyloid A (SAA) protein (20.90 mg/L) slightly raised. Proteinuria (2211 mg/dL). Cultures were sterile, including for *Mycobacterium tuberculosis*. Echocardiogram transthoracic without relevant alterations. Thoraco-abdominal-pelvic CT scan with no signs of focal infection, revealing bilateral pleural effusion and ascites. Abdominal fat biopsy without amyloid deposition. Autopsy described an extensive inflammatory granulomatous process with caseous necrosis, amyloid substance positive. No signs of acid-alcohol-resistant bacilli.

Discussion and Learning Points: Amyloid A (AA) amyloidosis is the most common form of systemic amyloidosis worldwide. It occurs in the course of chronic inflammatory diseases (infectious and non-infectious), and with certain neoplasms. Nephropathy is the most common presenting symptom, in this case, past history of chronic renal disease mimicked the signs. Persistent hypotension, congestive heart failure and constitutional symptoms in this case can be framed in AA amyloidosis. Even though in this case etiology remained unknown, an inflammatory process, like amyloidosis is the best explanation. This is an example that medical breakthroughs are based on possibilities, not certainties.

1002 - Submission No. 1559

TAKAYASU'S ARTERITIS - A RARE CONDITION TO KEEP IN MIND

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Case Description: A forty-years-old man, with an unremarkable medical history, presented to the emergency department with dry cough and acute dyspnea. A pulmonary CT angiography (CTA) showed multiple infiltrates, compatible with pneumonia. Patient was admitted to the hospital. A clinical history of asthenia and weight loss of 10Kg during the previous 4 months was unveiled.

Clinical Hypothesis: Moderate hypertension and kidney failure (creatinine 1.6 mg/dL) was noted. These persisted during the hospitalization despite significant improvement of the pneumoniae, so secondary causes hypotheses were raised.

Diagnostic Pathways: An atrophic left kidney was identified in echography. Revision of the pulmonary CTA unveiled significant thickening of the wall of the thoracic and abdominal aorta, involving several branches of both arteries which was deemed to be suggestive of a large vessel vasculitis. An abdominal and pelvic CTA showed occlusion of left renal artery, with kidney ischemia, as well as aneurysmal dilatations on right superior polar renal artery and celiac trunk, which confirmed the vasculitis.

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Discussion and Learning Points: Considering clinical, laboratory and radiological findings, as well as the age of the patient, a diagnosis of Takayasu's arteritis was considered. The patient was started on systemic corticosteroid, platelet antiaggregant and antihypertensive therapy. He was discharged from the hospital. A follow-up ambulatory reevaluation, 1 month later, found an improved patient, with resolution of constitutional symptoms and a slight improvement of kidney function (creatinine 1.4 mg/dL). We present a case of Takayasu's arteritis, a rare condition, much more common in women (8:1). Although this is a potentially serious condition, it can easily go unnoticed if not considered in the differential diagnosis.

1003 - Submission No. 1642

SCHNITZLER SYNDROME: THE GREAT CHALLENGE OF A RARE DIAGNOSIS

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Case Description: The case of a patient followed by an Internal Medicine consultation at the Hospital Center of Leiria with a history of Autoimmune Thyroiditis and since January 2022 with pruriginous generalized skin rash resolved with daily prednisolone, periorbital edema, afternoon fever peak, lasting 2 to 7 days with inter-critical periods of 4 weeks, symmetrical and additive polyarthritis with inflammatory type pain and morning stiffness greater than 2h.

Clinical Hypothesis: It is noteworthy throughout the process the involvement of Dermatology and Rheumatology in the gait and establishment of the diagnosis, which was initially assumed to be amyloidosis AA or vasculitis.

Diagnostic Pathways: Prior to the onset of corticosteroids, analytical did not present leukocytosis but thrombocytopenia and an increase in LDH and the amyloid substance. After corticosteroid therapy, presented leukocytosis and increased ferritin. Hemato-morphology highlighted erythrocyte alterations typical of anemia and immunophenotyping revealed a predominance of plasmocytes, very suggestive of an acute reactive process with response of humoral immune involvement. Normal autoimmune and serologies study. PET-CT revealed a favorable pattern to osteo-medullary expansion with active gangsters, as well as homogeneous splenomegaly, along with cervical, chest, abdomen and pelvic TC, whose data also echographically confirmed. Echocardiogram TT demonstrated left auricle dilation. Biopsies revealed global findings of reactive medulla translators with megaloblastoid alterations of the erythroid component, without evident translation of lymphoproliferative process.

Discussion and Learning Points: Schnitzler syndrome is an extremely rare entity whose pathophysiology is not fully understood. It presents autoinflammatory characteristics, with a clonal proliferation of IgM-producing plasmocytes. This was the diagnosis established in the case of this patient.

1004 - Submission No. 1322

CHOLECYSTITIS AS AN EARLY WARNING SIGN OF CHRONIC KIDNEY DISEASE SECONDARY TO AA AMYLOIDOSIS

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Case Description: A 57-year-old woman, with no medical history of interest, consulted the emergency department for three days abdominal pain, localized in the right hypochondrium and associated with vomiting and dysthermic symptoms. On examination, the abdomen was painful in the right hypochondrium, with peritonism and positive Murphy's sign. Complementary tests showed serum creatinine 1.5 mg/dl, elevated acute phase reactants and acute calculous cholecystitis on abdominal ultrasound.

Clinical Hypothesis: Acute cholecystitis and pre-renal secondary acute renal failure.

Diagnostic Pathways: Emergency laparoscopic cholecystectomy and biopsy of the surgical material was performed. During the postoperative period, the patient developed septic shock associated and acute oliguric renal failure, with serum creatinine 8.3 mg/dl and nephrotic-range proteinuria. After resolution of the septic condition, severe renal failure persisted. Suspecting extra capillary proliferative nephritis, high-dose glucocorticoids and acute hemodialysis were prescribed, and a renal biopsy performed. The report of both biopsies determined the diagnosis of AA amyloidosis. Finally, the patient was included in a chronic hemodialysis programme due to the persistent renal failure.

Discussion and Learning Points: AA amyloidosis is characterized by the extracellular deposit of serum amyloid A protein. It occurs mainly in patients with inflammation or chronic infections, being infrequent in patients without underlying disease. Renal involvement is the most frequent manifestation, usually with proteinuria of glomerular origin. The definitive diagnosis is made by biopsy of the affected tissue, besides ruling out systemic involvement at other levels by complementary tests. Treatment should be focused on controlling the underlying disease. Regarding prognosis, early diagnosis is essential due to the lower renal survival in these patients.

1005 - Submission No. 762

SEGMENTAL ARTERIAL MEDIOLYSIS: A CASE REPORT

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Case Description: We present the case of a 63-year-old woman with a history of arterial hypertension, referred to the autoimmune and systemic diseases clinic of our center for suspected vasculitis

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after presenting with acute abdominal pain and detection of eccentric thickening of the celiac trunk and common hepatic artery on abdominal computed tomography, both suggestive of vasculitis.

Clinical Hypothesis: Given these findings, the differential diagnosis of vasculitis and pseudo-vasculitis was considered. The main suspicion was segmentary arterial mediolysis.

Diagnostic Pathways: The study was extended with blood tests, in which no elevation of acute phase reactants was detected; and PET-CT, which did not detect vascular involvement at other levels.

Discussion and Learning Points: Vasculitides are a group of autoimmune diseases that affect blood vessels. The clinical manifestations will depend on the size of the affected vessels. When there are no systemic symptoms, the differential diagnosis should be made with the so-called pseudo-vasculitis. Within this group of pathologies, we find segmental arterial mediolysis, an idiopathic disease that causes degeneration and lysis in the middle muscular layer of medium caliber arteries. It locally affects a single vascular bed, the most commonly affected vessels being the branches of the celiac trunk and the superior mesenteric artery. The study of this pathology favored the review of similar cases without established clinical judgment, allowing the retrospective diagnosis of another patient with the same clinical suspicion. This is why the review of rare cases is useful and necessary in our clinical practice, as they help the inclusion of these diseases in the differential diagnosis of complex pathologies.

1006 - Submission No. 766

HEREDITARY HEMORRHAGIC TELANGIECTASIA (RENDU-OSLER-WEBER DISEASE)

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Case Description: A 53-year-old male with frequent epistaxis and an episode of idiopathic thrombocytopenic purpura in 2020. It begins with petechial lesions in finger pulp, ecchymosis in tongue and epistaxis, in the context of normal platelets and positive cryo-agglutinins. On auscultation, a mitral mesosistolic murmur stands out.

Clinical Hypothesis: Hereditary hemorrhagic telangiectasia (HHT), a rare autosomal dominant disorder involving abnormal blood vessel formation leading to telangiectasias, arteriovenous malformations, or aneurysms[1,2].

Diagnostic Pathways: HHT is diagnosed by the presence of the Curaçao Diagnostic Criteria (spontaneous and recurrent epistaxis, multiple mucocutaneous telangiectasias, visceral arteriovenous malformations, and family history among first-degree relatives)[3]. Our patient presented all 4 criteria, so the diagnosis is established.

Discussion and Learning Points: The most common symptoms are epistaxis (90%) and mucocutaneous telangiectasias (75%)[4]. As for visceral involvement, pulmonary involvement (40%) should be ruled out with a contrast echocardiogram (in the presence of AVM it should be treated by embolectomy, as was done with our patient). To rule out liver involvement (84%), doppler ultrasound, three-phase CT or MRI are performed. To assess involvement of the gastrointestinal tract (13-33%), upper endoscopy is performed. Brain involvement (10-20%) is assessed with brain MRI[4]. Early diagnosis is essential to ensure screening and monitoring for possible serious visceral complications. Currently, we do not have protocols that establish the frequency and type of imaging tests indicated, so it is necessary to continue investigating at this level.

1007 - Submission No. 2079

A RARE CASE WITH CONGENITAL METHEMOGLOBINEMIA

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Case Description: Here we present a rare case of a 32-year-old male, who had a long history of persistent episodes of cyanosis, mental retardation, neurological abnormalities. He presented to our center with shortness of breath, cough, tremor, with a concern bluish discoloration of his fingers and lips. He had recurrent similar episodes since childhood, exacerbated by infections, but milder. The patient was misdiagnosed in another center as heart failure and treated with diuretic, which he has stopped for several months. There was no familial history. Laboratory findings included: elevated hemoglobin level, hematocrit and red cell, elevated PaO_2. Normal: liver and kidney function tests results, G6PD, electrophoresis of hemoglobin. Were performed transthoracic echocardiogram (TTE) and CT cranial-chest-abdomen were normal. After excluding cardiopulmonary causes, MetHb levels were measured and found to be high 18%, without exposure to any offending agent. Consequently, we suspected a diagnosis of congenital methemoglobinemia.

Clinical Hypothesis: Cyanosis and dyspnea are common complaints in adults and have broad differential diagnoses, of which rare ones as congenital methemoglobinemia should always be kept in mind.

Diagnostic Pathways: Methemoglobinemia is usually considered when the patient is cyanotic with low oxygen saturation by pulse oximetry, but with normal PaO_2 level. Methemoglobin levels are included in ABG.

Discussion and Learning Points: Methemoglobinemia is a rare overlooked differential diagnosis in patients presented with cyanosis and dyspnea unrelated to cardiopulmonary causes. Due to lack of systematic epidemiological studies, congenital methemoglobinemia is under diagnosed as it is under investigated and usually overlooked especially when presenting in adulthood and in absence of obvious acquired agents.

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1008 - Submission No. 1090

LIFE-THREATENING CAUSE OF BLEEDING IN INTENSIVE CARE UNIT: ACQUIRED HEMOPHILIA A

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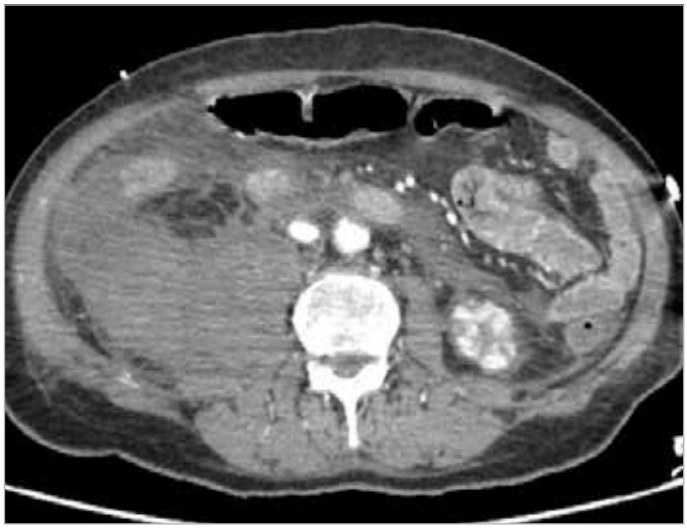
Case Description: Acquired hemophilia A (AHA), is a rare bleeding disorder that is caused by autoantibodies against endogenous factor VIII (FVIII) with no family history of hemophilia. Often presents with major bleedings that require ICU. Mortality in major bleedings was reported as 22%. Here we report a case AHA with life-threatening major bleeding in ICU. A 68-year-old male admitted to emergency service with an extensive hematoma on both arms, legs and anterior chest wall with no history of bleeding. Physical examination revealed hematoma on both arms and on the posterior aspect of the thigh, on the right flank, in both gluteal areas, and around the left breast areola (Figure 1). Laboratory testing showed isolated prolongation of the activated partial thromboplastin time, and normal von Willebrand factor (Table 1). Further testing confirmed the presence of factor VIII inhibitor. High dose pulse methylprednisolone and activated prothrombin concentrate complex (APCC) was started at admission. No etiology was found. On the 7th day of admission, he developed acute severe right flank pain. Computed angio-tomography showed an active extravasation of the right internal iliac artery (Figure 2). Embolization was performed (Figure 3). Cyclophosphamide and recombinant activated factor VII were added to initial treatment. APCC was discontinued. On the 9th day of admission, the patient died due to disseminate intravascular coagulation.

Clinical Hypothesis: Treatment of acquired hemophilia with immunosuppressive and antihemorrhagic therapy.

Diagnostic Pathways: Laboratory tests results are shown in Table 1.

Discussion and Learning Points: Discussion AHA should be considered as part of the differential diagnosis in patients with major bleedings. Hemostatic and immunosuppressive treatments must be provided early.

1008 Figure 1. Ecchymoses on the posterior aspect of the thighs, on the right flank and around the left breast areola



1008 Figure 2. Computed angio-tomography showed an active extravasation of the right internal iliac artery

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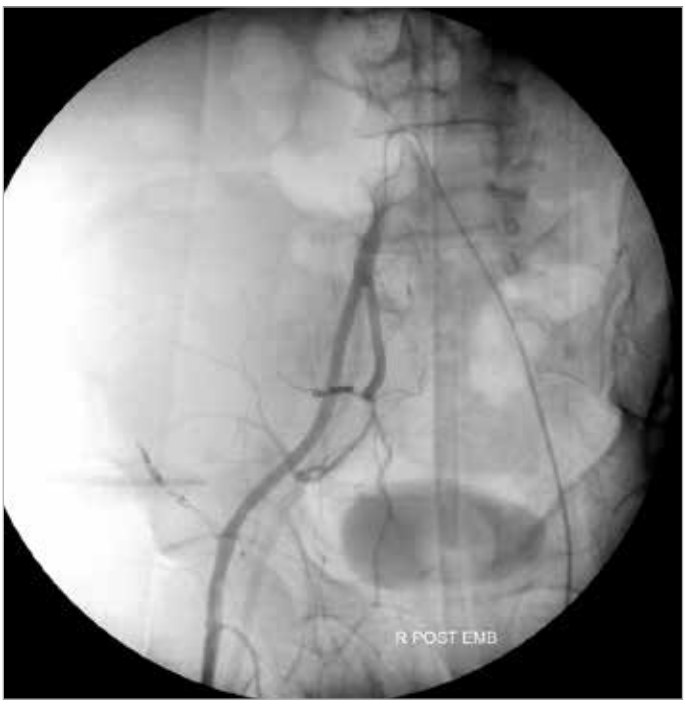

1008 Figure 3. Embolisation of Internal iliac artery branches

Test	Results
Coagulation tests	PT: 12.5 sec (10.9 - 14.7) INR: 1.03 (0.9 - 1.2) APTT: 79.8 sec (22.5 -31.3) Factor VIII < 0.9 (70% - 150) Factor IX : 150 (70%-120) Factor II : 82 (% 70 - 120) Factor V : 70.5 (% 70 - 120) Factor VII : 64 (70% - 120) Factor X : 85.1(% 70 - 120) Factor XI : 57.4 (70% - 120) Factor XII : 70.7 (% 70 - 150)
Mixing tests	APTZ mixing (APTZ is long, at the limit measured immediately before incubation, and APTZ mixing measured after 2 hours of incubation was found to be long. This should suggest the presence of a specific inhibitor developed against FVIII or FIX.) APTZ mix 0.hr 32 sec (22.5 - 31.3) APTZ mix 2hr 72.5 sec (22.5 - 31.3)
Bethesda Units	4.6 19.2(first week of treatment)
Other diagnostic tests	IgG 4 2.15 g/L (0.03 - 2) Lupus Anticoagulant Screening-LA 1 (with DRVVT) 57.7 sec (31 - 44) Lupus Anticoagulant Verification-LA 2 (with DRVVT) 38.2 sec (30 - 38) LA 1 / LA2 1.51 (MIDDLE LUPUS ANTICOAGULANT AVAILABLE) (< 1.2) ANA: negative Complement C3 and C4: normal HIV, HbsAg, HCV antibodies: negative Contrast chest and abdomen tomography: without malignancy Antibody of AFAS negative

PT – prothrombin time; PTT – partial thromboplastin time; ANA – antinuclear antibodies; AFAS- antiphospholipid antibody syndrome

1008 Table 1. Laboratory findings of the case

1009 - Submission No. 2315

RECURRENT PULMONARY EMBOLISM OR PULMONARY ARTERY INTIMAL SARCOMA (PAIS)?

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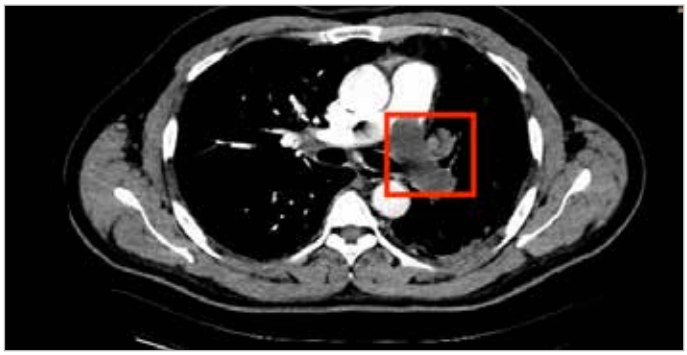
Case Description: A 50-year-old patient was admitted for recurrent fever, dyspnea, cough, thoracic pain and recurrent thromboembolism despite the oral daily anticoagulation. On clinical examination rales could be heard in the left middle lobe and the laboratory tests results showed an increase in the infectious parameters.

Clinical Hypothesis: The differential diagnosis included a community-acquired pneumonia, a pulmonary embolism or a paraneoplastic thromboembolism. Initially was given amoxicillin-clavulanic acid and by persistent symptoms moxifloxacin.

Diagnostic Pathways: Taking into account the persistent symptoms, the diagnostic was continued. A CTPA proved an embolism of the left pulmonary artery, an infiltrate basal and pleural effusion left. An echocardiography could exclude a right ventricular strain, while no signs of peripheral venous thromboembolism (VTE) existed. Moreover, a thrombophilia unknown origin could be excluded. A tumor- screening, inclusive gastrointestinal examinations and PSA were unremarkable. On re-examination of CT a pulmonary- artery thrombosis was found instead of embolism, especially a progression of the pre-existing thrombus with a constriction of the pulmonary trunk. A PET- CT could pose a suspicion of a malignoma with ipsilateral lymphogenic metastasis. Consequently, a pulmonary embolectomy was done and a biopsy, that revealed a pulmonary artery intimal sarcoma (PAIS).

Discussion and Learning Points: A PAIS is a rare type of malignant tumor (with prevalence 0.001-0.003%) and a pulmonary thromboembolism could mimic it. Despite the role of radiology, it is frequently diagnosed with a biopsy. The absence of clinical and radiological signs of a peripheral VTE should orient the diagnosis to a malignoma “near” to the affected region and simultaneously to the rare tumors.



1009 Figure 1.

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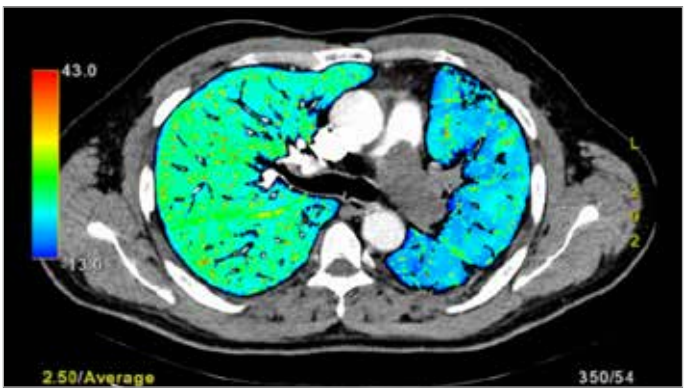

1009 Figure 1.

1010 - Submission No. 1309

A CONSTELLATION OF SYMPTOMS AND SIGNS

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Case Description: We present a 92-year-old woman with previous history of hypertension, dyslipidemia, atrial fibrillation, and aortic stenosis. Daily treatment: indapamide, apixaban and atorvastatin. No cognitive impairment.

Clinical Hypothesis: First diagnosed with erosive oral lichen planus in 2014 treated with corticosteroids and cyclosporine. That year she developed an interstitial pneumonia due to cytomegalovirus receiving ganciclovir. Incidentally, a mediastinal mass was discovered in a CT with the following measures 3.5x5.5 cm, first identified as a thymoma. In 2019, asymptomatic pan hypogammaglobulinemia was found: IgG 400 mg/dL; IgM 22.10 mg/dL and IgA 20.50 mg/dL. One year later the patient was admitted with skin ulcers in both lower limbs. Those ulcers were in the pretibial area, not painful and there were no signs of infection. A histological exam was performed demonstrating herpetic origin. A new CT was also performed that showed mass growth.

Diagnostic Pathways: Taking into the account the mass described as thymoma, immunodeficiency and autoimmune manifestations such as lichen planus the patient was diagnosed with Good's syndrome. She has been receiving immunoglobulins infusions every 21-28 days.

Discussion and Learning Points: Good's syndrome was described in 1954 following the association of thymoma and hypogammaglobulinemia. It develops between age 40-70 years and no sex differences have been reported. There are no unified diagnose criteria, and it is usually included in the humoral immunodeficiencies with or without dysregulations in the cellular immunity. Immunologic abnormalities include absent or decreased circulating B-lymphocytes, hypogammaglobulinemia, decreased total T-lymphocytes and reversal of the CD4+/CD8+ ratio. Symptoms usually improve after thymectomy, although it may be necessary to maintain immunoglobulins and/or immunosuppressants.

1011 - Submission No. 509

ACERULOPLASMINEMIA IN A PATIENT WITH NEUROLOGIC MANIFESTATION AND HIGH FERRITIN - A CASE REPORT

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Case Description: A 53-year-old male was presented two years earlier with dizziness, imbalance in walking, difficulty concentrating, and memory disturbance.

Clinical Hypothesis: The patient was hypothesized to have a disease with involvement of the central nervous system and our diagnostic pathway was organized initially in this direction.

Diagnostic Pathways: An MRI was performed which disclosed a high accumulation of iron in the brain. The laboratory investigation revealed very high ferritin levels (1579 ng/ml) in serum and low iron levels (46μg/dl) in serum. Subsequently, a measurement of ceruloplasmin and copper in serum was performed which disclosed low levels of both 5mg% and 3mg%respectively. Ocular examination was negative for abnormal findings and liver biopsy revealed mild steatosis and significant accumulation of hemosiderin in the liver parenchyma. All these clinical, imaging, and laboratory findings have posed with strong certainty the diagnosis of aceruloplasminemia.

Discussion and Learning Points: Aceruloplasminemia is a rare inherited disease (non-dominant autosomal transmission), characterized by high iron accumulation in the brain and other parts of the body. The deficit is caused by mutations in the genome of ceruloplasmin (CP) responsible for the production of ceruloplasmin. The main manifestations are the retina, neurologic signs, and diabetes. Any patient with neurologic manifestations and high ferritin in serum has to be checked for this rare condition.

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1012 - Submission No. 2000

NEW ONSET OF ACHALASIA ESOPHAGUS IN A PATIENT WITH CHRONIC INTESTINAL PSEUDO-OBSTRUCTION

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Case Description: 96-years-old woman presented at the emergency department with postprandial nausea and vomiting of duration over six months. She had a history of anemia and arterial hypertension. Blood tests showed mild elevated creatinine, urea level and inflammatory markers. A full body computed tomography scan (CT) revealed largely dilated bowel loops with no signs of obstruction and dilation of the distal thoracic esophagus with stenotic of the gastroesophageal junction. The patient was not taking opioid, and she had no history of diabetes.

Clinical Hypothesis: The presentation favored a diagnosis of CIPO with esophageal achalasia.

Diagnostic Pathways: A diagnosis of chronic intestinal pseudo-obstruction CIPO was favored according to diagnostic criteria and main secondary causes were excluded. An endoscopy of the upper gastrointestinal tract was performed that revealed dilation of the esophagus and large retention of food. A timed barium esophagogram revealed esophageal dilation and narrowing of gastro-esophageal junction showing the classic ''bird beak'' sign of the lower esophageal sphincter. Metoclopramide and enemas were administrated as therapeutic options. The patients had a remarkable improvement of symptoms. A second CT scan was performed that confirmed the reduction of bowel dilation and the dilation of the esophagus. The patient referred to a gastroenterologist for further treatment.

Discussion and Learning Points: The coexistence of CIPO with achalasia esophagus is an extremely rare entity, with only three cases described in the literature. These diseases may represent different manifestations of the same pathologic process, so more research is required in order to identify this correlation.

1013 - Submission No. 1950

A SYNTHETIC DATA GENERATION SYSTEM FOR MYALGIC ENCEPHALOMYELITIS / CHRONIC FATIGUE SYNDROME QUESTIONNAIRES

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Background and Aims: There is an increasing demand for artificial intelligence healthcare models. Health data is needed to build predictive models to improve diagnosis or to increase knowledge of some diseases. These models could help other investigators find better results. Chronic fatigue syndrome (ME/CFS) is a multisystem illness without specific diagnostic tests and targeted effective drugs available for condition. The diagnosis is presently based on clinical presentation of symptoms according to the case criteria. Validate questionnaires offer information about the frequency/severity and other health-related quality of life for ME/CFS patients. Our objective is to create an open-source generator of high-fidelity synthetic data for investigation and educational use, free of legal, privacy, security, and intellectual property restrictions.

Methods: This study included 2522 patients who fulfilled the 1994 CDC/Fukuda definition and 2003 Canadian Consensus Criteria for CFS. The six most used self-administered questionnaires from 2522 ME/CFS diagnosed patients have been analyzed (short form 36-item health survey (SF-36), hospital anxiety and depression scale (HADS), Symptom CheckList-90-revised (SCL-90-R), Daily-fatigue impact Scale-8 (D-FIS-8), Fatigue impact Scale-40 (FIS-40) and Pittsburgh sleep quality index (PSQI).

Results: These have fed Deep Neural Networks algorithms to create a synthetic data generator. SF-36 questionnaire is required as input data and the models achieve 0.69-0.81 rank accuracy to predict HAD, SCL 90 R, D-FIS8, FIS40, and PSQI questionnaires. The t-student validation rank was 0.18-0.85 as p-value.

Conclusions: Synthetic patients can be simulated with models of ME/CFS questionnaires data and corresponding standards of care to produce risk-free realistic synthetic healthcare records at scale.

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1014 - Submission No. 1951

THE USE OF OXYGEN CONSUMPTION IN THE CPET TEST AS A BIOMARKER IN CHRONIC FATIGUE SYNDROME PATIENTS

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Background and Aims: Chronic fatigue syndrome (CFS) is a disabling chronic disease. The search for a biomarker to objectively determine the health status of CFS patients has been ongoing in recent years. The aim of the study is to demonstrate that oxygen consumption, by means of a cardiopulmonary exercise stress test (CPET) is a biomarker for grading CFS patients.

Methods: This study included 92 patients who fulfilled the 1994 CDC/Fukuda definition and 2003 Canadian Consensus Criteria for CFS. Short form 36-item health survey (SF-36) questionnaire and both the response matrix and subscales and peak oxygen consumption during CPET and Weber classification were analyzed. It is shown that for clustering by unsupervised machine learning it is better to use the decoded answers matrix.

Results: 239 results of the CPET stress test have been analyzed, and the peak oxygen consumption is considered to classify according to Weber's classification. A contingency table of 92 validated records of patients who have performed the CPET test and answered the SF-36 questionnaire is constructed and labeled according to the cluster and the assigned Weber classification. The result shows that a worse Weber classification infers a worse result on the SF-36

Conclusions: The use of oxygen consumption in the CPET test should be considered for use as a biomarker for the status of the diagnosed CFS patient. Clustering of records from health questionnaires such as the SF-36 should be performed with the decoded response data as it maintains the initial information and improves the quality of the model.

1015 - Submission No. 2178

AREA POSTREMA SYNDROME AS THE DEBUT OF A CASE OF DEVIC'S DISEASE

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Case Description: We present the case of a 58-year-old woman who attended the Emergency Department due to asthenia, hyporexia, and weight loss of 7 kg in 2 months. He associated intractable hiccups and nausea of 48 hours of evolution with oral intolerance. The physical examination was unremarkable, and the laboratory tests revealed a slight elevation of acute phase reactants (leukocytes 14,500/µL, neutrophils 12,700/µL, fibrinogen 615 mg/dL, D-dimer 1.187 ng/mL) with C-reactive protein 0.7 mg/dL and procalcitonin 0.03 µg/L.

Clinical Hypothesis: He was admitted to Internal Medicine where an upper gastrointestinal endoscopy was performed which showed peptic esophagitis, body computed tomography, autoimmunity study and tumor markers, all of which were negative. In the following days, he presented urinary retention, persistent constipation and progressive non-ascending paraparesis of the lower limbs, with diminished tendon reflexes. Magnetic resonance imaging of the head and spine showed patchy involvement of the area postrema, the hypothalamic region, both proximal portions of the optic tracts, and longitudinally extensive myelitis consistent with an inflammatory demyelinating disease.

Diagnostic Pathways: Given the suspicion of neuromyelitis optica (NMO), a lumbar puncture was performed as well as a PET-CT with onconeuronal antibodies to complete the study of hidden oncological pathology, all of which were nondescript. The autoimmunity result (Anti-NMO-AQP4 positive, Anti-MOG negative) confirmed the diagnosis of seropositive NMO.

Discussion and Learning Points: NMO is a rare autoimmune disease that predominantly affects women in the fourth decade of life and causes inflammation of the central nervous system. 10% debut with area postrema syndrome and seropositive NMO is associated with more severe outbreaks.

1016 - Submission No. 1687

RIGHT UPPER QUADRANT PAINLESS MASS IN A PATIENT WITH CREUTZFELDT-JAKOB DISEASE: NOT YOUR TYPICAL CASE OF GANGRENOUS CHOLECYSTITIS

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Case Description: A 67-year-old man presented with a one-month history of rapidly progressive changes in behavior, right arm myoclonus, and visual hallucinations. The patient was diagnosed with Creutzfeldt-Jacob disease after a brain MRI revealed bilateral symmetric flair hyperintensity involving the bilateral frontoparietal and left temporal lobes and CSF was remarkable for the presence of 14-3-3 protein. The hospitalization course was complicated by respiratory failure requiring mechanical ventilation and by multiple nosocomial infections. After several weeks of hospitalization, a right upper quadrant mass was palpated on physical examination.

Clinical Hypothesis: Gangrenous cholecystitis is one of the most common complications of acute cholecystitis. It can be a diagnostic challenge in critically ill patients.

Diagnostic Pathways: Laboratories revealed no evidence of cholestatic injury or leukocytosis. Abdominal CT was performed

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and found remarkable for a hydropic gallbladder, a few gallstones at the gallbladder neck and associated fat stranding suggestive of gangrenous cholecystitis. The patient was started on empiric antibiotic regimen and percutaneous cholecystostomy was placed. Follow-up imaging revealed improvement in the extent of the inflammation and no evidence of gallbladder perforation.

Discussion and Learning Points: Gangrenous cholecystitis is one of the most common complications of acute cholecystitis. It can be a diagnostic challenge because typical findings of acute cholecystitis are usually absent. Risk factors include acute cholecystitis, male sex, advanced age, delayed surgery, leukocytosis, cardiovascular diseases, and diabetes mellitus. A high index of suspicion must be entertained in patients with prolonged hospitalization courses, sepsis and RUQ symptomatology, to avoid a delay in diagnosis and decrease morbidity and mortality in this clinical setting.

1017 - Submission No. 1206

A RARE CASE: NIEMANN-PICK DISEASE

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Case Description: Niemann-Pick disease (NPD) is a lysosomal storage disease with autosomal recessive pattern caused by acid sphingomyelinase (SM) deficiency. SM and its precursors accumulate in the liver, spleen, lungs and brain. It's classified according to clinical phenotypes. Type B is characterized by hepatosplenomegaly, thrombocytopenia, and interstitial lung disease. There is no cure for type A and B, supportive care is the mainstay of treatment. The authors aim to enlighten a rare cause of a systemic disorder and its diagnostic march. A 76-year-old woman with hypertension, diabetes, hypertriglyceridemia, aortic insufficiency, and pulmonary hypertension, developed progressive exertional dyspnea, recurrent cough and asthenia with more than one year of evolution. She was referred to internal medicine outpatient clinic. Physical examination showed bilateral inspiratory crackles and hepatosplenomegaly. For worsened symptoms and hypoxemic respiratory failure was admitted to hospital.

Clinical Hypothesis: From the etiological study, analyses were unremarkable; TAP CT showed mediastinal adenopathies, ground-glass opacities with interlobular septal thickening mostly in the lower lung lobes and massive hepatosplenomegaly. Bronchoalveolar lavage, bone marrow and liver biopsies showed "foamy" macrophages with intracellular positive periodic acid Schiff staining. Countless tests to exclude infectious, paraneoplastic, autoimmune, and other diseases were carried out and were unremarkable.

Diagnostic Pathways: Activity of SM was below normal range, acid lipase activity was elevated, and molecular analysis showed compound heterozygosity for mutations in SMPD1 gene leading to the diagnosis of type B NPD. Symptomatic treatment was started, and she was discharged.

Discussion and Learning Points: NPD is an underdiagnosed lysosomal storage disorder that constitute a significant public health burden. Awareness is required.

1018 - Submission No. 54

FAMILIAL MEDITERRANEAN FEVER: AN ADULT RARE CAUSE OF FEVER

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Case Description: Autoinflammatory diseases are rare clinical conditions, of which Familial Mediterranean Fever (FMF) is the most common. The authors aim to enlighten a rare cause of fever in adults – FMF – that is still misdiagnosed.

Clinical Hypothesis: A 37-year-old man presented at the emergency department (ER) with recurrent episodic fever attacks and persistent abdominal pain. His past medical history showed that since he was 13 years old, he had recurrent fever attacks (at least nine from 1997 until 2009) with unknown origin; two admissions with aseptic meningitis in 1997 and 2001; several episodes of unexplained chest pain and polyserositis (first pleural and later pericardiac effusion). Adding to this, polyarthralgia previously labeled juvenile idiopathic arthritis.

Diagnostic Pathways: On admission, the patient had recurrent self-limited symptoms with a month of evolution (epigastric pain, fever, asthenia, chest pain, knee and hip arthralgia and lastly tinnitus). Physical examination showed fever, left peripheral facial paresis (House-Brackman stage III) and bilateral sensorineural deafness. He was admitted for investigation and treatment. From the etiological study, countless tests to exclude infectious, paraneoplastic, metabolic, and inflammatory diseases were normal or negative. He started high dose of corticosteroids to treat facial paresis with clinical complete resolution in 5 days. Genetic testing was carried out with this disorder in mind. As a result, heterozygotes MEFV (2084A>G) mutation was detected. The patient was diagnosed with FMF and started daily colchicine without further complications.

Discussion and Learning Points: FMF is a rare cause of fever in adults. The authors present a rarely reported late diagnosis of FMF after an extensive study.

1019 - Submission No. 880

MADELUNG – AT RISK FOR HEPATIC DISEASE

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Case Description: A 60-year-old male patient is referred to the Internal Medicine consultation due to anemia and thrombocytopenia. The patient had a prior diagnosis of Madelung's disease and presented an alcohol ingestion of 150 g/day. From the initial study: hemoglobin 12.0 g/dL, platelets 148,000/uL,

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GGT 245 U/L, AST 84 U/L, ALT 34 U/L, ferritin 4635 ng/mL and transferrin saturation 86%. Upon observation, he presented bilateral and symmetrical swelling of the cervical, interscapular region and proximal upper limbs, also a globose, depressing, painless abdomen.

Clinical Hypothesis: In a patient with this presentation and with an important history of alcohol abuse, the hypothesis of chronic liver disease is likely.

Diagnostic Pathways: An abdominal ultrasound revealed a heterogeneous structure of the liver with irregular contours. The MRI showed evidence of a pattern of liver cirrhosis. Liver transient elastography with value of 6 kPa (IQR/med: 24%). Liver biopsy revealed an F3 with lesions of alcoholic liver disease. HVPG was normal. HFE mutations were excluded. A diagnosis of advanced compensated liver disease without CSPH was made.

Discussion and Learning Points: This patient has evidence of hematological changes resulting from a history of heavy drinking. Madelung's Disease, also known as symmetric multiple lipomatosis, is a rare pathology with abnormal deposition of adipose tissue that originates non-capsulated, diffuse and symmetrical lipomas. Although the etiology is unknown, a correlation with alcohol abuse was observed. Therefore, although the reason for referring the consultation is not the suspicion of liver disease, suspicion must always exist, and these patients must be screened with abdominal ultrasound. The treatment is not established, but alcohol abstinence is undoubtedly important.

1020 - Submission No. 275

REPURPOSING OF EMPAGLIFLOZIN AS TREATMENT FOR NEUTROPENIA IN GLYCOGEN STORAGE DISEASE TYPE IB: A CASE REPORT

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Case Description: Glycogen storage disease type 1b (GSD-1b) is a rare, autosomal recessive inborn error of carbohydrate metabolism, caused by a deficiency in the glucose-6-phosphate transporter. It is characterized by hypoglycemia, metabolic abnormalities, inflammatory bowel disease (IBD), and neutropenia. Treatment with a granulocyte-colony-stimulating factor (GCSF) is often necessary. We present a patient with GSD-1b who was treated with an alternative regimen, empagliflozin, an SGLT-2 inhibitor.

Clinical Hypothesis: Recently, it was found that treatment with an SGLT2 inhibitor, aimed at increasing renal excretion of 1,5 anhydro glucitol (1,5AG), a glucose analog, may ameliorate neutropenia.

Diagnostic Pathways: A 32-year-old woman, with history of GSD-1b and multiple infections in the past, was treated with daily GCSF injections (filgrastim 30 MU), because of low ANC (ranged from 200-1000/μl). She also had very frequent stools, with a watery, soft consistency and frequent abdominal pains, treated with mesalazine. Her adult Crohn's Disease Activity Index (CDAI) was 356 (>150 depicting active colitis). After informed consent, she was started on empagliflozin, initially 10 mg/day, increasing gradually after 1 month to 25 mg/day. The frequency of infections decreased dramatically. Her ANC count increased to 700-1500/μl and was able to decrease GCSF injections to every 4 days. Her bowel movements normalized without diarrheas or abdominal pains and stopped mesalazine. The CDAI decreased to 52, and stool calprotectin levels decreased from 141 to 35 μg/g (>50 representing intestinal inflammation). Her serum 1,5AG level decreased from 140 to 34 μM after 10 months of treatment.

Discussion and Learning Points: Empagliflozin is a new alternative for neutropenia and can also ameliorate IBD symptoms in patients with GSD-1b.

1021 - Submission No. 1253

A RARE CASE OF NON-CARDIOGENIC PULMONARY OEDEMA DUE TO TOCOLYTICS

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Case Description: A 46-year-old patient on the 29th week of her twin pregnancy, was admitted to the obstetrics department due to preterm contractions. She was started on iv atosiban, corticosteroids and magnesium and remained stable for the first couple of days. Two days later, due to cervical contractions, atosiban dosage was doubled. One hour later the patient developed dyspnea, orthopnea, hypoxia, fine crackles and diffuse bilateral infiltrations on chest X-ray.

Clinical Hypothesis: Differential diagnosis of acute dyspnea in a pregnant patient includes, among others, pulmonary embolism (PE), cardiogenic pulmonary edema and non-cardiogenic pulmonary edema.

Diagnostic Pathways: Oxygen was started, and an echocardiogram excluded left-ventricular systolic and diastolic dysfunction. A low dose of furosemide was given, and the patient improved temporarily. A CT pulmonary angiogram excluded PE but showed a small left lower lobe consolidation. Based on the patient's normal inflammatory markers, CT findings and history of recent immobility, the infiltrate was attributed to a resolving atelectasis. Due to on-going dyspnea and persistent acute respiratory failure, atosiban was discontinued. Unfortunately, contractions re-emerged, and the patient was submitted to an urgent c-section under general anesthesia, due to a pathological non-stress test. She was extubated a few hours later and was gradually weaned-off the oxygen. She was discharged home after a few days, being asymptomatic.

Discussion and Learning Points: Very few cases of atosiban-

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related non-cardiogenic pulmonary edema have been described in multiple pregnancies. Atosiban needs to be considered in pregnant women presenting with non-cardiogenic pulmonary edema where cardiomyopathy is excluded.

1022 - Submission No. 1220

THE DUET OF HYPERFERRITINEMIA AND HYPERPYREXIA

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Background and Aims: The objective of this retrospective study is to report five non-COVID-19 cases of hospitalized patients presenting with hyperpyrexia and hyperferritinemia in the time period between 2017 and 2022.

Methods: Clinical, laboratory and CT data were collected retrospectively and analyzed. When indicated, bone marrow biopsies were used to establish or discard the diagnosis of hemophagocytic lymphohistiocytosis (HLH), based on the HLH-2004 protocol.

Results: Five patients, aged between 32 and 81 years in a 4:1 male to female ratio, were admitted due to hyperpyrexia, and hyperferritinemia (>2000 ng/ml) was found during their hospitalization. Three (60%) patients exhibited a maculopapular rash, while signs of respiratory tract infection were observed in three (60%) cases. All patients had ferritin levels above 500 ng/ml indicative of HLH and four (80%) met the HLH-2004 criteria. These patients were administered corticosteroids and IVIG. Out of all patients, two (40%) were intubated due to multisystem inflammatory syndrome, three (60%) were discharged, and two (40%) died, highlighting the urgency of early diagnosis. Regarding the underlying cause of the initial inflammatory reaction, two (40%) were diagnosed with an infective disease, one (20%) had vasculitis and two (40%) suffered from hematologic malignancies. The results are summarized in Table 1.

Conclusions: A hyperferritinemic syndrome is typically triggered by infections, malignancies, or it could be drug-associated. Rheumatologic conditions have usually been associated with macrophage activation syndrome, rather than HLH. Nowadays, COVID-19 has emerged as the most frequent cause of the combination "hyperpyrexia-hyperferritinema" - these patients weren't included in our analysis.

Patient ID	1	2	3	4	5
Age (years)	32	67	75	81	76
Sex	Male	Male	Male	Female	Male
Medical History	None	Dyslipidemia, Benign prostatic hyperplasia	Hypertension, Dyslipidemia	Hypertension, Dyslipidemia	Hypertension, Benign prostatic hyperplasia
Cause of admission	Hyperpyrexia	Hyperpyrexia, rash	Hyperpyrexia, anemia	Hyperpyrexia, rash, diarrheic syndrome	Hyperpyrexia, rash
Signs of respiratory tract infection (RTI)	NO	YES	YES	NO	YES
Ferritin value (ng/ml)	14227	2446	10162	12698	12823
HLH criteria fulfilled	YES	YES	YES	YES	NO
Final diagnosis	EBV infection	Vasculitis	Upper respiratory tract infection	Acute myeloid leukemia	High-grade Lymphoma
Endotracheal Intubation	NO	YES	NO	NO	YES
Outcome	DISCHARGE	DISCHARGE	DISCHARGE	DEATH	DEATH

1022 Table 1.

1023 - Submission No. 1160

WELLS' SYNDROME WITH GENERALIZED EDEMA

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Case Description: A 69-year-old male presented with a 3-week history of a confluent annular, erythematous, maculopapular, non-blanching, mildly pruritic rash and cellulitis-like lesions with blisters on his arms, legs and abdomen, associated with generalized pitting edema, without pyrexia. The rash onset coincided with a self-limiting episode of abdominal pain for which he was submitted to colonoscopy without notable findings. Spontaneous remission of the rash was followed by recurrence after a few days. He was on inhaled bronchodilators for bronchial asthma diagnosed 12 months earlier. He had COVID-19 the previous year and was twice-vaccinated three months prior to presentation.

Clinical Hypothesis: The differential diagnosis included hypersensitivity reaction, vasculitis and infectious cellulitis.

Diagnostic Pathways: Laboratory investigations revealed eosinophilia (1100-2000/μL) with IgE of 416 IU/mL, hypoalbuminemia (2.5 g/dL) without proteinuria, slightly elevated CRP and decreased C3 and C4 levels. Investigations for bacterial, parasitic, collagen and neoplastic disorders were negative. CT imaging showed a ground glass opacity in the right lung and multiple polypoid lesions in the paranasal sinuses. Skin rash biopsy showed eosinophil infiltrate with a pattern characteristic of Wells' syndrome (WS, eosinophilic cellulitis) without evidence of vasculitis. The WS diagnostic criteria proposed by Heelan et al. were fulfilled. Glucocorticoids treatment led to complete resolution of clinical and laboratory abnormalities.

Discussion and Learning Points: Although WS typically lacks systemic involvement, certain features of this case (asthma, abdominal pain, edema, hypoalbuminemia, hypocomplementemia,

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paranasal sinus and lung imaging findings) suggest the existence of clinical and laboratory overlap with multisystem eosinophilic disorders including Churg-Strauss syndrome.

1024 - Submission No. 1787

THE CHALLENGE TO TREAT CRYOGLOBULINEMIC VASCULITIS PRIMED BY PERSISTENT CANDIDEMIC ENDARTERITIS WITH IMMUNOSUPPRESSIVE REGIMENS

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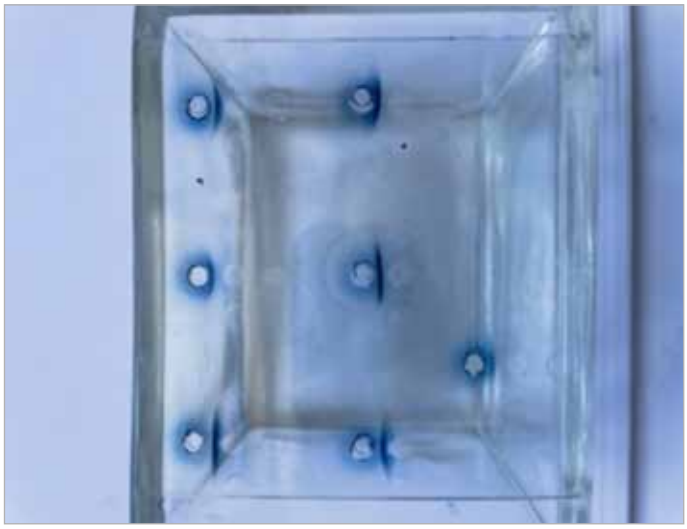
Case Description: A 55 years-old male, presented with purpura of low extremities, arthritis, fever for over a month.

Clinical Hypothesis: Intravascular infection and small-vessel vasculitis were likely conditions in differential diagnosis.

Diagnostic Pathways: Investigation revealed increased inflammation markers, creatinine, abnormal urine sediment, low-C3, increased-RF and mixed cryoglobulinemia (cryocrit 5%). Screening for ANCA/HCV/HBV/HIV: negative. Blood-cultures revealed *Candida parapsilosis*. No endocarditis found in TEE. PET-CT revealed increased metabolic activity around the aortic-graft. Cardiac-surgery consultation excluded intervention, due to high perioperative-risk. Despite appropriate antifungal regimens with various combinations, candidemia persisted over month. Finally, using a combination of L-AmB/Isavuconazole, 10 days later, we had the first negative blood culture. Meanwhile, renal function, vasculitic purpura with ulcerative lesions and arthritis deteriorated. Because of the risk of permanent organ damage, after the first negative blood culture, we started therapy with 3 pulses iv 1g of methylprednisolone. Soon after, these findings improved. Patient was discharged on isavuconazole and methylprednisolone 32 mg/day, with a close follow-up. On corticoid tapering, arthritis and purpura relapsed, and we faced the challenge for a corticoid-sparing agent. Rituximab - as the standard treatment for cryoglobulinemic vasculitis - is used in a dose of 500 mg with complete response in symptoms. For more than a year now, the patient is going well.

Discussion and Learning Points: Surgical intervention in intravascular infections with foreign bodies is the hallmark of treatment. In clinical practice this is not always feasible. Lifelong antimicrobial treatment is, in such cases the only alternative. In life-threatening conditions, treatments that seem contradictory - such as corticosteroids/rituximab during an active infection - have to be considered as options, weighing benefits over harm.



1024 Figure 1.

1025 - Submission No. 1081

MANAGING GAUCHER DISEASE PREGNANT PATIENTS. GAUCHER SPANISH CONSENSUS

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Background and Aims: Gaucher disease (GD) is a challenge to pregnancy besides its hereditary condition, by affecting bones, hematological function, and liver can have effects on the development of pregnancy, childbirth and lactation, and also with the use of specific therapies, could impact on both mother and the newborn health. Unfortunately, the available scientific evidence in the topic is not very conclusive. Pointing out that a guideline can be a useful tool for internist clinical decision making. Our aim was to establish management guidance for the GD-Pregnancy relationship to address five main clinical problems; 1) genetic counseling, 2) treatment of GD before, during and after pregnancy, 3) approach to childbirth and breastfeeding, 4) prevention of hematological and bone complications in mother and child, and 5) information with patients and families.

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Methods: We incorporated GRADE methodology for the evaluation of quality of scientific evidence and development of recommendations. Values and patients' preferences were also considered. For the final recommendations, a structured Delphi consensus 2 rounds process was carried out with a panel of 9 Gaucher experiences experts.

Results: Nine recommendations were elaborated related to pre-pregnant status and genetic counseling and for management during pregnancy; seven recommendations to childbirth, and eight focused on after delivery management and breastfeeding.

Conclusions: A consensus guidance to define a standard management of pregnancy in GD in light of the best available evidence, complemented by the opinions of a panel of experts, could be a relevant tool to help patients, nurses, midwife and doctors with little experience in GD.

1026 - Submission No. 324

IS RHABDOMYOLYSIS AN IMPORTANT SIGN?

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Case Description: 66-year-old woman who consulted for severed myalgia, asthenia, and dark urine. She had pain in her right thigh for a few days secondary to an over-infected bite. Admitted in 2010 for severe rhabdomyolysis secondary to respiratory infection and in 2013 with same diagnosis. Since childhood, she presents myalgia and dark urine, coinciding with physical activities or stressful situations. She was admitted to Internal Medicine for a third episode of severe rhabdomyolysis with myoglobinuria in the context of concomitant soft tissue infection.

Clinical Hypothesis: We thought about main causes of rhabdomyolysis: trauma, sustained muscle contraction, drugs, metabolic, environmental.

Diagnostic Pathways: Physical examination only highlights: papule with perilesional cellulitis on her thigh. Elevated systemic inflammation parameters; CK > 50,000 U/L; LDH 1476 U/L; preserved renal function. Autoimmunity and multiple serologies were performed, which were normal. Echocardiogram, body-CT and electromyogram, without significant alterations. We re-interviewed the patient. Her mother, son and nephew suffered from a similar clinical condition after episodes of intense exercise. Her mother died from rhabdomyolysis secondary to femoral fracture. Given the familial aggregation, we considered a metabolic myopathy. Specific phosphorylation and, later, alpha-glucosidase studies was requested, both results were inconclusive. Genetic study of metabolic myopathies was performed by NGS, detecting variant c.338C>T (p.Ser113Leu), associated with carnitine palmitoyl transferase II deficiency, a myopathic form following an autosomal recessive inheritance model giving us the definitive diagnosis.

Discussion and Learning Points: Early diagnosis of rare diseases is important in order to propose specific treatments and study of affected relatives. In our case, our patient's son presented same pathology as our patient.

1027 - Submission No. 1336

SPLENIC INFARCTION AS A FORM OF PRESENTATION OF A CARDIOMYOPATHY OF EXTRACARDIAC ORIGIN

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Case Description: A 41-year-old man, with a family history of diagnosis of centronuclear myopathy-type progressive muscular dystrophy, his older brother and two nephews, sons of two sisters, being affected. The patient is diagnosed with the myotubular centronuclear myopathy subtype at birth. He required non-invasive mechanical ventilation since childhood and was followed up by rehabilitation for dysphagia. At 33 years of age, he was diagnosed with biventricular dilated cardiomyopathy (DCM) with moderately depressed LVEF, ruling out ischemic origin. He comes due to abdominal pain in the left flank of weeks of evolution that has worsened in the last few hours. Physical examination revealed a myopathic phenotype with abdominal discomfort in that location.

Clinical Hypothesis: Dilated cardiomyopathy secondary to myopathies increases the risk of thrombosis.

Diagnostic Pathways: Laboratory tests revealed elevated D-dimer, requesting CT scan with intravenous contrast, resulting in splenic infarction. Transthoracic echocardiography shows a thrombus image in the apical region responsible for the current pathology after ruling out another origin.

Discussion and Learning Points: Centronuclear myopathies are a heterogeneous group characterized by muscle fibers with large central nuclei that resemble myotubes. There are three forms of inheritance: autosomal dominant, autosomal recessive and X-linked tubular myopathy, this being the one present in this family. Heart conditions related to neuromuscular diseases have been described and sometimes with great clinical relevance, and can produce DCM, hypertrophic and conduction abnormalities, arrhythmia, and sudden death. This case is presented to insist on the relationship between neuromuscular diseases and cardiac disorders and the need, therefore, for action by multidisciplinary teams to which a cardiologist should belong.

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1028 - Submission No. 2047

A CASE REPORT OF PELLAGRA PRESENTED AS DYSPHAGIA

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Case Description: A 27-year-old woman presented with 2 years duration progressively worsening history of pain during swallowing solid foods and soreness of the mouth associated with dark-pigmented itchy, photosensitive skin lesions over the neck, forearms, and hands. There was no history of diarrhea or any change in her behavior. Her dietary history revealed consumption of maize or millet-made bread which is the basic meal in the household. There was no history of tuberculosis treatment. On examination, atrophied tongue papillae and there are well-demarcated, scaly, hyper pigmented, erythematous diffuse and, lichenified plaque involving the bilateral forearm, neck, and hands. Gastroscopy only revealed mild duodenitis with no esophageal stenosis, erosion or mass.

Clinical Hypothesis: Treatment with multivitamin which contains 50 mg niacin orally three times per day was started along with dietary advice to consume food rich in niacin such as meat, vegetables, peanuts etc. Within 2 weeks of starting treatment, the skin lesions improved significantly and no compliant of the dysphagia. The patient continued multivitamin complex supplementation for additional one month.

Diagnostic Pathways: Serologic and urinary assays confirming niacin deficiency were unavailable.

Discussion and Learning Points: In our patient atrophied tongue papillae and burning sensation of the tongue and absence of endoscopic esophageal lesion, glossitis is the most likely cause of her dysphagia.

WBC	5100ul
HGB	15.8g/dl
PLT	282,000ul
HBsAg	Neg
HCV Ab	Neg
PITC	NR
ANA	NR
RF	NR
ESR	23
Stool H-Pylori	+ve
SGOT	21
SGPT	14
CREAT	0.54
BUN	10
ALB	4..9
RBS	82mg/dl
NA+	138
K+	4.4
S/E	No H/P seen
Median follow-up time	25
Median follow-up time	25

1028 Table 1.

1029 - Submission No. 1792

ANTI-MELANOMA DIFFERENTIATION-ASSOCIATED GENE 5 (ANTI-MDA5) DERMATOMYOSITIS: A CASE REPORT

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Case Description: We describe a case of clinically amyopathic dermatomyositis (CADM) in a young male, in whom the clinical picture and the skin biopsies mimicked cutaneous lupus erythematosus and psoriasis. An initial myositis autoantibody panel was negative.

Clinical Hypothesis: After the occurrence of the typical skin ulcers, interstitial lung disease and pneumomediastinum, a repeated myositis panel revealed anti-MDA5 and anti-Mi-2 antibodies.

Diagnostic Pathways: A variant of unknown significance in ITGAM gene encoding CD11b (p.Arg664Trp) was found, predicted in silico to be disruptive. Atypical clinical picture at the disease onset may

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delay the diagnosis and therapy in MDA5-dermatomyositis.

Discussion and Learning Points: Psoriasis-like rashes in CADM, mostly when involving the scalp as well, should prompt a search for anti-MDA5 antibodies. Genetic profiling may help find other missense variants in genes involved in the CADM pathogenesis and possibly orient the management and the therapy. Although not currently included in the risk genes, the study of ITGAM encoding CD11b could be of interest in the pathogenesis of MDA5-associated dermatomyositis.

1030 - Submission No. 2066

CUTANEOUS AFFECTATION, ASTHMA AND FEVER AS PRESENTATION OF HYPER IGE SYNDROME

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Case Description: A 14-year-old male with allergic rhinitis, asthma, and atopic dermatitis. He refers oral thrush, arthralgia, urticarial skin lesions and low-grade fever for three years. At physical examination: cardiorespiratory auscultation: rhythmic, no heart murmur, conserved lung ventilation. Soft abdomen without pain. Erythematous plaques on the back of the hands. Lymphadenopathy not palpable. No arthritis.

Clinical Hypothesis: This is a patient with skin, lung and joint involvement. We must investigate autoimmune diseases (ANCA-type vasculitis, ESL, systemic sclerosis), infections (HIV, hepatitis) and less likely neoplasms since he did not have constitutional syndrome.

Diagnostic Pathways: Blood test: Hb 15.5 g/dl, 6400/µL leukocytes (36% neutrophils, eosinophils 8.2%), 265,000/µL platelets. Creatinine 0.78 mg/dl, RCP 0 mg/L. ESR 4 mm. Prothrombin activity 81%. AST 15 U/L, ALT 11 U/L, GGT 8 U/L, alkaline phosphatase 289 U/L. Creatine phosphokinase 89 U/L. IgE 653 KU/L. The proteinogram, IgA, IgM, IgG, C1 inhibitor, C3 and C4 were normal. HLA-B27, HLA-B51, ANA, ENA, anti-DNA, ANCA, rheumatoid factor were negative. Furthermore, HIV, HBV, HCV, Coxiella, Ricketsia serology resulted negative. Thorax X-ray and abdominal ultrasound were performed without significant findings.

Discussion and Learning Points: Autoimmunity was negative, as well as complement and serological study. There was also no elevation of acute phase reactants. Despite the fact that there was slight eosinophilia in the blood, the eosinophil levels were normal, and he did not show esophageal symptoms to suggest a hyper eosinophilic syndrome. Given the elevation of IgE levels and the symptoms of urticaria, rhinitis and asthma, it was concluded that was compatible with and hyper IgE syndrome.

1031 - Submission No. 1848

SOLITARY NECROTIC NODULE OF THE LIVER – A RARE ENTITY

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Case Description: A 65-year-old Brazilian woman, with no liver disease or other relevant medical history, was referred to consultation, for presenting a single hepatic nodule image, on the right hepatic lobe, with spontaneously hyperdense center and hypodense periphery, measuring 24 mm of unspecified characteristics, shown in abdominal CT, performed due abdominal pain. Physical examination and analytic study showed no abnormalities.

Clinical Hypothesis: The MRI suggested solitary necrotic nodule of the liver as the most likely diagnosis. In multidisciplinary meeting, it was decided to dismiss metastatic cancer and parasitic infection, considering that she comes from an endemic area.

Diagnostic Pathways: Autoimmune study, viral serologies and tumor markers were negative. Parasitic serologies, stool cultures and fecal parasitology were negative, the endoscopic study showed no abnormalities and the thoraco-abdominopelvic CT and the mammography also didn't identify any suspicious lesions. Having said that, and considering the conventional characteristics of the lesion, it was decided to set aside the histological study, currently maintaining surveillance, every 4 months with abdominal ultrasound.

Discussion and Learning Points: The solitary necrotic nodule of the liver is a rare and benign entity, of unknown etiology, more frequent in men between 50 and 70 years old, and tends to be silent, from a clinical and analytical point of view. MRI is sensitive in its detection; however, the ultimate diagnosis requires its surgical resection, since the study of a fragment obtained by biopsy shows necrotic tissue likely to be confused with malignant tumors. These patients require proper follow-up to evaluate the evolution of the nodule, in order to avoid the alternative surgical approach.

1032 - Submission No. 1149

ACQUIRED HEMOPHILIA A ASSOCIATED WITH BULLOUS PEMPHYGOID IN AN ELDERLY WOMAN

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Case Description: A 89-years-old woman was admitted due to multiple soft tissue spontaneous hematomas. She had history of diabetes, hypertension, hyperlipidemia and colon cancer considered successfully treated. She didn't receive any anticoagulant or antiplatelet agent. Laboratory testing revealed

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severe anemia (Hb 5.6 g/dl) and isolated prolongation of aPTT (PLTs 350,000, INR 1.1, aPTT 92.5 s, PT 13.71 s, FIBR 364 mg/dl). Physical examination revealed multiple hematomas, extensive blisters on her truck and extremities and tense bullae on her left thigh.

Clinical Hypothesis: Acquired hemophilia A due to underlying malignancy/autoimmune disease.

Diagnostic Pathways: Mixing test before and after incubation showed aPTT values of 67.3 sec and 98.8 sec respectively, with FVIII:C activity index of <5% and FVIII inhibitor levels of 800 BU, verifying the diagnosis of acquired hemophilia. Full body computed tomography showed no evidence of malignancy. Rheumatologic consultation ruled out underlying autoimmune disease. Skin biopsy was performed; histologic and immunofluorescence were compatible with bullous pemphigoid.

Discussion and Learning Points: Acquired hemophilia A is an extremely rare disorder that usually affects the elderly, without any prior history of bleeding. The underlying mechanism is the production of autoantibodies against clotting factor VIII. Therapy involves recombinant activated factor VIIa as well as immunosuppressive therapy aiming to inhibitor eradication. Acquired hemophilia A induced by bullous pemphigoid accounts for only 2% of reported cases. Presence of spontaneous hematoma prompts for coagulation tests and prolonged aPTT should never be ignored.

1033 - Submission No. 1105

UNUSUAL Q FEVER

Majd Obid

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Case Description: 69 years old construction engineer was hospitalized in our department with complaints of weakness, AKI, 12 kg weight loss and lack of appetite, without fever. In physical examination the patient had a splenomegaly and rash that are suitable to vasculitis. Blood tests has shown that the patient suffer from type II cryoglobulinemia (presence of monoclonal IgM antibodies with polyclonal RF + IgG activity). In addition, fibro scan has shown signs of fibrosis, with splenomegaly, all of that has made us suspect that he has autoimmune hepatitis or felty syndrome. After diagnostic scoring felty was ruled out and autoimmune hepatitis was confirmed. Therefore, systemic steroid was started. The patient was then transferred to respiratory intensive care unit, but unfortunately died 13 days later. Laboratory test received prior to his death, has shown that he had a Q fever.

Clinical Hypothesis: Q fever serology test should be performed in such cases like unclear liver disease? Mixed cryoglobulinemia?

Diagnostic Pathways: 1- Blood tests. 2- Fibro scan. 3- Liver histology. 4- Serological study for Q fever. 5- autoimmune hepatitis diagnostic scoring.

Discussion and Learning Points: - Multiplicity of immunological phenomena without a defined rheumatic disease, which can be a considered as a high suspicion of infection. - Enlarged spleen without obvious signs of PH and hematological disease, which can be a considered as a high suspicion of infection. - Taken together, a Q fever serology test should be performed in such cases like unclear liver disease, and also unclear pericardial ejection, pulmonary fibrosis and also in any case of mixed cryoglobulinemia.

1034 - Submission No. 768

MULTIPLE FACES OF WEST NILE VIRUS

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Case Description: West Nile Virus (WNV) can lead to a wide range of clinical symptoms from asymptomatic disease to severe meningitis/encephalitis but very rare acute pancreatitis.

Clinical Hypothesis: A 34-year-old previous healthy woman, presented to our hospital complaining for headache, fever, chills, lethargy, malaise, nausea and vomiting of one-week duration. She denied any awareness of being recently bitten by arthropods, ticks, or animals. Pulmonary, cardiac, and abdominal examinations were unremarkable. On neurological examination, neck stiffness and mild photophobia recognized. Kernig and Brudzinski's signs were negative. Strength and sensory examination were unremarkable.

Diagnostic Pathways: Initial laboratory findings were in normal range. After a normal CT-brain, lumbar puncture was performed. Cerebrospinal fluid (CSF) analysis revealed pleocytosis with lymphocyte predominance. PCR of CSF for EBV, CMV, TB, HVS I and II were negative. Positive WNV IgM antibodies in the CSF confirmed the diagnosis of WNV meningoencephalitis. On hospital day 3, she complained about abdominal pain and recurrent vomiting despite anti-vomiting medicines. New laboratories shown amylase elevated levels while liver function was normal. Ultrasound of the abdomen revealed mild dilation of the common bile duct without evidence of choledocholithiasis, pancreatic ductal dilatation or peripancreatic fluid. The patient was diagnosed with WNV meningoencephalitis with concurrent pancreatitis. She received aggressive intravenous hydration and treated with metoclopramide, paracetamol and pantoprazole. Ten days later, the patient began to improve and 22 days after admission she was discharged.

Discussion and Learning Points: This work reflects the multiple faces of WNV. Awareness of this by health professionals is necessary for the detection of possible cases.

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1035 - Submission No. 1418

CYTOMEGALOVIRUS MENINGITIS AFTER COVID-19 INFECTION

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Case Description: While co-infection with other pathogens is increasingly recognized in the COVID-19 pandemic, cytomegalovirus (CMV) meningoencephalitis is rare particularly in immune-competent adults. A 65-year-old male with history of hypertension, atrial fibrillation, ischemic stroke 2 years ago and a mild infection with SARS-CoV-2 25 days ago, attended emergency department complaining about headache, chills, and fever up to 39°C for the last three days. He did not need hospitalization or any medication for COVID-19. On neurological examination, left-sided hemiparesis presented for two years ago, and neck stiffness noticed. Kernig's sign was positive. Cardiac, pulmonary, and abdominal examinations were normal. Laboratory findings were in normal range except a mild hyponatremia (Na 129 mg/dl).

Clinical Hypothesis: Only old ischemic lesions discovered in the cerebral CT-scan and lumbar puncture was performed.

Diagnostic Pathways: Cerebrospinal fluid (CSF) was crystal clear and showed protein 53 mg/dl, glucose 69 mg/dl and WBC 35/cm^3 with 95% lymphocytes. The diagnosis of viral meningoencephalitis was made and a 10-day course of intravenous ceftriaxone plus acyclovir was began. intravenously. Blood, urine and CSF cultures were negative. PCR of CSF for EBV, TB, HVS I and II were negative. CMV CSF PCR showed 61.3Y copies of the virus DNA. Ganciclovir treatment was started for 21 days, patient's symptoms slightly improved and on day 26 he was discharged.

Discussion and Learning Points: CMV meningoencephalitis should be included in the differential diagnosis of COVID-19 patient who present with meningitis/encephalitis even without sever COVID-19 infection. COVID-19 infection predisposes patients to the reemergence of opportunistic infections and cytomegalovirus can be one of them.

1036 - Submission No. 1305

UNUSUAL CASE OF MULTIPLE LYMPHOADENOPATHIES: KIKUCHI-FUJIMOTO DISEASE, A CASE REPORT

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Case Description: We present the case of a young adult male with no clinical history presenting recurrent episodes of fever, asthenia and lymphadenopathy in different lymph node stations over five months. Thanks to histologic result of cervical lymph node biopsy, we could formulate diagnosis of Kikuchi-Fujimoto disease.

Clinical Hypothesis: We took into consideration several causes of chronic lymphadenopathy: infective, autoimmune, neoplastic and iatrogenic causes.

Diagnostic Pathways: After first line exams including blood test chemistry, blood and urine cultures, chest X-ray and abdominal echography, all not relevant, we performed serological test for CMV, EBV, brucellosis, toxoplasmosis, syphilis, QuantiFERON for TBC and PCR for RNA-HIV. They resulted all negative as well as autoimmune panel. Therefore, we underwent patient to total body CT and FDG-PET with evidence of superficial lymphadenopathies and visceral adenopathy on both sides of the diaphragm with high metabolic activity. Histopathological examination of a lymph node biopsy revealed histiocytic, necrotizing lymphadenitis compatible with Kikuchi-Fujimoto disease.

Discussion and Learning Points: Kikuchi-Fujimoto disease is an extremely rare disease with a worldwide distribution. The differential diagnosis includes infectious lymphadenitis, autoimmune lymphadenopathy (primarily SLE), and lymphoma. It is important identify this condition to avoid unnecessary and aggressive therapy. Spontaneous recovery occurs in 1 to 4 months, treatment is symptomatic (analgesics-antipyretics, non-steroidal anti-inflammatory drugs and, rarely, corticosteroids). Patients with Kikuchi-Fujimoto disease should be followed-up for several years to observe the possible development of systemic lupus erythematosus.

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1037 - Submission No. 1879

MONTHLY DYSPNEA

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Case Description: We present the case of a 35-year-old female admitted to the emergency room with acute dyspnea, fatigue, palpitations, and pleuritic chest pain, with 24 hours of evolution. The patient reported that she was on the menstrual phase, and had similar episodes for the past six months, all resolving with cessation of menses. She had a known history of uterine myoma and abdominal endometriosis, diagnosed seven years before, during surgery of an ectopic pregnancy on the left fallopian tube. She was submitted to left salpingectomy. She presented with diminished breath sounds on the inferior half of the right hemithorax and slight tachycardia.

Clinical Hypothesis: The time onset of symptoms and physical examination along with endometriosis were suggestive of catamenial pneumothorax.

Diagnostic Pathways: A thoracic CT scan unveiled bilateral pneumothorax and a slight pleural effusion. She was admitted to the Intermediate Care Unit. Bilateral chest drains were inserted, with resolution of pneumothorax. A thoracic MRI showed a nodular image 40x15 mm adjacent to the right slope of the mediastinum, probably a focus of endometriosis. She experienced complete recovery, was discharged to the pneumology ward and, after the removal of the drains, returned home referred to thoracic surgery and gynecology appointments.

Discussion and Learning Points: Acute respiratory distress during the menses, in a reproductive-age-women, may be related to endometriosis. Catamenial pneumothorax is rare but can lead to respiratory failure. Additional criteria include characteristic pleural lesions, right-sided occurrence, and coexistence of endometriosis[1].

References:

[1]Marjański T, et al. Catamenial pneumothorax-a review of the literature. KardiochirTorakochirurgiaPol. 2016;13(2):117-121.

1038 - Submission No. 2019

A CASE OF IGG4 RELATED CONSTRICTIVE PERICARDITIS

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Case Description: A 74-year-old male with a history of diabetes mellitus, was admitted to our department, for further investigation of lower limbs' edema and increased cholestatic enzymes over the last 15 days. Clinical examination revealed periorbital and lower limbs' edema, hepatosplenomegaly, and jugular vein distention. Laboratory tests showed normocytic-normochromic anemia, thrombocytopenia, and increased INR. Our differential diagnosis included cirrhosis, heart failure, nephrotic syndrome, hypothyroidism, and malignancy. Extensive evaluation ruled out chronic hepatopathies, nephrotic syndrome and hypothyroidism. Immunological studies exhibited increased IgG: 2190 mg/dl and IgG4: 425 mg/dl. CT showed enlarged mediastinal and paraaortic lymph nodes and pleural effusion bilaterally. Pleural effusion examination was indicative of exudate with low ADA, negative cytology for malignancy and negative culture for tuberculosis. Initial cardiac ultrasound was not suggestive of significant heart abnormality. Further investigation with gastroscopy, colonoscopy, MRCP and myocardial scintigraphy didn't reveal abnormal findings. A repeated CT scan demonstrated worsening pleural effusions and punctate pericardial calcifications. Re-evaluation by an experienced cardiologist with ultrasound showed septal bounce, mildly affected right ventricle contractility, dilated IVC and small amount of pericardial fluid.

Clinical Hypothesis: These findings were suggestive of constrictive pericarditis that was confirmed by right heart catheterization.

Diagnostic Pathways: Pericardiotomy was performed and histological examination of pericardial tissue revealed plasmocytic infiltrate (IgG4+ by immunohistochemistry).

Discussion and Learning Points: Constrictive pericarditis should be considered in cases of unexplained cholestasis. IgG4-related disease is one of the main causes, while tuberculosis must be ruled out. Diagnosis usually relies on careful combination of clinical, laboratory and ultrasound findings, including a confirmatory right heart catheterization.

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1039 - Submission No. 688

FEVER, SKIN RASH AND ARTHRALGIA OF UNCLEAR ORIGIN

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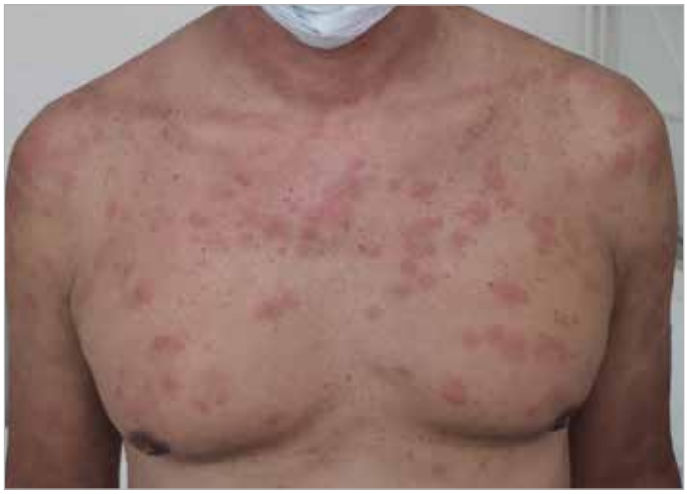
Case Description: A 49-year-old male, on follow-up since 2019 for recurrent 3-day long episodes of fever, arthralgia, and skin rash (Figure 1), without clear diagnosis, treated with non-steroidal anti-inflammatory drugs, hydroxychloroquine, methotrexate with prednisone, followed by anakinra, showing improvement, until last outbreak, changing to infliximab. He consults for high fever and a generalized maculopapular rash (Figure 2). On initial tests, a microcytic anemia of 11 mg/dl, and rise of C-reactive protein (220 mg/L) and procalcitonin (4.5 ng/mL). A chest X-ray, blood and urine cultures and nasopharyngeal exudate study had no findings.

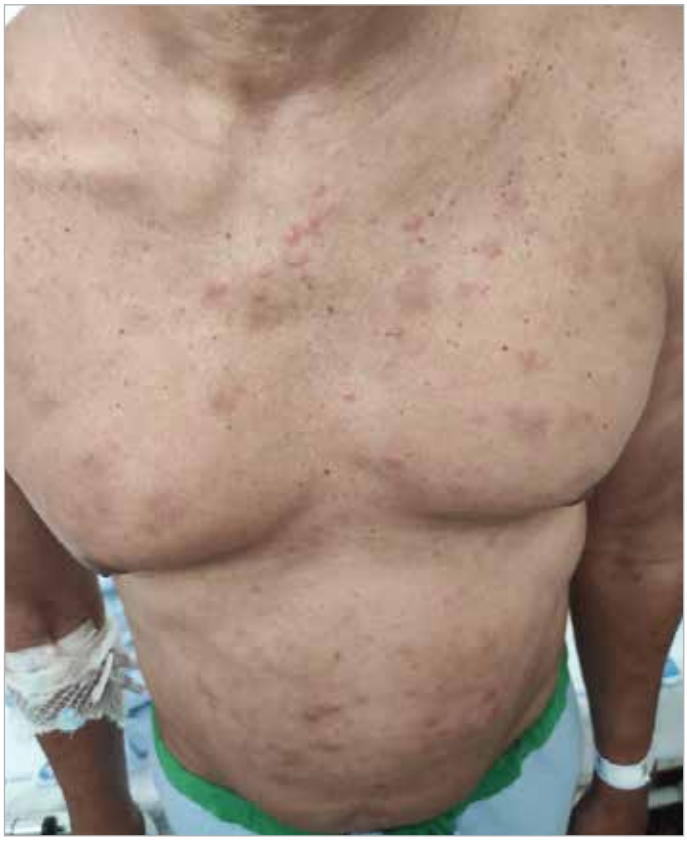
Clinical Hypothesis: An autoinflammatory disease.

Diagnostic Pathways: Multiple serologies, biomarkers and autoimmunity screening were all unaltered. Some findings included the rise of ESR (70 mm), ferritin (9067 ng/mL), interleukin-6 (11.8 pg/mL) and tumor necrosis factor-alpha (22.7 pg/mL), and a monoclonal IgG-kappa spike. A CT scan revealed mild hepatosplenomegaly and several non-pathologic lymph nodes. A skin biopsy showed perivascular neutrophilic dermatosis. After 3 days of high-dose methylprednisolone, with excellent clinical response, he was discharged with prednisone tapering, followed by canakinumab.

Discussion and Learning Points: Schnitzler's syndrome is a rare late-onset autoinflammatory disease, characterized by fever, skin rash and joint pain. It is associated with a monoclonal gammopathy, typically IgM type, but 10% are IgG type. Differential diagnosis includes infections, neoplasia, and autoimmune-autoinflammatory syndromes. After their exclusion, diagnosis is stablished by the Strasbourg criteria. For treatment, anakinra has been tried successfully. In non-responding, as our patient, a different anti-interleukin-1 or anti-interleukin-6 remain as alternatives. Schnitzler's syndrome has a chronic and recurrent nature, and prognosis is determined by the development of a lymphoproliferative disease or amyloidosis.



1039 Figure 1.



1039 Figure 2.

1040 - Submission No. 883

A RARE INFECTION LEADS TO A RARE DIAGNOSIS

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Case Description: A 47-year-old woman presented with headache, fever, behavioral changes, and drowsiness. A right

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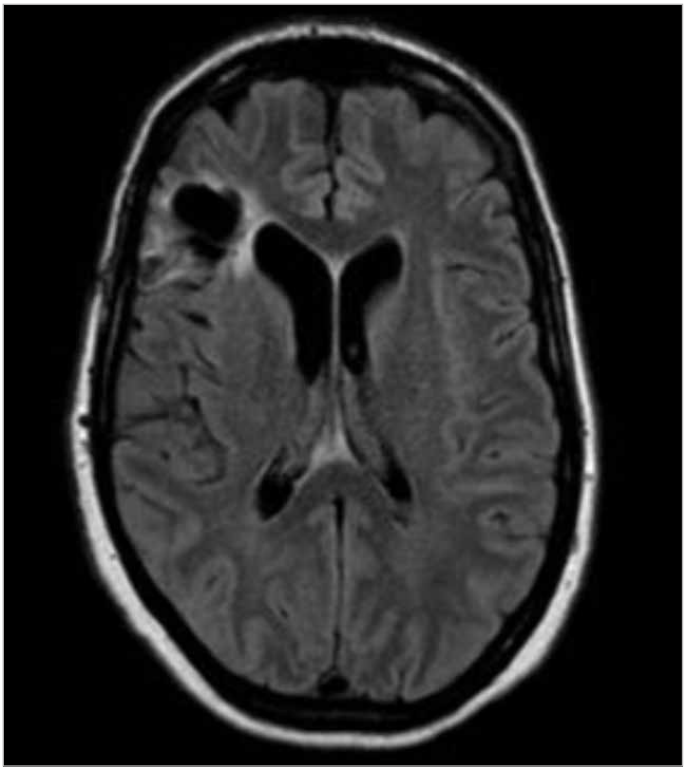
frontal lobe intracranial space-occupying lesion was discovered on tomography, with peripheral contrast uptake suggestive of high-grade glioma.

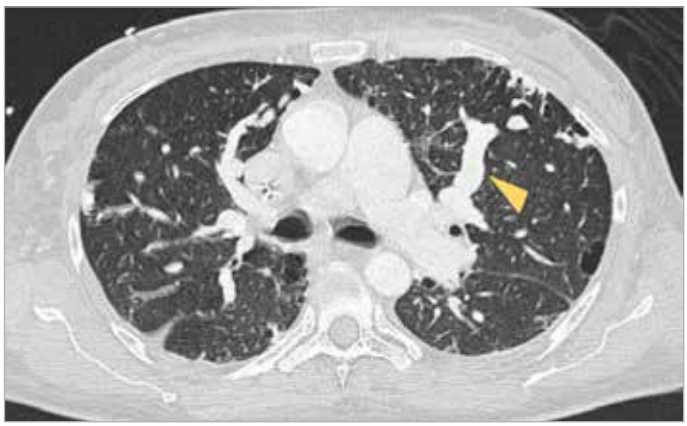
Clinical Hypothesis: High-grade glioma, but metastasis or abscess cannot be excluded.

Diagnostic Pathways: Body and skull images were obtained. Cranial MRI and *Streptococcus sanguinis* cultures confirmed the presence of a brain abscess (Figure 1). MRI showed an abscess in the right frontal lobe. The thoracoabdominal CT scan revealed several varicose dilations of the pulmonary veins, the inferior cava, and supra-hepatic veins, as well as collateral circulation of the splenic vein. These findings led to a deeper investigation of the patient's medical background. She revealed a history of iron deficiency anemia, epistaxis, and telangiectasias on the lower lip, as well as a tooth extraction two months prior to the current episode. A genetic analysis was ordered due to the possibility of hereditary hemorrhagic telangiectasia (HHT), and the results showed a mutation in the endoglin gene (ENG), confirming the existence of the condition. Thorax CT scan, the arrowhead indicates an arteriovenous malformation seen as varicose dilation of the left pulmonary vein (Figure 2).

Discussion and Learning Points: HHT is a rare disease that produces multisystemic vascular malformations. A heterozygous mutation of the ENG gene causes the disease in 39–59% of cases. The hematogenous spread of bacteria is associated with pulmonary arteriovenous fistulas, favoring brain abscess formation. Further, it has been proposed that the ENG gene mutation may impair cellular and humoral immune responses, resulting in a higher incidence of infections.



1040 Figure 1.



1040 Figure 2.

1041 - Submission No. 410

BILATERAL PALPEBRAL PTOSIS

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Case Description: A 28-year-old male patient came to consultation due to bilateral palpebral ptosis and loss of visual acuity of 2 months of evolution. He reported no fluctuations throughout the day, diplopia, or involvement of other muscle groups. On neurological examination there was abduction deficit of the left eye and adduction deficit of the right eye with horizontal left gaze and adduction deficit of the left eye and abduction deficit of the right eye with horizontal right gaze. In addition, vertical motility was bilaterally limited with fatigability. Musculoskeletal reflexes were preserved.

Clinical Hypothesis: Ocular myasthenia gravis, myopathy.

Diagnostic Pathways: Acetylcholine receptor antibodies were negative, but blood tests showed elevation of creatine kinase. An electromyogram showed motor unit potentials of decreased duration and an early exertion pattern predominantly in the facial and proximal muscles of the upper limbs, consistent with myopathy at that level. We performed a muscle biopsy, finding around 5% red torn fibers with increased lipids and more than 25% COX-negative fibers, changes compatible with a mitochondrial-type myopathy, diagnosing the patient with chronic progressive external ophthalmoplegia (CPEO). In the genetic study, the variant c.23G>T (p.Gly8Val, rs765744386) was detected in the FDX1L gene in a heterozygous state.

Discussion and Learning Points: CPEO is a mitochondrial myopathy characterized by bilateral palpebral ptosis and oculomotor muscle paralysis. Ophthalmoplegia develops symmetrically in both eyes, so it will rarely cause symptoms such as diplopia. There are a wide variety of genes whose mutation may be related to this pathology the most frequent are POLG1, POLG2 and ANT1. Currently we have no treatment for this pathology.

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1042 - Submission No. 1308

UNEXPECTED FINDING IN THE STUDY OF LYMPHEDEMA

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Case Description: A 55-year-old woman with a personal history of multiple sclerosis being treated with Ocrelizumab was admitted for lymphedema of six months of evolution. On examination the patient presented hard edema in the right lower limb with involvement of the distal third associated with signs of chronic venous insufficiency in addition to two ulcerated lesions with no signs of superinfection. Laboratory tests showed a monoclonal IgG lambda peak in the proteinogram and hypochromic microcytic anemia with mild lymphopenia. A CT scan of the abdomen and pelvis with contrast showed compression of the left common iliac vein between the right common iliac artery and the vertebral body, without significant proximal dilatation of the vein. In view of these findings and the present clinical picture, the diagnosis of May Thurner syndrome is proposed. Prophylaxis with low molecular weight heparin was started and the patient was referred to Vascular Surgery for intervention.

Clinical Hypothesis: As for the differential diagnosis of lymphedema, venous thromboembolic disease should be ruled out first. Include other possible causes such as inflammatory causes, heart failure, hypoproteinemia, among others.

Diagnostic Pathways: The main diagnostic pathway should begin by using imaging tests to rule out vascular malformations or other extrinsic causes of lymphedema.

Discussion and Learning Points: May Thurner syndrome is an anatomical condition that favors venous flow obstruction secondary to extrinsic compression of the iliac venous territory. For the diagnosis of this syndrome, we must confirm the presence of stenosis of the left common iliac vein above 50% and persistently and venous stasis must be demonstrated by imaging test.

1043 - Submission No. 262

THROMBOTIC MICROANGIOPATHY TRIGGERED BY COVID-19 IN A YOUNG PATIENT

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Case Description: A 21-year-old Caucasian male was referred because of fever, vomiting and macroscopic hematuria. The patient had been diagnosed with COVID-19 by reverse transcription polymerase chain reaction (RT-PCR) testing of a nasopharyngeal swab sample for SARS-CoV-2 two days prior to his admission. Blood and serum analysis revealed thrombocytopenia, microangiopathic hemolytic anemia, and abnormal kidney function. A urine test strip was found positive for protein and hemoglobin. The patient had a remarkable history of thrombotic microangiopathy (TMA) triggered by influenza at the age of 11, which was treated with supportive care.

Clinical Hypothesis: Since thrombotic thrombopenic purpura (TTP) was regarded the most probable diagnosis upon admission, the patient was given intravenous corticosteroids and underwent three sessions of therapeutic plasma exchange (TPE), with consequent dramatic improvement of his clinical and laboratory findings.

Diagnostic Pathways: Blood samples that were drawn before the first session of TPE revealed normal ADAMTS-13 activity, which is incompatible with the diagnosis of TTP. Given the patient's past medical history of TMA triggered by influenza virus and his rapid improvement in the present episode of TMA, the diagnosis of atypical hemolytic uremic syndrome (aHUS) was regarded most probable. Genetic testing for mutations in genes encoding complement proteins was offered to the patient.

Discussion and Learning Points: TMA is a serious and potentially fatal clinical syndrome, associated with a large number of diseases, such as infections, medications, connective tissue disorders and cancer. Individuals with aHUS may present with relapsing events and require ongoing follow-up and therapy.

1044 - Submission No. 402

DIAGNOSTIC DILEMMA BETWEEN PUBIC OSTEOLYSIS AND NEOPLASMS IN OSTEOLYTIC LESION OF THE PUBIS

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Case Description: An 86-year-old woman, with a history of osteoporosis, was presented to Department of Orthopedic Surgery for pain and numbness osteoporosis, was presented to in the lower extremities as well as buttocks lasted for a month. Symptoms associated with lumbar spinal canal stenosis were suspected initially, however, due to elevated levels of ALP and CRP in the blood, the patient was referred to the Department of General Medicine for detailed examination. Contrast-enhanced CT scan showed a mass lesion with destruction of the pubic symphysis and 18-FDG PET-CT revealed increased uptake of 18-FDG in the corresponding mass.

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Clinical Hypothesis: Osteolytic metastatic bone tumor, solitary plasmacytoma, infection (e.g., osteomyelitis, tuberculosis) and pubic osteolysis.

Diagnostic Pathways: Our laboratory data demonstrated vitamin D deficiency and elevated bone resorption markers. A surgical biopsy of the pubis was performed. Operative findings revealed osteolysis and soft tissues filling inside the mass. Histological examination revealed extensive necrotic and granulation tissue but no evidence of neoplastic lesion. After initiation of anti-osteoporotic therapy as well as conservative therapy including resting and analgesics, there was remarkable improvement in patient's symptoms.

Discussion and Learning Points: Pubic osteolysis is characterized by destructive lesion of the pubic bone due to inadequate fracture healing response, and it can be managed with conservative treatment of resting, analgesics, and anti-osteoporotic treatment. Although making its correct diagnosis is difficult without excluding neoplasms, it is essential to keep this clinical entity in mind as a differential diagnosis.

1045 - Submission No. 1333

"STILL NOT CONVINCED": A COMPLEX, TRAP-FILLED WORK UP OF A CASE OF UPPER BODY EDEMA

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Case Description: A 58-year-old man presented for recurrent episodes of dyspnea associated with oedema of neck, face, and upper limbs. Physical examination demonstrated telangiectasias on chest's surface. He had a history of allergic asthma, oral allergy syndrome and had a cardiac pacemaker for advanced AV block. Symptoms started 11 months before. For a suspected angioedema antihistaminic and steroid therapy was started with no benefit; omalizumab was then administered, without changes. We initially performed a contrast-chest CT, that showed right anonymous vein thrombosis without evident thoracic lesions. After 4 days of anticoagulation a control chest CT was performed to evaluate thrombosis extension and resulted completely negative.

Clinical Hypothesis: A pacemaker induced superior vena cava syndrome (sVCS) was suspected.

Diagnostic Pathways: Deep vein thoracic venography was performed showing an occlusion of left subclavian vein and stenosis of superior vena cava in correspondence with pacemaker's wires. Surgical removal of PM was excluded, due to high procedural risk, as well as stent placement. Therefore, we continued with only anticoagulation therapy. After two months resolution of edema and symptoms' reduction were observed.

Discussion and Learning Points: A long-lasting diagnostic process might be a confounding factor in a suspected diagnosis. We attributed a high pre-test probability to a specific diagnosis; thus, our clinical suspicion was not undermined by a negative test. We chose the most appropriate test based on our diagnostic suspicion solving this diagnostic challenge. We would also like to underline that, although PM-related superior vena cava syndrome is a rare cause of sVCS, is becoming more frequent due to increasing use of intravascular devices.

1046 - Submission No. 2122

SOMATOSTATIN ANALOGS FOR LONG-TERM TREATMENT OF GASTROINTESTINAL BLEEDING IN HEREDITARY HEMORRHAGIC TELANGIECTASIA: A REFERRAL HHT UNIT EXPERIENCE

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Background and Aims: Chronic bleeding due to gastrointestinal (GI) involvement in patients with hemorrhagic hereditary telangiectasia (HHT) can induce severe anemia with high red blood cells (RBC) transfusion requirements. However, the evidence of how to deal with these patients is scarce. The aim of the study is to assess the long-term outcomes of somatostatin analogs (SA) for anemia management in HHT patients with GI involvement.

Methods: An observational study including all patients with HHT and GI involvement attended in a referral center. Treatment with SA was considered for patients with GI involvement and severe chronic anemia. Anemia related variables were compared in patients receiving SA before and during treatment. Adverse effects during follow-up were collected. Patients who did not take at least three months of treatment were not assessed for efficacy.

Results: 67 (56.3%) out of 119 HHT patients with GI involvement received SA treatment. These patients showed lower minimal hemoglobin (Hb) levels (73.1±21.3 vs 98.2±29.8g/L) and more RBC transfusion requirements (61.2% vs 38.5%) than patients without SA. After a SA period of 20.9±15.25 months, patients showed an improvement in the minimum Hb levels (74.7±19.7 vs 94.7.2±29.8g/L) and in RBC transfusion requirements (12.24±27.5 vs 6.97±21.6 RBC). 14 (20.9%) patients showed mild adverse effects and SA was discontinued in eleven patients. 27 (44.3%) out of the 61 patients evaluated for efficacy showed no

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improvement in minimum Hb levels or remained severely anemic (Hb<80g/L) during SA treatment.

Conclusions: SA is an effective and safety initial option for the long-term treatment of HHT patients with severe anemia secondary to GI involvement.

1047 - Submission No. 2157

VEGF DYNAMICS IN PATIENTS WITH HEMORRHAGIC HEREDITARY TELANGIECTASIA TREATED WITH BEVACIZUMAB

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Background and Aims: Bevacizumab, a monoclonal antibody against VEGF (vascular endothelial growth factor), is used in patients with hereditary hemorrhagic telangiectasia (HHT) and chronic bleeding due to gastrointestinal involvement, high output cardiac failure, or ischemic cholangitis. Useful biomarkers to monitor this treatment are unknown. The aim of this study is to assess the evolution of VEGF-A levels during bevacizumab treatment in HHT patients.

Methods: An exploratory, observational, prospective study that includes HHT patients who attended our HHT referral center, started bevacizumab treatment during 2020-2022, and had a basal determination level of VEGF-A. Bevacizumab dose was 5 mg/kg during four cycles (C1, C2, C3, C4) with 4 administrations per each cycle: every two weeks for C1, every 3 weeks for C2, every 4 weeks for C3, and every 4-8 weeks for C4 according to clinical response. VEGF-A levels were collected before the second administration of each cycle.

Results: Thirteen patients were included with a mean age of 65.1±11.2years; ten (77%) were female. Six (46%) had pathogenic variants in ENG and 5 (39%) in ACVRL1 genes. The indications for bevacizumab therapy were chronic anemia due to gastrointestinal involvement (n=7; 54%), high output cardiac failure (n=5; 38%), and ischemic cholangitis (n=1; 8%). The median baseline VEGF-A was 31.2 pg/ml (P25= 32.5, P75= 96) and the means of VEGF-A were 3164.27 pg/ml (SD±1268.95 pg/ml) for C1, 4843.57 pg/ml (SD±2651.66 pg/ml) for C2, 3993.15 pg/ml (SD± 881.55 pg/ml) for C3 and 3450.80 pg/ml (SD±630.46 pg/ml) for C4.

Conclusions: VEGF-A levels remained persistently high during bevacizumab therapy in patients with HHT. Thus, the clinical usefulness of VEGF-A as a biomarker for tailoring bevacizumab therapy is limited.

1048 - Submission No. 1516

KIMURA'S DISEASE: AN UNCOMMON CAUSE OF BILATERAL CERVICAL LYMPHADENOPATHY WITH ELEVATED IGE

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Case Description: A 36-year-old female with no prior medical history, presented with bilateral, painless, hard cervical and supraclavicular lymphadenopathy (4-5cm), which developed during the last year. The patient had unremarkable social and family history and was in good condition. Physical examination revealed multiple nodular, pruritic, subcutaneous lesions (4-5 cm) of the lower parietal and occipital regions of the scalp for 20 years (Image). No other symptoms or findings were noted in system review.

Clinical Hypothesis: Differential diagnosis included lymphoproliferative disorders, metastatic malignant, infectious causes, granulomatous diseases, thesaurismosis, and autoimmune conditions. In absence of fever, weight loss, tender or generalized lymphadenopathy, exposure to known risk factors, or musculoskeletal or other complaints, the possibility of common infectious, autoimmune, or granulomatous diseases was considered less likely.

Diagnostic Pathways: Diagnostic workup only revealed marginal eosinophilia and markedly elevated IgE, in absence of an oligoclonal band. Testing for infectious causes, including HIV, Toxoplasma, and *Mycobacterium* sp, was negative. Cancer, inflammatory biomarkers, and ACE were normal. Imaging with PET-CT confirmed focal lymphadenopathy. Biopsies showed non-specific inflammatory infiltrates with a vascular component. A combination of clinical, laboratory, and immunohistochemical findings established the diagnosis of Kimura's disease.

Discussion and Learning Points: Kimura's disease represents a rare, chronic autoinflammatory condition of unknown etiology. It usually involves the lymphoid and/or extranodal tissue of the head and neck and presents with eosinophilia, elevated IgE levels, and kidney disease. However, it often goes undetected due to a low index of clinical suspicion. Cases, as such, call for awareness of orphan diseases and highlight the need for collaboration among medical specialties.

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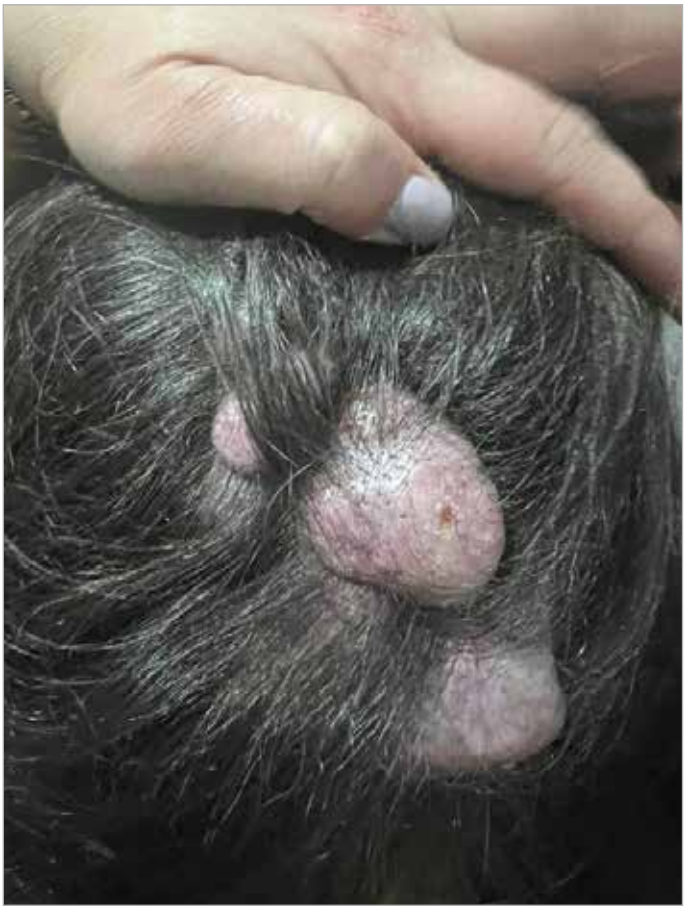

1048 Figure 1.

1049 - Submission No. 1627

A RARE CAUSE OF PANCREATIC MASS

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Case Description: A 76-year-old woman with a history of tuberculous pleurisy more than 30 years ago, correctly treated; she presented with abdominal discomfort.

Clinical Hypothesis: Ultrasound showed dilatation of the main bile duct, cholangial MRI described 3 punctate cysts in the uncinate process without contact with the duct of Wirsung and three in the pancreatic body and tail in contact with the duct.

Diagnostic Pathways: Intraductal papillary mucinous intraductal tumor by imaging tests; pathological anatomy taken during partial pancreatectomy reports chronic granulomatous tuberculoid pancreatitis without necrosis, compatible with sarcoidosis, negative Ziehl-Neelsen stain, as well as granulomatous lymphadenopathy. The diagnosis of sarcoidosis was supported by lung SPECT-CT scan showing bilateral perihilar radiotracer uptake suggestive of an active inflammatory-granulomatous process.

Discussion and Learning Points: Sarcoidosis is a multisystem disorder of unknown etiology related to cellular immune response to certain antigens and the formation of non-caseating granulomas in the affected tissues. Most common in adults between 20 and 40 years of age. Approximately 90% of patients have pulmonary involvement which is responsible for the prognosis. Extrapulmonary sarcoidosis is seen in 30-50%, mainly affecting skin, eyes, and joints. Digestive involvement is rare, and the most affected organ is the liver. The pancreatic form is very rare, being more frequently found in autopsies. The clinical manifestations may be confused with neoplasms of the pancreato-biliary area or acute pancreatitis. Diagnosis is based on clinical findings, granulomatous involvement of various organs and exclusion of other causes, mainly mycobacteria, fungi, parasites, and tumors.

1050 - Submission No. 1653

A RARE CAUSE OF PANCREATIC AND RENAL INVOLVEMENT

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Case Description: A 64-year-old patient was admitted for a study of painless jaundice. He also presented with progressively worsening renal function.

Clinical Hypothesis: The tests point to a tumor of the pancreaticobiliary tract, then the finding of elevated IgG4 in pancreatic samples, the characteristic pathological anatomy at renal level and the response to corticosteroids lead to the diagnosis of IgG4 disease with digestive and renal involvement.

Diagnostic Pathways: Imaging showed dilatation of the intrahepatic and extrahepatic bile duct and a nodular lesion at the pancreaticobiliary level. The FNA was compatible with cholangiocarcinoma with very few cells. The PET-CT scan did not show any hypermetabolic lesions, so the pancreatic lesion was biopsied and a fibroinflammatory infiltrate of IgG4 cells was observed. Renal biopsy reports tubulo-interstitial nephritis with moderate focal increase of IgG4 plasma cells and extensive storiform fibrosis with severe glomerular sclerosis compatible with IgG4 interstitial nephritis.

Discussion and Learning Points: IgG4 disease is a rare entity of unknown etiology consisting of fibroinflammatory infiltrates composed of IgG4-positive cells at multiple levels. It is slightly predominant in middle-aged men. Diagnosis is based on a combination of characteristic clinical, serological, radiological and histopathological findings. As well as high serum IgG4 levels. The main sites affected are the pancreaticobiliary area, parotid, submandibular and lacrimal glands or the orbital area. In terms of renal involvement, interstitial nephritis is most characteristic.

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1051 - Submission No. 1201

PAIN AND OSTEOPOROSIS MANAGEMENT IN CAMURATI-ENGELMANN DISEASE

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Case Description: We present the case of a 21-year-old man diagnosed with Camurati-Engelmann disease (CED) at the age of 12, characterized by diffuse bone pain in the upper and lower limbs, waddling gait, and proximal muscle weakness. At the age of 21, he is well adapted to his disease, maintaining physical and professional activity. However, he has recurrent episodes of diffuse limb pain, worsened by cold, stress, and movements, without response to the titration of anti-inflammatory and opioid therapy.

Clinical Hypothesis: Camurati-Engelmann disease. Osteoporosis.

Diagnostic Pathways: Therefore, he takes occasional cycles of deflazacort 1 mg/Kg/day, progressively reduced to the minimum tolerated dose. Bone densitometry revealed severe osteoporosis, with a femur neck T-score of -3.4 and a lumbar spine T-score of -2.6. Accordingly, he started treatment with 60 mg/1 ml denosumab semiannually, associated with calcium supplementation with 1500 mg qd and cholecalciferol 400 IU qd.

Discussion and Learning Points: CED or progressive diaphyseal dysplasia is a rare hereditary disease of bone metabolism, characterized by hyperostosis of the long bones and skull, proximal muscle weakness, and waddling gait, and may cause dysmorphic changes in the skull, compressive neuropathies and disabling bone pain. Due to its rarity, the management of patients with CED is a challenge, as there is no treatment that changes the course of the disease, and its quality of life is mainly affected by pain. Corticosteroids are the most effective therapy in pain control but may contribute to worsening osteoporosis. The prevalence of osteoporosis in CED is not well established, and there is no well-defined therapeutic strategy for osteoporosis in patients with CED.

1052 - Submission No. 553

ACROSYNDROMES: "WHAT THE TRUTH HIDES"

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Case Description: A 57-year-old man with a history of hypopituitarism presented with pain, acral cyanosis and weight loss. Physical examination showed a laterocervical adenopathy and a normal capillaroscopy.

Clinical Hypothesis: Differential diagnosis of acro syndromes and adenopathies.

Diagnostic Pathways: A CT scan was requested and evidenced blastic bone lesions, splenomegaly, ascites and findings suggestive of peritoneal carcinomatosis. Basic laboratory tests, immunoglobulins, tumor, and autoimmunity markers were normal. After a normal testicular ultrasound, endoscope and colonoscopy, laparoscopy was scheduled, and implants were dismissed. Bone scintigraphy showed a super scan pattern,and the bone marrow examination was normal. Given the current findings of acrocyanosis associated with endocrinopathy, ascites and organomegaly, the study was extended with electro-nystagmogram (severe chronic mixed polyneuropathy), immune-electrophoresis (monoclonal IgA lambda paraproteinemia) and plasma levels of VEGF (>1000 pg/mL). The diagnosis of POEMS was established.

Discussion and Learning Points: It is a polymorphic disease in its presentation, uncommon, with unknown incidence and etiology. Diagnosis requires the fulfilment of obligatory criteria (monoclonal component and peripheral neuropathy) with at least one major and one minor criterion. The bone injuries can be osteolytic or mixed, with an osteoclastic rim, thus leading to confusion with blast lesions as in this case. The differential diagnosis is made mainly with lymphoplasmacytic cell disorders and chronic polyradiculopathies. Hematological treatment is associated with additional therapies for neuropathic pain, volume overload and increased thrombotic risk. For all these reasons, diagnosis is usually delayed by an average of 15-18 months and survival rate is poor.

1053 - Submission No. 1588

ASSOCIATION BETWEEN EPISTAXIS AND ANEMIA IN HHT PATIENTS

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Background and Aims: Hereditary hemorrhagic telangiectasia (HHT) is a complex disease which involves multiple organs and whose main manifestation is epistaxis. Our aim was to describe the association between the severity of epistaxis and anemia, a common complication of HHT.

Methods: In this observational single-center cross-sectional study, we described the clinical characteristics of 88 patients with HHT, diagnosed by Curaçao criteria or genetic methods. The severity of epistaxis was assessed using the Epistaxis Severity Score (ESS). A moderate-severe epistaxis was defined as ESS ≥4. Anemia was defined according to standard cutoffs: hemoglobin <11.9 g/dL for females and <13.6 g/dL for males. Fisher's exact test was used to assess the statistical signification of the association.

Results: There were 72 patients with mild epistaxis and 16 with moderate-severe epistaxis. Among the 72 patients who had mild epistaxis, 28 (39%) had anemia whereas 44 (61%) did not. Among the 16 patients who had moderate-severe epistaxis, 14 (87.5%) had anemia whereas 2 (12.5%) did not. The difference was statistically significant (P<0.001). There was no significant correlation between anemia and gastrointestinal bleeding.

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Conclusions: Anemia is associated with the severity of the epistaxis, by a probable causative relation. Previous studies had found an association between anemia and gastrointestinal bleeding but not with epistaxis, probably due to its high prevalence in HHT[1]. Our study is the first one relating epistaxis severity with the presence of anemia.

References:

[1]Kasthuri RS, Montifar M, Nelson J, et al. Prevalence and predictors of anemia in hereditary hemorrhagic telangiectasia. Am J Hematol 2017.

1054 - Submission No. 565

SEVERITY OF EPISTAXIS AS A LIMITING FACTOR FOR QUALITY OF LIFE IN HHT PATIENTS

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Background and Aims: Hereditary hemorrhagic telangiectasia (HHT) is an autosomal dominant disease characterized mainly by epistaxis. This symptom, although it may not seem serious, affects patients in different ways. We aimed to evaluate the association between severity of epistaxis and quality of life (QoL) in HHT patients.

Methods: We conducted a cross-sectional study of patients diagnosed with HHT by Curaçao criteria or genetic diagnosis in Spain. The severity of epistaxis was assessed using the Epistaxis Severity Score (ESS). An ESS ≥4 was considered as moderate-severe epistaxis. QoL was assessed by the EuroQol (EQ–5D–5L) questionary for the Spanish population. Variables presented as mean±standard deviation, or frequency (%). Comparisons using Student's-t and Fisher's exact tests. Age and sex-adjustment by multiple linear regression.

Results: A total of 16/89 (18.0%) had moderate-severe epistaxis (ESS ≥4), all of them were women (p<0.001) and were older than those with mild epistaxis (59.5±8.7 vs. 41.8±4.6 years; p<0.001). No significant differences were found in prevalence of main comorbidities. An ESS ≥4 was associated with a history of HHT-related interventions (100.0% vs 61.1%; p=0.002), most of them being nasal sclerosis (87.5%). Patients with moderate-severe epistaxis had lower QoL compared to those with mild epistaxis (EQ–5D–5L: 0.77±0.22 vs 0.91±0.19; p=0.013). Specific dimensions affecting QoL were pain/discomfort (0.92±0.08 vs 0.98±0.04; p<0.001), anxiety/depression (0.94±0.04 vs 0.98±0.05; p=0.010), and usual activities (0.97±0.06 vs 0.99±0.03; p=0.013). After age and sex-adjustment, the pain/discomfort dimension was independently associated with severity of epistaxis (p<0.001).

Conclusions: Severity of epistaxis may negatively affect the QoL of HHT patients, being pain/discomfort the main contributing factor.

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AS17. RESPIRATORY DISEASE

1055 - Submission No. 255

A HIDDEN PLEURAL EFFUSION

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Case Description: A 59-year-old man with history of urothelial carcinoma and secondary obstructive uropathy (OU) requiring bilateral nephrostomies presents to clinics for a follow-up visit complaining of progressive dyspnea with a chest-x-ray demonstrating a small left pneumothorax. Vitals were remarkable for hypotension, tachypnea, and fever. On evaluation, he was found with decreased breath sound in the left lung and purulent secretions on the left nephrostomy catheter.

Clinical Hypothesis: The patient was admitted under the clinical suspicion of urosepsis.

Diagnostic Pathways: Laboratories showed leukocytosis with lactic acidosis and pyuria. A subclavian central line was placed for vasopressor therapy with post-chest-x-ray demonstrating an increase in the size of the left pneumothorax. A chest tube was inserted, spontaneously draining 300 ml of yellow-clear fluid. Chest CT showed a left hydropneumothorax occupying 50% of the left lung. The patient remained anuric during hospitalization but had persistent output through the chest tube. Pleural fluid analysis (PFA) revealed an exudate with a pleural fluid/serum (PF/S) creatinine ratio of 1.6. Urine and pleural fluid culture were positive for *E. Coli*.

Discussion and Learning Points: Urinothorax is a rare cause of pleural effusion, usually unilateral, and seen in patients with OU, following a genitourinary procedure or trauma. It is caused by retroperitoneal leakage of urine accumulation via diaphragmatic pores or by lymphatic connection into the pleural cavity. PFA typically demonstrates a PF/S creatinine > 1. In this case, pleural effusion was observed after thoracostomy. Awareness of this clinical feature can lead to early diagnosis and prompt intervention which is directed toward the correction of the underlying disease.

1056 - Submission No. 2151

HETEROGENOUS CHRONIC POSTUBERCULOSIS LUNG DISEASE ASSOCIATED A RARE CARTILAGINOUS ENDOBRONCHIAL INVOLVEMENT. CASE REPORT

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Case Description: A case of 60-year-old women, with exposure to cigarettes smoking (18 pack years) and welding gases, having a family history of lung cancer and a personal medical history of pulmonary tuberculosis (PTB) active disease, treated in 2008, is reported. Her long journey of post TB lung disease (PTLD) included progressive deterioration of health status to suppurative bronchitis in June 2010, and, in March 2013. For hemoptysis, associated with fever, productive cough and exertional dyspnea, the patient was hospitalized.

Clinical Hypothesis: Three clinical hypothesis were assessed for differential diagnosis of hemoptysis: TB relapse, post TB bronchiectasis and/or a possible association of PTLD and lung cancer.

Diagnostic Pathways: Smears and GeneXpert were negative and chest Xray was not suggestive for a TB reactivation. Spirometry facilitated COPD diagnosis and long acting antimuscarinic bronchodilator (Tiotropium) was started. Computerized tomography (CT) of the chest showed right upper lobe predominance of lung fibrosis with traction bronchiectasis, pleural thickening. Bronchoscopy revealed an endobronchial tumor, like a cartilaginous spur, placed in the right side of tracheobronchial junction, causing 50% stenosis of the right main bronchia. A squamous dysplasia was noticed in biopsy by histopathology report.

Discussion and Learning Points: A slow progressive evolution to 70% of bronchial stenosis was noticed, in May 2016, and 80%, in April 2022. Lung cancer was excluded, and rare TB benign cartilaginous tracheobronchial complication was considered. This

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post TB sequela was firstly described by Lemoine in 1957, Eckert in 1978 and Mangiulea in 1983. Earlier complete screening of complex heterogenous PTLD, which can include residual bronchial stenosis, as well as lung damage, is mandatory even in all patients with treated TB history.

1057 - Submission No. 2338

IS ASTHMA OVER-DIAGNOSED IN CYPRUS? A CLINICAL STUDY AT THE OUTPATIENT'S PRIMARY CARE LEVEL

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Background and Aims: Although asthma is a common disease accurate diagnosis is missing and it has been reported that often it is over or under-diagnosed. Our aim was to investigate if a physician's diagnosis of asthma in Cyprus is correct by using a structured algorithm at the outpatient primary care level.

Methods: Sixty adults with a self-reported physician diagnosis of asthma, mean age 47.8 years (29 males) were included in the study. Medical history and physical examination, pre-post bronchodilation spirometry and methacholine bronchial challenge test was used to confirm or rule out the diagnosis as well as a three-months follow-up. In addition, the cost of treatment was estimated.

Results: Sixteen subjects (27%) had a positive pre-post bronchodilation spirometry test and were considered asthmatics. In 9/44 remaining subjects a positive methacholine provocation test confirmed the asthma diagnosis. The rest of the subjects (n=35) went into a 3-month observational period during which only 2 showed asthmatic symptoms and were considered asthmatics by a second methacholine test that confirmed the diagnosis. A correct asthma diagnosis was established in 27 (45%) of subjects. The annual average cost of medication for asthma confirmed the group was 313 €/patient (171-454, 95% CI) and the average 2-year unnecessary (asthma ruled-out group) cost of treatment was approximately 297 €/patient. (179-415, 95% CI).

Conclusions: Physician-diagnosed asthma overestimates the actual prevalence of disease in adults in Cyprus. These individuals consume unneeded medications at a significant cost. Thus, the correct diagnosis should be made by using more specific tests starting at the primary care level.

1058 - Submission No. 513

REFRACTORY HYPOXAEMIA IN A PATIENT WITH LIVER CIRRHOSIS

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Case Description: In the October 2022, a 74 years-old Italian woman with declivous edema and acute hypoxemic respiratory failure was admitted to our Hepatology Unit at Policlinico Riuniti, Foggia (Italy). In the last 6 months she referred dyspnea during ordinary activity worsened in the last week before admission. Past medical history included interstitial lung disease and referred-never-treated autoimmune liver hepatitis, evolved in cirrhosis. The patient's clinical conditions worsened despite treatments with steroids, diuretics, antibiotics, and oxygen supplementation.

Clinical Hypothesis: Both pulmonary embolism and lung parenchyma disease were excluded on CTPA. Transthoracic echocardiogram was inconclusive for heart failure. A right heart cardiac catheterization excluded pulmonary hypertension. Autoimmune screen, atypical pneumonia research and viral PCR were all negatives. Given the history of cirrhosis and the persistent hypoxemia despite treatment, in the absence of relevant primary lung and/or heart disease, we finally hypothesized a hepatopulmonary syndrome (HPS).

Diagnostic Pathways: Clinical signs and symptoms (e.g. digital hippocratism, cyanosis and platypnea), increased $P(A\text{-}a)O_2$, levels of von Willebrand factor in the presence of opacification of the left heart chambers after a bubble contrast echocardiogram, finally confirmed our diagnostic hypothesis. The patient unfortunately passed away.

Discussion and Learning Points: Lung failure in liver diseases is frequently misdiagnosed as interstitial pneumonia, pulmonary infection, or heart failure. HPS should belong to the differential diagnosis for dyspnea in any patient with chronic liver disease. Additionally, this case highlights the importance of clinical reasoning with step-by-step excluding of differential diagnosis in Internal Medicine.

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1059 - Submission No. 990

ASTHMA CONTROL AND QUALITY OF LIFE IN A SUB-GROUP OF ASTHMATIC PATIENTS WITH HYPERTENSION, IN GREECE. RESULTS FROM SKIRON STUDY

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Background and Aims: According to GINA2021, asthma treatment aims at disease control and normal daily activity. Comorbidities may contribute to symptoms leading some, to poor asthma control and impaired quality of life (QoL).

Methods: Study objective was to evaluate the effectiveness of 3-month treatment with Fixed Dose Combination (FDC) of budesonide/formoterol (Elpenhaler®), in controlling asthma symptoms and affecting QoL of Greek asthmatic patients. SKIRON was an observational/non-interventional/multicenter clinical study (NCT03055793). Data were collected at baseline (V_0), 1(V_1) - and 3 (V_2)-month visits. Asthma symptom control and QoL, were evaluated using validated Greek versions of Asthma Control Questionnaire (ACQ-6) and Mini Asthma Quality of Life Questionnaire (m-AQLQ), respectively.

Results: 1,174 asthmatic patients were enrolled from 126 sites in Greece. The 29.8% (250) of them had hypertension as cardiovascular comorbidity and 28.5% (335) had no comorbidity. In the sub-group of patients with hypertension, the mean ACQ total score was V_0= 2.40±0.88, V_1= 1.13±0.78, V_2= 0.63±0.62 whereas in patients without comorbidities respective score was V_0= 1.98±1.01, V_1= 0.94±0.72, V_2= 0.47±0.50 ($p<0.0001$ in both visits and sub-groups). The mean total m-AQLQ score was V_0= 4.32±0.94, V_1= 5.76±0.88, V_2= 6.29±0.77 while in patients without comorbidities respective score was V_0= 4.79±1.11, V_1= 5.68±0.77, V_2= 6.46±0.57.

Conclusions: Patients with hypertension as comorbidity had worse asthma control and QoL than patients without any comorbidity at baseline. However, after three months of treatment with FDC budesonide/formoterol (Elpenhaler®), there was a clinically significant improvement in asthma control and QoL in both sub-groups of Greek asthmatic patients.

1060 - Submission No. 1010

ASTHMA CONTROL AND QUALITY OF LIFE IN A SUB-GROUP OF PATIENTS WITH TYPE 2 DIABETES MELLITUS, IN GREECE-SKIRON STUDY

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Background and Aims: Inhaled corticosteroid (ICS)/long acting β2 agonist (LABA) combination therapy is used for the effective control of asthma. Aim of this study was to collect data on the asthma control and quality of life from a fixed dose combination (FDC) of budesonide/formoterol (Elpenhaler®) following 3-months treatment.

Methods: A 3-month real-life/multicenter/clinical study (NCT03055793) was conducted, using the Asthma Control Questionnaire (ACQ-6) for asthma control assessment and MiniAQLQ (m-AQLQ) questionnaire for Quality of Lifie (QoL) assessment. Comorbidities were also recorded, and data were collected at baseline (V_0), 1 (V_1)- and 3 (V_2)-month visits.

Results: 1,174 asthmatic patients were enrolled from 126 sites in Greece. The 12.4% (104) of them had type 2 diabetes mellitus (T2DM) and 28.5% (335) had no comorbidity. In the sub-group of patients with T2DM the mean ACQ total score was at V_0= 2.43±0.82, V_1= 1.12±0.73, V_2= 0.76±0.68 whereas in patients without comorbidities respective score was V_0= 1.98±1.01, V_1= 0.94±0.72, V_2= 0.47±0.50 ($p<0.0001$ in both visits and sub-groups). The mean total m-AQLQ score was at V_0= 4.36±0.92, V_1= 5.81±0.84, V_2= 6.15±0.79 while in patients without comorbidities respective score was V_0= 4.79±1.11, V_1= 5.68±0.77, V_2= 6.46±0.57.

Conclusions: Patients with T2DM as comorbidity had worse asthma control than patients without any comorbidity at baseline while QoL was at similar level. After three months of treatment with FDC budesonide/formoterol (Elpenhaler®) there was a clinically significant improvement in asthma control and QoL in both sub-groups of Greek asthmatic patients.

1061 - Submission No. 250

FROM LIVER TO LUNG

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Case Description: An 83-year-old woman came to the emergency department for dyspnea. History: hypertension, stage V chronic kidney disease, and hepatic hydatid cyst diagnosed incidentally more than 50 years ago. Dyspnea at rest of 15 days of evolution, without orthopnea or episodes of paroxysmal nocturnal dyspnea.

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No fever or infectious symptoms. Syncopal episode two weeks ago, with vasovagal characteristics, with trauma to the right side without fracture or hematoma.
- Blood analysis: hemoglobin: 10.5 g/dl, without leukocytosis or neutrophilia, urea: 200 and Cr: 3.5, liver profile without alterations.
- Venous blood gas: respiratory alkalosis with a pCO_2:32.
- ECG: sinus rhythm at 70 bpm with no other notable alterations.
- Chest X-ray: several left pulmonary nodules of new appearance, recommending to rule out metastasis/infectious process.

Clinical Hypothesis: Among the main differential diagnoses were pulmonary metastases of an unknown primary. A respiratory infection of bacterial etiology and among them, due to the nodular images, a nocardiosis. Pulmonary thromboembolism was also a possibility.

Diagnostic Pathways: Chest and abdominal CT: multiple pulmonary nodules compatible with pulmonary dissemination by hydatid cyst; dilatation of pulmonary arteries, especially the left lower lobe due to pulmonary embolism by hydatids; rupture of liver cyst with hydatids entering the lumen of the inferior vena cava.

Discussion and Learning Points: In this case, the trauma to the right side secondary to syncope caused the calcified hepatic cyst to rupture into the lumen of the inferior vena cava, introducing the hydatids into it and causing a thromboembolic event at the pulmonary level, as well as the dissemination and formation of multiple pulmonary nodules.

1062 - Submission No. 2106

PULMONARY SARCOIDOSIS – A DIAGNOSIS CHALLENGE

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Case Description: A 78 years-old patient, ex-smoker, coalman, medical-history represented by sarcoidosis (2017) initially misdiagnosed with silicosis (2016), atrial fibrillation, chronic heart failure, mitral and aortic regurgitations, erosive duodenitis, chronic kidney disease, presented to our ambulatory for mild effort dyspnea, productive cough, asthenia, debuted by almost 6 weeks. The patient was, initially, X-Ray explored, but they could not receive a complete response, having the pulmonary medical history, being considered a chronic pneumonia.

Clinical Hypothesis: Physical examination: supra-ponderal constitution state, the disappearance of pilosity of the calves, kyphosis, percussion pain for the spinous processes-L4,L5,L6 vertebras, positive bilateral Laseque-maneuver, diminution of thorax ampliation and vocal vibrations, left-inferior crackles, arrhythmic heartbeats without any other changes.

Diagnostic Pathways: On June: Erythrocytes-Sedimentation-Rate 81 mm/h, 515.000 platelets count, abdominal-ultrasounds and CT scan examination-normal findings; X-Ray examination: triangular opacity specific for pneumonia-inhomogeneous layout, different intensity. Rapid Antigen and PCR Test for SARS-CoV-2-negatives. We proceed for CT scan: extensive ilio-pulmonary mass in the inferior lingular segment, inner disposition with hypodense areas, pleural involving; reticular and micronodular lesions-upper segments, extensive fibrotic masses with bronchial and pleural retraction-medium lobe and multiple intrathoracic adenopathies; necrotizing and calcified central adenophatic masses extended at right pulmonary hilum, right pulmonary artery and her branches. Tumoral markers (NSE, CA19-9)-normal values. On august, the clinical and imagistic findings are almost the same, so we repeatedly antibiotic therapy. On November, we remarked three kilograms fatness and X-ray-opacities and fibrosis.

Discussion and Learning Points: The differentiation between sarcoidosis and silicosis is a challenge. Medical history and his medical risk determined us for an advanced check-up with favorable progression of the pulmonary lesions, for an insidious debuted sarcoidosis patient.

1063 - Submission No. 1569

A CASE REPORT OF EMPYEMA CAUSED BY CARBAPENEMASE PRODUCING BACTERIA – A THERAPEUTIC CHALLENGE

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Case Description: A 68-year-old man with history of ulcerative proctitis and psoriasis, is admitted with productive cough and dyspnea. He was tachypneic and had decreased lung and voice sounds transmission on right lung fields.

Clinical Hypothesis: The changes in the pulmonary auscultation raised the hypothesis of pleural effusion.

Diagnostic Pathways: Blood analysis showed leukocytosis and elevated CRP. Urinary antigen tests and PCR SARS-CoV-2 were negative. Chest x-ray and thoracic CT revealed voluminous right pleural effusion. Thoracocentesis was performed and the pleural fluid analysis was compatible with empyema. Ceftriaxone and clindamycin were initiated, with improvement. The pleural effusion culture later identified carbapenems producing *Klebsiella pneumoniae* (CPK), susceptible to ceftazidime-avibactam and aminoglycosides, and thus antibiotic therapy was changed to ceftazidime-avibactam and clindamycin combined, maintaining clinical improvement. However, 13 days later, the patient

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developed altered mental status and epilepsy. After exclusion of other etiologies, ceftazidime-avibactam was stopped because of the suspicion of neurotoxicity, and combined doxycycline, amikacin and clindamycin were initiated.

Discussion and Learning Points: There are few cases of KPC empyema ever described, and we should expect a higher frequency over the years, due to the frequent use of antibiotics nowadays. This patient had no risk factors for multidrug-resistant organisms (MDROs). Furthermore, evidence shows that cephalosporins cause central nervous system toxicity in patients with renal impairment, lowering seizure threshold. In our case, however, the patient had normal renal function, similar to one case report of 2020. We should expect, with the growth of MDROs, and the consequent use of this drug, the increasing frequency of adverse reactions and greater knowledge about them.

1064 - Submission No. 2191

THE IMPACT OF LUNG CANCER ON PULMONARY TB MORTALITY IN A PULMONOLOGY HOSPITAL

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Background and Aims: Both lung cancer (LC) and pulmonary TB (PTB) are having a high morbidity and mortality. LC is related to chronic inflammation and lung fibrosis, caused by PTB, and it can be a risk factor of death among PTB patients. Our aim was to explore the impact of LC on PTB in-hospital mortality.

Methods: From 1st of January 2013 to 30th of June 2021, a retrospective study evaluated the impact of LC on PTB hospitalized deaths in Clinical Pulmonology Hospital of Constanta, Romania.

Results: Among 1,909 PTB inpatients, 105 died (5.5%), mostly males (68.57%) and younger than 60-year- old (58%). The supplemental risk of death caused by concomitant LC was noticed in 10 PTB cases, but only 8 were histopathological confirmed, revealing a mortality rate caused by concomitant LC and PTB of 7.6% (n= 8/105), increasing by age. Squamous cell lung carcinoma (SCLC) was the most frequent identified type of LC (n=3). Delayed diagnosis of LC was noticed in all cases explained by the similarity of symptoms and imagistic PTB mimicry of associated LC.

Conclusions: The risk of death caused by concomitant LC and PTB is associated with aging and squamous cell lung carcinoma (SCLC), so smoking cessation and screening of LC is mandatory in all PTB patients.

1065 - Submission No. 2138

BRONCHOPULMONARY CANCER IN PATIENTS WITH MULTIPLE PATHOLOGY - CLINICAL AND PARACLINICAL CORRELATIONS

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Background and Aims: Because more advanced stages of lung cancer are incurable, early detection is essential, but there is currently no screening test. We want to find a connection between biochemical markers, clinical and anatomical forms in patients diagnosed with bronchopulmonary cancer in patients with pre-existing chronic conditions. (HIV, COPD, TB, chronic renal failure, LLC, etc.). In a large number of patients, cytological smears obtained by bronchoalveolar lavage are insufficient for diagnosis, both due to the possibility of obtaining a white sample and damage to the tumor cell wall.

Methods: Currently, we have in the studio 192 patients diagnosed in Medical Clinic II and Medical Clinic I- (including Pneumology Department) of the Constanta County Emergency Hospital, who were followed from diagnosis and monitored during evolution.

Results: We have identified as serum biomarkers that help in the early diagnosis of lung cancer: CEA, RBP and antitrypsin a1. They could potentially be used to plan the management of a patient with a lung injury on an already affected patient or as a screening tool for high-risk populations.

Conclusions: Among the points of interest of our study we also mention the analysis of common tumor markers in practice, depending on the stage of the disease, the distribution of cases according to the result of bronchoscopy, the appearance of cytological smears and tumor histopathological type, distribution according to the stage of the disease and pre-existing conditions.

1066 - Submission No. 1485

6-MONTH MORTALITY OF COPD PATIENTS HOSPITALIZED FOR COVID-19

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Background and Aims: There is a worse prognosis of SARS-CoV-2 infection in COPD patients. The aim of this study was to analyze 6-month mortality depending on different predisposing factors in COPD patients hospitalized for COVID-19 during the first and second waves.

Methods: A retrospective study was carried out selecting patients with COPD who had been hospitalized for COVID-19 at the H.G.U. Gregorio Marañón from March to December 2020.

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Mortality during admission and the following 6 months was analyzed based on history, usual treatment, clinical symptoms and signs, laboratory and radiology findings and treatment during admission. Chi-square test and Fisher's exact test were used.

Results: 256 patients were obtained, with an average age of 77 years old and a 6-month mortality rate of 39.45%. A statistically significant relationship was found in a history of hypertension, chronic heart failure, ischemic heart disease, chronic kidney disease, neoplasia during the last 5 years, cerebrovascular disease, and moderate-severe dementia. No statistically significant differences were obtained in active smoking, diabetes mellitus, obesity, asthma, other lung diseases, cardiovascular disease, chronic liver disease, autoimmunity, immunodeficiencies or the usual inhaler treatment. A higher mortality was found in readmission for COVID-19 reason, acute respiratory distress syndrome, ICU stay, orotracheal intubation and high-flow nasal cannula requirement. Lower mortality was obtained in patients who received remdesivir. A higher mortality was observed in the first wave compared to the second (Table 1).

Conclusions: We recommend making an early diagnosis and treatment of the infection, closely follow-up after discharge for COVID-19, and optimize the management of comorbidities of COPD.

Risk factor	Percentage of death with the RF vs survival with de RF	P-value
Hypertension	44,3 vs 27,4	0,13
Chronic heart failure	58,2 vs 32,8	<0,001
Ischemic heart disease	50,9 vs 36,5	0,055
Chronic kidney disease	58,5 vs 33	<0,001
Neoplasia	51,7 vs 35,7	0,27
Cerebrovascular disease	58,1 vs 36,9	0,24
Demencia	69,7 vs 35	<0,001
ARDS	56,6 vs 31,2	<0,001
UCI	68,8 vs 37,5	0,13
Orotracheal intubation	75 vs 38,3	0,61
High-flow nasal cannula	55,9 vs 36,9	0,35
Remdesivir	11,1 vs 42,8	0,001
1st vs 2nd wave	48,5 vs 30,2	0,003

1066 Table 1.

1067 - Submission No. 231

A NIPPLE PIERCING SIZED LUNG

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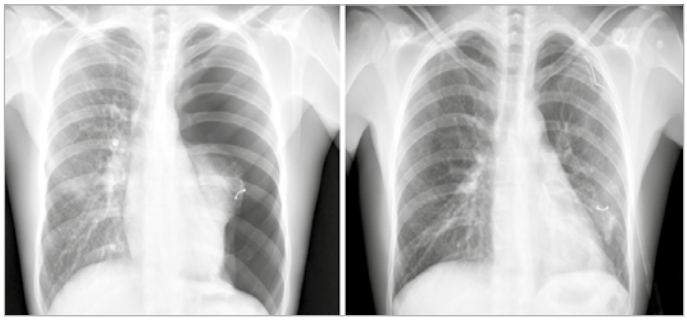
Case Description: A 32-year-old man, with a history of 14 years of smoking, was admitted in the emergency room with dyspnea and thoracic pain, after coughing and a sneeze. He had low oxygen levels and absence of breath sounds on the left hemithorax. He was tachycardic, BP 160/100 mmHg and apyretic.

Clinical Hypothesis: Pneumothorax.

Diagnostic Pathways: X-ray of the thorax showed a large pneumothorax collapsing the lung to the size of a nipple piercing (Figure 1). High-flow oxygen was initiated, and a chest tube was inserted, immediately relieving his symptoms.

Discussion and Learning Points: Pneumothorax can be traumatic or spontaneous. Male gender and smoking are important risk factors. Virtually all patients have ipsilateral pleuritic chest pain and dyspnea. Early suspect through a complete physical examination and prompt treatment allows a better prognosis of the disease.



1067 Image 1.

1068 - Submission No. 1364

IMMUNOTHERAPY (NIVOLUMAB) INDUCED THYROTOXICOSIS: A RARE CAUSE OF NON-CARDIOGENIC PULMONARY EDEMA

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Case Description: A 77-year-old woman with known left lung adenocarcinoma presented with dyspnea. She was on ipilimumab/nivolumab immunotherapy. Echocardiogram showed preserved biventricular function and CT pulmonary angiogram was negative for pulmonary embolism. She was treated as pneumonitis and pneumonia with methylprednisolone and piperacillin-tazobactam

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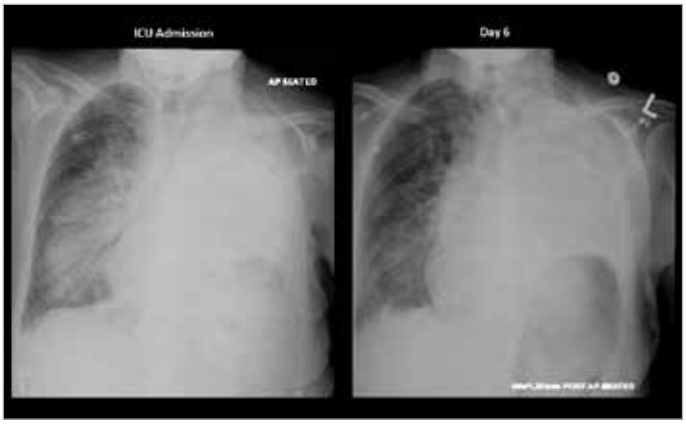
and later discharged home. She presented three days later with hypoxic respiratory failure requiring high flow nasal cannula (HFNC) 40 L/min with FiO_2 70% and BiPAP to maintain oxygen level above 94%. Chest X-ray revealed right perihilar congestion and chronic left hemithorax opacification owing to lung cancer. She was treated with intravenous furosemide, methylprednisolone, and antibiotics.

Clinical Hypothesis: Hypoxic respiratory failure secondary to non-cardiogenic pulmonary edema which in turn was caused by thyrotoxicosis related to immunotherapy.

Diagnostic Pathways: Her initial TSH was 0.008 mU/L and T4 40.2 pmol/L which improved to 0.220 mIU/L and 13.5 pmol/L respectively with treatment. Negative TSH receptor antibodies (TRAb) and low uptake on thyroid scan supported drug-induced thyroiditis. Respiratory panel grew Legionella pneumophila. A review of CT revealed no features of pneumonitis. At day six of admission, right perihilar opacification significantly improved [Figure 1] and FiO_2 reduced to 30%.

Discussion and Learning Points: We present a case of immunotherapy induced thyrotoxicosis which led to non-cardiogenic pulmonary edema. The relatively rapid resolution of right perihilar changes on CXR within six days of treatment makes pneumonitis a less likely cause of her hypoxic respiratory failure. With increasing use of immunotherapy, this rare diagnosis should be considered in oncology patients presenting with hypoxic respiratory failure.



1068 Image 1.

1069 - Submission No. 653

KNOWN TO RECOGNIZE: A RARE CASE OF PLATYPNOEA-ORTHODEOXIA SYNDROME

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Case Description: A 32-year-old non-smoker Asian female was admitted to the Emergency Department San Salvatore Hospital of L'Aquila experiencing worsening of dyspnea. Three months earlier the patient had undergone left pneumonectomy. An arterial blood gas analysis performed on air reported: pH 7.53, pCO_2 23.7 mmHg, pO_2 38.7 mmHg, SpO_2 80%. Blood tests showed a moderate increase in D-dimer.

Clinical Hypothesis: Considering the diagnostic hypothesis of pulmonary embolism, an Angio CT-scan of the chest was performed and showed no radiological characteristics suggesting parenchymal pathology and no evidence of thromboembolic or other vascular pathology.

Diagnostic Pathways: A condition of severe platypnea was evident: supine decubitus was obliged. A strong desaturation was observed, going from almost normal values (94-96% SpO_2), to 80-82% SpO_2 when she was sitting up in bed. A right-left shunt condition was assumed, and a transesophageal contrast echocardiogram was requested. The latter demonstrated patency of the foramen ovale.

Discussion and Learning Points: The first description of a condition very similar to platypnea-orthodeoxia syndrome following pneumonectomy dates to 1956, by Schnabel et al. A systematic review identified 8 studies concerning ten patients, 6 male/4 female. The mean age was 62 years. All patients underwent resection of the right lung. A PFO was present in 90%. Our patient shows two peculiarities: young age, in fact, there is only one description of POS in a patient of younger age and the left localization of the previous pneumonectomy, much rarer in frequency than the contralateral in the known cases. POS can be severely disabling, so physicians must be prepared for its prompt recognition.

1070 - Submission No. 664

A RARE CASE OF PULMONARY NOCARDIOSIS IN A PATIENT WITH AUTOIMMUNE ALVEOLAR PROTEINOSIS

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Case Description: A 48-year-old-man with history of smoking and recurrent hospitalizations for relapsing respiratory infections, presented to our department with fever, cough and respiratory failure, despite ceftriaxone and steroid therapy.

Clinical Hypothesis: Suspected diagnosis of alveolar proteinosis (AP) during previous hospitalizations.

Diagnostic Pathways: Laboratory tests showed increased neutrophil count and c-reactive-protein, negative blood cultures and SARS-CoV-2 test. Chest-CT showed extensive parenchymal thickening of left-lower lobe and right-upper lobe, bronchiectasis, and diffuse ground-glass pattern (Figure 1). He started O2-therapy, steroid and piperacillin/tazobactam, then linezolid

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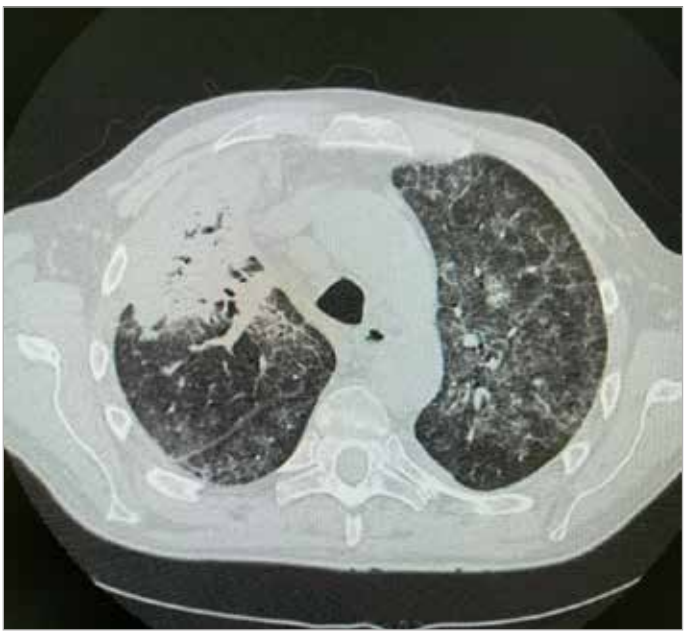
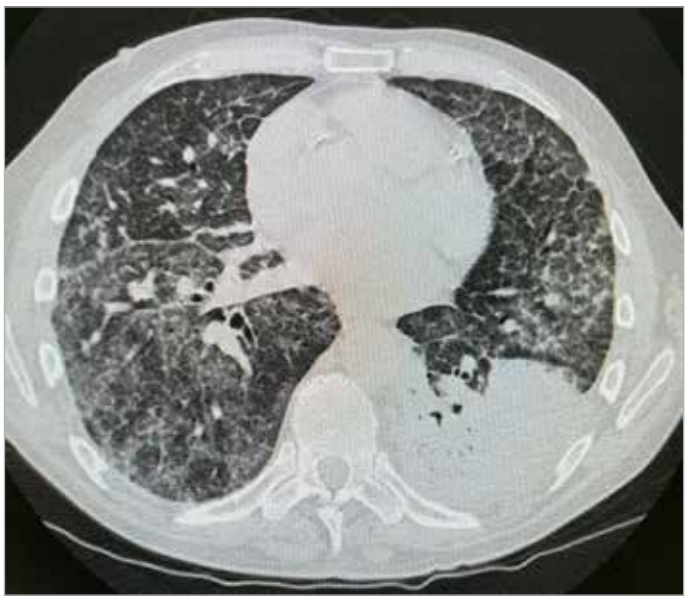
was introduced. HIV test, galactomannan/beta-glucan, urinary antigen test were negative. Bronchoalveolar-lavage (BAL) displayed milky appearance, foamy histiocytes. Microscopic and preliminary cultures were negative. After transient clinical improvement, clinical worsening recurred. Patient was transferred to pneumological hub. After 14 days, BAL culture completed, becoming positive for *Nocardia Wallacei*. Patient underwent transbronchial biopsy, Nocardia was confirmed. After cotrimoxazole/voriconazole therapy patient was discharged with definite diagnosis of autoimmune AP made upon positivity of serum-anti-GM-CSF-antibodies. After one month and another recurrence of respiratory failure in pulmonary nocardiosis (PN) patient was put on long-term cotrimoxazole therapy as secondary prophylaxis. Two-month follow-up showed radiological improvement without relapses (Figure 2).

Discussion and Learning Points: History of recurrent pneumonia and/or clinical worsening during therapy, should raise suspicion of rarer pathologies, such as AP, predisposing to opportunistic infections as PN. High level of suspicion could have led to direct microscopic research for opportunistic pathogens, which was found only after completion of culture tests in relation to long growth times. Internist, as "physician of complexity", is a central figure both for early diagnosis and for timely referral of complex patients to specialized centers.



1070 Figure 1.



1070 Figure 2.

1071 - Submission No. 1397

SPONTANEOUS PNEUMOTHORAX IN A 24-YEAR-OLD FEMALE: A CASE REPORT

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Case Description: A 24-year-old Chinese female presents with right sided pleuritic chest pain, cough, and dyspnea for 1 day. A chest x-ray revealed a large right sided 14 cm pneumothorax. She is 161 cm tall, with no past medical history. Her presentation coincided with day 1 of her menstrual cycle. She was managed initially with chest tube insertion. A Computed Tomography (CT) thorax performed showed a large right pneumothorax and a small bleb at the right lung apex. Despite 3 days of chest tube drainage, there was failure of resolution. She underwent a right video-assisted thoracoscopic surgery (VATS) with bullectomy and pleurectomy. Intraoperative finding revealed bullae over apical segment of right lobe and no diaphragmatic fenestrations. Histology of right lung upper lobe bullectomy was subpleural bulla with reactive changes, while right parietal pleura was reactive mesothelial hyperplasia.

Clinical Hypothesis: In this young healthy female with spontaneous pneumothorax that coincided with menstrual cycle, catamenial pneumothorax was a key consideration. However, there was no histopathological confirmation intra-operatively.

Diagnostic Pathways: Lymphangioleiomyomatosis was an initial consideration, but CT thorax had no cystic lesions. Primary spontaneous pneumothorax from spontaneous rupture of bullae was also considered.

Discussion and Learning Points: Young women without underlying disease with spontaneous pneumothorax coinciding with the menstrual cycle should prompt the suspicion of catamenial pneumothorax. High recurrence of spontaneous pneumothorax in this group may warrant earlier primary surgical intervention.

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Clinical diagnosis of catamenial pneumothorax should be considered as there may rarely be diagnostic histopathological findings of endometrial glands or stroma.

1072 - Submission No. 1776

EPIDEMIOLOGY AND CLINICAL IMPACT OF THE MAIN COMORBIDITIES IN PATIENTS WITH COPD EXACERBATION IN A REGIONAL HOSPITAL. SITUATION 2021-2022

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Background and Aims: To know how the impact of non-respiratory comorbidities influences COPD patients based on their clinical characteristics, hospital events, frequency of exacerbations and survival.

Recognize common problems in the clinical treatment of COPD and how they affect the comorbidities present in these patients.

Methods: Carrying out a retrospective observational study based on hospital data provided by those patients diagnosed with COPD admitted for exacerbation of said pathology in charge of the Internal Medicine Service in the period established between January 2021 and May 2022. proceeded to analyze the data and assess statistically significant clinical elements.

Results: Data from a total of 139 patients could be validated. Among the most relevant characteristics in the epidemiology of COPD patients, the following stand out: sex: male 86.1% female 13.9. Mean age of 74.28±10.8 years. Barthel index =>50:58.2% (IQ25-75% range: 20-90) and a Charlson index >5:74.7% (IQ25-75% range: 5-9). Hospital admission; BODE>3: 87.3 (IQ25-75%:4-6) and DECAF:DECAF>2: 79.7% (IQ25-75%: 2-4). Predominance of GOLD B (31.6%) and D (41.8%) criteria and chronic bronchitis phenotype: 40.5% emphysematous 38% SAHS 19%. Previous cardiovascular events: 54.4%. Most frequent associated pathologies: heart failure (HF) 74.3%, renal failure 36.7%, diabetes mellitus 29.1%. Non-hematological tumors 20.3%. In-hospital mortality: 29.1%. Mortality at 90 days: 39.2%.

Conclusions: The profile of the patient with COPD in our cohort is usually a multipathological male with a high Charlson and Barthel index. It indicates a very high frailty, which indicates the percentage of mortality. HF and tumor disease stand out as comorbidities with the greatest impact as indicators of poor prognosis. Multiple potential drug interactions are observed in the usual treatment of these patients.

1073 - Submission No. 1778

USE OF THE COMBINATION OF CHARLSON, DECAF AND BODE SCALES TO ASSESS THE PROGNOSIS OF HOSPITAL MORTALITY. CAN THE COMBINATION OF THE OLD BEAT THE NEW?

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Background and Aims: Our aims were to know the capabilities of the tools and prognostic scales on mortality in COPD patients; to evaluate new possibilities or combinations of variables to optimize prognosis and mortality in COPD patients; to evaluate the characteristics of the situation of our cohort and plan a possible predictive model.

Methods: We carried out a retrospective observational study based on hospital data provided by those patients diagnosed with COPD admitted for exacerbation in the period established between January 2021 and May 2022.

Results: Data from a total of 139 patients could be validated. Among the most relevant characteristics in the epidemiology of COPD patients, the following stand out: sex: male 86.1 % Female 13.9 with mean age of 74.28 ±10.8 years. He presented a Barthel index =>50: 58.2% (IQ25-75% range: 20-90) and a Charlson index > 5: 74.7% (IQ25-75% range: 5-9). In his COPD situation at the time of hospital admission; BODE > 3: 87.3 range (IQ25-75%: 4-6) and DECAF:DECAF >2: 79.7% (IQ25-75%: 2-4). Predominance of GOLD B (31.6%) and D (41.8%) criteria and chronic bronchitis phenotype: 40.5% emphysematous 38% SAHS 19%. In-hospital mortality: 29.1%. Mortality at 90 days: 39.2%. Assessment of ROC curves: DECAF (95%CI: 0.555-0.802), CODEX (95%CI: 0.649-869), ADO (95%CI: 0.621-863); DOSE (95%CI: 0.469-725);COTE (95%CI: 0.614-0.857); BODE+Charlson+DECAF (95%CI: 0.703-905),

Conclusions: The combination of the Charlson, BODE, and DECAF indices are offered as a good option for predicting in-hospital mortality in a large group of patients with COPD in our cohort, even above other scales currently used. It is necessary to assess its external validity to compare our information and see its usefulness.

1074 - Submission No. 61

A COMMUNITY OUTBREAK OF LEGIONNAIRES' DISEASE

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Background and Aims: Our aim was to analyze the clinical, microbiological and epidemiological characteristics of Legionella pneumonia.

Methods: Retrospective, observational and descriptive study

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of all patients admitted to the Príncipe de Asturias University Hospital in Alcalá de Henares, Madrid, between October and November 2021 due to an outbreak of pneumonia due to Legionella pneumophila serogroup 1.

Results: In the period studied, 12 patients who had stayed in the same spa days before admission were identified. 5 subjects were male (42%) with a median age of 74 years (71-80). 75% (7) had cardiovascular risk factors: type 2 diabetes mellitus (75%), smoking (40%) and lung disease (20%). The most frequent symptoms were fever (100%), cough (90%) and dyspnea (70%), Hyponatremia was detected in 10 patients (83.3%) and creatine phosphokinase elevation in 3 patients (3.6%). The most frequently observed radiological pattern was bilateral alveolar with predominant involvement of the lower lobes (91.7%). Regarding the microbiological diagnosis, 3 patients presented positive Legionella antigen in urine and 9 seroconversions. The median duration of antibiotic therapy was 13 days (13-15), with the most used antibiotics being a combination of ceftriaxone and levofloxacin (67%). There were no deaths.

Conclusions: The characteristics of the patients affected by an outbreak of legionellosis in our health area were similar to those described in other outbreaks, except for the low presence of hyponatremia. Most of the affected subjects had associated risk factors, mainly diabetes mellitus and smoking, as described in other publications.

1075 - Submission No. 585

OSTEOPONTIN AS A PREDICTOR OF COPD SEVERITY AND CARDIOVASCULAR EVENTS IN PATIENTS WITH COPD

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Pirogov Russian National Research Medical University, Hospital Therapy Department Named after Academician P.e. Lukomsky, Moscow, Russian Federation

Background and Aims: One of the defined markers of systemic inflammation in COPD patients is osteopontin (OPN). The aim of the study was to investigate the relationship between an increased level of OPN and severity of COPD, and frequency of hospitalizations for exacerbation of COPD and cardiovascular events.

Methods: The study included 99 patients with an established diagnosis of COPD A-D of the GOLD scale in combination with coronary heart disease (CHD) and without, divided into 2 groups: COPD+CHD and COPD without CHD. Serum level of OPN was determined. The analysis of frequency of hospitalizations for exacerbation of COPD and cardiovascular events during 1 year of follow-up was made.

Results: The level of OPN in the COPD+CHD group was 85.55 ng/ml, in the second was 55.43 ng/ml (p=0.027). The patients in the study groups were distributed into subgroups according to GOLD scale, the level of OPN was significantly different between CHD+COPD GOLD B (91.28 ng/ml) and COPD GOLD B (37.81 ng/ml) (p=0.028), as well as between CHD+COPD GOLD D (80.79 ng/ml) and COPD GOLD D (37.46 ng/ml) (p=0.027). A direct correlation between the level of OPN and the level of FEV1, the BODE index, the CAT scale value, the mMRC scale value was found. Receiver operating characteristic curve analysis identified serum OPN concentration of 71.74 ng/ml as the best cut-off value to predict cardiovascular events and COPD hospitalization (AUC 0.652; 95% confidence interval: 0.543-0.760; p<0.009).

Conclusions: OPN may reflect the severity of symptoms and correlate with the risk of exacerbations and cardiovascular events in COPD patients.

1076 - Submission No. 1797

NOT ALL DYSPNEA MEANS HEART FAILURE

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Hospital Universitario Puerta del Mar, Medicina Interna, Cádiz, Spain

Case Description: A 78-year-old ex-smoker of a pack a day up to the age of 40, without other relevant illnesses, who consulted for progressive dyspnea of 3-months evolution, orthopnea related to coughing fits and mild edema. In addition to constitutional syndrome.

Physical examination revealed hypophonesis in both lung bases, predominantly right, and bibasal crackles. A chest X-ray was performed, revealing interstitial infiltrate predominantly on the right, bilateral pleural effusion predominantly on the right base; normal analysis where normal proBNP stands out. Also, transthoracic echocardiography without findings.

Clinical Hypothesis: Heart failure. Interstitial lung disease. Lung cancer.

Diagnostic Pathways: Given the symptoms and the findings of the complementary tests, an episode of heart failure was suspected, and treatment was prescribed. As there was no improvement and the proBNP being normal, we considered a different diagnosis. Thoracentesis diagnosed pleural fluid with characteristics of inflammatory exudate with elevated tumor markers in pleural fluid (carcinoembryonic antigen and Ca 19.9) and elevated mesothelin. In chest CT with bilateral pleural effusion and bilateral interstitial edema. Rest of study: negative autoimmunity, negative pleural fluid cultures, negative cytology for malignancy. Finally, a pleural and lung biopsy revealed lung adenocarcinoma.

Discussion and Learning Points: Dyspnea is one of the main reasons for consultation, despite heart failure being one of its most frequent causes, it is important to always make a differential diagnosis with its other possible causes, hence the importance of the internist. It is worth noting the negative predictive value of proBNP, being 99% for the diagnosis of heart failure. Finally, diagnosed by biopsy of lung cancer.

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1077 - Submission No. 1602

CANNONBALL APPEARANCE, A TRICKY YET UNDERRATED IMAGING MANIFESTATION OF ORGANIZING PNEUMONIA

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Case Description: A 68-year-old woman with history of hypertension, dyslipidemia and type 2 diabetes was admitted to the hospital for a 2-week history of progressive dyspnea, dry cough, and asthenia. Physical examination showed her to be apyretic, with a normal pulmonary auscultation and without respiratory insufficiency. Raised total leukocyte count (TLC) of 13.8, C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) were 40.0 mg/dl and 34 mm/h, respectively. All other lab tests were normal. Computed tomographic (CT) scan of the thorax revealed multiple pulmonary nodules highly suggestive of pulmonary metastases.

Clinical Hypothesis: This patient was initially diagnosed as a case of pulmonary metastasis based on radiological appearance.

Diagnostic Pathways: She underwent an extensive investigation attempting to locate a primary tumor. After an unsuccessful workup, biopsy of the pulmonary nodules confirmed the diagnosis of organizing pneumonia (OP) without any evidence of malignancy.

Discussion and Learning Points: Although the imaging pattern of OP is heterogeneous, the radiographic and CT findings are often so characteristic that they suggest the diagnosis. Pulmonary nodules/masses are a rare CT findings of OP. With this case, the authors emphasize that not every patient showing cannonball lesions in lung should be directly labelled as a case of disseminated malignancy

1078 - Submission No. 1829

A CASE OF FAT EMBOLISM SYNDROME FOLLOWING FAT TRANSFER

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Case Description: A 29-year-old female presented complaining about chest discomfort about 48 hours after a fat transfer to the buttocks. She was hypotensive and tachycardic. Her SaO_2 was 95% on air and her blood gases showed hypoxemia and hypocapnia. She also had anemia and thrombocytopenia.

Clinical Hypothesis: Respiratory distress following fat transfer could be a sign of fat embolism syndrome.

Diagnostic Pathways: Pulmonary embolism was excluded on admission by CT pulmonary angiogram. Five days later her hypoxemia deteriorated, and a repeat high resolution CT Thorax showed ground glass opacities in <50% of her lung parenchyma. On the basis of one major (respiratory failure) and five minor (fever, tachycardia, high ESR=107, anemia and thrombocytopenia) a diagnosis of fat embolism syndrome was made. Her echocardiogram suggested high probability for pulmonary embolism. Our patient received supportive treatment with LMWH and corticosteroids and improved 48 hours later.

Discussion and Learning Points: FES has no pathognomonic features. It has a low incidence, but clinicians should have a high degree of suspicion to detect this diagnosis early because it is associated with a high mortality index if not treated with supportive measures.

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1079 - Submission No. 1156

SARCOIDOSIS – A MULTISYSTEM DISEASE TO REMEMBER

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Case Description: A 36-year-old female was admitted in emergency department for cough, chest pain, dyspnea during exercise and migratory polyarthralgia with 2 months of evolution. Chest radiograph showed bilateral enlarged hila, and bilateral reticulonodular and ground-glass opacities. Thoracic CT scan confirmed ground glass opacification and micronodularities, bronchial wall thickening, and multiple voluminous hilar and mediastinal lymphadenopathy.

Clinical Hypothesis: Sarcoidosis was raised as the main diagnostic hypothesis, however other pathologies were considered such as infections, lymphoproliferative diseases, vasculitis and other inflammatory diseases.

Diagnostic Pathways: Laboratory tests revealed mild elevation of C-reactive protein and erythrocyte sedimentation rate, mild hypergammaglobulinemia, elevated serum amyloid A and elevated angiotensin converting enzyme. A bronchoscopy was performed identifying mucosal granulation and inflammatory changes; microbiological analysis of bronchoalveolar lavage

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and expectoration was negative for mycobacterial, bacterial, and fungal infections; endobronchial and transbronchial lung biopsies were performed and histological examination of the collected material confirmed a non-necrotizing granulomatous inflammatory process, compatible with sarcoidosis; cytology was negative for neoplastic cells. After confirming the diagnosis of sarcoidosis, glucocorticoid therapy was initiated.

Discussion and Learning Points: Sarcoidosis is a multisystem granulomatous disorder of unknown etiology that most frequently involves intrathoracic organs, but extra thoracic manifestations are also frequent. Diagnosis of sarcoidosis requires compatible clinical and radiological presentation, histopathologic evidence of noncaseating granulomatous inflammation and exclusion of any alternative diagnosis. Spontaneous resolution of the disease is common but progressive organ failure can occur in a significant percentage of patients. Immunosuppressive therapy is the most commonly used but treatment of sarcoidosis is complex and non-standardized and clinical trials guiding evidence for treatment are necessary.

1080 - Submission No. 1646

LEGIONELLA PNEUMONIA - UNLIKELY DIAGNOSIS IN AN INITIAL SUSPICION OF PYELONEPHRITIS

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Case Description: The Legionella bacterium is an intracellular organism, known as the etiologic agent of pneumonia, also known as "legionnaire's disease", which can have a serious clinical presentation. Still, early administration of appropriate antimicrobial therapy is associated with better prognosis. This bacterium can also cause Pontiac fever, a febrile illness with outbreaks. Its entity is typically self-limiting and resolves without antimicrobial therapy. We present the case of a previously healthy 55-year-old male patient, admitted to the emergency department due to fever, low back pain and notion of more concentrated urine. Patient denied other symptoms, namely respiratory ones. He referred to the application of diclofenac gel at the site of pain, without improvement of symptoms, also administration of ibuprofen that resulted in slight improvement of pain, however maintaining febrile peaks. Analytically without leukocytosis, but with increased c-reactive protein. Urinalysis was inconsistent with infection. The imaging studies corroborated the diagnostic exclusion of acute pyelonephritis. Chest radiography showed heterogeneous hypo transparency in the left hemi-thorax. Thoracic computed tomography showed parenchymal consolidation in the lower lobe of the left lung, respiratory test negative for COVID-19. However, positive antigenuria was found for legionella pneumophila.

Clinical Hypothesis: DPOC Tracheobronchitis COVID-19.

Diagnostic Pathways: Blood test, X-Ray, computer tomography, COVID-19 test.

Discussion and Learning Points: This case demonstrates the importance of differential diagnosis, even when the clinical presentation looks linear. This diagnostic march/approach characterizes the good practice of an internist, allowing the beginning of the appropriate therapy to aim a favorable clinical outcome.

1081 - Submission No. 836

ORGANISING PNEUMONIA FOLLOWING ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION

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Case Description: A 47-year-old female with a history of acute myeloid leukemia and hematopoietic stem cell transplantation (HSCT), was admitted to our hospital because of low oxygen saturation. She also complained of low-grade fever and dry cough for the past 3 weeks. She had been treated with multiple antibiotics before admission and hence piperacillin/tazobactam was administered, without any improvement.

Clinical Hypothesis: The patient mentioned diagnosis of organizing pneumonia (OP) 6 months after HSCT and clinical suspicion for a similar episode was high.

Diagnostic Pathways: On chest CT imaging, extensive bilateral ground glass opacities were remarkable. A bronchoscopy was carried out and from bronchoalveolar lavage (BAL) fluid, standard bacterial, fungal and acid-fast bacterial cultures, SARS-CoV-2 PCR, a respiratory pathogen panel PCR, galactomannan antigen and direct fluorescent antibody staining for detecting *Pneumocystis jirovecii* were all performed, excluding infectious etiologies. Finally, the patient was treated for organizing pneumonia with corticosteroids, having a good response.

Discussion and Learning Points: The incidence rate of OP after HSCT is 1-10% and it may be considered a pulmonary manifestation of graft versus host disease (GvHD). In patients with history of HSCT and atypical respiratory symptoms, OP should be included in the differential diagnosis, especially with compatible CT chest findings and after exclusion of infectious causes.

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1082 - Submission No. 1437

RETROSTERNAL GOITRE INDUCED PHRENIC NERVE PALSY AS A RARE CAUSE OF BREATHLESSNESS

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Case Description: A 78-year-old gentleman attended our Emergency Department with a 3-month history of dyspnea, with no associated dysphagia. Past medical history included hypertension, type-two diabetes, fronto-parietal meningioma with associated seizures and hyperthyroidism with large retrosternal goitre. His Chest X-ray demonstrated a raised right-hemidiaphragm.

Clinical Hypothesis: The phrenic nerve has a long course from neck to diaphragm and can be damaged anywhere along this course. Our hypothesis was that his retrosternal goitre, through pressure effect on R phrenic nerve was responsible for diaphragmatic compromise, as evidenced by the elevated hemidiaphragm.

Diagnostic Pathways: CT neck and chest were performed to out rule neoplastic etiology affecting phrenic nerve. Ultrasound scan of diaphragm whilst 'sniff test' being performed assessed diaphragmatic movement and confirmed weakness. Spirometry showed a restrictive pattern, with FVC decline >10% in supine position diagnostic of diaphragmatic paralysis and overnight oximetry demonstrating hypoxia.

Discussion and Learning Points: Retrosternal goitre incidence varies between 0.02-0.5%[1], with phrenic nerve palsy secondary to retrosternal goitre rare. This case highlights the importance of early identification and treatment of retrosternal goitre, as failure can result in significant morbidity. In our case it was felt that his retrosternal goitre had resulted in permanent phrenic nerve damage with type two respiratory failure, requiring NIV. His increased anaesthetic risk made surgical excision of meningioma and retrosternal goitre unfeasible, further negatively impacting his quality of life.

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1083 - Submission No. 976

SPONTANEOUS SECONDARY PNEUMOTHORAX FOLLOWING COVID-19 INFECTION

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Case Description: 62-year-old Caucasian male, past medical history relevant for metastatic adenocarcinoma of the rectum with hepatic, lung and lymph node metastasis, under chemotherapy with FOLFIRI plus bevacizumab. His most recent staging CT scan showed diffuse pulmonary metastasis with multiple nodules, some of which were cavitated. He presented to the emergency department for 1-day history of dry cough and sudden and worsening dyspnea. He presented with polypnea, increased work of breathing and SpO2 of 89%. The patient was afebrile and hemodynamically stable. Physical examination was remarkable for decreased breath sounds on the left and wheezes on the right hemithorax. The patient received supplementary oxygen and a diagnostic workup was requested.

Clinical Hypothesis: The differential diagnosis of sudden, worsening dyspnea include infectious etiologies, spontaneous pneumothorax, pulmonary embolism, exacerbation of chronic pulmonary diseases, decompensated heart failure, among others.

Diagnostic Pathways: Laboratory findings were remarkable for leukocytosis and a slightly elevated C-reactive protein. Blood gas analysis showed hypoxia without hypercapnia or hyperlactacidemia. Chest X-ray displayed a large volume left pneumothorax. A SARS-CoV-2 rapid antigen test was positive. The diagnosis of secondary spontaneous pneumothorax was established. Drainage by chest tube thoracostomy was performed and the patient admitted to the infectious disease ward.

Discussion and Learning Points: Primary and metastatic lung malignancy have been associated with spontaneous secondary pneumothorax, the mechanisms including tumor necrosis, endobronchial obstruction, and development of necrotizing cysts. Patients with gastrointestinal adenocarcinomas, such as our patient, are at increased risk of developing necrotic metastatic cysts. Vigorous bouts of cough due to SARS-CoV-2 infection acted as a trigger for the phenomenon.

1084 - Submission No. 2036

YOUNG PATIENT WITH DYSPNEA: SOMETHING BLUE, SOMETHING OLD AND SOMETHING NEW

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Case Description: A 43-year-old female patient presented in ER for severe dyspnea and palpebral edema. Anamnesis presented a history of Graves-Basedow disease, chronic bronchitis, chronic *Helicobacter pylori* positive gastritis. Physical examination revealed a cyanotic patient, in orthopnea, palpebral edema without exophthalmos, full supraclavicular fossae, IInd degree of goiter, abolished breathing sounds and dullness at percussion in the right hemithorax and reduced in the left one, SpO_2=99% with 5L O_2 supplementation. Laboratory results at admission: leucopenia, hyponatremia, mildly elevated D-dimers and chest X-Ray: bilateral interstitial accentuation.

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Clinical Hypothesis: Mediastinal syndrome was considered, first due to a retrosternal goiter. Second, after further imagistic methods (native thoracic CT), a lymphoma was considered, based on compressive mediastinal adenopathies. As patient's dyspnea aggravated, tracheostomy and bronchoscopy were performed revealing invasion and external compression of 100% of the lumen of the right main bronchi and 75% of the left one.

Diagnostic Pathways: Further investigations revealed subclinical hyperthyroidism, elevated markers: specific neuron enolase and carcinoembryonic antigen. Bronchial biopsy and lavage were performed. Unfortunately, patient died 4 days after tracheostomy. Autopsy was performed and a malignant right broncho-pulmonary tumor was found, with possible pancreatic metastasis (tumor of 7 cm), histopathology and immunohistochemistry in process.

Discussion and Learning Points: Physical examination remains the corner stone in etiologic diagnosis of dyspnea. Inspiratory dyspnea, facial edema and collateral circulation on the upper thorax made us insist on searching the cause, even if chest X-ray and CT did not reveal the broncho-pulmonary tumor, despite its severity. If these signs were recognized months earlier, the patient's prognosis might have been different.

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AS18. RHEUMATOLOGIC AND IMMUNE-MEDIATED DISEASES

1085 - Submission No. 254

AN UNFORSEEN DISEASE COMMONLY MISTAKEN

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Case Description: A 24-year-old male presents with a two-month history of intermittent episodes of disorientation and agitation. Six months before, he had constant occipital headaches, photophobia, diplopia, night sweats, fever, and arthralgias. The patient was hospitalized on two separate occasions and treated with antibiotics and antivirals without resolution of symptoms. Upon further investigation, his wife referred the patient had presented scrotal ulcers that resolved independently. On examination, the patient was febrile, somnolent, with oral aphthous ulcers, truncal and facial papular lesions, and no signs of meningeal irritation.

Clinical Hypothesis: The patient was admitted under the clinical suspicion of meningoencephalitis.

Diagnostic Pathways: Laboratories were remarkable for neutrophilic leukocytosis and elevated inflammatory markers. Extensive infectious and autoimmune workup was negative. Brain MRI showed bilateral symmetric regions of hyperintensity involving the bilateral basal ganglia, thalami, hypothalamus, cerebral peduncles, and midbrain. An elevated opening pressure with pleocytosis of lymphocytic predominance, high proteins, and normal glucose levels was found on spinal fluid with no growth of organisms. A fundoscopy revealed anterior uveitis of the left eye. Pathergy test was negative. Intravenous steroid pulsation was given, resulting in decreased hyperintensity lesions on MRI, decreased cellularity on spinal fluid, and almost complete resolution of symptoms.

Discussion and Learning Points: Neuro-Behcet's is a chronic vascular-inflammatory disease of unknown origin that affects multiple systems and typically presents with recurrent oro-genital ulcers and uveitis. It is commonly mistaken with encephalitis/meningitis of infectious etiology which delays diagnosis and leads to high rates of morbidity and mortality. A thorough history and physical exam are crucial to narrow our workup and provide early therapeutic intervention.

1086 - Submission No. 745

LYMPHOPROLIFERATIVE SYNDROME OR SARCOIDOSIS? A COMPLICATED DIFFERENTIAL DIAGNOSIS

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Case Description: We present a 59-year-old woman with no previous clinical history who attended the Emergency Department with a recent diagnosis of moderate asymptomatic microcytic anemia (7.7 g/dL). Physical examination showed trivial. Blood tests revealed iron and vitamin D deficiency and mild hypercalcemia (10.3 mg/dL). The outpatient endoscopies were normal. Body-CT scan showed supradiaphragmatic and intra-diaphragmatic pathological adenopathies; pulmonary fibro cicatricial tracts in the pulmonary vertex; mild interlobular septum, subpleural and pericisural thickening and a widespread nodular centrilobular infiltrate. All of which were suggestive of pulmonary sarcoidosis. An excisional biopsy of an inguinal adenopathy was carried out with an anatomopathological result of sarcoidosis with granulomatous lymphadenitis without evidence of neoplastic infiltration. QuantiFERON-TB test was negative. A computed tomography and positron emission tomography study added focal hypermetabolic splenic activity and extensive bone infiltration including femoral necks, right iliac wing, vertebrae, manubrium, clavicles, and pubis.

Clinical Hypothesis: Given the present medical history we considered the possibility of lymphoproliferative syndrome versus sarcoidosis.

Diagnostic Pathways: Bone marrow aspiration and left iliac bone biopsy discarded tumor infiltration. Furthermore, the iliac biopsy showed non-necrotizing epithelioid granulomas with a normocellular bone marrow, supporting the main hypothesis of sarcoidosis with ganglia, splenic, bone and pulmonary involvement.

Discussion and Learning Points: Even though the most usual manifestations of sarcoidosis are pulmonary and lymphatic, there is the possibility of many extrapulmonary appearances. Bone involvement is only seen between 1% and 15% of sarcoidosis

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patients. Bone affectation together with extensive adenopathies and splenomegaly can raise doubts about the possible hematological origin of the case.

1087 - Submission No. 180

THE USEFULNESS OF CYSTATIN C IN MEASURING RENAL FUNCTION IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background and Aims: Rheumatoid arthritis (RA) is a chronic inflammatory disease that mainly affects the joints and accurate measurement of renal function is essential in treatment of RA. Cystatin C has been known as a potentially ideal marker of renal function in patients with muscle wasting diseases. But there is little information in RA patients. Therefore, we tried to compare the discrepancy in estimated glomerular filtration rate (eGFR) using serum creatinine(sCr) and cystatin C and analyze the methotrexate (MTX) toxicities.

Methods: A total of 436 patients with RA was enrolled in this retrospective study. eGFR was calculated by the Chronic kidney Disease Epidemiology Collaboration (CKD-EPI) equations using sCr and cystatin C. MTX dosing guideline and kidney disease: Improving Global Outcomes (KDIGO) CKD stage were used to examine the discrepancy of each eGFR values. Adverse events associated with MTX were evaluated.

Results: The mean eGFR by CKD-EPI$_{cystatin\ C}$ was 89.44 mL/min/1.73m^2, which was statistically significantly lower than the mean eGFR by CKD-EPI$_{Cr}$ of 95.36 mL/min/1.73m^2. When the CKD stage according to eGFR was reclassified from the CKD-EPI$_{Cr}$ equation to the CKD-EPI$_{cystatin\ C}$ equation, 147 patients (33.7%) was shown a change of CKD stage. And MTX toxicities were higher in the group with changed stage, especially anemia and nephrotoxicity.

Conclusions: Our results showed that eGFR$_{Cr}$ was overestimated compared to eGFR$_{cystatin\ C}$ and MTX toxicities were significantly increased in group with changed stage. The use of cystatin C to measure renal function in RA patients is useful in determining drug dosing and in terms of safety from MTX.

1088 - Submission No. 50

METAANALISIS: RISK OF RECURRENCE OF VENOUS THROMBOEMBOLIC DISEASE ACCORDING TO TYPE OF ANTIPHOSPHOLIPID ANTIBODIES

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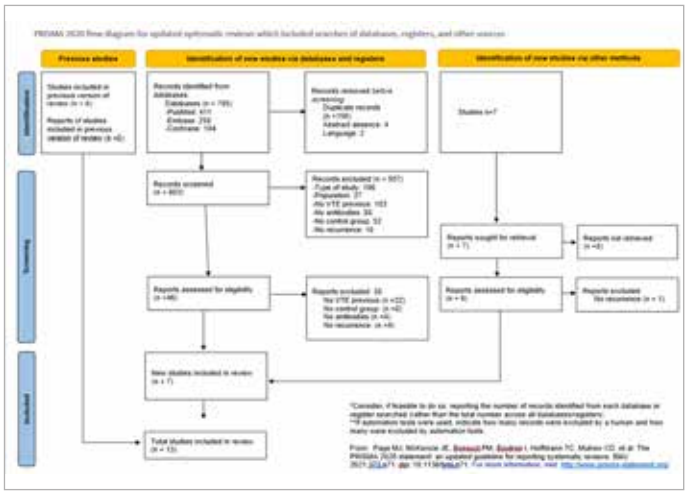
Background and Aims: Our aim was to determine the risk of recurrence of venous thromboembolic disease according to the different profiles of phospholipid antibodies in adults.

Methods: Case-control and cohort studies were selected from the MEDLINE, EMBASE and Cochrane Library databases. Studies should include patients with venous thromboembolic disease (deep venous thrombosis and/or pulmonary thromboembolism) who were over 18-year-old, had an antiphospholipid antibodies profile and recurrence during the follow-up.

Results: 765 bibliographic references were identified, and 46 articles were chosen for full text review, of which 13 were included in the systematic review (figure 1). Bias analysis was performed according to the Newcastle-Ottawa model in which 8 articles presented a high probability of bias. 6 articles assessed the presence of any antiphospholipid antibody versus its absence, the odds ratio (OR) for recurrence of venous thrombosis was 2.69 (95% Confidence interval [CI] 1.43-5.06) with high heterogeneity between studies (figure 2). No differences were found between different autoimmunity profiles observed in articles comparing aCL (anticardiolipin) and LA (lupus anticoagulant) with an OR 1.93 (95% CI 0.70-1.53) or between LA and B2GP1 (anti-β2-glicoprotein I) and OR 0.76 (95% CI 0.48-1.22). (Figure 3).

Conclusions: AL and ACL were significantly associated with a higher risk of recurrence of venous thromboembolic disease; however, no differences have been found between the comparison of the different antibodies with each other. Most studies have a high risk of bias, which especially limits conclusions. New prospective cohort studies in real life should be done to establish the individual and combined risk of recurrence.



1088 Figure 1.

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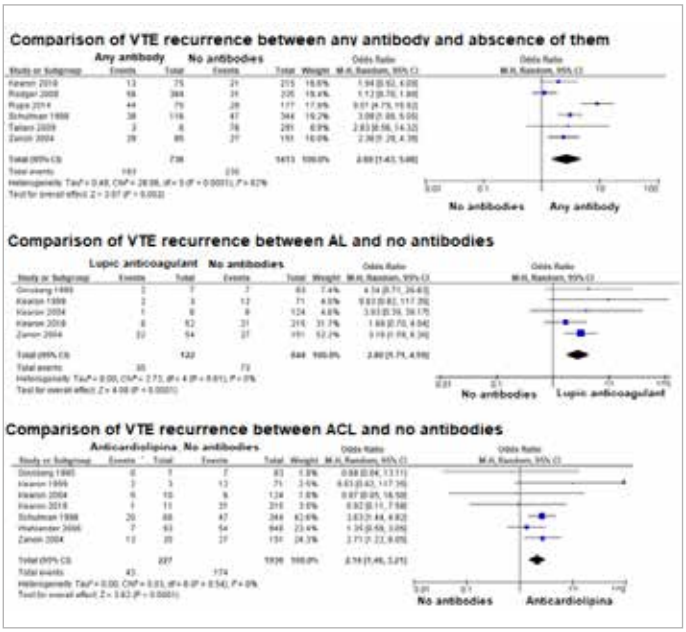
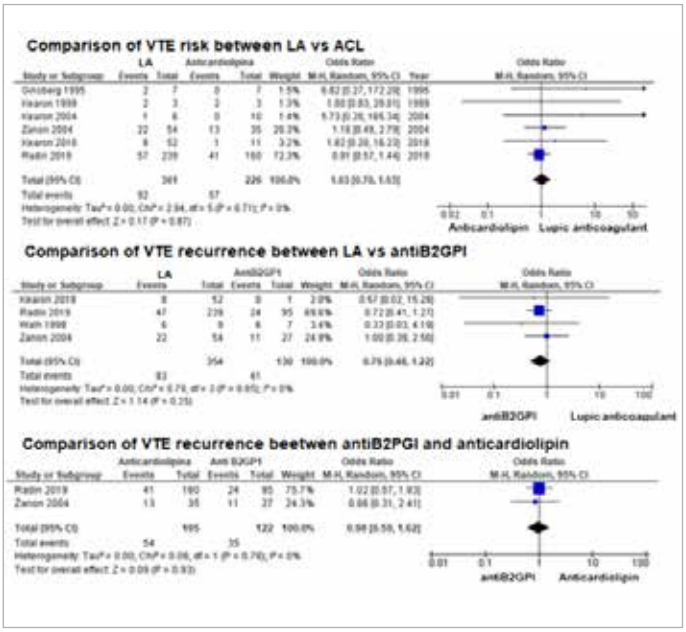


1088 Figure 2.



1088 Figure 3.

1089 - Submission No. 535

CENTRAL NERVOUS SYSTEM MANIFESTATIONS OF ANCA-ASSOCIATED VASCULITIDES

Harith Altemimi, Amelia Ram

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Case Description: We describe a 63-year-old gentleman who attended an ophthalmology clinic due to a month history of left eye binocular diplopia (cranial nerve VI palsy), chronic eye blepharitis and mild bilateral ptosis. Specialist reviews completed by neurology and rheumatology. Fundoscopy showed left eye papilledema. Blood tests detected anemia and acute kidney injury- AKIN stage one.

Clinical Hypothesis: Differentials included inflammatory/auto-immune causes (likely), malignancy and infection (less-likely). Initially, giant cell arteritis (GCA) was suspected due to diplopia and elevated ESR (75 mm) and CRP (54 mg/L). There was no headache, jaw claudication, scalp tenderness or sinusitis. Temporal artery ultrasound was negative for GCA, but due to clinical suspicion, 60 mg prednisolone daily was started to cover large-vessel vasculitis while awaiting the auto-immune screen. This significantly improved his symptoms within 24 hours.

Diagnostic Pathways: An urgent MRI head with gadolinium contrast confirmed the diffuse pachymeningeal enhancement indicative of inflammation or auto-immune underlying cause. Lumbar puncture showed CSF protein was mildly elevated at 0.53 (0.15-0.4) and there was CSF lymphocytosis at 90%. The autoimmune screen results highlighted a significantly raised ELISA PR3-ANCA of 58 IU/ml (normal range <2.0 IU/ml) with normal MPO-ANCA. Serum free light chain were raised and negative anti-cyclic citrullinated peptide.

Discussion and Learning Points: Peripheral nervous system involvement in AAVs is documented in the literature but the same cannot be said for CNS involvement[1]. Clinical suspicion for a vasculitis in cases of isolated cranial nerve palsies with renal involvement can lead to focused investigations and management.

Reference:

Qasim A, Patel JB. ANCA positive vasculitis. National Library of Medicine. 2022.

1090 - Submission No. 2401

HAND IN HAND WITH DERMATOMYOSITIS

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Case Description: A 72-year-old male who attended the emergency department due to generalized skin lesions for at least 5 months, with worsening in the last week. He also associates a feeling of asthenia, a weight loss of 3 kg in the last month and muscle weakness in the shoulder and pelvic girdles. He is a smoker and hypertensive, with no other relevant history.

Clinical Hypothesis: On examination, we found confluent papular lesions in plaques and eczematous-looking areas on the outside of both arms, intermittently extending to the forearms and abdominal region (Figure 1). In metacarpophalangeal joints we also found papules with a purplish appearance (Figure 2). In capillaroscopy, telangiectasias stand out in their folds, with mega capillaries and tortuous capillaries (Figure 3).

Diagnostic Pathways: After a skin biopsy with findings suggestive

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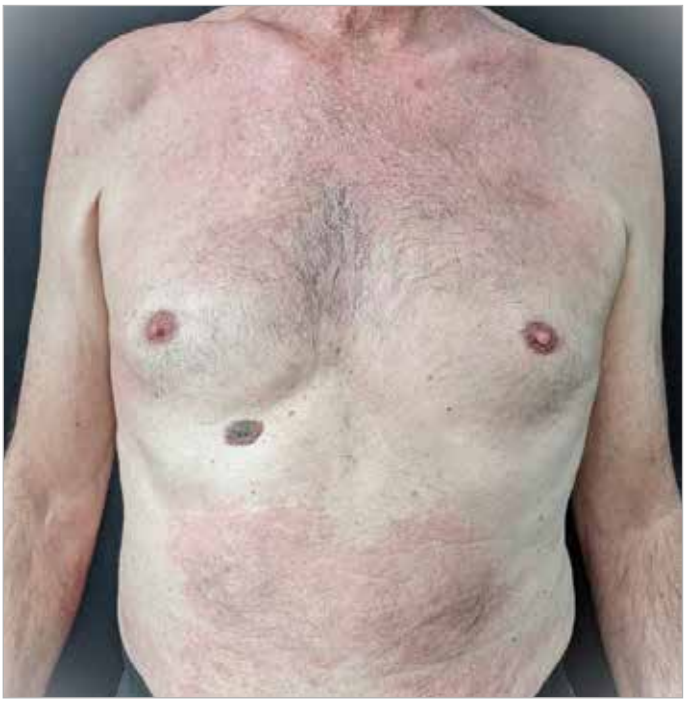
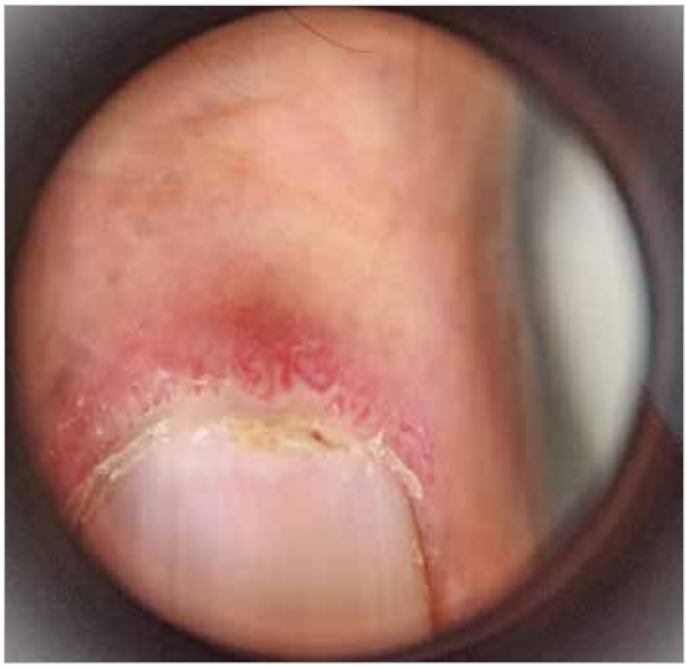
of dermatomyositis, we performed a blood test finding positive antiTIF1-gamma antibodies. We also requested a body CT to screen for a possible associated neoplasia, and we found three ipsilateral pulmonary nodules, with left paratracheal mediastinal adenopathies.

Discussion and Learning Points: Thanks to the early diagnosis of stage IIIB (T3N2M0) lung adenocarcinoma, he is a candidate for surgical treatment, prior to adjuvant chemotherapy. For the treatment of his dermatomyositis, topical corticosteroids and photoprotection have been prescribed. When faced with a patient diagnosed with dermatomyositis, we must know that a neoplastic process coexists in 15-25% of cases, with gastrointestinal and lung carcinomas being the most frequent. The positivity for antiTIF1 reinforces this hypothesis. Similarly, the appearance of neoplasia can even be after the diagnosis of dermatomyositis, so adequate monitoring of patients with associated risk factors is important.



1090 Figure 1.

1090 Figure 2.



1090 Figure 3.

1091 - Submission No. 1962

RENAL THROMBOTIC MICROANGIOPATHY AND APS

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Case Description: A 53-year-old male with primary antiphospholipid syndrome and recurrent DVT, under treatment with warfarin, admitted due to pneumococcal pneumonia and co-infection with COVID-19. On the third day after admission, he presented vomiting, intense epigastric pain, and diarrheal

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stools, with normal abdominal CT and negative stool culture. Concomitantly, progressive acute renal failure appeared with Cr up to 4.43 mg/dL and GFR 14.76 mL/min despite fluid therapy. It highlights grade 3 hypertension with normal eye fundus, microhematuria and proteinuria in the non-nephrotic range, mild anemia, and thrombocytopenia with positive direct Coombs but with normal LDH, bilirubin and haptoglobin and extension in peripheral blood without schistocytes. Prior to performing a renal biopsy, positive ANCA (MPO 66.5, PR3 48.2) were obtained, initiating methylprednisolone pulses, without improvement.

Clinical Hypothesis: The positivity of the ANCA oriented towards an ANCA-renal vasculitis, which was not confirmed in the biopsy.

Diagnostic Pathways: Renal pathology showed thrombotic microangiopathy without vasculitis or complement deposition; and treatment with prednisone and eculizumab lead to improvement in renal function (Cr 2.23 mg/dL and GFR 33.83 mL/min). ADAMTS-13 and complement determinations were normal.

Discussion and Learning Points: The absence of schistocytes, with normal haptoglobin and bilirubin were data against to suspect microangiopathic hemolytic anemia. The positivity of the ANCA oriented towards an ANCA-renal vasculitis. The normality of ADAMTS-13 and complement, as well as the negative stool culture, make it possible to rule out primary TMAs. The absence of any other affected organ did not allow the diagnosis of catastrophic APS. The BP values, the normal fundus, and the rapid progression of renal failure ruled out malignant hypertension.

1092 - Submission No. 2165

STUDY OF THE CLINICAL FEATURES, PREVALENCE AND USE OF SPECIFIC TREATMENT IN PULMONARY HYPERTENSION IN AN AUTOIMMUNE SPECIALIZED UNIT OF A TERTIARY HOSPITAL IN SPAIN

Jimena Aramburu Llorente, Lucia Tarí Ferrer, Raquel Tascón Rodríguez, Javier García Lafuente, Marcos Larrosa Moles, Clara Lanau Campo, Alejandro Venegas Robles, Laura Perez Abad, Juan Vallejo Grijalba, Eugenia Sanz Valer, Emma Casalod Campos, Silvia Crespo Aznarez

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Background and Aims: To describe the clinical features and study the prevalence and treatment options of the subtypes of pulmonary hypertension (PH), a major global health issue with a prevalence of 1%.

Methods: A retrospective descriptive study from a sample of 59 patients with the suspected diagnosis of PH in an autoimmune specialized unit of a tertiary hospital in Spain, between March 2019 and May 2022. Clients were classified by age, gender, performed tests, diagnosis, and treatment.

Results: Of all clients, 75% were female, the average age being 67 years. After echocardiography and cardiac catheterization, PH was confirmed in 52 patients. 36% were classified as group I, associated with connective tissue disorders (scleroderma and lupus predominantly). 19% were part of group II, related to heart diseases. Group III, was confirmed in 5%, connected to chronic obstructive pulmonary disease, and 26% were linked to pulmonary thromboembolism (group IV). Finally, 3% were included in group V, with multifactorial mechanism such as hyperthyroidism. Regarding medications, the tendency was to treat the underlying condition instead of PH; resulting in group I (27%), followed by group IV (12%), to receive most frequently specific treatment. As for the medications, in group I, the combination of endothelin receptor antagonists (ERA) with phosphodiesterase 5 inhibitors (PDE 5) was the preferred choice (15%), whereas in group IV, guanylate-cyclase stimulators were chosen.

Conclusions: PH prevalence is higher in females aged > 65 years. Group I was the most diagnosed type. 56% did not receive specific medication due to comorbidities or the treatment of the underlying disease.

1093 - Submission No. 369

ADULT-ONSET STILL'S DISEASE. GREAT SIMULATOR

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Case Description: 21-year-old patient, without important medical history, presented odynophagia, arthromyalgia, fever without response to antipyretics, geographic exanthema including palms and soles, of about 3 weeks. Interrogation for autoimmune or infectious disease was negative. Physical examination: nonsuppurative pharyngitis, muscle weakness, evanescent rash coinciding with fever. Laboratory findings: slight CRP increase, normocytic normochromic anemia, thrombocytosis and cytolysis, high ferritin and ESR. Negative cultures including throat swabs. Negative serology and autoimmunity markers. Chest CT: minimal left pleural effusion and basal condensation, without mediastinal lymphadenopathies. Broad-spectrum empiric antibiotic without response. Corticosteroid treatment resolved clinical profile.

Clinical Hypothesis: Differential diagnosis: infection, including endocarditis, malignancy, mainly lymphoproliferative processes, and rheumatic diseases as Sweet's Syndrome.

Diagnostic Pathways: Meet adult Still's disease criteria.

Discussion and Learning Points: Adult Still's disease is an inflammatory disease characterized by the presence of daily fever, arthritis, and characteristic evanescent rash among other symptoms. typically appears in patients older 16 years and does not meet criteria for rheumatoid arthritis or other autoimmune diseases. Unknown etiology. Musculoskeletal symptoms (arthritis, arthralgia, or myalgia), pharyngitis, slight alteration of hepatic profile, pleuro-pericardial serositis, synovitis may appear, and as a fatal complication could lead to macrophage activation syndrome. Laboratory findings include elevated acute-phase

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reactants, altered liver profile, normocytic, normochromic anemia, thrombocytosis, leukocytosis with neutrophilia, rarely positive antibodies. Yamaguchi criteria include major criteria: fever, arthritis or arthralgia lasting at least two weeks, non-pruritic salmon-colored macular rash coinciding with fever, leukocytosis with neutrophilia. Minor criteria, pharyngitis, lymphadenopathies, hepatosplenomegaly, laboratory liver profile alteration and negative autoimmunity. Requires at least 5 criteria, two of them major. Initial treatment: corticosteroids or Anakinra (IL-6 inhibitor). Maintenance methotrexate.

1094 - Submission No. 1599

THE GATEWAY OF GRANULOMA IN HEART DISEASE: A CLINICAL CASE WITH MULTISYSTEM PRESENTATION

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Case Description: A 49-year-old male with prior smoking habit and past medical history (PMH) of high blood pressure presented with asthenia, moderate exertional dyspnea and irritative cough. Fine bibasal crackles were found in physical examination. Given the existence of a previously unknown left bundle branch block in electrocardiogram (EKG), the first clinical suspicion was ischemic heart disease which was thereafter ruled out by a normal coronary angiography. Chest X-ray at admission was then reviewed and because of diagnostic doubts a CT scan was performed. Bilateral micronodular infiltrates as well as multiple non-calcified bilateral mediastinal and hilar adenopathies were found. There was no evidence of Mycobacterium tuberculosis infection in microbiological studies up to this point.

Clinical Hypothesis: Systemic inflammatory disease with involvement of heart and lungs. Radiological findings compatible with sarcoidosis.

Diagnostic Pathways: Bronchoalveolar lavage was conducted with abundant multinucleated cells along with marked lymphocytosis and a CD4/CD8 ratio of 4, these findings highly suggestive of pulmonary sarcoidosis. Microbiological cultures (including mycobacterial) were negative. A 24-hour EKG confirmed heart-conduction disorders and a cardiac Magnetic Resonance Image (CMRI) proved cardiac infiltration. Treatment was started with prednisone 30 mg/day orally (PO) plus methotrexate 5 mg/week PO resulting in substantial clinical improvement and disappearance of CMRI findings three months later.

Discussion and Learning Points: Sarcoidosis is a multisystem granulomatous disease whose characteristic histological lesion is the non-caseating granuloma. Cardiac involvement is a rare but possible situation. This case highlights the need for a multidisciplinary approach in the management of sarcoidosis with a key role of Internal Medicine professionals.

1095 - Submission No. 670

BEYOND ORO-GENITAL APHTHOSIS...

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Case Description: A 52-year-old woman who consults for abdominal pain underwent abdominopelvic CT scan with findings of floating thrombus in the thoracoabdominal aorta with embolism and left renal infarction. She reports arthralgias, pathergy phenomenon and pseudo folliculitis. In addition, anemia, elevated LDH and acute phase reactants were observed. During admission she presented multiple episodes of arterial and venous thrombosis and findings compatible with IBD.

Clinical Hypothesis: We are dealing with multiple episodes of thrombosis, endoscopic findings of IBD, anemia, elevated inflammatory markers, arthralgias and skin lesions. Therefore, we should rule out inflammatory conditions, such as rheumatologic, autoinflammatory, infectious and malignancy among others.

Diagnostic Pathways: In addition to complementary tests previously described, the patient was screened for thrombophilia, thrombotic microangiopathy, infectious, tumor and autoimmune pathology, being all results negative. After no other underlying causes were found, we suspected Behçet's disease with intestinal and vascular involvement. HLAB51 was requested and positive. Boluses of methylprednisolone where the initial therapeutic approach with subsequent improvement.

Discussion and Learning Points: Behçet's disease is a chronic recurrent multisystemic inflammatory disease of unknown etiology. There is an ongoing debate about its definition, classification and diagnostic criteria. Cutaneous/mucosal involvement remains the most frequent manifestation but is not essential for diagnosis. On the other hand, a very characteristic thrombogenic tendency has been observed. Despite being able to rely on complementary tests, the diagnosis is clinical. The aim of treatment is to suppress outbreaks and recurrences to prevent irreversible damage. Colchicine is the mainstay, but in severe cases glucocorticoids, azathioprine, cyclosporine, interferon αor TNF inhibitors are associated.

1096 - Submission No. 832

NEURO-OPHTHALMIC PRESENTATION OF GRANULOMATOSIS WITH POLYANGIITIS WITH SUPERIMPOSED INFECTION: CASE OF A CHALLENGING DIAGNOSIS

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Case Description: 61-year-old-male with previous history of hypertension and hypothyroidism, brought to Emergency Department with pain and right eye loss of vision over the

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previous 3 days. History of 3 years epistaxis and 1 year anosmia reported. Physical examination with light perception absence, positive afferent pupillary defect and complete ophthalmoplegia of the right eye and hypoesthesia of the right trigeminal nerve.

Clinical Hypothesis: Rheumatologic condition v/s infectious process.

Diagnostic Pathways: Initial blood work with elevated CRP. MRI (orbital and brain) with mucosal thickening, along the bilateral posterior ethmoid and bilateral sphenoid sinuses, abnormal signal intensity of the surrounding bone marrow suggestive of bacterial sinusitis with inspissated material or fungal infection. Empiric broad spectrum antibiotic therapy was started, with partial symptoms improvement. Nasal cavity biopsy and cultures revealed MRSE growth, severe chronic lymphoplasmacytic infiltrate with superimposed acute inflammation and giant cell reaction. Rheumatology work up positive for anti-PR3 antibody and negative anti-MPO. Granulomatosis with polyangiitis with superimposed MRSE infection was stablished. Antibiotic therapy was optimized and steroid therapy with rituximab was started. Adequate improvement of ophthalmic abnormalities except for vision of the right eye was achieved.

Discussion and Learning Points: Granulomatosis with polyangiitis is a life-threatening condition with a variable presentation including predominantly neuro-ophthalmic findings, which can be difficult to identified in cases with superimposed infectious process. Early diagnosis and multi-disciplinary therapeutic approach among Physicians are essential parts to reduce potential complications and progression. Since imaging findings are not always specific; high level of clinical suspicious, biopsy and specific rheumatologic workup are essential to confirm the diagnosis when disease is considered.

1097 - Submission No. 1099

FEVER, LYMPHADENOPATHY AND PROTEINURIA: A RARE AND MIGHTY MIMIC

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Case Description: Systemic lupus erythematosus (SLE) is a chronic, relapsing, multisystemic autoimmune disease. Herein, we highlight an interesting and unusual first onset of SLE with Kikuchi-type necrotizing lymphadenopathy and renal involvement with membranous glomerulonephritis, events quite atypical for the first manifestation of the disease.

Clinical Hypothesis: A 33-year-old physician was admitted to our Clinic due to fever up to 39°C with chills for the last 5 days, painful supraclavicular lymphadenopathy and an oral aphtha. 10 years ago she reported a similar febrile episode with oral and genital ulcers, which was treated as Behçet' s disease with remission of symptoms, after colchicine administration for 5 months.

Diagnostic Pathways: The patient underwent a complete clinical and laboratory examination, she was febrile indeed, a pathologically enlarged supraclavicular lymph node and an oral aphthae were detected along with proteinuria of 1.9 g albumin/24h, absence of glomerular red blood cells, diffuse hypergammaglobulinemia and moderately elevated inflammatory markers. Her cardiological and ophthalmological evaluation as well as whole-body CT scans were unremarkable. ANA, anti-Sm Abs, as well as HLAB51 were positive, lymph nodes biopsy revealed Kikuchi-type necrotizing lymphadenitis and kidney biopsy Churg and Ehrenreich stage I to II membranous glomerulopathy. Methylprednisolone 20 mg/d IV was administered with immediate improvement and cyclophosphamide was chosen to maintain remission.

Discussion and Learning Points: SLE is a challenging - in its expression and differential- disease for the Internist. Higher clinical suspicion is needed in patients with atypical manifestations, which may mimic multiple entities of infectious and non-infectious etiology.

1098 - Submission No. 1596

A 56-YEAR-OLD WOMAN WITH LITHIASIS, RENAL FAILURE AND FEVER: LOOKING BEYOND 'URINARY SEPSIS'

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Case Description: We present a 56-year-old female with past medical history of bilateral bronchiectasis, coeliac disease and renal lithiasis having required multiple interventions, the last one with lithotripsy four months before the appearance of the current clinical picture. Main complaints consist of one week of colicky pain in the left flank, hematuria, low fever, and asthenia, for she is first diagnosed as urosepsis. However, despite adequate empirical antimicrobial therapy she develops an acute respiratory failure with bilateral infiltrates on chest radiography accompanied by a fall in hemoglobin levels, worsening of renal function and high blood pressure.

Clinical Hypothesis: Reno pulmonary syndrome.

Diagnostic Pathways: Urgent fibrobronchoscopy confirms alveolar hemorrhage. A wide laboratory analysis is performed, including anti-glomerular basement membrane antibodies (anti-GBM) which turn out to be positive. Following this, plasmapheresis, intravenous methylprednisolone boluses and cyclophosphamide ensue with both clinical and analytical response.

Discussion and Learning Points: Reno pulmonary syndrome is defined as the association of diffuse alveolar hemorrhage and rapidly progressive glomerulonephritis. Anti-glomerular basement membrane disease is an autoantibody vasculitis. The presence of environmental triggers, together with genetic

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susceptibility, seem to lead to the development of the disease. Lithotripsy is thought to be the trigger in our patient. We present this case as a paradigm of a complex differential diagnosis as well as highlighting the importance of past medical history and a thorough anamnesis.

Reference:

Wang B, Xiaoyu J, Yu X, Cui Z, Zhao M. The clinical and immunological features of the post-extracorporeal shock wave lithotripsy anti-glomerular basement membrane disease. Ren Fail. 2021 Dec;43(1):149-155.

1099 - Submission No. 46

AUTOIMMUNE NECROTIZING MYOPATHY. ABOUT A CASE SERIES

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Background and Aims: Our aim was to describe three cases of necrotizing myopathy diagnosed in a tertiary internal medicine hospital.

Methods: Review of the corresponding medical records and literature related to this entity.

Results: Two of the cases were women and the mean age was 55 years. Of the three cases, two were under medical treatment with statins. Regarding clinical manifestations, all three cases had proximal shoulder girdle weakness, while one of the cases also associated pelvic girdle weakness (case 1) and another associated asthenia and dysphagia (case 3). Electromyogram (EMG) was performed in two of the three cases, being pathological in case 1. Magnetic resonance imaging (MRI) showed inflammatory myopathy in the long head of the biceps (cases 1 and 3) and inflammatory myopathy in the thighs (case 2). The CK levels ranged from 1500 to 9000 U/L. Autoimmunity was positive in case 1 and screening for neoplasia was positive in case 3. Treatment consisted of statin withdrawal in two of the three cases, corticotherapy in one of the cases and gastric neoplasia intervention in the third case.

Conclusions: Necrotizing myopathies are a heterogeneous group of muscular pathology of increasing diagnosis, with autoimmune pathogenesis, associated, among other processes, to neoplasia (case 3), this being a rapidly progressive variant. Most frequently myopathy appears in relation to statin intake (case 1 and 2), and can persist or progress after its suspension, even starting after several years of treatment or even after its suppression. Treatment in mild cases is prednisone and in moderate or severe cases two immunosuppressants (prednisone and azathioprine, methotrexate...)

1100 - Submission No. 47

CLINICAL CHARACTERISTICS OF PATIENTS WITH BEHÇET'S DISEASE WITH AND WITHOUT OCULAR INVOLVEMENT

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Background and Aims: Our aim was to describe the clinical characteristics of patients with Behçet's disease (BD) with and without ocular symptoms and to see if there are differences between the two clinical identities.

Methods: Retrospective descriptive study of cases of BE with and without ocular symptoms seen at the systemic autoimmune disease clinic of the Internal Medicine Department of the Navarra Hospital Complex. The records of 45 patients diagnosed with EB from January 1995 to December 2020 were reviewed.

Results: In the results obtained, a total of 45 patients with EB were found, of which 23 had ocular involvement and 22 did not. In patients with EB with and without ocular symptoms, the predominant symptom of disease debut was oral aphthous ulcers in 12 (52%) and 15 (68%) patients, respectively. In patients with ocular symptoms 70% presented positivity for HLA B51 while in patients without ocular symptoms the percentage of positivity was 45%. Recurrent oral ulcers appeared in all cases (100%), while recurrent genital ulcers appeared in 13 cases (57%) in patients with ocular symptoms and in 15 cases (68%) in patients without ocular symptoms. Skin lesions were present in 52% of patients with ocular symptoms and in 73% of patients without ocular involvement, with erythema nodosum being the most frequent manifestation in both entities.

Conclusions: Our results are similar to those observed in other series in the Mediterranean area of EB. Further studies are needed to help us decipher and understand the etiology and pathogenesis of the disease in patients with and without ocular involvement in order to avoid the complications associated with this disease.

1101 - Submission No. 1546

PET SCAN AS A COMPLEMENTARY EXAM OF AORTITIS: THE PERFECT CAPTURE

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Case Description: A healthy 79-year-old woman was admitted to the hospital with a recent history of dry cough and pleuritic chest pain. The patient also referred anorexia and weight loss (not quantified). The patient denied hemoptysis, dyspnea, or fever. Physical examination showed a dullness to chest percussion and asymmetrical chest expansion, as well as a decreased breath sound on the left hemithorax.

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Clinical Hypothesis: Pleural effusion of probable neoplastic or autoimmune etiology.

Diagnostic Pathways: Blood tests showed a normocytic normochromic anemia (Hb 8.5 g/dL), neutrophilic leukocytosis, increased ESR (60 mm/h), high CPR (8.81 mg/dL). Autoantibodies were negative. The echocardiogram showed moderate pericardial effusion. Pericardiocentesis was performed and the fluid analysis showed an exudate type of effusion with predominance of polymorphonuclear cells. Microbiologic and cytologic studies were negative. Chest CT scan revealed ascites, pericardial and pleural effusion, and parietal thickening in aortic and iliac arterial path, consistent with aortitis. An impressive inflammation was seen on the PET scan, with aortic and iliac involvement. The patient was diagnosed with giant cell arteritis and treated with prednisolone, with a good clinic evolution.

Discussion and Learning Points: Giant cell arteritis is the most common systemic vasculitis, that may produce a wide spectrum of subtle and nonspecific clinical manifestations, especially when there is an aortic involvement. In those cases, a complementary exam can be crucial for diagnosis and further treatment.

1102 - Submission No. 1841

IGA VASCULITIS IN AN OLDER ADULT

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Case Description: A 78-year-old woman with a medical history of diverticulosis presented with a maculopapular purpuric skin rash that started on the feet and progressed proximally to the entire lower limbs and buttocks and was accompanied by colicky abdominal pain, diarrhea, and vomiting. Ten days earlier the patient was started on ciprofloxacin and metronidazole for acute non-complicated diverticulitis. Physical examination revealed tenderness of the right iliac fossa with no signs of peritoneal irritation and palpable purpuric skin lesions on both lower limbs and buttocks.

Clinical Hypothesis: Small vessels vasculitis with cutaneous and gastrointestinal involvement. Main hypothesis: Drug-induced leukocytoclastic vasculitis and IgA vasculitis (IgAV).

Diagnostic Pathways: Blood workup showed neutrophilic leucocytosis, high erythrocyte sedimentation rate (24 mm/h) and C- reactive protein (3.01 mg/dL). Immunoglobulins, complement, kidney function and urinalysis were normal. Rheumatoid factor, anti-neutrophil cytoplasmic antibodies, cryoglobulins, HIV and hepatitis B and C serologies were negative. The abdominal CT-scan revealed edematous thickening of the distal ileum and ascending and transverse colon wall with contrast enhancement. The skin biopsy confirmed the diagnosis of IgAV. Intravenous methylprednisolone (125 mg/day) was promptly started and later switched to oral prednisolone (50 mg/day) and the antibiotics were stopped, with a full recovery.

Discussion and Learning Points: Drug-related vasculitis is most often a benign disease with predominant cutaneous involvement and skin biopsy typically shows leukocytoclastic vasculitis. On the other hand, IgAV is a rare form of systemic vasculitis in adults and even more rarely its etiology can be drug-related, as it most likely was in the patient we herein describe. Depending on the organs involved treatment with corticosteroids may be necessary.

1103 - Submission No. 1677

CONSTITUTIONAL SYMPTOMS AND MULTIPLE ADENOPATHIES SECONDARY TO POLYMYALGIA RHEUMATICA

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Case Description: A 73-year-old man was seen in an internal medicine appointment referring asthenia, anorexia, weight loss of 22 kg in 6 months, pain in neck and shoulders and inflammatory signs at the wrist. The blood tests revealed normocytic/normochromic anemia, elevation of c-reactive protein (135 mg/L) and sedimentation rate, and a protein electrophoresis with increase in the gamma region Autoimmune diseases and tuberculosis were excluded (negative angiotensin-converting enzyme, rheumatoid factor, anti-CPP and IGRA). A thoraco-abdomino-pelvic CT revealed adenopathies in the mediastinum, axillary, lumbo-aortic and inguinal regions, apparently reactive, with inconclusive lymph node biopsy. Medullogram and bone biopsy showed reactive plasmacytosis, without changes in immunophenotyping or evidence of infiltration by lymphoid cells, and the free light chain assay did not meet the criteria for monoclonal gammopathy.

Clinical Hypothesis: The diagnosis of polymyalgia rheumatica was put forward.

Diagnostic Pathways: A PET was performed with evidence of a metabolic pattern suggestive of polymyalgia rheumatica and reactive multiple ganglionic hypermetabolic pathology, without metabolic evidence of malignancy. The patient started corticosteroid therapy, with improvement in symptoms and marked decrease in c-reactive protein and sedimentation rate.

Discussion and Learning Points: Polymyalgia rheumatica, an almost exclusive disease of adults over 50 years of age, often has a clinical course that is transversal to other diseases (inflammatory or neoplastic diseases). This clinical case shows the need to exclude more serious pathologies, with greater morbidity, before assuming the diagnosis of PMR, especially if less typical alterations are present (for example, multiple adenopathies).

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1104 - Submission No. 2233

THE ROLE OF PET/CT IN FEVER OF UNKNOWN ORIGIN

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Case Description: We present an 83-year-old woman referred to Internal Medicine consultation due to a fever of unknown origin lasting for three months associated with weight loss of 5 kg, fatigue, and anorexia. Blood test revealed normocytic normochromic anemia and increased C-reactive protein (CRP) levels, erythrocyte sedimentation rate (ESR) and ferritin level. An infectious etiology was excluded with negative results for bacterial culture tests, bacilloscopy and serologic analysis. Immunologic study was negative. Considering neoplastic disease, a chest, abdominal, pelvic CT (CAP CT) and an endoscopic study were performed and did not reveal significant findings. As a diagnosis of exclusion, we considered the hypothesis of vasculitis. A Positron Emission Tomography (PET/CT) was performed, and it demonstrated a circumferential significant FDG uptake along the aorta and its major branches (carotid, subclavian, and femoral). The combination of the laboratory findings and the hypermetabolism of the walls of the aortas and its branches, suggesting active inflammation, led to the diagnosis of large vessel vasculitis. The patient started prednisolone (40 mg/day). At one month reevaluation clinical improvement was evident. Blood test showed decreased of CRP levels and ESR rate. Patient started methotrexate, decreasing the dose of corticosteroid. Considering the initial symptoms and the positive response to treatment, no invasive exam(biopsy/angiography) was performed.

Clinical Hypothesis: Large vessel vasculitis (Takayasu arteritis; Giant cells arteritis).

Diagnostic Pathways: Blood tests. Bacterial culture test. Bacilloscopy. Serologies. Immunologic study. CAP CT. Endoscopic study. PET/CT. The symptoms resolved once therapeutic was started.

Discussion and Learning Points: The clinical presentation, laboratory findings, combined with significant FDG uptake determined the final diagnosis of large vessel giant cell arteritis without cranial symptoms. This case report supports de role of PET as a useful, noninvasive tool in the diagnostic evaluation of fever of unknown origin with unspecific symptoms at presentation.

1105 - Submission No. 1700

ISOLATED INTERSTITIAL LUNG DISEASE WITH TRIPLE ANTI-KU, ANTI-PM/SCL75 AND ANTI-PL-7 POSITIVITY

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Case Description: A 75-year-old black female, with a history of HFrEF, was referred for consultation due to 40 kg weight loss, anorexia, dyspnea on slight exertion and night sweats over the previous 12 months. Anamnesis was negative for fever, arthralgias, myalgias, adenopathies, coughing, hemoptysis, breast nodules, uterine hemorrhage, diarrhea or constipation and new drugs intake. Physical exam showed cachexia, digital clubbing, bilateral diffuse lung crackles on auscultation, preserved muscle strength and absence of Gottron papules, mechanic hands, telangiectasias or Raynaud phenomenon. CT scan revealed multiple mediastinal, inguinal, and axillar lymphadenopathies, traction bronchiectasis and diffuse interstitial thickening with subpleural sparing, consistent with nonspecific interstitial pneumonia.

Clinical Hypothesis: Interstitial lung disease (ILD).

Diagnostic Pathways: Echocardiogram excluded pericardial effusion. Digestive endoscopies, breast ultrasound and mammogram were normal. Lab tests were unremarkable except for ESR 55 mm/h. Bone marrow study and serum proteinogram were normal. Excisional biopsy of mediastinal lymphadenopathy was compatible with reactive lymphoid tissue. Antinuclear antibodies > 1:120 and positive Anti-Ku (+++), Anti-PM/Scl75 (+) e Anti-PL-7 (+) antibodies. Viral tests were negative for HIV, EBV, CMV, HHV6, HBV, HCV. RPR was non-reactive. Bronchoalveolar lavage excluded mycobacterial infection and showed a CD4/CD8 ratio of 0.37. The patient started treatment with oral prednisone and is still being followed-up.

Discussion and Learning Points: This illustrates a rare case of isolated ILD with triple Anti-Ku, Anti-PM/Scl75 and Anti-PL-7 positivity. ILD is frequently associated with dermatomyositis, polymyositis and systemic sclerosis leading to a high morbidity and mortality. Isolated lung manifestation might precede in months to years signs of connective tissue disease/inflammatory myopathy or constitute a single entity.

1106 - Submission No. 1301

UVEITIS AND RETROPERITONEAL FIBROSIS: ONE SINGLE ENTITY?

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Case Description: A 36-year-old woman consults for a two-year history of loss of vision of the left eye. In 2008, she had been diagnosed of severe idiopathic retroperitoneal fibrosis, receiving a course of oral prednisone, which she suspended after lack of improvement. An ophthalmological examination is performed, revealing anterior left uveitis. Topical eye treatment is initiated, with poor response. Evaluation on follow-up consultations showed worsening inflammation and bilateral macular oedema.

Clinical Hypothesis: Uveitis differential diagnosis included infectious, autoimmune and autoinflammatory disorders, with

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a prime focus on autoinflammatory syndromes, considering that both uveitis and retroperitoneal fibrosis seemed to share a common inflammatory background.

Diagnostic Pathways: A complete microbiological and autoimmune study was conducted, as well a PET-TC scan. Main findings included a positive antinuclear antibody titer (1/80) and IgG-hypergammaglobulinemia, with normal IgG4 levels. Considering the elevated clinical suspicion of an underlying inflammatory disorder, a high-dose intravenous corticoid therapy was initiated, with a tapering regime, combined with adalimumab. Clinical response was adequate, with significant reduction of macular oedema upon follow-up.

Discussion and Learning Points: Uveitis and retroperitoneal fibrosis constitute an important diagnostic challenge, with an infinite number of potential causes, especially autoimmune and autoinflammatory diseases. Although both conditions can be associated within the same systemic disease, it is infrequent to find case reports that combine both entities without a known underlying systemic disease, existing only two reported cases of idiopathic uveitis associated with idiopathic retroperitoneal fibrosis. Recently, IgG4- related disease has acquired relevance as a potential cause for both uveitis and retroperitoneal fibrosis, therefore being a key diagnostic suspicion in our case.

1107 - Submission No. 1392

INCIDENTAL THROMBOCYTOPENIA

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Case Description: We report the case of a healthy 30-year-old woman who went to the emergency service due to an acute gastroenteritis. Blood test revealed thrombocytopenia, with 26,000 platelets/uL as an incidental finding. During admission, the patient referred a two-year history of polyarthralgia, blurry vision, dry eye syndrome, skin lesions on exposed areas and Raynaud's phenomenon.

Clinical Hypothesis: Clinical suspicion was an autoimmune disorder.

Diagnostic Pathways: Blood tests were positive for antinuclear antibodies (ANA) (1/320), anti-SS-A/Ro and anti-SS-B/La. The histology of the skin lesions disclosed discoid lupus erythematosus. Examination of the ocular fundus exposed retinal vasculitis. Also of note was a positive Schirmer test and an abnormal salivary gland scintigraphy, compatible with Sjögren's syndrome. The patient fulfilled the criteria of systemic lupus erythematosus (SLE) as defined by the American College of Rheumatology (ACR)/ European League against Rheumatism (EULAR) and Systemic Lupus International Collaborating Clinics (SLICC). She was treated with steroid boluses following a descending-dose regimen. Nowadays, the patient remains asymptomatic with platelets over 200,000/uL with hydroxychloroquine and low doses of steroid.

Discussion and Learning Points: Hematological disorders are common in SLE, and the three series can be affected in the form of cytopenia. Severe thrombocytopenia (less than 50,000 platelets) only appears in 10% patients. There are 3 types of clinical presentation of thrombocytopenia in SLE: in a very severe acute form, in relation to the severity of the disease and that frequently responds to corticosteroids; a chronic form that rarely produces symptoms, or as autoimmune thrombocytopenic purpura (ITP) that can present up to 10 years before SLE manifests itself.

1108 - Submission No. 1490

ATIPICAL PRESENTATION OF TAKAYASU ARTERITIS

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Case Description: A 65-year-old woman patient presented with sacroiliitis with left predominance of pain, confirmed by MRI performed in a private center. In the anamnesis, she referred intense asthenia and myalgias that started four years before with important repercussion in her daily life. On clinical examination, the pelvic compression test was positive and a murmur at the level of the abdominal aorta was found out. Laboratory tests showed mild normochromic normocytic anemia and ESR 70 mm/h. Autoimmunity study was normal and HLA-B27 negative. A CT of the abdominal aorta was requested, and it described concentric mural thickening of the abdominal aorta that cause stenosis at the origin of the hypogastric artery, and concentric mural thickening in the common iliac artery with significant focal stenosis (>70%), as well as alterations compatible with bilateral sacroiliitis. A PET-CT confirmed the CT findings and described also inflammation in supra-aortic trunks, aortic arch and thoracoabdominal aorta.

Clinical Hypothesis: Diagnosis of Takayasu aortitis associated to ankylosing spondylitis was finally established.

Diagnostic Pathways: The inflammation and stenosis of large vessels described, and the presence of abdominal murmur are major criteria for Takayasu arteritis. In the other hand, the pelvic compression test on clinical examination and the data of the pelvic MRI confirmed the diagnosis of sacroiliitis.

Discussion and Learning Points: The association of Takayasu's arteritis (TA) with sacroiliitis is described in the literature. Recent studies postulate that the prevalence of sacroiliitis in patients with AT is significantly higher than in the general population. More studies are needed to elucidate the common pathogenesis of both entities.

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1109 - Submission No. 705

SYSTEMIC LUPUS ERYTHEMATOSUS PRESENTING WITH FEVER AND LONGITUDINAL EXTENSIVE TRANSVERSE MYELITIS

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Università degli Studi di Firenze, Internal Medicine, Prof. A. Moggi Pignone, Careggi, Florence, Italy

Case Description: A 28-year-old woman was admitted to our hospital with intermittent-remitting fever for about two months. On physical examination the cardio-thoraco-abdominal objectivity were within the limits. During hospitalization the patient rapidly showed signs of neurological involvement with acute urinary retention and marked weakness in the lower limbs.

Clinical Hypothesis: In order to allow the differential diagnosis between infectious disease and autoimmune disorders we requested the following tests.

Diagnostic Pathways: At Blood tests: leukopenia, Hb 11.3 g/dL, C-reactive protein and procalcitonin were negative. Blood and urine cultures resulted negative as well as infectious disease investigations. Chest x-ray and echocardiogram were normal. MRI of brain and spine showed hyperintense T2 signal extended from ponts to medullary cone. Rachicentesis revealed clear liquor with leukocytes. Multiplex PCR on liquor was negative. Anti-AQP-4 antibodies resulted negative. Autoantibody profile showed ANA 1/2560 (homogeneous pattern) and high title of anti-dsDNA that has allowed us to suspect the diagnosis of SLE-related LETM. On the basis of diagnostic suspicion, the patient was treated with high doses of intravenous glucocorticoid, plasmapheresis and cyclophosphamide with complete functional recovery.

Discussion and Learning Points: Longitudinal extensive transverse myelitis (LETM) is a rare complication of SLE which may lead to significant motor, sensory and autonomic dysfunctions. The severity of symptoms varies according to the extent of spinal lesion. A 2010 review study found that only 22 cases of LETM had been reported in literature. Despite the extreme rarity of this presentation, in cases of LETM it is fundamental to consider SLE in differential diagnosis in order to allow timely diagnosis and treatment.

1110 - Submission No. 899

NEW AND EFFECTIVE THERAPIES IN ACTIVE LUPUS: OUR EXPERIENCE WITH BELIMUMAB AT OUR HOSPITAL

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Background and Aims: Belimumab (BLM) is a monoclonal human antibody recommended for active disease when standard treatments fail. We aim to describe clinical experience (efficacy and safety) in patients with systemic erythematous lupus (SEL) that received BLM between 2012 and 2022 at Rio Hortega Hospital.

Methods: Retrospective descriptive study. Data of BLM used was obtained through digitized clinical history. Two scales were calculated: SLEDAI-2K (Systemic Lupus Erythematosus Disease Activity Index) and SLICC/ACR (Systemic Lupus International Collaborating Clinics/American College of Rheumatology) Damage Index at the beginning and three months after starting BLM. Adverse effects were reported.

Results: 27 were included, being 97.3% women with an average age of 32.93±11.9. Among them, most common comorbidities were hypothyroidism, Mellitus diabetes and other autoimmune disease. Arthritis was the main indication to prescribe BLM (88.9%), followed by other skin lesions, mucosal ulcers, and alopecia. BLM was administered subcutaneously in 63% and no serious adverse effects were reported. SLEDAI-2K mean at the start of BLM was 10, down to 5 three months later, statistically significant ($p<0.0001$). Chronic damage measured with SLICC Damage Index was <1 in 75% of the patients. Outbreaks three months after BLM dropped significantly ($p<0.0001$). Complement levels increased as well as anti-DNA decreased. With BLM, 66% patients were able to reduce corticotheraphy <7.5 mg.

Conclusions: BLM is a safe and effective therapy in active SEL, achieving a 50% decrease in activity disease. Besides, it shows a decrease in outbreaks and low organic chronic damage rate throughout the years.

1111 - Submission No. 801

NOT JUST A COLD

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Case Description: A 19-year-old female patient consulted in emergencies relating hemoptysis, shortness of breath and fatigue in the last five days. She had no significant medical background. She had pallor, velcro crackles and tachycardia. Pulse oximetry showed 91% oxygen saturation, blood test displayed anemia (Hb 8 gr/dl) and chest X-ray revealed a bilateral diffuse alveolo-

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interstitial infiltrates.

Clinical Hypothesis: Diffuse alveolar hemorrhage (DAH) secondary to vasculitis vs infection.

Diagnostic Pathways: It was performed a bronchoscopy, which confirmed the diagnosis of DAH with the presence of blood in the airway. Since there were no data suggestive of an infectious origin (no fever, no elevation of C reactive protein, no purulent expectoration), bolus corticosteroids were started thinking of a possible immune origin. Autoimmunity markers confirmed the presence of ANCA, so rituximab was added to the treatment. Exclusion of co-infection was completed with blood and bronchoalveolar lavage cultures. Mild proteinuria was detected and subsequently confirmed, so kidney biopsy performed and confirmed findings suggestive of pauci-immune glomerulonephritis. Consequently, diagnosis of microscopic polyangiitis was made.

Discussion and Learning Points: DAH is a life-threatening condition which can lead to organizing pneumonia and fibrosis. Among the many conditions it can accompany are ANCA vasculitis, Goodpasture disease, infections, and mitral stenosis. ANCA vasculitis require treatment with high dose corticosteroids and another immunosuppressive agent (cyclophosphamide or rituximab). Exclusion of other etiologies, especially infection, is a key step prior to start immunosuppressive therapy.

1112 - Submission No. 1915

BEYOND THE ORDINARY

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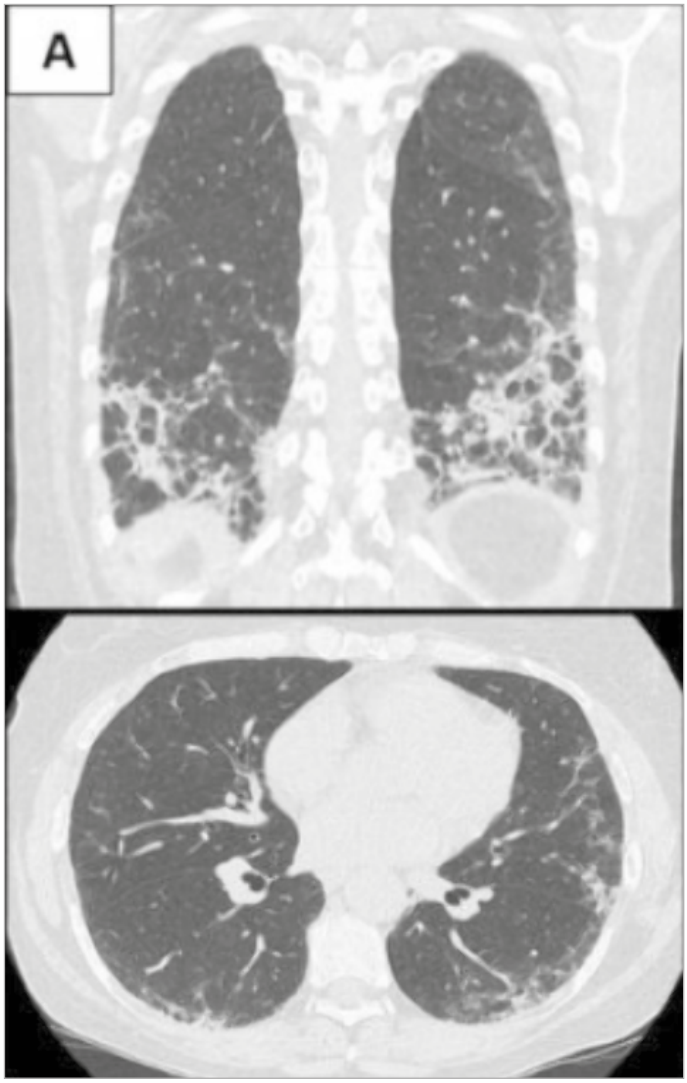
Case Description: A 55-year-old female, smoker of 10 cigarettes/day, was referred to Internal Medicine because of acute arthritis in the first and second metacarpophalangeal and proximal interphalangeal joints of both hands and carpals. She associated some functional limitation. Physical examination revealed hyperkeratosis and fissuring of the skin on the radial side of the second finger and fine crackles in both lungs. She also referred weakness in the shoulder girdle, exertional dyspnea, and non-productive cough for the last month.

Clinical Hypothesis: Anti-synthetase syndrome (ASS), systemic sclerosis, systemic lupus erythematosus, polymyositis/dermatomyositis.

Diagnostic Pathways: Laboratory investigation revealed elevation of muscle enzymes, ANA 1/320 and anti-Jo1 positive. A chest CT scan showed interstitial pneumonia (Panel A). The diagnosis of Jo1-positive ASS with interstitial lung disease was established and treatment with high doses of corticosteroids and cyclophosphamide was initiated. Before the last cycle of cyclophosphamide, the patient presented increased dyspnea, so a new chest CT scan was requested, showing a progression to fibrosis (Panel B). Therefore, treatment with rituximab was initiated, observing a good response of clinical and radiological parameters (Panel C).

Discussion and Learning Points: SSA is an autoimmune inflammatory disease characterized by a worse prognosis compared to polymyositis/dermatomyositis, especially due to ILD, which varies from mild to rapidly progressive disease that can lead to chronic lung damage and may be associated with pulmonary hypertension, if misdiagnosed. Glucocorticoids and immunosuppressants are used as first line treatment. In the last 5 years studies have been published showing the efficacy of rituximab in refractory forms, improving respiratory function tests and the extent of ILD, as our case supports.



1112 Figure 1.

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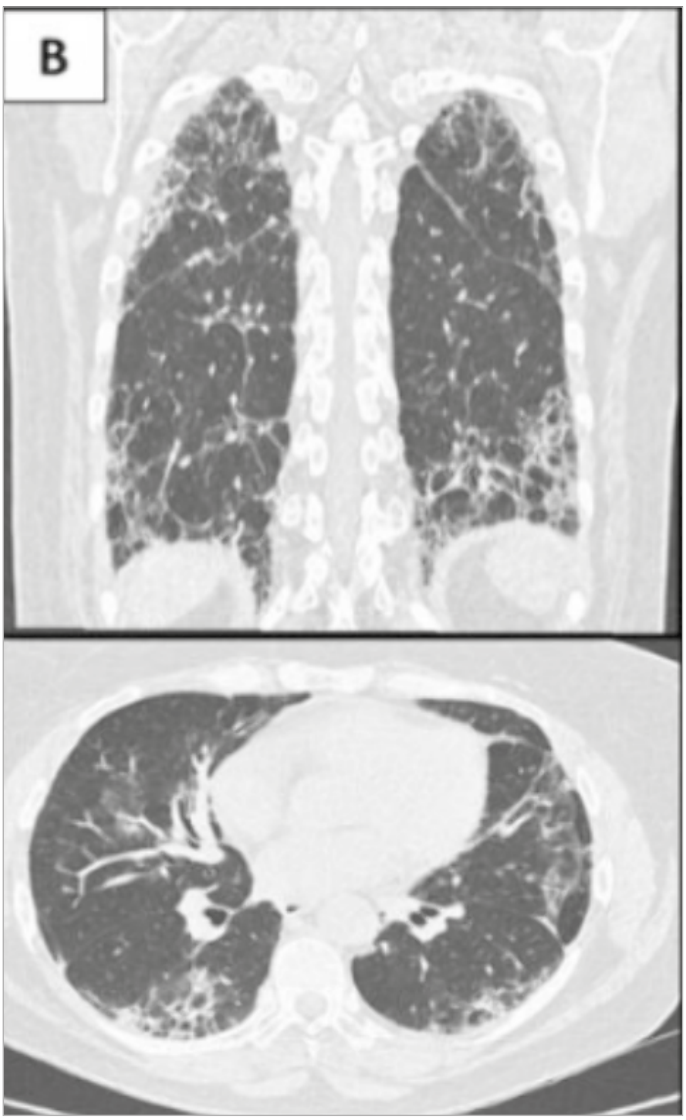
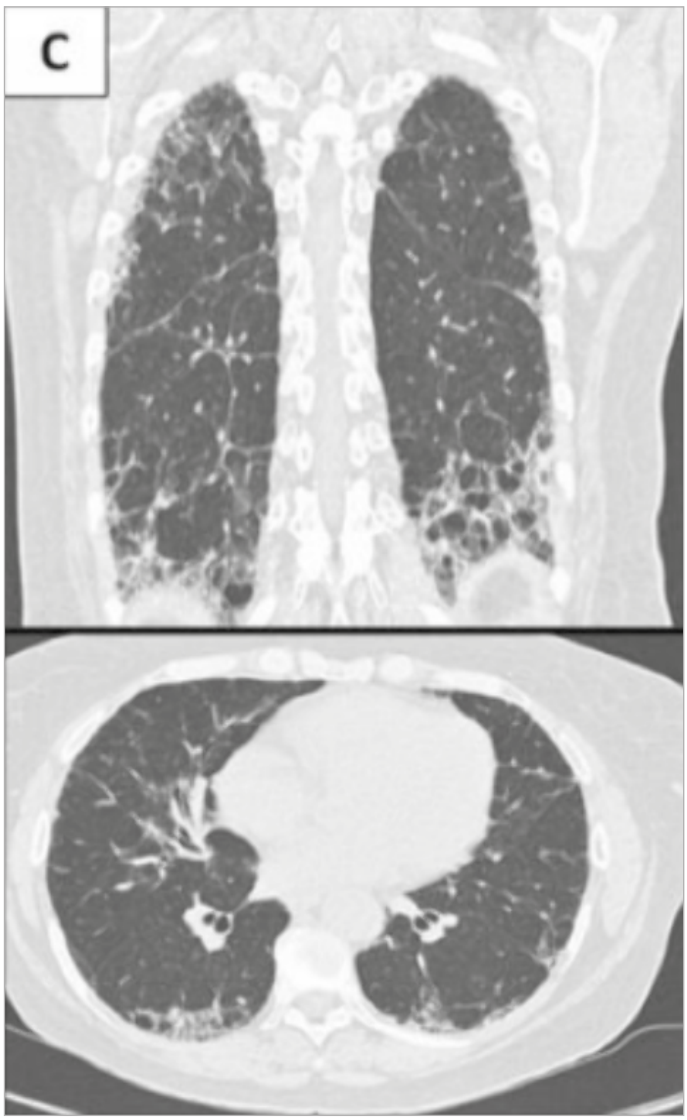


1112 Figure 2.



1112 Figure 3.

1113 - Submission No. 701

BEYOND POLYMYALGIA RHEUMATICA: A CASE REPORT

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Case Description: A 64-year-old male, was being evaluated for generalized arthralgias and swelling predominantly in hands of one month of evolution associated with morning stiffness. He denied previous episodes of arthritis. In addition, he associated weakness of the pelvic girdle and to a lesser extent in the shoulder girdle. No other associated symptoms.

Clinical Hypothesis: Polymyalgia rheumatica. Pyrophosphate crystal deposition arthritis. Late-onset (or adult) rheumatoid arthritis where pseudo-polymalgic syndrome frequently precedes polyarthritis. Chondrocalcinosis. Cancer. RS3PE (Remitting seronegative symmetrical synovitis with pitting edema).

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Diagnostic Pathways: Physical examination revealed synovitis in bilateral metacarpophalangeal joints and edema with pitting in the dorsum of the carpus, predominantly on the right. Stiffness in the pelvic girdle mild-moderate without associated edema in the lower limbs. Analytically only a CRP 11 mg/dL with negative rheumatoid factor and autoimmunity.

Discussion and Learning Points: A pseudopolymyalgia syndrome is common as a clinical presentation in systemic autoimmune diseases as well as in various rheumatologic and non-rheumatologic problems, so in adult or elderly patients a broad differential diagnosis should be made. RS3PE is a syndrome that overlaps symptoms of several entities but is accompanied from the beginning by diffuse edema with pitting of the hands, ankles and/or feet, in addition to presenting synovitis and tenosynovitis of flexors. It is an entity to take into account when making the differential diagnosis with rheumatologic diseases given its good response to corticosteroid treatment and the low need for complementary tests. It should be noted that it has been described in up to 12% of patients with polymyalgia rheumatica.

1114 - Submission No. 798

ORAL APHTHOUS ULCERS AND RECURRENT FEVER

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Case Description: A 52-year-old man with no previous illnesses, a farm worker with no previous contact with chemical products. He consulted for multiple oral aphthous ulcers of two months' duration, sometimes with bleeding, which in the last few days were accompanied by odynophagia and recurrent fever. Physical examination revealed erythematous plaques on the flexure of both elbows, bilateral palmar erythema and on the back, blisters and pustular lesions, as well as erosions on the hard palate and in the periodontal area, covered with fibrin.

Clinical Hypothesis: Our main clinical hypothesis was an autoimmune bullous disease, making a broad differential diagnosis between bullous pemphigoid, anti-p200 and Brunsting-Perry pemphigoid.

Diagnostic Pathways: Laboratory tests showed 11400 leukocytes/mm^3 at the expense of neutrophils, 1400 lymphocytes/mm^3, preserved renal function and a C-reactive protein of 16.6 mg/l. A complete blood test was requested with antinuclear antibodies (ANA), extractable nuclear antigens (ENA), IgG anti epidermal basement membrane antibodies (ASIC), anti-epidermal basement membrane antibodies and thiopurine methyl transferase (TPMT); together with a biopsy of the oral cavity. Given the results of the complementary tests requested (elevated ASIC with high titres, the anatomical pathology report showing the presence of fibrin leukocytic material and TMPT with a value of 18.1 U/ml) associated with the patient's symptoms, he was diagnosed with bullous pemphigoid.

Discussion and Learning Points: Bullous pemphigoid is a chronic autoimmune skin disease that causes widespread pruritic blistering eruptions due to deposition of autoantibodies in the epithelial basement membrane zone. Mortality is high, ranging from 19-48%, of multifactorial etiology, probably secondary to complications of the therapeutic agents.

1115 - Submission No. 708

ADALIMUMAB AS TREATMENT FOR PRIMARY VASCULITIS OF THE EYE

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Case Description: A 52-year-old female, with previous history of smoking and hypertension, was followed by a diagnosis of bilateral venous segmental vasculitis, localized to the eye, without systemic involvement. The patient was treated with oral corticoid and cyclosporine, with a good initial response. However, she developed subsequent worsening with progressive loss of vision despite immunosuppressive treatment.

Clinical Hypothesis: Ocular vasculitis refractory to treatment. Ocular vasculitis with systemic involvement.

Diagnostic Pathways: The patient had no other symptoms of systemic autoimmune disease. Analytical study did not have changes: there was no inflammatory parameters elevation, autoimmune study was negative, as well as viral serologies. Cerebral Magnetic Resonance was normal.

Discussion and Learning Points: Vasculitis is a rare entity that can affect different organs and is classified as primary or secondary. In the present case, no systemic disease was identified that could justify the presentation, and a diagnosis of Primary Ocular Vasculitis was assumed. Given the absence of response to first-line therapy, it was decided to start off-label biological treatment with adalimumab, given its evidence in pathologies such as Behçet disease with ocular involvement. After one month of treatment, the patient showed some improvement. This case shows the possible role of adalimumab in this pathology.

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1116 - Submission No. 2299

DIFFUSE ALVEOLAR HEMORRHAGE AS A RARE INAUGURAL PRESENTATION OF GRANULOMATOSIS WITH POLYANGIITIS

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Case Description: A 63-year-old man presented in emergency department with a history of progressively worsening hemoptysis and shortness of breath for one week. On physical examination respiratory distress was found. The rest of a thorough multisystem examination was not remarkable. Laboratory workup showed marked elevations in creatinine (4.43 mg/dl from 1.10 g/dL 1 month ago) and blood urea nitrogen (95.4 mg/dL from 23.7 mg/dL) as well as a decrease in hemoglobin (6.8 g/dL from 12.2 g/dL). The urine albumin-creatinine ratio was severely increased. Chest X–ray at the admission showed significant bilateral infiltrates.

Clinical Hypothesis: The patient was admitted to our inpatient unit for further investigation of rapidly progressive renal failure: granulomatosis with polyangiitis (GWP); microscopic polyangiitis; eosinophilic granulomatosis with polyangiitis; goodpasture disease; lupus disease; IgA nephropathy; C3 glomerulopathy.

Diagnostic Pathways: His cytoplasmic (c)-ANCA autoantibodies with specificities to Proteinase 3 were positive (> 600 IU/ml). Perinuclear (p)-ANCA and anti-glomerular basement membrane immunoglobulin titers were both negative. Antinuclear antibody panel, complement component 3 and IgA levels were unremarkable. The bronchoalveolar lavage confirmed alveolar hemorrhage and excluded infection.

Discussion and Learning Points: In the current clinical case the authors present what it appears to be a GWP presenting as diffuse alveolar hemorrhage (DAH). This patient's clinical course, as well as the strongly positive c-ANCA were considered key elements for the diagnosis. DAH is a rare inaugural manifestation of the disease and requires immediate and aggressive treatment with pulse steroids.

1117 - Submission No. 2193

ANCA-ASSOCIATED VASCULITIS IN A PATIENT WITH SYSTEMIC SCLEROSIS

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Case Description: A 59-year-old woman with a history of limited systemic sclerosis (SScl) with ANA, anti-Ro and anti-Scl70 antibodies and recent diagnosis of arterial hypertension (AHT) was hospitalized due to 3-day sustained fever (39ºC) without infectious focus and lower limb paresthesia. Initial blood test showed mild C-reactive protein elevation and serum creatinine 1.24 mg/dL (GFR=47). Urinalysis revealed microhematuria and proteinuria, and urine culture turned negative. Due to recently diagnosed AHT, impaired renal function and a pathological urine sediment, scleroderma renal crisis (SRC) is suspected and treatment with enalapril was initiated. Electromyogram showed moderate axonal sensory-motor polyneuropathy in distal territories of lower limbs.

Clinical Hypothesis: At the sight of no clinical improvement despite adequate treatment, the absence of data on microangiopathy and presence of active urinary sediment, SRC was ruled out and nephritic syndrome was suspected. Considering this type of kidney involvement associated with polyneuropathy, we expanded the autoimmunity study to explore the possibility of a vasculitic process.

Diagnostic Pathways: We obtained a positive ELISA for anti-MPO with p-ANCA pattern in immunofluorescence. A renal biopsy was performed to confirm the diagnosis. Pauci-immune necrotizing glomerulonephritis was assessed in histopathology.

Discussion and Learning Points: SRC is a rare (4-6% prevalence) and severe complication of limited SScl, characterized by oliguric acute renal failure and AHT. ANCA prevalence in SScl is around 3-11%, commonly with no clinical significance; nevertheless, there are few cases of ANCA-associated vasculitis (AAV) in SScl patients, mostly in limited SScl and associated with anti-MPO antibodies. Renal biopsy is mandatory for definitive diagnosis. Treatment does not differ from usual AAV.

1118 - Submission No. 1859

HEMOPHAGOCYTIC SYNDROME: REPORT OF 6 CASES IN THE INTERNAL MEDICINE SERVICE

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Background and Aims: Our aim was to analyze, present and describe the cases of hemophagocytic syndrome managed in the last 5 years in our Internal Medicine service.

Methods: Retrospective observational study of patients admitted from 2017 to 2022 in our Internal Medicine service, diagnosed with hemophagocytic syndrome, analyzing clinical, analytical, radiological symptoms, triggers, treatment and mortality.

Results: 6 cases of hemophagocytic syndrome were diagnosed (Table 1). 83.3% women, average age 39 years. 66.67% suffered from an underlying autoimmune disease, most frequently systemic lupus erythematosus. One of them also suffered from lymphoblastic non-Hodgking lymphoma in treatment with rituximab. 66.67% were on immunosuppressive treatment. 100% had fever, 83.3% hepatosplenomegaly, 100% anemia, 83.3% hypertriglyceridemia, 83.3% thrombocytopenia, 100% elevated LDH, and 100% hyperferritinemia. In 66.67% the cause was of infectious origin: Cytomegalovirus (2 cases), Epstein Barr Virus (1 case) and Leishmania (1 case). 100% of the cases presented hemophagocytosis in the biopsy/aspirate of bone marrow.

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Conclusions: Hemophagocytic syndrome is a rare pathology, underdiagnosed, with the majority of cases recorded in pediatric age. The most frequent cause is viral infections, as occurs in our registry, highlighting infection by Cytomegalovirus and Ebstein-Barr (EBV). In almost all the cases described, the diagnostic criteria are fully met. Regarding treatment, 100% of the cases were treated with corticotherapy. Gamma globulin IV was added to two of them under treatment with Methylprednisolone Boluses, without complications. We only found one death in our series of cases, treated with corticotherapy and etoposide. We believe that the analysis of these cases is of great relevance to reinforce our diagnostic suspicion and early treatment.

Summary of the parameters studied in the patients.

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6
Age	52	30	25	60	22	45
Sex	Female	Female	Female	Female	Female	Male
Base pathology	Bronchial asthma	Kikuchi' SLE	No	SLE	No	NHL lymphoblastic
Immunosuppressive treatment	No	Azathioprine	Prednisone 50 mg	Prednisone, azathioprine	No	Aza, prednisone, Rituximab
Fever	Yes	Yes	Yes	Yes	Yes	Yes
Hepatosplenomegaly	Yes	Yes	Yes	No	Yes	Yes
Hemoglobin	8.7 g/L	8.9g/L	11 g /L	9.6 g/L	6.9 g/L	7.9 g/L
Platelets	99000	330000	69000	63000	110000	17000
LDH	899 U/L	439 U/L	2091 U/L	533 U/L	327 U/L	4200 U /L
Triglycerides	202 mg/dl	230 mg/dl	286 mg/dl	-	640 mg/dl	236 mg/dl
Ferritin	1360 ng/ml	1957 ng/ml	33000 ng/ml	-	2452 ng/ml	1979 ng/ml
Infectious cause	No	Yes. CVM	No	Yes. CMV	Yes. EBV	Yes. Leishmania
Hemophagocytosis in MO	Yes	Yes	Yes	Yes	Yes	Yes
Medical treatment	Dexamethasone and Etoposide	Dexamethasone and Ganglciclovir Boluses	Pulses of Methylpredniso lone (MP)	MP and Intravenous immunoglobuli n (IV IG)	Dexamethaso ne	MP and IV IG
Death	No	No	No	No	No	Yes

1118 Table 1.

1119 - Submission No. 1640

NOT ALL IS A FLARE-UP

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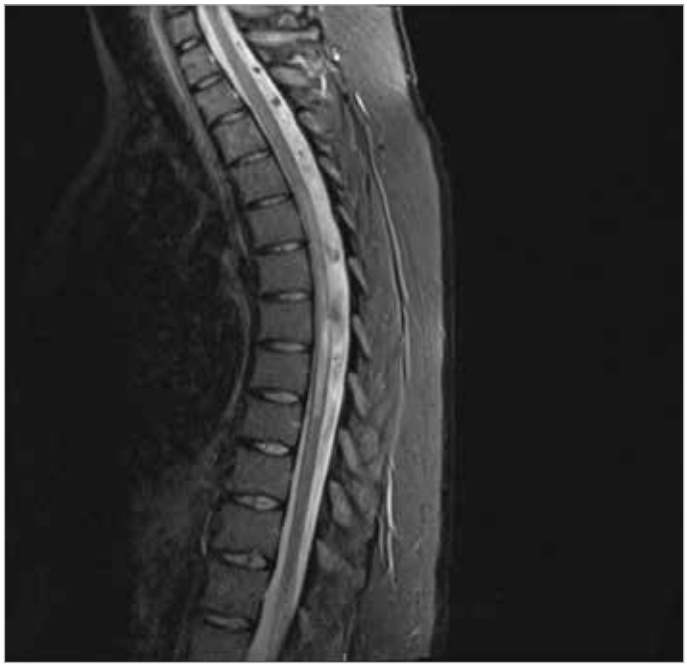
Case Description: A 30-year-old woman who came to the emergency room with a 3-day history of loss of strength in her right lower limb and hyperalgesia in the right sub mammary region. As background, highlights SLE without treatment. On examination, conscious and oriented, without cardiorespiratory alterations, without infectious semiology. Paresis of the right lower limb 4/5, with hyperactive reflexes in the upper limbs.

Clinical Hypothesis: Spine MRI describes acute transverse myelitis from T4-T9, with predominantly central involvement. Initially the study was started directed towards an acute manifestation of her lupus disease. Other neurologic, autoimmune, and infectious pathology was ruled out. She is discharged after treatment with pulses of methylprednisolone.

Diagnostic Pathways: In review consultations, we found a new MRI with a decrease in the lesion (Figure 1). Analytically, positivity stands out for anti-NMO/aquaporin 4 antibodies. Reviewing the diagnostic criteria for neuromyelitis optica (NMSO), we have these antibodies and three contiguous vertebral segments in the MRI. Finally, we must exclude alternative diagnoses: we did not have increased activity in specific autoimmunity markers (anti-DNA) and other clinical manifestations of previous exacerbations of the illness. Differentiating it from multiple sclerosis (commonly confused), in the NMSO, a pattern of central and peripendymal involvement stands out, unlike short and dorsal lateral myelitis, if we talk about MS.

Discussion and Learning Points: NMSO is a differential diagnostic challenge, which we reach by exclusion on a large number of occasions. It is necessary to keep in mind the specific anti-MOG and anti-NMO antibodies and cranial-spine MRI to assess the pattern of involvement.



1119 Figure 1.

1120 - Submission No. 516

IS THE INCIDENCE OF ANTI-GLOMERULAR BASEMENT MEMBRANE DISEASE INCREASING AFTER COVID-19? RESULTS FROM A FIFTEEN-YEARS RETROSPECTIVE SINGLE-CENTRE STUDY

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Background and Aims: Anti-glomerular basement membrane (anti-GBM) disease is a rare form of vasculitis. The aim of this study

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is to describe clinical presentation, treatment, and outcomes in patients with anti-GBM disease.

Methods: Retrospective descriptive analysis of all patients with anti-GBM disease attended in our center between 2006-2021.

Results: Eight patients presented anti-GBM disease throughout the study period, 75% males, age ranged 16-76 years, all were smokers, and in 50% a potential trigger was identified. There was a fourfold increase in annual incidence rate after the start of COVID-19 pandemic; from 0.4 patients/year to 1.5 patients/year. Median time from onset of symptoms to diagnosis was 11 days. Most frequent symptoms were fatigue (87.5%) and gross hematuria (75%). Four patients had only renal involvement, one presented only pulmonary involvement, and three patients had renal and pulmonary manifestations. Only one patient was double positive (anti-GBM+ANCA-MPO). Kidney biopsy was performed in three patients with renal-limited disease, all showed extensive cellular crescents (> 80%). Half of the patients with pulmonary manifestations required mechanical ventilation. Seven patients were treated with IV steroids and cyclophosphamide, and in 5 patients plasma exchange was added. Two-thirds of those requiring dialysis at presentation remained on renal replacement therapy despite treatment; half of them received a kidney transplant, without recurrence. Half of the patients that required mechanical ventilation died.

Conclusions: Anti-GBM disease is a rare entity with severe manifestations and increasing incidence after COVID-19 emergence. Despite aggressive treatment, patients requiring dialysis at presentation have a poor renal prognosis, and patients requiring mechanical ventilation have a poor survival rate.

1121 - Submission No. 1375

STATIN INDUCED MYOPATHY

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Case Description: A 67-year-old woman had a past medical history of dyslipidemia, treated with Simvastatin, and papillary thyroid carcinoma treated with surgery and I^{131}, showing an excellent response. She was admitted with a history of asthenia, myalgias and proximal muscle weakness for 5 months. Laboratory examinations showed a very high level of creatin kinase (5976 U/L). No other symptoms were reported, and physical examination was normal apart from a decreased strength in proximal muscles.

Clinical Hypothesis: Toxic myopathy; inflammatory myopathy; rhabdomyolysis.

Diagnostic Pathways: Analytical autoimmune and infectious markers resulted negative. A neurophysiological study was conducted, showing a myopathic pattern on right deltoid muscle, along with plenty of spontaneous denervation activity. On suspicion of medication-induced myalgia, statin was withdrawn. After a few weeks levels of creatin kinase were progressively lower and the symptoms improved. Besides, autoantibodies against 3-hydroxy-3-methylglutaryl-coenzyme A reductase were conducted and resulted positive. The biopsy on right deltoid muscle showed extensive myonecrosis with little inflammation.

Discussion and Learning Points: Hereditary and acquired myopathies cause muscle weakness and amyotrophy. Acquired myopathies are more frequent within the adult population; they can be secondary to endocrine and metabolic pathologies, infectious processes, or the use of certain drugs such as statins. Statin muscle-related adverse events are relatively uncommon, but they must be suspected. It can be mild showing low muscle pain and asthenia, or it can also be more severe leading to myonecrosis (high levels of CPK in blood), rhabdomyolysis (related to acute kidney injury) that require hospital admission. The clinical features tend to improve one month after the treatment is finished.

1122 - Submission No. 1905

MEDICATION ADHERENCE, SATISFACTION AND KNOWLEDGE IN METHOTREXATE-TREATED PATIENTS WITH CHRONIC INFLAMMATORY RHEUMATIC DISEASES: LITERATURE REVIEW

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Background and Aims: Methotrexate (MTX) is recommended as the first-line treatment in rheumatoid arthritis and is often used in the same way in many other rheumatic conditions. Non-adherence, which may be the consequence of fears about tolerance, lack of knowledge about the drug and treatment objectives, or to side effects is a major cause of MTX failure. We aim to survey and analyze literature available data about medication adherence, satisfaction, and knowledge of patients under MTX with chronic inflammatory rheumatism.

Methods: We did a systematic literature review according to the PRISMA recommendations on the databases Embase and Pubmed. We used research terms related to methotrexate, the diseases and adherence, satisfaction, or knowledge. We selected observational or interventional studies which provided results of adherence, satisfaction, patient's knowledge, and disease scores by using a standardized template.

Results: Among a total of 1638 references, 11 studies were included for adherence, 4 studies for satisfaction and 4 studies for knowledge about disease and treatment. The overall results of non-adherence vary from 9% to 82.9% among rheumatoid arthritis patients only. 30% to 45% of patients were unsatisfied with MTX mostly because of side effects and/or lack of efficacy. Patients were less knowledgeable mostly about side effects and contraception necessity.

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Conclusions: With the collected literature data, we can notice a lack of methotrexate adherence in patients with chronic inflammatory rheumatism, which is correlated with low satisfaction and knowledge about treatment. The main issue now is to optimize our patient's care, by means of a pharmacist-led intervention targeted on methotrexate.

1123 - Submission No. 864

TRANSCUTANEOUS AURICULAR VAGAL NERVE STIMULATION AMELIORATES CHRONIC PAIN IN PATIENTS WITH SYSTEMIC SCLEROSIS: RESULTS FROM A PILOT INTERVENTIONAL TRIAL

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Background and Aims: Systemic sclerosis (SSc) is an inflammatory disease also characterized by chronic pain, deeply affecting patients' quality of life. Analysis of heart rate variability (HRV) demonstrated a deregulation of autonomic nervous system (ANS) in SSc. Since trans auricular vagal nerve stimulation (tVNS) has been reported to improve sympatho-vagal balance and relieve pain in different diseases, the aim of our study was to evaluate the effects of tVNS on pain, autonomic control and inflammation in SSc patients.

Methods: A randomized interventional cross-over trial was performed on 21 SSc patients with chronic moderate-to-severe pain (Scleroderma Unit, Policlinico Hospital in Milan). Subjects were randomly assigned to interventional group (tVNS) or to control group (sham stimulation) for one month, later moving to the opposite arm after a 4-weeks wash-out period. Before and after each intervention, pain was rated by Numeric Rating Scale (NRS), blood samples were collected for inflammatory cytokines measurement, and 10-minute resting EKG was recorded to perform HRV analysis. Student's Paired T-test evaluated NRS, HRV and cytokines changes after tVNS and sham stimulation.

Results: showed a significant improvement of NRS score after tVNS ($p=0.002$) with mean reduction of 2 NRS points, as well as a reduction of IL-6 levels compared to sham (-17% from baseline, $p=0.029$). No significant variation of HRV parameters was observed.

Conclusions: tVNS treatment determined a significant reduction of pain and systemic inflammation in SSc patients. This non-invasive neurostimulation technique could represent a valuable tool for ameliorating quality of life in subjects with chronic diseases characterized by autonomic and inflammatory alterations.

1124 - Submission No. 792

WHICH CAME FIRST, AMYLOIDOSIS OR VASCULITIS? ABOUT A CASE REPORT

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Case Description: We present the case of a 77-year-old woman with several months of fatigue, weight loss, low back pain, hips and shoulders pain and muscle weakness. Laboratory tests showed elevated acute phase reactants (CRP 11 mg/dl and ESR 120 mm/h) and mixed anemia (iron deficiency and chronic disease). No neoplasms were observed on CT scan. A scintigraphy only showed osteoporotic vertebral fractures and arthropathy of the shoulders and hips. A few months later she presented gastroenteritis with severe AKI and proteinuria in nephrotic range. She required dialysis. Renal biopsy was performed compatible with acute tubular necrosis and secondary amyloidosis due to amyloid A (AA). Then PET-CT scan was performed compatible with vasculitis of large vessels.

Clinical Hypothesis: The suspected diagnosis was a GCA together with a PMR, which led to secondary AA renal amyloidosis.

Diagnostic Pathways: Several authors have reported cases of large vessel vasculitis associated with secondary amyloidosis (Van De Ginste et al, 2021). In our case it was decided not to perform a biopsy due to low yield and high risk, so we do not have confirmation by biopsy. However, several studies corroborate the high specificity of PET-TC in the diagnosis of GCA (AlNuami et al, 2020). The patient's symptoms improved with corticosteroids and Tocilizumab, which supports the diagnosis. She did not recover renal function.

Discussion and Learning Points: Perhaps the association of amyloidosis and vasculitis is due to the delay in diagnosis and treatment of the vasculitis and the pro-inflammatory situation. We highlight the role of PET-CT in this case and in the diagnosis of GCA.

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1125 - Submission No. 296

PNEUMONIA AND HEMOPTYSIS WITH POOR PROGRESS

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Case Description: A 51-year-old man, with history of palindromic rheumatism consulted for progressive dyspnea and a one-month history of productive cough, accompanied by constitutional syndrome. Physical exam revealed cachexia and left basal hypoventilation, as well as deformities of feet and hands. Analytical data suggestive of infection, together with an extensive left pleural effusion in the X-ray led to suspect the presence of severe community-acquired pneumonia, hence he was admitted and started empiric antibiotic therapy. Due to an unfavorable clinical course, a CT-scan was requested, showing extensive left lower lobar necrotizing pneumonia with empyema. Furthermore, he required left bronchial artery embolization due to recurrent hemoptysis and finally a left lower lobectomy due to massive hemoptysis.

Clinical Hypothesis: 24-hour urine confirmed proteinuria of 2269 mg/24h with creatinine-clearance of 22 mL/min. Autoimmunity study highlighted positive anti-citrullinated antibodies and elevated rheumatoid factor. X-rays of hands and feet revealed deformations and erosions. Thus, the diagnosis of advanced rheumatoid arthritis was confirmed.

Diagnostic Pathways: Biopsy of lobectomy was reviewed, describing acute necrotizing bronchopneumonia and diffuse amyloidosis, concluding the diagnosis of amyloidosis secondary to advanced rheumatoid arthritis with renal and pulmonary involvement. Treatment was started with weekly subcutaneous tocilizumab and prednisone 2.5 mg/24h, achieving clinical and analytical stability.

Discussion and Learning Points: AA amyloidosis is a disorder characterized by the deposit of serum amyloid A protein in tissues. The most commonly involved organ is the kidney. If left untreated, mortality is high. Proinflammatory cytokine inhibitors have been shown to be effective in some cases of AA amyloidosis due to rheumatic disorders and hereditary autoinflammatory diseases, as in the case we present.

1126 - Submission No. 1283

HEADACHE AND CERVICAL PAIN OF UNUSUAL CAUSE

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Case Description: A 63-year-old man with a history of vitamin D deficiency, hypomagnesemia and iron deficiency anemia with suspected malabsorptive origin, which could not be proven after a complete digestive study. Also, episode of right hip arthritis 25 years earlier resolved with NSAIDs. He was admitted for cervicalgia and headache with an inflammatory profile and dysesthesia of left scalp for a week.

Clinical Hypothesis: Given the patient's age and the characteristics of the pain, we focused on secondary headaches, especially tumors (primary or metastatic), inflammatory (giant cell arteritis, spondylarthritis, etc.) and infectious (encephalitis, meningitis).

Diagnostic Pathways: Physical examination (including temporal pulses and ocular fundus examination) was normal, as the ECG and chest X-ray. Analytics showed a very high CRP and ESR. The body CT scan (including brain) was normal, as were the cerebrospinal fluid analysis, cultures and serologies (Brucella, HIV...) and Mantoux. The basic autoimmune study with RF, ANCA, complement and ANA was normal. Given the history of coxarthritis and malabsorption, HLA-B27 determination was requested, which was positive. Spine and sacroiliac X-rays were done, which were normal; however, bone gammagraphy showed uptake in the right sacroiliac. During admission he had an episode of dactylitis in the right hand.

Discussion and Learning Points: Our patient was diagnosed (CASPAR criteria) with a rare form of psoriatic arthropathy, with spondylitis and unilateral sacroiliitis, which affects approximately 5% of patients and in which HLA B27 may be positive, in contrast to the more common forms, with peripheral joint involvement, which usually present HLA-CW6. The headache was referred pain. The evolution was satisfactory with NSAIDs.

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1127 - Submission No. 332

TAKAYASU ARTERITIS IS ASSOCIATED WITH IMPAIRED ARTERIAL STIFFNESS: A META-ANALYSIS OF OBSERVATIONAL STUDIES

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Background and Aims: Takayasu arteritis, a large vessel vasculitis, is strongly associated with increased risk for cardiovascular and chronic kidney disease. Arterial stiffness represents an established prognostic marker of cardiovascular disease development in the general population. A few studies have assessed the effect of Takayasu arteritis on arterial stiffness indices. Herein, we sought to provide pooled effect estimates regarding the impact of Takayasu arteritis on arterial stiffness, by retrieving relevant, available observational studies.

Methods: On 1st May 2022, we searched two major electronic databases and grey literature sources for relevant observational studies. We set as primary outcome the mean difference in carotid femoral PWV (cfPWV) between patients with Takayasu arteritis compared to controls.

Results: Regarding the primary outcome, we pooled data from 3 studies in a total of 125 enrolled subjects, demonstrating that Takayasu arteritis is associated with a significant increase in cfPWV by 2.06 m/s (MD = 2.06, 95% CI; 1.29 – 2.83, I^2 = 0%, p < 0.001), compared to controls.

Conclusions: The present preliminary meta-analysis demonstrates the potential deleterious effects of Takayasu arteritis on arterial stiffness. Prognostic implications have to be confirmed in larger, prospective studies.

1128 - Submission No. 549

SYSTEMIC SCLEROSIS: A DIAGNOSIS NOT TO FORGET

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Case Description: Systemic sclerosis is a rare autoimmune connective tissue disorder that causes diffuse fibrosis and vascular abnormalities. It affects mostly skin, gastrointestinal tract, lungs, skeletal muscle, and pericardium.

Clinical Hypothesis: We report the case of a 78 years-old woman with a relevant medical history of hypertension, atrial fibrillation with cardiomyopathy and gastroesophageal reflux. An internal medicine consultation was requested due to extreme fatigue, exercise intolerance and a severe anemia with a hemoglobin value of 6 grams per deciliter.

Diagnostic Pathways: The patient referred constipation and occasional heartburn but denied any bleeding such as hematemesis, melena or hematochezia. The initial etiological study revealed an iron deficiency anemia with a ferritin of 2 micrograms per liter and transferrin saturation of 3%. Two blood transfusions and intravenous iron reposition were performed with reasonable but slow response. An upper gastrointestinal endoscopy and gastric biopsies showed antral and bulb erosive gastropathy and B type peptic esophagitis, so pantoprazole 40 milligrams twice daily was started. A few consultations later, the patient complained of morning stiffness, myalgia, and arthralgia, specially of metacarpophalangeal and ankle joints. She also described triphasic color change of the digits compatible with Raynaud phenomenon. Further investigation revealed positive anti-SCL70 and anti-fibrillarin. The capillaroscopy revealed a scleroderma pattern. The diagnosis of systemic sclerosis was made, and she was referred to an autoimmune consultation. Treatment with bosentan was initiated with improvement of her complaints.

Discussion and Learning Points: This case reminds us of the importance of high clinical suspicious and a careful clinical history and physical exam.

1129 - Submission No. 483

MYELOSUPPRESSION FOLLOWING LOW DOSE METHOTREXATE IN PERITONEAL DIALYSIS PATIENT - A CASE REPORT

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Case Description: A 49-year-old lady with end stage renal failure on peritoneal dialysis, presented with a 3-day history of painful mouth ulcers, fever, and menorrhagia. She was diagnosed with rheumatoid arthritis 2 weeks ago and started on methotrexate (MTX) 10 mg per week. On admission, she had multiple mouth ulcers and an erythematous pharynx. Chest, cardiovascular and musculoskeletal examination was normal.

Clinical Hypothesis: Methotrexate toxicity causing myelosuppression in a peritoneal dialysis patient, differentials being infection, hematological malignancy, or autoimmune disease.

Diagnostic Pathways: Investigations showed pancytopenia with hemoglobin of 95 g/dL, WBC of 1.8 x10^9/L, and platelets of 46 x 10^9/L. Hemolytic panel, and hematinic were normal. Detailed viral serology and autoimmune screen was negative. On day 4, the pancytopenia worsened with Hb 72 g/dl, WCC 0.3 x10^9/L and platelets 9 x10^9/L. MTX was withheld, and patient was managed with platelet transfusion, filgrastim, and folic acid. On day 7, the blood counts normalized. Diagnosis of rheumatoid arthritis was later refuted due to lack of clear clinical signs and serological

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tests by our rheumatologist and patient was advised against methotrexate use.

Discussion and Learning Points: MTX is an anti-metabolite used in management of autoimmune rheumatic diseases. Despite its widespread use in renal impairment, most guidelines recommend against using it in peritoneal dialysis patients. Our patient did not even have a clear indication for it and developed a near fatal toxicity with only 2 doses. Initiation of methotrexate for treating rheumatological diseases must be based on proper diagnosis and considering the patient's comorbidities. For patients on peritoneal dialysis, alternative anti rheumatic drugs should be considered.

1130 - Submission No. 1512

NIVOLUMAB INDUCED POLYMYALGIA RHEUMATICA – A CLINICAL CASE

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Case Description: Immune checkpoint inhibitors (ICIs) have made noteworthy progress as anti-cancer agents for various malignancies. Due to immune activation and inflammation, immune-related adverse events (irAEs) can occur, with a wide array of clinical manifestations, including musculoskeletal symptoms.

Clinical Hypothesis: In this report, we describe a case of polymyalgia rheumatica (PMR) presenting as an immune-related adverse event of nivolumab.

Diagnostic Pathways: A 55-year-old man with stage IV clear cell renal cell carcinoma developed progressive fatigue, weight loss, lower limb myalgia, bilateral shoulder and pelvic girdle pain and morning stiffness over 12 courses of Nivolumab as 2nd line treatment (since January 2021). Upon examination, he presented with marked muscular atrophy, active shoulder abduction limitation, pain and oedema of the knees, wrists, and metacarpophalangeal joints bilaterally and difficulty transferring from seated to standing position. Laboratory findings revealed an elevated erythrocyte sedimentation rate (25 mm/h) and C-reactive protein (45 mg/L). Autoimmune panel was negative. Nivolumab was suspended and oral prednisolone was started. Over the next 2 months, there was marked symptom improvement with no functional limitation. Due to disease progression, nivolumab was reinstated, and the patient was kept on oral prednisolone, with no symptom recurrence.

Discussion and Learning Points: This case demonstrates a rare example of PMR precipitated by Nivolumab. PMR has also been described as a paraneoplastic syndrome. However, the time-related symptoms associated with the initiation of nivolumab and good response to oral corticosteroids make this hypothesis unlikely. Symptom recognition is crucial to prompt early initiation of corticosteroid therapy to avoid functional limitations and even allowing maintenance of cancer treatment.

1131 - Submission No. 892

MEDIASTINAL-PULMONARY SARCOIDOSIS SIMULATING LUNG MALIGNANCY

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Background and Aims: Sarcoidosis is a multisystem disorder of unknown origin, characterized by the presence of non-caseating granulomas in any organ. It affects people of all ages, mainly before the age of 50. The mediastinum-pulmonary area is involved in 90% of cases. Our aim is to highlight the heterogeneity of radiological features and the importance of biopsy for the diagnosis.

Methods: Analyzing five patients, referred to the Emergency Department for abnormal radiological findings, who underwent lung biopsy which revealed non-caseating granulomas compatible with sarcoidosis: 1) A 46-year-old man with breathlessness and a dry cough. A CT scan revealed a mass in the upper right lobe with enhanced uptake on an FDG-PET scan. 2) A 78-year-old woman with progressive dyspnea. An initial chest X-ray was normal, but a subsequent CT scan depicted the "papillon" sign. 3)Three young patients, aged 25-35, presented with a dry cough, fatigue and a CT scan revealing mediastinal lymphadenopathy. The bronchoscopy and TBNA were negative and non-diagnostic, respectively. Therefore, a mediastinoscopy was performed.

Results: Sarcoidosis is a clinical mimic. Radiologic features alone cannot distinguish benign disorders from malignancies. A biopsy confirmation is needed

Conclusions: Sarcoidosis encompasses numerous different clinical presentations and mimics other medical conditions. The diagnosis is based on a compatible clinical picture, combined with granulomas on histology and the exclusion of other causes.

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1132 - Submission No. 1033

YOUNG MAN WITH RECURRENT VENOUS THROMBOEMBOLISM... AND SAUSAGE FINGERS

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Case Description: A 49-year-old male with a history of complex partial crisis secondarily generalized since childhood, deep vein thrombosis in the left lower limb and pulmonary thromboembolism due to pneumonia caused by SARS-CoV-2. He was evaluated in consultation for repeated thrombosis. He had Raynaud's phenomenon on his hands for 5 years, dactylitis, without arthralgias or other symptoms. Physical examination confirmed the presence of dactylitis without xerostomia or other alterations.

Clinical Hypothesis: Differential diagnosis: hereditary or acquired thrombophilia, systemic sclerosis, transient trigger thrombosis.

Diagnostic Pathways: We requested an autoimmunity study, a genetic study for the detection of thrombophilia and a study of antiphospholipid antibodies. We found Ac SCL70 positive, ANA+ granular isomerase type 1 (AC-29). We established the diagnosis of scleroderma with associated thromboembolic disease. In the TC scan, we observed the re-permeabilization of the pulmonary veins. Echocardiogram without structural heart disease. Cranial MRI with no pathological findings.

Discussion and Learning Points: An increased risk of venous thromboembolic diseases has been demonstrated in autoimmune diseases that can occur in outbreaks such as Behçet's disease, scleroderma, multiple sclerosis, and inflammatory bowel disease. In patients with repeated thrombosis, an exhaustive history and examination should be done to rule out other causes besides sedentary lifestyle, acute infections, overweight or consumption of drugs that may increase thrombotic risk.

1133 - Submission No. 788

THE WOMAN WITH PUFFY HANDS

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Case Description: 40-year-old woman with allergy to beta-lactams, arthralgias in the hands, feet and knees for several months with episodes of swelling in the hands, morning stiffness and photosensitivity. She did not refer ulcers in mucous membranes, Raynaud's phenomenon, xerostomia, xerophthalmia nor constitutional syndrome.

Clinical Hypothesis: Normal cardiopulmonary auscultation. Swollen hands, no arthritis. In analysis, platelets 444,000/mc total proteins 9.30 g/dl, IgG 4014 mg/dL, proteinogram with polyclonal increase of gamma globulins with a gamma fraction of 3.73 g/dL (40.1%). In autoimmunity study, antinuclear antibodies (ANA) positive to titer 1/320 with granular pattern, antiRo and antiLA positivity, antibody cyclic citrullinated peptide (anti-CCP) positive to titer of >731.8 U/ml.

Diagnostic Pathways: Negative gammopathy study. Salivary gland scan with no findings suggestive of dry syndrome. A CT scan of the chest and abdomen showed a hypodense focal area in hepatic segment VI of 1 cm, on MRI it was confirmed that it was a hemangioma.

Discussion and Learning Points: We established the diagnosis of rheumatoid arthritis (RA) with secondary Sjögren's syndrome (SS). SS is characterized by a focal lymphocyte infiltrate with a predominance of CD4 lymphocytes in exocrine glands. It causes xerostomia and xerophthalmia. There are extra glandular manifestations, especially arthritis/arthralgia. It may occur in association with other systemic autoimmune diseases such as systemic lupus erythematosus and rheumatoid arthritis. Some viruses, just like HCV or HIV, can cause lymphocytic infiltration of the exocrine glands. Processes such as liver cirrhosis, diabetes mellitus, sarcoidosis, hyperlipidemia, IgG4-related disease, or lymphoproliferative diseases may present symptoms similar to those described in the SS.

1134 - Submission No. 1181

YOUNG MAN WITH RECURRENT APHTHOUS ULCERS AND DEEP VEIN THROMBOSIS

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Case Description: A 44-year-old male without allergies, arterial hypertension, ex-smoker of 20 cigarettes per day, 3 episodes of superficial thrombophlebitis in the lower limbs and a deep vein thrombosis in the right lower limb. He went to the emergency room for swelling, pain, and increased circumference of the left lower limb. On physical examination we observed an erythematous calf with tenderness and edema. Left lower limb Doppler ultrasound confirms the presence of deep vein thrombosis. We reinterrogated the patient, who told us that he had frequent episodes of oral aphthous ulcers, without genital ulcers, arthralgia, xerostomia or xerophthalmia. Headaches with hyperalgesia of the scalp frequently. He had no suffered weight loss, night sweats, palpable lymphadenopathy, visible bleeding. In her family, there was no known history of autoimmune diseases, miscarriages, or unprovoked thrombosis.

Clinical Hypothesis: We made the differential diagnosis of recurrent thrombosis caused by occult neoplasm or recurrent thrombophilia caused by autoimmune disease.

Diagnostic Pathways: No CT abnormalities of the chest and abdomen were observed. Study of negative hereditary thrombophilia, persistent positive lupus anticoagulant. Negative tumor markers. In the autoimmunity study, HLA B51 positive.

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Discussion and Learning Points: In patients with repeated venous thrombosis, an anamnesis should be performed to rule out possible autoimmune disease, since a clear increase in thromboembolic episodes has been demonstrated in autoimmune diseases with recurrent attacks.

1135 - Submission No. 711

SEPTIC ARTHRITIS AND MILD CERVICALGIA

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Case Description: 54-year-old woman, low alcohol consumption, severe atopic dermatitis. She went to the emergency room for presenting arthritis in the second and third distal interphalangeal of the right hand and first distal interphalangeal of the left hand of a few days' duration and mild cervicalgia. Patient did not present fever symptoms. On physical examination, we did not observe any alteration.

Clinical Hypothesis: We suspected endocarditis, tuberculosis, tumors, spondylodiscitis, and arthritis.

Diagnostic Pathways: The right-hand X-ray showed arthritis versus erosive osteoarthritis in distal interphalangeal of the second and third fingers. Left hand X-ray showed interphalangeal soft tissue enlargement. The cervical spine radiography displayed demineralization and wedging of vertebral bodies C4 and C5, with decreased disc height. Contrast MRI and cervical spine CT showed C4-C5 and C5-C6 spondylodiscitis. We performed interphalangeal joint arthrocentesis and purulent fluid was extracted. *Staphylococcus aureus* was isolated from the culture. Endocarditis, tuberculosis and tumors were ruled out by extension study. The patient presented negative blood culture. A targeted antibiotic therapy was initiated. Later a surgical intervention was decided for drainage and stabilization of the cervical spine. A good clinical evolution was shown after the procedure.

Discussion and Learning Points: Spondylodiscitis is an inflammatory process, usually infectious, of the intervertebral space and adjacent vertebral bodies. The most frequent microorganism is *S. aureus*, followed by both gram-positive and gram-negative and anaerobic germs such as Brucella and Mycobacteria are mainly related to endemic areas. High suspicion and in- depth analysis is needed for correct diagnosis.

1136 - Submission No. 1551

GIANT CELL ARTERITIS - A LATE DIAGNOSIS

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Case Description: A 64-year-old woman presented with a two-months history of progressive asthenia, headache, shoulders stiffness, weight loss, night sweats and fever. She had previously been admitted to hospital with a suspected diagnosis of viral pericarditis. She was discharged with a course of prednisolone. In the emergency department she was with an emaciated appearance, had 38.3ºC of temperature. Her laboratory investigations revealed anemia, leukocytosis, and elevated inflammatory markers. Computed tomographic of brain/thorax/abdomen identified no abnormalities. A course of empirical antibiotics was started for pyrexia of an unknown origin.

Clinical Hypothesis: Giant-cell arteritis (GCA) is an inflammatory vasculopathy more common in women over 50 years of age.

Diagnostic Pathways: Further investigations including cultures, viral, zoonotic panels, autoimmune and cerebrospinal fluid studies. These were all negative. Due to ongoing clinical suspicion of GCA, a positron emission tomography scan was performed, which showed signs of large vessel vasculitis with involvement of the aorta and its branching vessels. The temporal artery biopsy was inconclusive. A diagnosis of GCA was made, fulfilling 3 ACR 1990 classification criteria, and treatment was started with 60 mg of prednisolone. There was clinical improvement in the patient's condition.

Discussion and Learning Points: Clinically, GCA presents with different phenotypes. In this case the extracranial one with involvement of a large vessel, and the systemic inflammatory response. Despite the absence of histological confirmation, the clinical findings alongside analytical and vascular imaging results, allowed the diagnosis and the rapid therapeutic response. This reduced the morbidity associated with this condition. It is important to know all the clinical phenotypes of GCA.

1137 - Submission No. 818

GIANT CELL ARTERITIS: CLINICAL AND ANALYTICAL REMISSION WITH IMAGING ACTIVITY. WHAT NOW?

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Case Description: 80-year-old male, with history of hypertension, dyslipidemia and diabetes. Admitted for sudden vertigo and gait imbalance, compatible with vertebrobasilar stroke. Evidence of left cerebellar cortico-subcortical hypodensity and irregularities of the caliber of both vertebral arteries in CT angiography, without reperfusion criteria. He underwent cervical/transcranial

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doppler ultrasonography, which revealed a hypoechoic halo in the temporal arteries. Analytically, with CRP 111 mg/L and ESR 61 mm/h. Therefore, the diagnosis of giant cell arteritis (GCA) was assumed, and methylprednisolone pulse was started, with clinical and analytical improvement.

Clinical Hypothesis: Giant cell arteritis.

Diagnostic Pathways: Temporal artery biopsy confirmed GCA. In subsequent follow-up appointments, while glucocorticoid tapering, the patient remained without relapse, with resolution of long-lasting headache and mandibular claudication, as well as normalization of CRP and ESR. In order to assess disease activity, he underwent PET/CT within 10 months treatment, already with prednisone 15 mg per day, that showed increased and diffuse 18F-FDG uptake of the vertebral arteries. Given the clinical remission with persistent imaging activity and the history of stroke secondary to GCA, we chose to associate methotrexate (10 mg a week), although there are no recommendations regarding treatment strategies in these patients.

Discussion and Learning Points: We expect GCA clinical and analytical remission to be accompanied with decrease or normalization of imaging activity. In this clinical case, the ongoing disease activity, despite adequate treatment and clinical remission, must warn of the risk of future clinical relapse and the need to escalate therapy, especially in patients with previous important GCA secondary events.

1138 - Submission No. 917

SJÖGREN'S SYNDROME: A CLINICAL CASE OF UNDERCOVER LYMPHOMA

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Case Description: Sixty-one years old male, diagnosed 13 years ago with cryoglobulinemic vasculitis and primary Sjögren's syndrome (pSS) with pulmonary and peripheral nervous system involvement, being treated with corticosteroid, having refused other treatment options. He presented, in a follow-up appointment, with bilateral cervical, submandibular, and supraclavicular adenopathies.

Clinical Hypothesis: Lymphoma associated with pSS.

Diagnostic Pathways: Cervical echography confirmed multiple adenomegalies and fine-needle aspiration biopsy was not conclusive. Full body CT scan demonstrated hepatomegaly and multiple enlarged lymph nodes, specifically in the internal jugular chains, supraclavicular area, mediastinum and close to iliac vessels. Lymphadenopathies showed on PET scan signs of hypermetabolism, which was compatible with lymphoproliferative disease. The patient presented inflammatory disease anemia, polyclonal population on peripheral blood, β2-microglobulin 6140 ng/mL and positive IgM for Cytomegalovirus and Epstein-Barr virus (CMV/EBV). Normal platelets and white cells count, immunoglobulin levels and serum protein electrophoresis. Excisional biopsy showed a peripheral B-cell lymphoma, with a monoclonal plasmocytic population and multiple enlarged cells, compatible with concomitant CMV/EBV infection. Medullary involvement was excluded. We concluded that the patient had an active infection of CMV/EBV that promoted a rapid progression of adenopathies, with an underlying indolent B-cell lymphoma.

Discussion and Learning Points: CMV/EBV infection was an important confounding factor that led indirectly to the diagnosis of lymphoma, which might otherwise have been delayed. This case demonstrates the importance of the thorough follow up of these patients, due to the potential risk of developing lymphoma, although we should always discard other causes.

1139 - Submission No. 967

LOW BACK PAIN AS AN UNCOMMON MANIFESTATION OF RENAL VEIN THROMBOSIS - A CASE REPORT

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Case Description: We describe the case of nineteen years-old women with relevant past of scoliosis, IgA deficiency and acrocyanosis, taking a combined oral contraceptive. Her family history was noteworthy for hypertension at a young age in her mother and systemic lupus erythematosus in a cousin. She appealed to the emergency department several times due to lumbar pain, being treated with symptomatic medication. Once, she was also diagnosed with urinary tract infection and, one week later, developed tachycardia, hypertension, lower limb edema, foamy urine and complained of aggravated lumbar pain.

Clinical Hypothesis: Her analysis revealed: hemoglobin 12.7 g/dL, platelets 95,000/uL, creatinine 2.0 mg/dL, albumin 2.8 g/dL, total cholesterol 247 mg/dL, c-reactive protein 22 mg/L, urine: leukocytes 70/uL, proteins > 1000 mg/dL, erythrocytes 80/uL. A renal computerized tomography was performed disclosing changes that suggested recent thrombosis in the left kidney and presence of thrombus in the inferior vena cava in the plane superior to the right renal vein and extending to the hilum, which was not totally occluded. She was medicated with heparin and methylprednisolone with gradual improvement.

Diagnostic Pathways: Further etiological study revealed positive lupus anticoagulant (52.4 seg), positive anti-cardiolipin antibody (IgM 45MLP-U/mL; IgG 63 GPL-U/mL) and anti-Beta2 glycoprotein (IgM 15 U/ml, IgG 13 U/ml), without other significant changes. The diagnosis of antiphospholipid syndrome was made.

Discussion and Learning Points: Renal vein thrombosis is rare and is more common in nephrotic syndrome or inherited thrombophilia. This case illustrated that, although infrequent, atypical low back pain associated with renal thrombosis can be a manifestation of antiphospholipid syndrome, and its prompt diagnosis is essential to avoid further systemic damage.

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1140 - Submission No. 1934

GOUT: AN EXUBERANT CASE OF ADVANCED DISEASE

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Case Description: Gout is a chronic disease produced by monosodium urate deposition joints as result of persistent hyperuricemia, characterized by arthritis flares and disability. Lasting days to weeks if untreated, flares are inflammatory, often intensely painful and debilitating[1]. This is a case report of 59-year-old men with history of obesity, alcoholism, hepatic cirrhosis, erosive gastritis, high blood pressure and hyperuricemia. Medicated with amitriptyline 25 mg, fluoxetine 20 mg id, oxazepam 50 mg id, pantoprazole 40 mg id, telmisartan/amlodipine 80/5 mg id, furosemide 40 mg id and febuxostat 80 mg id, with poor therapeutic compliance.

Clinical Hypothesis: Presented with persistent pain and several nodules in both hands, forearms and elbows, consistent with tophi.

Diagnostic Pathways: Laboratory studies revealed uricemia 622 µmol/L and radiography showed erosive changes in multiple joints. Since, in this case, nonsteroidal anti-inflammatory drugs and colchicine treatments is not recommended, was medicated with tramadol/paracetamol 75/650 mg 2id for pain management. Necessity of dietary and lifestyle modifications were reinforced.

Discussion and Learning Points: This is an interesting case due to its exuberance, showing the consequences of low adherence to treatment and lifestyle modification failure. Advanced disease appears in approximately 15% of patients, characterized by tophi, persistent articular inflammation, joint erosion and deformity[1]. Patient education remains a priority although a significant number of patients discontinue urate-lowering therapy.

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1141 - Submission No. 1001

GRANULOMATOSIS WITH POLYANGIITIS

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Case Description: Granulomatosis with polyangiitis (GPA): rare necrotizing vasculitis that affects small/medium-sized vessels. Classic triad consists of systemic small vessel vasculitis, upper and lower respiratory tract's granulomatous infiltrate, necrotizing and pauci-immune glomerulonephritis. c-ANCA PR3 antibodies are present in more than 90% of cases[1]. We present the following clinical case: 63-year-old male, ex-smoker, without chronic medication, repeatedly went to the emergency department (ED), within a month, with recurrent respiratory symptoms, without improvement despite antibiotic therapy. Reported persistent epistaxis during the previous week. Laboratory studies disclosed increase in inflammatory parameters and chest radiography presented bilateral infiltrate, overlapped to the previously performed.

Clinical Hypothesis: Was admitted to the Internal Medicine for further study.

Diagnostic Pathways: Chest tomography showed bilateral parenchymal nodules. Further laboratory tests revealed positive c-ANCA PR3 (54 U/mL). Bronchoscopy presented inflammatory appearance and hemosiderin suggestive of alveolar hemorrhage, compatible with vasculitis. During hospitalization, renal function started to progressively worsen and was transferred to Nephrology due to suspicion of rapidly progressive glomerulonephritis. Urinary sediment showed hematic proteinuria and dysmorphic erythrocytes. Received methylprednisolone pulses followed by oral prednisolone and started rituximab with progressive stabilization of renal function.

Discussion and Learning Points: An interesting case due to its rarity, highlights extended study's importance in patients whose symptoms do not resolve with the initial approach. Associated with high morbidity and mortality, untreated patients' average life expectancy is 5 months. Prompt diagnosis and treatment are essential, improving disease's prognosis.

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1142 - Submission No. 502

RHEUMATOID ARTHRITIS AND ITS GREAT EVOLUTIONARY POTENTIAL

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Case Description: The case reported is about a 65-years old Ukraine woman with a known rheumatoid arthritis who was hospitalized in August 2022 for a worsening of rheumatological symptoms associated with functional impotence and treated with steroids. The history of headache, trismus masseter, fever, hepatitis, pneumonia, serositis or vasculitis was negative.

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Clinical Hypothesis: Castleman disease is a rare disorder that involves an overgrowth of cells in lymph nodes throughout the body, often associated with HHV8 and HIV.

Diagnostic Pathways: Blood chemistry tests showed leukocytosis, neutropenia, hypovitaminosis D, cryoglobulins and rheumatoid factor increase. Mixed anemia was also found, with macrocytosis, folate deficiency, positive Coombs test, bilirubin, LDH and reticulocytes increase. Proteinuria, QuantiFERON test, ANA-reflex, HCV, HBV, Parvovirus19, ANCA were negative. Hands and wrists' ultrasound showed diffuse and bilateral tenosynovitis. Chest and abdomen's CT scan showed diffuse lymph adenomegaly. PET confirmed the presence of lymphoproliferative pathology in the abdominal and inguinal area. Therefore, suspecting a hematological pathology, lymph node biopsy was performed, and showed follicles with regressing germinal centers (CD21+, Bcl2-, Bcl6+), a Castleman-like appearance, polytypic plasma cells aggregates (CD38+, CD138+) in the interfollicular area, eosinophilia, necrotic areas without an evident imbalance of immunoglobulins' light chains. Immunostaining for HHV8, EBV/EBER, Treponema, CD5, CyclineD1, CD56 were negative. Diagnosis of HHV-Negative Castleman disease was made. Therapy with bisphosphonate and hydroxychloroquine was started with initial improvement. Therapy with methotrexate was postponed due to folate deficiency.

Discussion and Learning Points: Although lymph adenomegaly and hemolysis led to suspicion of a hematological pathology, the final diagnosis of such a complex case always requires a clinical and pathological contribution.

1143 - Submission No. 1548

BEÇHET'S DISEASE: VASCULAR PHENOTYPE

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Case Description: 40-year-old male with thromboembolism 14 years before massive PTE requiring thrombectomy together with episodes of oral aphthous ulcers and folliculitis. He checked for dyspnea on exertion, and a control CT scan showed persistent central thrombus in the left pulmonary artery.

Clinical Hypothesis: Chronic left pulmonary artery thrombosis in the context of Behçet's disease (BD) to discard chronic thromboembolic pulmonary hypertension.

Diagnostic Pathways: A PET-CT scan and echocardiogram were performed showing intense inflammatory capture on the left pulmonary artery, dilatation of the right chambers with RV-RA gradient 68-74 mmHg. The histology submitted after thrombectomy was reviewed and showed thrombotic material with intense inflammatory infiltrate. Diagnosed with chronic thrombosis secondary to pulmonary arteritis due to Behçet's disease, treatment was started with induction cyclophosphamide followed by iv infliximab, in the absence of response, which finally led to the disappearance of the inflammatory pick-up in the control PET-CT scan. This was followed by a right catheterization study which excluded chronic thromboembolic pulmonary hypertension.

Discussion and Learning Points: BE is characterized by a triad of oral aphthous ulcers, genital ulcers, and uveitis, with two phenotypes: the classic or mucocutaneous phenotype and the often underestimated vascular or "Angio-Behçet" phenotype. The ICBD classification criteria include for the first-time vascular involvement, within which arterial thrombosis is uncommon but carries the highest morbidity and mortality due to the risk of developing pulmonary aneurysms. Treatment of "Angio-Beçhet" is based on an induction phase with steroids associated with cyclophosphamide or anti-TNF in refractory cases. If the patient requires anticoagulation, the presence of aneurysmal lesions must first be ruled out.

1144 - Submission No. 655

DISSEMINATED NECROTIC SUPPURATIVE ULCERS AS A MANIFESTATION OF COCAINE ABUSE

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Case Description: A 46-year-old-men natural from Perú, admitted from the emergency department for presenting in the last 15 months multiple skin ulcerations in scalp, superior members, back and both legs, the biggest one with an extension of 10x15x3 cm (Figures 1-4). Stand out of his medical history a harmful consume of inhaled cocaine, as well as a typhoid fever and hepatitis A in his childhood. The skin ulcers presented an important suppuration with necrotic plaques surrounding it. Laboratory test showed elevation of acute phase reactants. All microbiological serologies and autoimmune markers were negatives, except for an IgG positive VHA. Cutaneous biopsy described an epidermal ulcer with chronic dermo-hypodermitis and limited inflammatory cells but abundant fibrosis.

Clinical Hypothesis: The negativity of all the microbiological isolates, even atypical bacterial or fungal infection along with the negativity of the rest of complementary tests, dismissed any systemic autoimmune, toxic, or traumatic apparent etiologies. The clinical history added to histology guided us to pyoderma gangrenosum as first possibility.

Diagnostic Pathways: Given the history of consume of cocaine and the lesions so suggestive of pyoderma gangrenosum, bolus of corticosteroids and Infliximab were initiated with an excellent respond and practically disappearance of the skin lesions with a clinically improvement.

Discussion and Learning Points: This patient suffer from a rare and extensive immune mediated affection with a characteristic primary lesion in form of suppurative ulcers. Behind pyoderma gangrenosum there may be occult process such as inflammatory bowel disease or it may be secondary to identifiable causes such as cocaine use as in this patient.

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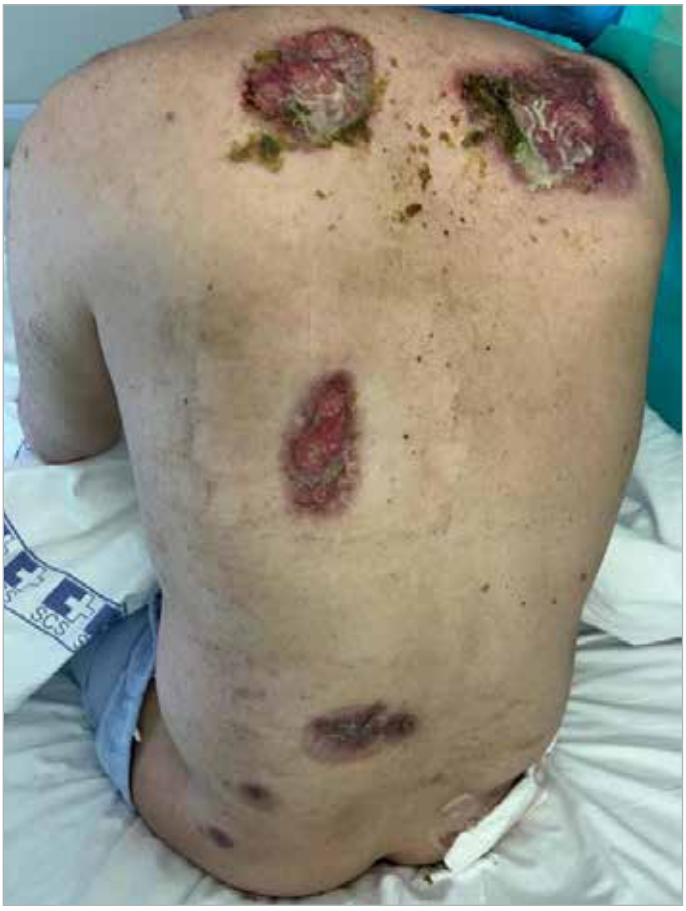
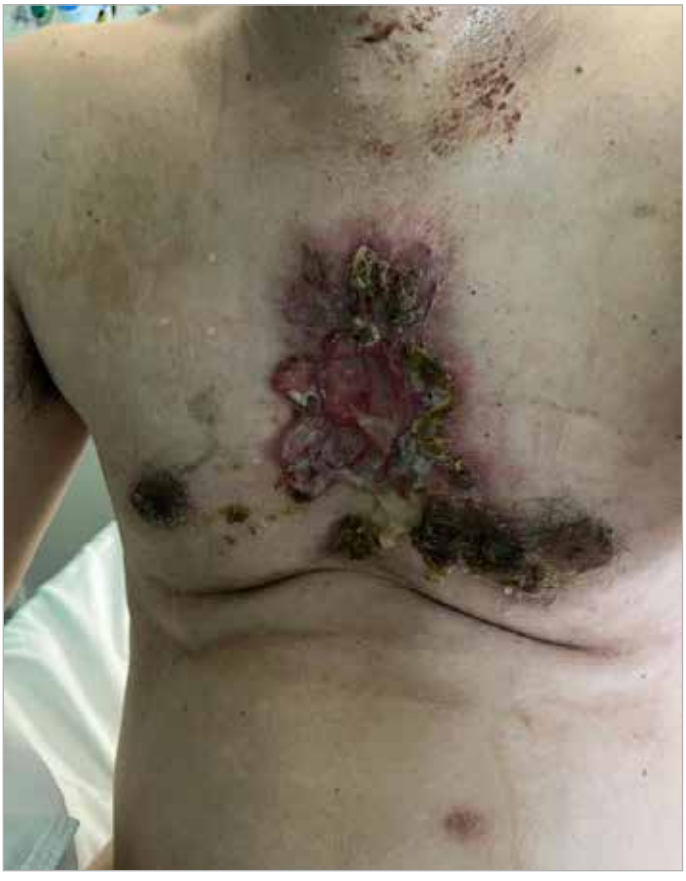


1144 Figure 1.

1144 Figure 3.



1144 Figure 2.

1144 Figure 4.

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1145 - Submission No. 2123

PREVALENCE OF ANTI-SYNTHETASE ANTIBODIES AMONG SYSTEMIC SCLEROSIS PATIENTS

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Background and Aims: Systemic sclerosis (SSc) is frequently complicated by interstitial lung disease (ILD), a leading cause of mortality. Amino acyl-transfer ribonucleic acid synthetase antibodies (Anti-ARS); myositis specific antibodies, include anti-Jo-1, anti-EJ, anti-PL-7, anti-PL-12, anti-OJ, anti-EJ, anti-KS, anti-Ha and anti-Zo antibodies. Several studies have shown increased risk of ILD in connective tissue patients positive for anti-ARS antibodies. Data regarding anti-ARS antibodies in SSc patients is limited. Our study aims to estimate the prevalence of Anti-ARS antibodies among SSc patients, to evaluate the clinical associations of anti-ARS antibodies in SSc patients and to identify risk factors for ILD development in SSc.

Methods: A prospective study of 71 systemic sclerosis patients in our rheumatology clinic in Israel. Sera were tested for myositis antibodies. Data on patients clinical and serological manifestations and treatment were collected and compared according to anti-ARS antibodies and ILD.

Results: Prevalence of anti-ARS antibodies was 6 % (4/71) with anti PL-7, anti- OJ and Jo-1 positivity. Anti-Ro-52 was found in 27%, anti-PM/Scl 75, anti-PM/Scl 100 and anti-SRP in 6%, anti-Ku in 3%, anti-Mi-2 beta and anti-Mi-2 alfa in 4%, anti- NXP2 and anti-TIF1gamma in 1%. ILD complication was observed in 43% of patients and was associated with anti RNAP-III, anti Scl-70 and Anti-ARS antibodies. In multiple logistic regression, anti Scl-70 was associated with 6-fold higher risk for ILD.

Conclusions: Anti-ARS antibodies were observed in 6% of SSc patients. All of them had ILD. Due to the low prevalence of anti-ARS, this study could not describe clinical associations of anti-ARS antibodies in SSc patients.

1146 - Submission No. 2137

CATASTROPHIC ANTI-PHOSPHOLIPID SYNDROME IN LUPUS-ASSOCIATED IMMUNE THROMBOCYTOPENIA TREATED WITH ELTROMBOPAG

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Case Description: We report two cases of female patients with systemic lupus erythematosus (SLE) and concurrent triple positive anti-phospholipid antibodies (APLA), without thrombotic events in their medical history, in our rheumatology clinic, who were treated for refractory immune thrombocytopenia (ITP) with Eltrombopag. Both developed catastrophic anti-phospholipid syndrome (CAPS) a few weeks after beginning treatment with Eltrombopag. They were admitted to the intensive care unit and treated with solumedrol, plasmapheresis, anticoagulation and rituximab.

Clinical Hypothesis: Eltrombopag use in SLE or APLA patients may be associated with CAPS.

Diagnostic Pathways: Case series with systematic review of the literature which indicated that TPO-R agonists are associated with thrombotic risk in SLE patients or in patients with APLA.

Discussion and Learning Points: Patients with SLE are at increased risk for thrombosis, both arterial and venous, regardless of their APLA status. Some epidemiologic studies have suggested that patients with ITP are at increased risk for developing arterial and venous thrombosis despite thrombocytopenia, as a result of accelerated atherosclerosis. Therefore, it is not surprising that administering TPO-R agonists to patients with preexisting thrombotic risk factors may lead to significant thrombotic morbidity. In mouse models, TPO-R agonists have shown increased peripheral white blood cell counts. This may contribute to autoimmune and result in autoimmune disease flares. Based on our systematic review, Eltrombopag use in SLE or APLA patients may be associated with CAPS, independently of platelet count, time from initial administration and dose. A decision to start Eltrombopag should be part of a multi-disciplinary plan. Prior to treatment, patients should be tested for anti-phospholipid antibodies.

1147 - Submission No. 1806

MYOCARDITIS AS A FORM OF PRESENTATION OF ANTISYNTHETASE SYNDROME

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Case Description: 83-year-old woman with no diseases of interest. She went to the emergency department due to progressive dyspnea of three months that intensified in the last three weeks until she made minimal efforts. Referred to Cardiology. TTE severe LV dysfunction. Heart failure treatment is started. Initially she improved, but later, intense asthenia, edema in the lower limbs, myalgias and weakness of both waists. Not another clinic

Clinical Hypothesis: Infectious myocarditis. Congestive heart failure. Autoimmune myocarditis. Ischemic myocardiopathy.

Diagnostic Pathways: Cardio-MRI LVEF 6%. Injury-free catheterization. Positive immunological study for Anti-PL7 (anti-threonyl tRNA synthetase). Chest CT scan normal. CK normal. Muscular MRI and electromyogram compatible with inflammatory myopathy. Diagnosis: anti-synthetase syndrome (Anti-PL7). Corticosteroid boluses and mycophenolate are started. In subsequent reviews, LVEF increased to 65%.

Discussion and Learning Points: ASyS is clinically manifested by the classic triad (only 19% at baseline) of interstitial lung disease (ILD), myositis, and arthritis. Raynaud's syndrome, fever, skin rashes, etc. are also observed. Only 50% develop clinical triad. There are two

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main classification criteria proposed: anti-synthetase antibody + specific clinical features. anti-Jo-1 Ab is the most common and most compatible with classical presentation. Anti-PL7, anti-PL12, and anti-EJ are associated with ILD and then develop myositis. Anti-OJ is less detectable and may have a more severe clinical expression. There are no FDA-approved treatments and there are few studies. Steroid therapy if myositis predominates + early steroid-sparing immunosuppressant. In mild-moderate cases of myositis, methotrexate, azathioprine, or mycophenolate are used. If acute-severe and refractory, immunoglobulins, cyclophosphamide, rituximab or calcineurin inhibitors are used.

1148 - Submission No. 1632

MIDDLE AGED MAN WITH CARDIAC SARCOIDOSIS

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Case Description: A 69-year-old male. Type 2 diabetes mellitus. He was brought to the emergency room for syncope, right hemiparesis. Blood pressure 150/90 mmHg. Mutism, right homonymous hemianopsia, right supranuclear facial palsy, right hemiparesis, right hemi-hypoesthesia, severe mixed aphasia of motor predominance. On electrocardiogram, flutter at 150 bpm.

Clinical Hypothesis: Due to the high suspicion for ischemic stroke, we requested CT angiography. We observed occlusion of upper division of the middle cerebral artery and left A2. In perfusion CT, multiple thromboembolisms in left anterior and middle cerebral artery. Mechanical thrombectomy was performed. Transthoracic and transesophageal echocardiogram with no findings. He was anticoagulated due to suspected hypercoagulability. On PET-CT, bilateral and intra-diaphragmatic hilio-mediastinal lymphatic involvement, and hypermetabolic splenic lesions.

Diagnostic Pathways: We made the differential diagnosis of cardiac sarcoidosis, so we requested the implantation of an insertable Holter. Cardio-MRI: EF 45%. Thinning and lower septal akinesis. Basal anterior septal aneurysm. Infero-basal septal intramyocardial enhancement and transmural at the apical infero-medial level suggestive of fibrosis.

Discussion and Learning Points: Sarcoidosis affects the heart in 5 to 10% of cases and 20-25% patients with extracardiac manifestations have cardiac sarcoidosis. Granulomatous infiltration of the myocardium can lead to fibrosis and worsening of systolic and diastolic function and predisposes to arrhythmias. It can cause atrioventricular block, pulmonary arterial hypertension, and sudden cardiac death. It is mandatory to perform NMR and PET to make a correct diagnosis in patients with cardiac dysfunction or arrhythmogenesis without clear caus. The profitability endomyocardial biopsy is <25% due to patchy distribution of the sarcoidosis.

1149 - Submission No. 1539

SEVERE MYELOTOXICITY AFTER AZATHIOPRINE TREATMENT: A CASE REPORT

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Case Description: A 33-year-old woman, with past medical history of Behçet disease, was admitted to the emergency department due to dizziness, menorrhagia, bleeding gums and petechiae. She was taking azathioprine (AZA) 25 mg/day for 8 months, but the last month the dosage was increased to 75 mg/day. At physical examination she was pale with normal vital signs. The blood tests revealed pancytopenia (Hb 4.5 g/dL, MCV 96 fl, reticulocytes 0.06x10^6/uL, leukocytes 610/uL, neutrophils 130/uL, platelets 1000/uL). Hemolysis was excluded and thyroid and liver function were normal.

Clinical Hypothesis: Azathioprine induced severe myelosuppression.

Diagnostic Pathways: Peripheral blood smear reported no morphological changes and bone biopsy showed hypocellular bone marrow. Azathioprine was discontinued and pancytopenia was managed with packed red blood cells and platelet transfusions. After 3 weeks, she was discharge with Hb 10.2 g/dL, leukocytes 4500/uL, neutrophils 3030/uL, platelets 19000/uL.

Discussion and Learning Points: The immunosuppressant AZA is frequently used to treat several immunological disorders. Its metabolites seem to be the major contributors of its suppressive/toxic effects due to reduced activity of thiopurine methyltransferase (TPMT). Due to limited facility and expense, TPMT testing is not routinely performed, so frequent blood count monitoring is recommended. Myelosuppression has been reported, but severe pancytopenia is uncommon. Differential diagnosis of pancytopenia is extremely relevant since it can result from a combination of serious illness and the possibility of requiring targeted therapy.

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1150 - Submission No. 1604

A RARE AND LIFE-THREATENING COMPLICATION OF DERMATOMYOSITIS

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Case Description: A 43-year-old male recently diagnosed with anti-MDA5 dermatomyositis (DM) with cutaneous, respiratory, and muscular involvement was admitted in the emergency department complaining of cervicalgia and dysphagia. He was under immunosuppressive therapy with mycophenolate mofetil (MMF) 1500 mg/day and prednisolone (PDN) 40 mg/day. On physical examination, he had a pulse oximetry of 94%, fine crackles in both lower lobes on pulmonary auscultation and his skin findings were remarkable for a heliotrope rash, Gottron papules and a right cervical subcutaneous emphysema. Computed tomography (CT) revealed a subcutaneous emphysema and an extensive pneumomediastinum (PnM), without pneumothorax. No defects in the tracheobronchial tree or esophagus perforation were found. He was treated conservatively with oxygen and remained under immunosuppressors. The radiological revaluation, 11 days after, showed a regression of the PnM and the patient was discharged after 12 days.

Clinical Hypothesis: Spontaneous pneumomediastinum (SP) due to alveolar rupture secondary to interstitial pneumonitis or subpleural pulmonary infarctions resulting from vasculitis.

Diagnostic Pathways: Subcutaneous emphysema is the most frequent sign of SP. The chest radiography is the first radiological exam and usually establishes the diagnosis. CT scan should be performed, and esophageal rupture must be excluded.

Discussion and Learning Points: Pneumomediastinum is a rare and often fatal complication in patients with DM associated with interstitial lung disease. In our case a conservative approach was adopted with favorable outcomes. In fact, the use of methylprednisolone pulses is controversial and there is an urgent need of evidence-based recommendations on the management of PnM associated with this disease.

1151 - Submission No. 924

RHEUMATOID ARTHRITIS AND PLASMA CELL DYSCRASIA: ARE THEY THAT DIFFERENT?

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Case Description: A 77-year-old man presents in the assistant physician due to symptoms of fatigue, weight loss (more than 4 kg), malaise and severe generalized osteoarticular pain over the past month. On physical exam he had pain moving his different joints, especially on the upper limbs, and bilateral symmetric 4th and 5th metacarpophalangeal joint swelling. His history was positive for heart failure and a past description of tachycardia-bradycardia syndrome with periods of advanced AV-block on Holter, which had not been confirmed.

Clinical Hypothesis: The two main clinical hypotheses were plasma cell dyscrasia with possible secondary amyloidosis (with potential cardiac infiltration) and rheumatoid arthritis.

Diagnostic Pathways: On analysis he had anemia (Hb 10.4 g/dL), elevated ESR (97 mm/1h), severe hypoalbuminemia (25 g/L) with normal total proteins level and a slightly elevated total calcium (2.7 mmol/L). His renal function was normal. Serum protein electrophoresis showed a peak in the gamma region. Abdominal-CT scan showed homogenous splenomegaly. However, skeleton x-ray had no evidence of bone involvement and serum immunofixation showed no monoclonal gammopathy. A few days later, anti-CCP antibodies came back strongly positive (142.7 U/mL), with negative rheumatoid factor. Holter exam revealed no sinus node dysfunction manifestations and echocardiogram had no wall thickenings with preserved biventricular function. The patient was diagnosed with rheumatoid arthritis according to the ACR/EULAR 2010 criteria and treatment with prednisolone was started.

Discussion and Learning Points: Rheumatoid arthritis diagnosis in older patients can be difficult due to several confounder factors. Sometimes the similarity between this inflammatory disease with plasma cell dyscrasia's entities poses a diagnostic challenge.

1152 - Submission No. 2438

FACING A DECREASE IN VISUAL ACUITY

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Case Description: 88-year-old male, with hypertension and glaucoma in the right eye, taken to the emergency room for gait ataxia with preferential imbalance to the right, dysarthria, and right hemiparesis with 24h of evolution. Associated with a decrease in visual acuity in the left eye of recent onset.

Clinical Hypothesis: Giant cell arteritis (GCA) is a systemic

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vasculitis that can result in marked visual loss, which makes early diagnosis and treatment extremely important.

Diagnostic Pathways: Evaluated by Ophthalmology, which ruled out the ophthalmological etiology of the loss of visual acuity. CE CT without acute ischemic lesions. Admitted for suspected LACI (lacunar infarction) and visual deficits in the new left eye. Analytically with anemia and elevation of erythrocyte sedimentation rate. An ultrasound with doppler of the temporal arteries was performed, which showed a halo suggestive of bilateral vasculitic thickening. Therapy with prednisolone was initiated. Doppler ultrasound did not show stenoses with hemodynamic repercussions or vasculitic involvement of the great vessels of the neck, and CE MRI documented small recent ischemic lesions in the left carotid territory. Recovery of visual acuity of the OE on discharge date and reversal of the remaining deficits. Ischemic stroke in the left carotid territory, of unclear etiology (possible vasculitic event despite the absence of Doppler changes).

Discussion and Learning Points: GCA is a potentially irreversible cause of acute monocular amaurosis, which should be considered mainly in elderly patients. Its early diagnosis is essential for the reversibility of the condition, here the ultrasound with doppler has a fundamental role, allowing an immediate non-invasive diagnosis, when there is clinical suspicion.

1153 - Submission No. 703

A MULTIDISCIPLINARY APPROACH FOR IMPROVING THE MANAGEMENT AND DIAGNOSIS OF IMMUNE-RELATED TOXICITIES FROM IMMUNOTHERAPY

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Background and Aims: Immune check-points inhibitors (ICIs) therapy has revolutionized cancer treatment in terms of survival and quality of life for the patients (Domnariu et al., 2021) Despite the clinical benefits of immunotherapy, we are faced with several challenges regarding the emerging toxicities of these anticancer agents (Haanen et al.). Moreover, the incidence and severity of these immune-related adverse events (irAEs) tend to increase with new combination therapeutic strategies (Zhu et al., 2021). It is critical to enhance our knowledge about the characteristics of irAEs for the safe use of ICIs. Thus, these toxicities require specific management, including guidance from multidisciplinary specialists (Michot et al., 2020).

Methods: To address these growing challenges, in 2022, the oncology group of the North-East region in France established a specific organization (IMMUNOLOR) based on a network of organ specialists, a monthly multidisciplinary meeting, and a pharmacovigilance registry.

Results: This multidisciplinary team aims to improve the management of complex and life-threatening irAEs and to gain familiarity with these side effects. Online, oncologists are invited to refer their patients with suspected toxicities to the ImmunoLor group using a dedicated confidential case report form. During the monthly online meetings, strategies to diagnose and manage irAEs are collectively discussed. The implementation of an electronic database offers the possibility to study in real time the evolution of toxicity profile.

Conclusions: The establishment of a multidisciplinary team is mandatory for a better understanding of irAEs, proper diagnosis and management. Our real-life database will allow us for prospective observational studies of this new class of immune-related conditions.

1154 - Submission No. 875

CHLORPROTHIXENE-INDUCED LUPUS ERYTHEMATOSUS: A CASE REPORT

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Case Description: A 22-year-old man, previously diagnosed with pathological gambling and mixed personality disorder, was admitted to the hospital because of chlorprothixene intoxication (3 g) with suicidal intent. Pharmacological history of chlorprothixene intake was 1 year. On physical examination, the patient was subfebrile, tachypneic, his blood pressure was 155/100 mmHg and heart rate was 120 bpm. During hospitalization, acute hypoxemic respiratory insufficiency, acute kidney injury and hallucinations developed. Imaging methods demonstrated pneumonitis with diffuse alveolar hemorrhage, serositis (including pericardial and pleural effusion and ascites) and splenomegaly.

Clinical Hypothesis: Chlorprothixene is considered to be the cause of autoimmune disease.

Diagnostic Pathways: Laboratory investigations revealed mild normocytic normochromic anemia (hematocrit 29%) with slightly elevated serum C-reactive protein (45.32 mg/L, 0.1-5 mg/L)

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concentration. Immunological evaluation demonstrated positive anti-nuclear (anti-centromere and anti-Sm), anti-prothrombin (IgG 115.4 U/mL, <18 U/mL) and anti-cardiolipin (IgG 73.2 U/mL, <20 U/mL) antibodies. Based on these results we assumed the diagnosis was a drug-induced lupus erythematosus (DILE) and we initiated treatment with intravenous methylprednisolone pulse therapy. Clinical condition and laboratory parameters rapidly improved, on the 17th day of hospitalization patient was transferred to the psychiatric department.

Discussion and Learning Points: DILE is a relatively rare lupus-like autoimmune disorder, which usually occurs with the chronic exposure to certain drugs (months to years). Because of the heterogeneity in symptoms and signs, rigid diagnostic criteria cannot be formulated. Symptom resolution usually occurs within 1 to 2 weeks after discontinuing the offending drug. The use of immunosuppressive agents may be indicated for patients when severe disease manifestations have developed.

1155 - Submission No. 2180

COMPARISON OF CLINICAL MANIFESTATIONS AND AUTOANTIBODIES BETWEEN TWO ETHNIC GROUP IN ISRAEL – JEWISH&ARABS WITH PRIMARY ANTIPHOSPHOLIPID SYNDROME

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Background and Aims: Antiphospholipid disease is an autoimmune chronic disease that represents in thromboembolic events, venous, arterial or pregnancy complications such as abortion. Another clinical manifestation can include neurological, hematological, musculoskeletal, renal, and gynecologic complications. For the diagnosis we need at least one positive autoantibody (LAC, ACL-IGM/IGG, anti-b2GPI*IGM/IGG) in two separate tests in 12-weeks interval and thromboembolic event. The treatment for APS is coumadin therapy monitoring via INR-test.

Methods: We assigned 66 patients with primary APS with age above 18, male and female, divided in two ethnic groups in Israel - 41 Jewish and 25 Arabs. Data were collected about age, sex, autoantibodies, clinical manifestations, thrombotic event, recurrent thrombotic events, and compliance for coumadin therapy. Patients with another autoimmune or another coagulopathy disorder were excluded from the study. All the data was interpretated for both ethnic groups.

Results: Patients with APS in Jewish ethnic group were more women (68.6% vs 40.9%, p<0.05), more venous (50% vs 28.6%, p=0.1) and neurological (59.1% vs 43.3% p=0.06) events, compared to Arab ethnic group. The compliance to coumadin therapy was higher (p=0.09, 73.3% vs 50%) in the Jewish ethnic group. There was no significant difference in the other variables, such as autoantibodies, arterial or recurrent thromboembolic events.

Conclusions: Among the patients in the Jewish ethnic group there is more neurological and venous thromboembolic events, there is also more compliance to coumadin therapy compared to Arabs ethnic group. This shows us that the ethnicity may have effect on the clinical manifestation, or on the behavior and compliance towards treatment for APS.

1156 - Submission No. 198

BASELINE CHARACTERISTICS OF A SERIES OF PATIENTS WITH SYSTEMIC AUTOINMUNE DISEASES AND PULMONARY ARTERIAL HYPERTENSION IN A TERTIARY HOSPITAL. DESCRIPTIVE STUDY

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Background and Aims: To describe the baseline characteristics of a series of patients with systemic autoimmune diseases (SAD) and pulmonary arterial hypertension (PAH) at diagnosis and to reflect the differences found.

Methods: Single-center, descriptive, retrospective, longitudinal, retrospective study of patients with different types of SAD being followed up by the PAH and SAD (Rheumatology and Internal Medicine) services of a tertiary hospital in Madrid.

Results: Nine patients were included. 77% were female, 88% were Caucasian and 11% were Latino with a mean age of 68.3 years. The main autoimmune diseases identified were: systemic sclerosis with limited cutaneous involvement including CREST syndrome (55%) and systemic sclerosis with diffuse cutaneous involvement (22%). 78% of patients had Raynaud's phenomenon and 56% had telangiectasias. The main antibodies detected were: ANAs (78%) and anti-centromere (33%). The mean time elapsed from the diagnosis of SAD to the diagnosis of PAH was 12 years and at the time of diagnosis of PAH, 100% of patients had dyspnea and 88% of patients were in WHO functional class II-III. Mean pulmonary artery systolic pressure (PASP) at diagnosis was 65.7 mmHg, mean pulmonary arterial pressure (mPAP) was 43.22 mmHg and pulmonary capillary wedge pressure (PCWP) was 8.11 mmHg compatible with PAH.

Conclusions: Systemic sclerosis is the most frequently associated SAD with PAH and it is important to identify predictors such as the presence of telangiectasias, Raynaud's phenomenon and anti-centromere antibodies in order to make an early diagnosis of PAH, since the diagnosis continues to be delayed.

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1157 - Submission No. 234

PULMONARY ARTERIAL HYPERTENSION. AN INVISIBLE THREAT IN SYSTEMIC LUPUS ERYTHEMATOSUS?

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Background and Aims: To describe the baseline characteristics of a series of patients with systemic lupus erythematosus (SLE) and to identify possible risk factors for the development of pulmonary arterial hypertension (PAH).

Methods: Retrospective descriptive study of patients diagnosed with SLE by SLICC criteria (2012) and/or EULAR/ACR (2019) in follow-up by the systemic autoimmune diseases (SAD) department of Internal Medicine between 2018 and 2022 in a third-level hospital in Madrid.

Results: 43 patients were included, 91% female, 62.8% Caucasian and 27.90% Latin American. The mean age of onset of the first manifestation, including Raynaud's phenomenon, was 43.6 years. 32 patients underwent transthoracic echocardiography (TTE) at diagnosis, 7 of whom had pulmonary artery systolic pressure (PASP) >30 mmHg. Only the patient with PASP >40 mmHg underwent right heart catheterization. Mean pulmonary artery pressure (mPAP) was 28 mmHg, pulmonary capillary wedge pressure (PCWP) was 21 mmHg and pulmonary vascular resistance (PVR) was 1.75 Wood units, compatible with postcapillary pulmonary hypertension. In the other 6 patients with PASP >30 mmHg, 5 had pericardial effusion, 5 had dry syndrome, 4 were positive for anticardiolipin IgM or IgG and 2 for lupus anticoagulant. Only one patient had Raynaud's phenomenon and was positive for anti-RNP. None of them had anticentromere antibodies.

Conclusions: Only one case of postcapillary pulmonary hypertension was diagnosed and no case of PAH was detected. In patients with PASP >30 mmHg, the presence of pericardial effusion, dry syndrome, anticardiolipin IgG and lupus anticoagulant is noteworthy, which is described as potential risk factors for the development of PAH in SLE.

1158 - Submission No. 240

PHANTOM TUMOR

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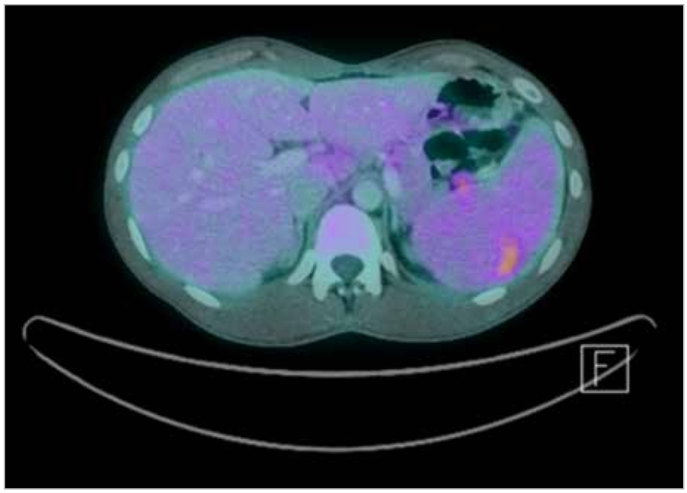
Case Description: This is a case of a 29-year-old man who came to the Emergency Room (ER) with fever and headache of one week evolution. Physical examination revealed right laterocervical non-adherent and inguinal lymphadenopathies. In blood test, lymphopenia of 1200 cells/mm^3, CRP 4.7 mg/dl, GPT 67 U/L. The autoimmunity and microbiological studies were normal except for IgM and IgG for parvovirus B19, IgM for Rickettsia and IgM for Mycoplasma. A cervico-thoracic-abdomino-pelvic CT scan was performed showing mild nonspecific hepatosplenomegaly (Figure 1). Despite 14 days of antibiotic therapy with doxycycline, he persisted with fever and lymphopenia, so the study was completed with a PET scan, showing mild splenomegaly and poorly defined focal hypermetabolic splenic lesions of recent appearance, suspicious of malignancy.

Clinical Hypothesis: Lymphoma vs. benign tumor.

Diagnostic Pathways: A core needle biopsy (CNB) of one of the focal splenic lesions was performed and the pathology was compatible with inflammatory pseudotumor. The patient showed progressive improvement spontaneously. Currently, after 3 years of follow-up the patient is clinically stable with no evidence of recurrence.

Discussion and Learning Points: Inflammatory pseudotumor is a rare benign tumor lesion that can be confused with other lesions and whose definitive diagnosis is made by biopsy. The treatment of inflammatory pseudotumor is variable. A wait-and-see approach with active surveillance can be chosen, as in our patient, or immunosuppressive treatment or excision of the lesion. In general, the prognosis is good with complete remission in the long term, as in our case. However, on other occasions it can have a chronic and prolonged course of years of evolution.



1158 Figure 1.

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1159 - Submission No. 242

WHEN POTASSIUM GOES UP AND GLUCOSE GOES DOWN

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Case Description: This is a case of an 82-year-old man, operated a month earlier for brain metastasis of clear cell carcinoma of renal origin, receiving dexamethasone suspended prior to discharge. Ten days earlier he was admitted to Internal Medicine for bilateral pneumonia due to *Pneumocystis jirovecii*, receiving cotrimoxazole (trimethoprim/sulfamethoxazole) as the only treatment at discharge. He came to the Emergency Room (ER) with weakness, hyporexia and nausea. On physical examination, BP 92/68 mmHg, HR 103 bpm and basal saturation 95%. In blood test, pH 7.28, HC03-15 mmol/L (normal anion gap), Na+ 127 mmol/L, K+ 5.9 mmol/L, trans tubular potassium gradient 2.4 and urinary K+ 25.2 mmol/L. During his stay in the ER, he presented multiple episodes of hypoglycemia that were resolved with the use of 10% glucose saline.

Clinical Hypothesis: Adrenal insufficiency, given the history of previous corticotherapy vs. drug toxicity due to cotrimoxazole.

Diagnostic Pathways: The patient was admitted to the Internal Medicine department and a study of adrenal insufficiency was performed, being normal. A possible type IV tubular acidosis due to cotrimoxazole was suspected, so this drug was suspended and replaced by atovaquone, achieving progressive normalization of the ionic alterations and without new episodes of hypoglycemia.

Discussion and Learning Points: Trimethoprim blocks sodium reabsorption and the secretion of potassium and hydrogenions at the distal level of the nephron, producing hyperkalemia, hyponatremia, and tubular acidosis. On the other hand, sulfamethoxazole favors the release of insulin by the pancreatic beta cell producing hypoglycemia. The treatment consists of suspending the drug, achieving normalization of the analytical alterations in most cases.

1160 - Submission No. 348

SLE INDUCED BY OMALIZUMAB; A MONOCLONAL ANTIBODY AGAINST IGE THAT WAS ADMINISTERED FOR THE TREATMENT OF REFRACTORY URTICARIA

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Case Description: A 60-years old male patient with a history of refractory urticaria is admitted at the internal medicine unit of our department due to low-grade fever, fatigue, muscle weakness and arthralgias. Ten days ago, before the symptoms' appearance, the patient did receive omalizumab, an anti-IgE monoclonal antibody for refractory urticaria. He denied respiratory or genitourinary symptomatology. Arthritis of the left metacarpophalangeal joint and a maculopapular rash were noted at the physical examination. The inconclusive laboratory work-up for infectious diseases pointed to investigate for malignant or autoimmune causes. CT of the thorax showed pulmonary embolism in submain branches, besides the patient had no respiratory complaint. Further immunological tests revealed a strong auto-immunity profile; ANA 1:640 and anti-dsDNA >150, denoted to SLE diagnosis.

Clinical Hypothesis: At that time the following question was asked: does urticaria was the prodromal phase of an indolent SLE that has been in a dormant state due to the administration of omalizumab or the monoclonal antibody itself triggered the autoimmune syndrome? Anti-histone antibodies were ordered, and theirs' title came out positive at the time of diagnosis.

Diagnostic Pathways: Rheumatologists assessed the patient and switched the treatment to corticosteroids and hydroxychloroquine for SLE management. Three months after omalizumab discontinuation the anti-histone antibodies faded. This further enhances the diagnosis of pharmaceutical SLE.

Discussion and Learning Points: This clinical case enlightens us to think twice before we support a diagnosis and hypothesize the cause-effect relationship.

Reference:

Bolton, C., Chen, Y., Hawthorne, R. et al. Systematic Review: Monoclonal Antibody-Induced Subacute Cutaneous Lupus Erythematosus. Drugs R D 20, 319–330 (2020).

1161 - Submission No. 340

SARCOID-LIKE REACTION IN A PATIENT WITH A HISTORY OF RA TREATED WITH AN ANTI-TNF AGENT

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Case Description: A 54-years-old female, with a history of RA, was admitted at the internal medicine floor of our hospital due to chest pain, fever, and an accompanying rash on the back. The last year treatment with certolizumab; a recombinant, humanized fraction antibody against tumor necrosis factor α (TNFα), was initiated for the management of moderate to severe form of active RA. Vital signs were stable and ECG exhibited SR. Clinical examination revealed symmetrical, polyarticular, active arthritis in hands and legs; wrists, metacarpophalangeal and proximal interphalangeal joints as well as phalangeal and metatarsophalangeal ones. Chest CT imaging displayed polyserositis, small pleuro-pericardial effusion and nodular changes on the lung parenchyma. Mediastinal

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lymphadenopathy was also present.

Clinical Hypothesis: The differential diagnosis narrowed to RA's progression, infection due to immunosuppression or medication-induced adverse events.

Diagnostic Pathways: The patient underwent bronchoscopy. No endobronchial lesion or mass was observed. Histology from TBNA material of a large lymph node showed the presence of epithelioid non-caseating granulomas consistent with sarcoid type. Analogous histological findings were found on skin's lesion biopsy material. The diagnosis of sarcoid-type reaction triggered by the anti-TNF agent was made.

Discussion and Learning Points: The patient was referred to rheumatologists for amendment of medical treatment. Treatment regimen was switched to 16 mcg of methylprednisolone and hydroxychloroquine, with gradual clinical improvement. Clinicians should always think twice before making a diagnosis of disease's progression and correlate the symptoms with a new onset treatment regimen.

Reference:

Xavier Theunssens, et al. Anti-TNF Induced Sarcoidosis-Like Disease in Rheumatoid Arthritis Patients: Review Cases from the RAUCLouvain Brussels Cohort, 2022 Apr;9(2):763-770.

1162 - Submission No. 1180

A CASE OF AXIAL PREDOMINANT - UNDIFFERENTIATED SPONDYLARTHRITIDIS WITH RENAL AMYLOIDOSIS - A RELOOK AT THE EXISTING DIAGNOSTIC CRITERIA OF SPONDYLARTHROPATHIES WITH OVERLAPPING FEATURES

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Case Description: A 34-year-old male, developed axial and knee arthritis at 19 years of age, later diagnosed with reactive arthritis at 32 years, psoriasis at 33, now presented to us with IBD symptoms and renal dysfunction (azotemia and sub-nephrotic range proteinuria).

Clinical Hypothesis: Our patient has HLA B27 positive SpA with overlapping features of all the forms of SpA, which presented across various time periods. We approached him as a case of USpA, with the understanding that all the forms of SpA are essentially parts of the same spectrum.

Diagnostic Pathways: Evaluation revealed a negative RA factor, Anti CCP, positive HLA B27, and significantly elevated inflammatory markers. His Xray SI joint showed grade IV sacroiliitis stool routine microscopy examination and stool aerobic cultures were non-suggestive; however, fecal calprotectin was significantly raised. X-ray abdomen showed significantly dilated large colon. Colonoscopy showed features suggestive of IBD and histopathology confirmed the same. Renal biopsy showed secondary amyloidosis.

Discussion and Learning Points: SpA can present with overlapping features of its various forms which can evolve over time as disease progresses and hence, follow up is crucial. Existing diagnostic criteria for spondylarthritis are inadequate to diagnose and classify these patients strictly into either axial or peripheral disease. Significant overlap exists and the management should be tailored as per the individual case's requirement. AA amyloidosis should be suspected in patients with longstanding uncontrolled spondylarthritis with persistently elevated acute phase reactants, proteinuria, or renal failure.

1163 - Submission No. 656

THE ELEPHANT IN THE ROOM

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Case Description: A 71-year-old woman with past medical history of obesity and multifactorial anemia since 2017. In 2021 noted to have a decrease in renal function, pathologic urinary sediment, unintentional weight-loss of 18 kg in 6 months, abdominal pain, diarrhea alternating with constipation and elevated inflammatory markers. During the follow-up, the patient also presented an atrioventricular block requiring pacemaker implantation.

Clinical Hypothesis: When approaching a patient with constitutional syndrome, anemia, and elevated inflammatory markers, we should rule out inflammatory conditions, such as rheumatologic, autoinflammatory, infectious and other disorders. All of these have been associated with the development of AA amyloid. Secondary amyloidosis may be possible given the previous findings along with chronic kidney disease (CKD) and cardiac involvement.

Diagnostic Pathways: Serial blood tests showed persistent elevated CPR, proteinuria, and chronic anemia. CT scan, esophagogastroduodenoscopy, proteinogram were carried out without remarkable findings. After the screening of underlying diseases without any outcomes, a minor salivary gland biopsy was performed and revealed positive Congo red staining with AA amyloid deposit. After these findings, treatment with Anakinra was started with good clinical evolution, resolution of anemia, normalization of inflammatory markers and stabilization of kidney function.

Discussion and Learning Points: Behind secondary amyloidosis there is usually an underlying inflammatory process; nevertheless, in small but increasing numbers, the cause of the chronic inflammatory state remains obscure. Moreover, biological agents (anakinra, tocilizumab) have already shown efficacy in preventing amyloid deposition and reducing the existing one.

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1164 - Submission No. 1611

IDIOPHATIC INFLAMMATORY MYOPATHY: FROM DIAGNOSIS TO TREATMENT

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Case Description: A Caucasian male with 48 years-old, tennis teacher, with unmedicated dyslipidemia, was sent to the consultation of internal medicine with complains of inflammatory myalgia, especially in the left tight, from the last six months. Physical examination was unremarkable and only showed pain on palpation of both tights without inflammatory alterations of the skin.

Clinical Hypothesis: Idiophatic inflammatory myopathy.

Diagnostic Pathways: Investigation showed important rhabdomyolysis with normal thyroid function and absence of elevation of markers of inflammation. An immune study showed positivity for the anti-Ku and anti-Mi2 and negativity to nucleolar antibodies. MRI of left tight showed no relevant alteration and electromyography only showed degenerative alterations between C5-C6 that don't explain patient's clinic. We started prednisolone (0.5 mg/kg/day) during 4 weeks with progressive de-escalation, with significant clinical improvement and no relapse. Computed tomography only showed an unsuspected small pulmonary nodule without any uptake suggesting malignancy on positron emission tomography.

Discussion and Learning Points: Idiopathic inflammatory myopathies are a heterogenous group of diseases manifesting predominantly by subacute muscle weakness. Autoantibodies can be specific to myositis, like anti-Mi2 or associated to myositis, like anti-Ku. Muscle biopsy is the gold standard but is not mandatory. Treatment is based on immunosuppression, especially with corticosteroids. Anti-Mi2 is associated with good prognosis and a very good response to corticosteroids, like what happened to this patient. There is an association with cancer (30%) in this pathology, but lower in the presence of anti-Mi2. With this case we want to remember the importance of laboratory results and the exclusion of a paraneoplastic etiology.

1165 - Submission No. 1411

HENOCH SCHONLEIN PURPURA PRESENTED WITH HEMORRHAGIC ASCITES

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Case Description: We present the case of a 72-year-old man, with a history of hypertension and diabetes mellitus, admitted with acute abdominal pain, fever and rigors. Physical examination showed a mildly distended but soft abdomen without signs of peritonism. The rest of the examination was normal and laboratory tests showed elevated white blood cells and C-reactive protein level, acute kidney injury and microscopic hematuria with hemorrhagic casts. Initial imaging tests were normal.

Clinical Hypothesis: Three days after admission, diffuse abdominal pain as well as bloody diarrhea along with macroscopic hematuria were observed. Furthermore, he developed a rash compatible with palpable purpura in legs, arms and hips.

Diagnostic Pathways: Abdominal computed tomography (CT) showed peritoneal effusion, which following puncture was found to be hemorrhagic with red blood cells: 8000, white blood cells: 2700 (neutrophils: 90%), SAAG: 0.9, cytology was negative, and cultures were sterile. Further laboratory tests (C3, C4, CANCA, pANCA, anti-MPO, anti-PR3, anti-GBM, serum protein electrophoresis, cryoglobulins), cystoscopy and colonoscopy were negative or normal. Due to strong clinical suspicion of Henoch-Schonlein angiitis, we proceeded to skin and kidney biopsy which showed small vessel leukocytoclastic vasculitis with IgA immune deposits.

Discussion and Learning Points: The patient was started on corticosteroid therapy along with immunosuppressants (cyclophosphamide) with rapid abdominal pain improvement and gradual ascites resolution. It is worth noting that hemorrhagic ascites has been rarely described in patients with Henoch-Schonlein purpura.

1166 - Submission No. 578

GIANT CELL ARTERITIS: INCIDENCE OF EVENTS IN A COHORT OF PATIENTS FOR ONE YEAR FOLLOW-UP

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Background and Aims: Our objective was to analyze the incidence of clinically relevant events during 12 months of follow-up period in a population of patients with GCA.

Methods: Observational and prospective cohort study was performed between April 2021 and June 2022. Patients with GCA according to the ACR 1990 classification criteria, in a stable situation, were included. Baseline clinical characteristics and the incidence of the following events were collected: i) death; ii) cardiovascular events (acute myocardial infarction (AMI)/stroke); iii) hospitalization; and iv) Flares (symptoms/ESR ≥30 mm/h or CRP ≥10 mg/L), during a 12-month follow-up period.

Results: N=14 GCA patients. Median age of 80 [10] years. Ten women (71.4%), seven (50.0%) had polymyalgia rheumatica (PMR), six (42.9%) CRP >24.5 mg/L, 6 (42.9%) jaw pain, three (21.4%) vision loss and two (14.3%) scalp tenderness. Six (46.6%) had imaging findings consistent with vasculitis. During the follow-

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up, two deaths (14.3%) were registered, none of cardiovascular origin. One nonfatal AMI (7.1%), two hospital admissions (14.3%), one secondary to AMI and the other to a bilateral subdural hematoma; five flares (37.5%), with a median time of 4.2 [8.5] months.

Conclusions: GCA present an annual incidence of relapses between 28-62%, usually with low doses of prednisone and mostly in the first year after diagnosis. It's important to identifying them since both, the proinflammatory environment and the treatment itself are associated with increased cardiovascular risk. In our study, the incidence of flares is similar to that described in the literature. However, cardiovascular events were lower. We should increase the sample and follow-up time to confirm these results.

1167 - Submission No. 2091

INTERNAL MEDICINE AND DRUGS, A RELATIONSHIP TO BE TAKEN INTO ACCOUNT?

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Case Description: Male, 63 years old with no relevant history. He came to the emergency department 6 days after radical prostatectomy due to febrile peak (39ºC), hypogastric pain/iliac pits and constipation. C-reactive protein elevation (208 mg/L), procalcitonin 0.56 ng/ml and abdominal CT scan showing hematoma in the surgical bed, recto-vesical space and both iliac fossae. Blood and urine cultures were taken, and empirical antibiotic therapy was started, and it was decided to admit the patient with unfavorable evolution, hematoma superinfection, drainage of the collection and initiation of parenteral nutrition. After culture results, antibiotic therapy with IV meropenem was started. Persistent poor evolution with sustained fever, appearance of skin rash on the anterior face of the trunk and roots of the extremities. No new infectious focus was observed, and radiological evolution improved. New findings were left submandibular lymphadenopathy, eosinophilia and hypertransaminasemia.

Clinical Hypothesis: Possibility DRESS syndrome. The RegiSCAR scale was applied with a range of -4 to 9 and defines 4 levels of certainty regarding the diagnosis of DRESS: excluded, possible, probable, and definitive. In our case, it was initially probable.

Diagnostic Pathways: Diagnoses such as PEGA and SJS/TEN due to cutaneous reaction, T-cell lymphomas such as angioimmunoblastic, Sézary syndrome or acute cutaneous lupus erythematosus (patient with negative ANA). Hyper-eosinophilic syndromes; febrile and cutaneous symptoms caused by viral infections: hepatitis, herpes, HIV (negative serology in this case).

Discussion and Learning Points: Meropenem was withdrawn, and glucocorticoid boluses were started, with general improvement. Do not associate DRESS syndrome exclusively with anticonvulsants. Fever does not always imply infection. Importance of the internal medicine approach.

1168 - Submission No. 2400

DESCRIPTIVE STUDY OF PATIENTS WITH UVEITIS ATTENDED IN A SPECIALIZED UNIT: A RETROSPECTIVE OBSERVATIONAL STUDY

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Background and Aims: Uveitis is a form of eye inflammation. Many times, this entity may be the first symptom of autoimmune-inflammatory disease. Prompt and accurate diagnosis of uveitis remains crucial to patient outcomes. To describe all patients with uveitis attended by a tertiary hospital over a one- year period, with special attention paid to cases of uveitis associated to immunomodulated disease.

Methods: Retrospective, observational, cohort study of all patients with uveitis attended in a uveitis unit by an ophthalmologist and an internist specialized in autoimmune diseases. The data collected were: age, gender, type of uveitis (location, evolution, laterality), etiology and treatment received.

Results: 126 patients with uveitis were studied. 65.1% were women. The median age was 51 (RIC 15-55). According to the SUN classification, the most frequent location was anterior (51.5%), followed by pan-uveitis (24.6%), intermediate (15.1%) and posterior (8.7%). Regarding laterality, the majority were bilateral (55.6%) and 52.4% of the patients had a recurrent evolution. A relationship with immune-mediated disorder could be presumed in a 74.2% of the cases. Only 50% of the patients had a definitive association with systemic autoimmune disease. The most prevalent diseases were: sarcoidosis (8%), Sjogren's syndrome (4%) and Behçet's disease (4%). In 58% of the patients an immunosuppressive was used with corticoids treatment and in a 20% a biological treatment was used.

Conclusions: In a significant proportion of patients with uveitis, an autoimmune systemic disorder may be presented. Although some of our patients remain without a final diagnosis, they received early treatment that probably modified the course of their systemic diseases.

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1169 - Submission No. 1234

A CASE OF PRIMARY ANCA-NEGATIVE CENTRAL NERVOUS SYSTEM VASCULITIS

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Case Description: Woman, 76-years-old, independent in activities of daily life until a month before hospital admission, when she had begun feeling loss of strength in her limbs in a fluctuating pattern, and paresthesia in her limbs and face. She also complained of headaches. During hospitalization, she presented fluctuating tetraparesis with predominant left-side hemiparesis, and central facial palsy. Brain MRI showed leptomeningitis and frontoparietal vasogenic oedema. She was given glucocorticoids, and slowly recovered muscle strength and started to walk again with support. Control MRI-angiography showed partial improvement. However, following discharge and glucocorticoid tapering, the situation worsened again, with progressive loss of strength in the limbs and upper body until the patient became bed ridden. Her cognition remained intact.

Clinical Hypothesis: Based on the radiological findings and response to glucocorticoids, a presumptive diagnosis was proposed of central nervous system (CNS) vasculitis.

Diagnostic Pathways: Cerebrospinal fluid analysis showed slightly elevated protein levels. Infectious causes and neoplasia were excluded. No other organs or systems were affected. Antineuronal antibodies, anti-neutrophil cytoplasmic antibodies (ANCA), anti-nuclear antibodies (ANA), N-methyl-D-aspartate (NMDA) receptor antibodies, and anti-voltage-gated potassium channel antibodies (anti-VGKC-Ab) were negative. Brain biopsy is considered the gold standard for diagnosis; however, in this case the patient and her family refused it.

Discussion and Learning Points: The diagnosis of central nervous system (CNS) vasculitis is difficult. It is a rare condition that causes inflammation of blood vessels in the brain and/or spinal cord and can lead to a wide range of neurological symptoms. There are no specific clinical features, and no blood or imaging investigation that can confirm the diagnosis.

1170 - Submission No. 751

A CASE OF ENOXAPARIN INDUCED THROMBOCYTOPENIA

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Case Description: A 76-year-old man with a history of restrictive lung disease, obstructive sleep apnea, multifactorial cardiopathy, atrial fibrillation, morbid obesity, hypertension, dyslipidemia, chronic kidney disease and autoimmune hepatitis was admitted in the hospital due to heart failure, pneumonia, and urinary tract infection. Nine days after the admission, the patient developed acute and significant thrombocytopenia (platelet count of 35,000 with previous count of 129,000). Other cell lineages and the coagulation profile were in normal values. No other factors besides the recent changing of hypo coagulation to enoxaparin were found.

Clinical Hypothesis: Due to the suspicion of heparin induced thrombocytopenia (HIT), enoxaparin was discontinued and switched to an oral anticoagulant which resulted in a fast improvement of the platelet count.

Diagnostic Pathways: The diagnosis was then confirmed with a positive antibody anti-PF4/heparin.

Discussion and Learning Points: HIT is a life-threatening and rare complication of exposure to heparin and it is caused by autoantibodies to platelet factor 4 (PF4) complexed with heparin that activate platelets and cause arterial and venous thrombosis and thrombocytopenia. These typically occur 5 to 10 days after initiation of heparin. The 4 Ts score estimates the likelihood of HIT based on the degree of thrombocytopenia, timing of platelet count drop, presence of thrombosis, and absence of other causes of thrombocytopenia. The presumptive diagnosis is then confirmed with antibody testing (anti-PF4/heparin). If there is any suspicion of HIT immediate discontinuation of heparin and administration of a non-heparin anticoagulant is required. These individuals need to avoid heparin for life.

1171 - Submission No. 753

A CASE OF FUROSEMIDE INDUCED BULLOUS PEMPHIGOID

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Case Description: A 77-year-old man with a history of hypertension and active prostate cancer with bone and lung metastasis was admitted in the hospital with bullous lesions in the skin, mucosal erosions, and pruritus. The patient started treatment with furosemide two months prior hospital admission and the first skin lesions appeared shortly after the beginning of this treatment.

Clinical Hypothesis: Bullous pemphigoid induced by furosemide.

Diagnostic Pathways: The study showed transitory eosinophilia, elevation of IgE and the skin biopsy revealed an inflammatory infiltrate C3c and IgG positive, confirming the diagnosis of bullous pemphigoid. Considering the onset of skin lesions and the time correlation with the beginning of furosemide, the diagnosis of furosemide induced bullous pemphigoid was made and furosemide administration was discontinued. Treatment with oral corticosteroids (prednisolone 40 mg/day) was started leading to the improvement of the skin and mucous lesions. Before leaving the hospital, we began the tapering of corticosteroids (prednisolone 20 mg/day) adding dapsone (100 mg twice a week) to spare corticosteroids.

Discussion and Learning Points: Bullous pemphigoid is an acquired autoimmune disease and is suspected when there is a blistering skin disease characterized by tense blisters and

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erosions, desquamative gingivitis, mucositis, or unexplained pruritus. Overall, there is evidence of bullous pemphigoid caused by medication. The diagnosis is confirmed with a skin biopsy with linear IgG and/or linear C3 staining along the basement membrane and treatment with topical and systemic corticosteroids is the first line therapy. The clinical course of bullous pemphigoid can follow a chronic or relapsing course, being therefore important, in such cases, to start a corticosteroid sparing agent.

1172 - Submission No. 1366

A 72 YEARS-OLD MAN WITH BACK PAIN

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Case Description: A 72-year-old woman came to the medical consultation for back pain. He does not have personal medical history of interest. He refers a back pain located at dorsal region without any previous trauma. He also provided a thoracic CT which showed bone lesions which suggested malignancy situated in the D4, D5 y D6 vertebra. He did not have any other symptom in the anamnesis. The physical examination was anodyne unless pain in the place where the bone lesions were described by image at the exploration.

Clinical Hypothesis: Bone lesions at study.

Diagnostic Pathways: A complete blood test with included calcium, proteinogram, angiotensin converting enzyme (ACE) and prostate specific antigen was performed without any interest alteration unless a light elevation of alkaline phosphatase. It was also done a complete image study with a body CT and a spine RMI which showed the lesions again without evidence of primary neoplasm. At this point, a positron emission tomography was requested. It showed that the bone lesions had an increased metabolism. Finally, a bone biopsy was done and gave the diagnosis of Paget disease of the bone (PDB).

Discussion and Learning Points: PGB has a slight predominance in men and its onset is typically after age 55. Although, in most cases it is asymptomatic, pain at the site of affected bone could be a symptom. A bone biopsy could be required if there are doubts about a possible metastatic disease. Bisphosphonates are the choice treatment in cases which need it.

1173 - Submission No. 1474

AN 82 YEARS-OLD MAN WITH HYPERCALCEMIA

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Case Description: A 82-year-old men came to the emergency room for nausea, insomnia, and weight loss. He has not personal medical history. He referred a seven-months curse of weight loss, insomnia and arthralgias. He did not refer other symptoms as a dyspnea, chest pain or abdominal pain. The physical examination was anodyne. In the emergency blood test, hypercalcemia (14 mg/dL) was observed.

Clinical Hypothesis: Hypercalcemia in study.

Diagnostic Pathways: A complete blood test with renal and hepatic function, proteinogram and autoimmunity was performed without any interest alteration. It was necessary the use of bisphosphonates to control de hypercalcemia. It was also done a complete image study with a body CT which showed the presence of sub-centimetric bilateral hilar lymphadenopathy and a bilateral interstitial lung infiltrate without the evidence of other sign of neoplasm. A positron emission tomography was requested which it showed an increased metabolism in the lymphadenopathy. Angiotensin converting enzyme (ACE) was measured and it was high (288 UI/L). An IGRA was also performed which was negative. Finally, a biopsy of the adenopathy's was done by endobronchial ultrasound which show a non-necrotizing granuloma and a sarcoidosis diagnosis was made. The patient received a treatment with prednisone, and he had an excellent evolution with improvement of the symptoms.

Discussion and Learning Points: Sarcoidosis is a multisystem disorder that is characterized pathologically by the presence of noncaseating granulomas. It could be a non-common cause of hypercalcemia. ACE is often elevated but has limitations as a diagnostic test. The initial treatment is based in corticosteroids.

1174 - Submission No. 561

CATASTROPHIC ANTIPHOSPHOLIPID SYNDROME WITH INVOLVEMENT OF 3 ORGANS

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Case Description: A 52-year-old woman, with no allergies. HTA and 2DM. Nine years ago was diagnosed of primary antiphospholipid syndrome with an episode of DVT without triggering factor and PTE. In 2017 she was admitted again for PTE and DVT. Recently diagnosed with triple negative T1N0M0 breast cancer with 4 cycles of chemotherapy performed. The patient consulted the emergency department for general malaise that began after the last cycle of chemotherapy along with vomiting, diarrhea and fever up to 39.5°C. She had recently taken antibiotics. Upon examination she was normotensive with no fever but with signs of dehydration and somnolence. The rest was normal.

Clinical Hypothesis: Given the first symptoms a differential diagnosis including infectious cause or pharmacological toxicity were considered. Analyzing medical history other conditions were suspected like thrombotic microangiopathy, thrombotic thrombocytopenic purpura, disseminated intravascular coagulation and catastrophic antiphospholipid syndrome.

Diagnostic Pathways: Blood test Hb 8.8 g/dL, platelets 87,000

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and leukocytes1500 (neutrophils 700). INR 1.3. Glucose 150 mg/dL, normal renal function, and sodium 131 mEq/L. CRP 235.6 and PCT 0.25.7. Negative cultures. ECG and X-Ray normal. US with hepatic steatosis. Skull TC and ecocardiography were normal. Thoracoabdominal CT that related hemorrhage of both adrenal glands. Skin biopsy with occlusive vascular disease.

Discussion and Learning Points: Catastrophic antiphospholipid syndrome (CAPS) is a rare entity (1%) of the antiphospholipid syndrome. It is more frequent in women and around the 4th decade. It is also associated with other autoimmune diseases. In most patients it is associated with a triggering factor, so it is of vital importance to detect them in order to treat it concomitantly with this situation. Cardiac and pulmonary involvement and multiorgan failure are the worst prognostic factors.

1175 - Submission No. 828

DEBUT OF A CASE OF GRANULOMATOSIS WITH POLYANGIITIS WITH NECROTIZING SCLERITIS

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Case Description: 81-year-old woman. No recent travel, no allergies. Hypertension and AF. She consulted in the emergency room for redness of the left eye, sinus occupation sensation, rhinorrhea and progressive hypoacusis in the last 2 months. She had received local treatment. In the last few days, progressive worsening of the ocular erythema with pain being diagnosed with necrotizing sclero keratitis in the left eye. She also referred weight loss and a self-limited episode of epistaxis the day before.

Clinical Hypothesis: Our main diagnostic suspicions were infectious causes, systemic vasculitis, or connective tissue diseases. As referred by the patient, neurocutaneous diseases, enteropathies and renal diseases were almost excluded from the diagnosis.

Diagnostic Pathways: Left eye bio-microscopy: Peripheral punctate subepithelial infiltrates. Avascular thinned sclera plaque. No Tyndall. Blood test: Hb: 11.2 g/dL, Htc: 34.5%, MCV 89.4, platelets 455,000, leukocytes 1142 (neutrophils 9,430). Glu 106, urea 36, normal renal function and ions, CK<15, LDH 165. AST 28, ALT 86, GGT 164, FA 275. Ferritin 439, C4 low, FR 15, PCR 149. Coagulation: INR:1.19, TTPA 24.10 sec. ANA, ENA and DNA negative. ANCA-C 1/160, PR3 positive. Serology negative, syphilis and QuantiFERON negative. Normal urine. Chest X-ray normal and X-ray of the paranasal sinuses with veiling of both maxillary sinuses. Normal otoscopy and nasopharyngeal examination with extensive crusts.

Discussion and Learning Points: Granulomatosis with polyangiitis is a type of necrotizing vasculitis. Weight loss, ENT, lung, and kidney involvement are the most frequent manifestations. Ocular involvement occurs in 30-70% depending on the series and the usual forms of presentation are proptosis, scleritis or episcleritis. Necrotizing scleritis is the most frequent form in GPA. It usually presents in localized and is a serious entity that can lead to loss of vision. Therefore, its early identification and prompt treatment is of the utmost importance.

1176 - Submission No. 1213

DESCRIPTIVE ANALYSIS OF PATIENTS WITH IGG4-RELATED DISEASE IN A TERTIARY HOSPITAL

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Background and Aims: IgG4 disease is a multiorgan and immune-mediated disease. It is a simulating entity of other pathologies (infectious, inflammatory or tumor). The first medical publications on this disease appeared in 2003 and its prevalence is currently undefined due to underdiagnosis. Autoimmune pancreatitis, sialadenitis, dacryoadenitis and IgG4-related retroperitoneal fibrosis are the most frequent manifestations. The aim of this study is to know the clinical characteristics, management and follow-up of patients diagnosed with IgG4-related disease.

Methods: An observational descriptive study of patients diagnosed with IgG4RD up to November 2022 was performed. Data were obtained from the hospital clinical station system. Quantitative (age), qualitative dichotomous (elevation of IgG4, sex) and polytomous (clinical, type of biopsy, treatment, and type of evolution) variables were included.

Results: A total of patients diagnosed with IgG4 disease were found. 7 (77.7%) of them were men and 2 women (33.3%). All patients presented clinical symptoms at diagnosis except one whose finding was coincidental due other symptoms that referred. The entities were varied. 1 case of autoimmune pancreatitis, 3 patients with thyroiditis (1 of them also associated with peritoneal fibrosis), 1 sphenoidal mass, 1 inflammatory pulmonary pseudotumor and 1 case of mesenteric panniculitis. All of them had elevated IgG4 except those with fibrotic variant (mesenteric panniculitis, retroperitoneal fibrosis, and sphenoidal mass).

Conclusions: IgG4 disease is an infrequent disease in our midst. As described in the literature it is more frequent in males and in middle age. Diagnosis is most often made by biopsy. IgG4 levels in the fibrotic subtype are usually normal. All things considered, there is usually a good response to corticosteroids although immunosuppressant or biologic therapy tends to be added.

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1177 - Submission No. 1887

MYOSITIS OSSIFICANS: THE IMPORTANCE OF ULTRASOUND SCANNING

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Case Description: We were consulted in an emergency room due to the causal finding of painful swelling in the thigh of a 21-year-old man who, following a traffic accident, suffered a skull base fracture with extensive axonal injury. This patient had been in the intensive care unit for 21 days, after which he was transferred to the hospital ward. In the first 48 hours, a swelling in the distal third of the right thigh, not warm, not erythematous, and not painful, attracted attention. The nurses commented that 24 hours earlier the patient had greater mobility of the right lower limb and did not show any discomfort on active or passive mobilization.

Clinical Hypothesis: The sudden appearance of this painful swelling led us to rule out the possibility of a soft tissue tumor.

Diagnostic Pathways: To differentiate between a possible spontaneous hematoma in a patient on anticoagulant treatment and myositis ossificans, we performed an ultrasound scan of the soft tissue. A hyperechogenic lesion with posterior shadowing was observed, confirming the presence of myositis ossificans.

Discussion and Learning Points: Myositis ossificans is a pathology caused by metaplasia of mesenchymal connective tissue cells. It usually affects children and adolescents after muscle trauma, appearing on average 21 days after the injury. It manifests as firm lesions that are painful on movement.

1178 - Submission No. 1889

DIFFERENTIAL DIAGNOSIS OF LUMBAR SPINE BONE PAIN

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Case Description: A 59-year-old man with no history of interest. He reported mechanical lumbar pain for several months with irradiation towards the groin area, which persisted despite treatment with conventional analgesia. No other additional symptoms. Primary Care carried out an initial assessment with radiographic study showing lytic lesions in both femoral diaphysis. Subsequently, the patient was referred to Internal Medicine. On examination the only thing that stood out was lumbar pain with elevation of both lower limbs.

Clinical Hypothesis: Blood tests showed hemoglobin 10.1 g/dL, creatinine 2.8 mg/dL, corrected calcium 12.88 mg/dL, IgA 3895 mg/dL, proteinogram with a monoclonal band of 4.14 g/dL in beta2 zone (serum immune electrophoresis: IgA kappa monoclonal band). Bone marrow compatible with multiple myeloma. Given these data, our main suspicion was that it was bone pain related to multiple myeloma IgA kappa.

Diagnostic Pathways: The differential diagnosis in lumbar spine pain is broad and covers various pathological entities: articular (osteoarthritis or inflammatory arthritis), non-articular (mechanical low back pain or dorso-lumbar scoliosis) or other types of conditions (infections, congenital disorders, fractures, neuropathies or tumors).

Discussion and Learning Points: Bone pain is one of the most prevalent complaints in Primary Care. A detailed anamnesis and physical examination allow us to detect warning signs or symptoms in patients with low back pain, as well as a first diagnostic approach. Some of the characteristics of chronic pain that should raise the alarm are: increased intensity, continuous nature, refractoriness to conventional analgesia or associated constitutional syndrome.

1179 - Submission No. 1005

TAKAYASU ARTERITIS, A DIAGNOSIS THAT SHOULD NOT BE DELAYED

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Case Description: A 25-year-old woman evaluated in the emergency department for weakness in the left side of the body together with deviation of the commissure. mouth to the right and language alteration. had a holocraneal headache for the whole day. A first CT/angio-CT scan of the skull is performed without finding a large vessel occlusion. I know decides intravenous fibrinolysis with slight improvement of language disorder.

Clinical Hypothesis: Up to date following, given the persistence of neurological focality, a CT/CT angiography of skull and perfusion study showing an internal carotid artery dissection, with which we arrive at the diagnosis of vasculitic carotid dissection, possible disease by Takayasu.

Diagnostic Pathways: Systemic vasculitides are a heterogeneous group of diseases whose substrate common pathology is the inflammatory process that damages the vascular endothelium. They are often characterized by their complexity, so they can have a great impact on the health system. In all systemic vasculitides we will find two types of signs and symptoms, the constitutional one dependent on the generalized inflammatory process and the organ-specific depending on the affected vessel. Both giant cell arteritis (GCA) and Takayasu's arteritis (TKA) produce granulomatous inflammation that can progress to stenosis, occlusion and less frequently to aneurysm formation in the damaged vessel. Both affect especially to the aorta and its main branches.

Discussion and Learning Points: The diagnosis should be suspected in any young woman who presents with demonstrative clinic of claudication in extremities, visual alterations, syncope, or angina, especially in the context of high blood pressure, murmurs arteries or loss of pulses.

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1180 - Submission No. 413

THE IMPORTANCE OF HIGH CLINICAL SUSPICION IN HEPARIN-INDUCED THROMBOCYTOPENIA (HIT) TYPE II

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Case Description: A 82-year-old man on treatment with acenocumarol due to a history of pulmonary thromboembolism. He was admitted for exacerbation of chronic kidney disease. During admission, acenocumarol was discontinued and low-molecular-weight heparin (LMWH) was started at anticoagulant doses. In the control analyses, progressive thrombocytopenia was observed, so LMWH was discontinued and, in view of the suspicion of HIT, anti-heparin/FP4 antibodies were requested, which were initially negative. LMWH was reintroduced, and significant platelets were again observed, reaching 20,000/mcL.
Clinical Hypothesis: High suspicion of HIT despite a first negative anti-heparin/FP4 antibody test.
Diagnostic Pathways: In view of the high suspicion of HIT, LMWH was again discontinued and anti-heparin/FP4 antibodies were again requested, and this time, they were positive. Subsequent controls showed resolution of the thrombocytopenia.
Discussion and Learning Points: Type II HIT is a drop in platelet count of more than 50% in the 5-10 days after drug initiation. Most are associated with unfractionated heparin, only 0.1-0.5% are secondary to LMWH. From a pathophysiological point of view, it is characterized by the formation of IgG autoantibodies against multimolecular complexes of platelet-factor-4 (PF4). Diagnosis is based on three principles: the patient is receiving or has received heparin, there is at least one clinical or laboratory finding, and the determination of anti-heparin/FP4 antibodies. We can also use the 4T score which gives a clinical probability with a high negative predictive value. Treatment should be initiated as soon as there is strong clinical suspicion and consists of discontinuation of heparin and initiation of an anticoagulant that does not cross-react with the antibodies. In some cases, intravenous immunoglobulins are necessary.

1181 - Submission No. 2254

A RARE CASE OF MIXED CONNECTIVE TISSUE DISEASE WITH CENTRAL NERVOUS SYSTEM INVOLVEMENT

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Case Description: A 31-year-old woman sought hospital care due to weakness in the upper limbs and peripheral paresthesia. Additionally, she described how she recently developed memory and attention deficits and started to notice transient visual deficits. She had no previously known medical conditions. A careful physical examination revealed microstomia, sclerodactyly and swollen hands, nail pitting and Raynaud phenomenon. Besides weakness in the upper limbs and peripheral sensory deficits, no other neurological symptoms were identified.
Clinical Hypothesis: Initial bloodwork disclosed an increased CPR (25 mg/dL) and erythrocyte sedimentation rate of 62 mm/h, but no leukocytosis or other biochemical relevant alterations. A cerebral CT scan showed disclosed multiple hypodense subcortical areas. She was admitted in the inpatient Internal Medicine Department for further diagnostic evaluation.
Diagnostic Pathways: A throughout investigation revealed positive ANA (titers > 1:280) and positive anti-U1-RNP antibodies. All serological studies for infectious agents were negative. The patient underwent a cerebral MRI revealing multiple focal and diffuse periventricular and cortical/ subcortical lesions suggesting ischemic or vasculitic nature. Altogether, this patient presented findings consistent with mixed connective tissue disease (MCTD) with predominant systemic sclerosis-like manifestations, with central nervous system involvement.
Discussion and Learning Points: The patient received treatment with glucocorticoid megadose, followed by therapy with rituximab. She presented excellent clinical response, with remission of motor and visual deficits, but maintained residual amnesic deficits. Central nervous system vasculitis are rare forms of manifestations of MCTD that usually determine poor prognosis. Although there is no consensus on the therapeutic regimen, we present a case of successful treatment with rituximab.

1182 - Submission No. 1645

A LATE DIAGNOSIS LEADING TO SEVERE ORGAN DYSFUNCTION

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Case Description: A 66 years-old women with an unremarkable past medical history except for arterial hypertension presented at the emergency department with malaise and peripheral oedema evolving in the preceding month. In the year before presentation, she was diagnosed with lower limb purpura that resolved spontaneously, an episode of ear chondritis treated with antibiotics and macroscopic hematuria thought to be related with a urinary tract infection. Blood tests revealed a normocytic normochromic anemia, severe renal disfunction (plasma creatinine of 5 mg/dL), normal plasma electrolytes and a C-reactive protein of 132 mg/L. Urinalysis revealed dysmorphic hematuria and proteinuria. Renal ultrasound excluded obstruction and showed normal sized kidneys.
Clinical Hypothesis: The patient was admitted due to rapidly progressive glomerulonephritis.

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Diagnostic Pathways: Auto-immunity revealed ANCA MPO positivity (>200 U/mL). The 24-hour urine collection showed proteinuria in the sub-nephrotic range. Kidney biopsy showed pauci-immune glomerulonephritis compatible with ANCA-associated vasculitis. The diagnosis of microscopic polyangiitis was made and the patient started treatment with high dose corticosteroids followed by intravenous cyclophosphamide. During follow-up the kidney function had a gradual improvement. After three intravenous cyclophosphamide administrations the patient had a serum creatinine of 2.6 mg/dL.

Discussion and Learning Points: The most prevalent cause of rapidly progressive kidney failure in older patients is ANCA-associated vasculitis. This patient clinical scenario presented multiple clues to a small vessel vasculitis before evolving with a life-threatening complication. A high index of suspicion, prompt diagnostic works up and timely initiation of immunosuppression are keys to improve prognosis.

1183 - Submission No. 1665

DERMATOMYOSITIS: THE IMPORTANCE OF CLINICAL AND PHYSICAL EXAMINATION

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Case Description: A 69 years-old women without any particular past medical history presented at the emergency department with a two-month history of worsening fatigue, proximal muscle weakness, erythema of the face, chest and hands and a mild dysphagia. Physical examination was unremarkable except for the presence of erythematous papules in the dorsum of the hands and poikiloderma in the face and with the shawl sign.

Clinical Hypothesis: The patient was admitted with a clinical suspicion of dermatomyositis as the most probable diagnosis.

Diagnostic Pathways: Blood tests showed no anemia, mild leukocytosis, a C-reactive protein level of 58 mg/L, an erythrocyte sedimentation rate of 72 mm/1sth, creatinine kinase of approximately 900 IU/L and no renal or hepatic disfunction. Hepatitis B/C and HIV serologies were negative. Auto-immunity showed an antinuclear antibody of 1/100 in a homogeneous pattern and positivity to the muscular anti-TIF1g antibody. Skin biopsy of a papular hand lesion was consistent with a Gottron papule. Treatment with high-dose corticosteroids and methotrexate was initiated with clinical and analytic improvement. Concerning the association of this disease with cancer, the patient performed a cervico-thoraco-abdomino-pelvic CT scan, upper and lower endoscopic studies, mammography, and a gynecologist examination. All exams were unremarkable. During follow up the patient symptoms improved, and she was discharged autonomous for daily activities and was referred to an ambulatory motor rehabilitation program.

Discussion and Learning Points: Despite dermatomyositis being a rare disease, clinicians must be familiar with this diagnosis to readily start treatment and improve prognosis. These patients should be followed up closely for occult neoplasia, especially in the presence of anti-TIF antibody positivity.

1184 - Submission No. 1482

ERYTHEMA NODOSUM – A CLINICAL MANIFESTATION OF A VARIETY OF ENTITIES

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Case Description: A 21 years-old women without significant past medical history and no usual medication presented to the emergency department complaining about four weeks of intense pain in both legs associated with peripheral oedema and cutaneous nodularities. It was the third emergency visit in the same month with this complains. She was previously treated with topical corticosteroids without any improvement. About two weeks before this clinical presentation, she had a bacterial pharyngitis treated with amoxicillin. Since then, she denied fever, respiratory, gastrointestinal, or urinary tract infection symptoms. There was no epidemiological relevant history. The physical examination was unremarkable except for nodular painful erythematous lesions in both legs associated with oedema.

Clinical Hypothesis: The lesions in the lower limbs were consistent with erythema nodosum. The principal etiologies considered were related to a post streptococcal infection or as a first manifestation of a systemic auto-immune disease.

Diagnostic Pathways: The patient was oriented to ambulatory consultation of Internal Medicine – Auto Immunity to perform a complete diagnostic work up. She was discharged from the emergency department medicated with an oral non-steroidal anti-inflammatory drug.

Discussion and Learning Points: This case highlights the importance of a careful physical examination to an attempted orientation and initiation of adequate treatment to relieve symptoms. This patient had two emergency department visits without a clear diagnosis or an adequate treatment. Erythema nodosum could be the first clinical manifestation of a auto-immune disorder as well as a paraneoplastic condition. It is fundamental to know this entity to give the patient the best possible medical care.

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1185 - Submission No. 538

ANTI-RO AUTOANTIBIODIES, AUTOIMMUNE DISEASE PREDICTOR?

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Background and Aims: We investigated the development of autoimmune diseases (AD) in a cohort of patients with positive anti-Ro autoantibodies.

Methods: Retrospective data of clinical records of patients with positive anti-Ro autoantibodies blood samples was collected from our hospital laboratory between 2008 and 2014. Clinical progression to AD in previously healthy patients was assessed. We established a diagnosis based on the latest admitted criteria with a minimum lapse of 12 months between positivity for autoantibodies and the onset of the disease. We compared features of patients who developed AD with those who did not, using univariate analysis and a level of statistical significance of $p < 0.05$.

Results: Three-hundred-sixty patients with positive anti-Ro were analyzed of whom 141 had not been diagnosed with AD by the time of the first autoantibody test. Seventeen (12%) of those developed AD (11 Sjögren syndrome (SS), 3 systemic lupus erythematosus (SLE), 1 rheumatoid arthritis and 1 systemic sclerosis) within a median follow up of 83±42.4 months. Eighty-eight percent were women. Time from the first antiRo + determination until the onset of AD was 36.84±2.65 months. The mean anti-Ro titer was 180.29+-101 U/mL. Other frequent autoantibodies found were antinuclear autoantibodies (76.5%) and anti-La autoantibodies (64.7%).

Conclusions: During a long follow-up, 12% of patients with positive anti-Ro autoantibodies developed autoimmune diseases in our cohort. Most frequent AD found were SS and SLE. Development of AD is consistent during follow-up, being more frequent in the first four years, and related to female gender, younger patients, higher titer of anti-Ro and presence of other autoantibodies.

1186 - Submission No. 1287

RECURRENT FEBRILE EPISODES: A DIAGNOSTIC CHALLENGE

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Case Description: A 27-year-old male, with no relevant personal and family clinical background. He was admitted to Internal Medicine for intermittent episodes of fever over 39ºC, dyspnea, atypical chest pain, epigastralgia, and retro-occipital headache since March 2021, the pattern being 1-2 days per month. Physical examination was unremarkable.

Clinical Hypothesis: Systemic autoinflammatory disease of the familial Mediterranean fever type.

Diagnostic Pathways: Blood tests showed leukocytosis with neutrophilia, altered liver profile (ALT: 60 U/L, GGT: 72 U/L) and elevated C-reactive protein and ferritin, as acute phase reactants. An autoimmune profile and a wide microbiological study, abdominal ultrasound and chest CT were performed without relevant findings. It was completed with a genetic study in which no pathogenic variants associated with any autoimmune disease were determined. He was initially treated with methylprednisolone bolus and colchicine with an excellent clinical outcome. Subsequently, a tapering corticosteroid regimen was started, and colchicine was left as maintenance treatment.

Discussion and Learning Points: Autoinflammatory diseases are characterized by recurrent or persistent episodes of systemic inflammation secondary to dysregulation of the innate immune system. There are monogenic autoinflammatory diseases, in which the disease is attributed to the mutation of a single gene, and polygenic diseases in which several environmental and genetic mechanisms are involved. Within the monogenic ones, the most frequent are the hereditary periodic fever syndromes. The most prevalent within this group is familial Mediterranean fever, whose inheritance is autosomal recessive, the mutation being in the MEFV gene. Clinical suspicion is essential for the diagnosis, since a not negligible percentage of patients have a negative genetic study.

1187 - Submission No. 676

A RARE CAUSE OF EXTREME DISABILITY IN A PATIENT WITH FIBROMYALGIA

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Case Description: A 52-year-old female presented a year before with progressive weakness of both upper and lower extremities. Her physicians established the diagnosis of fibromyalgia. However, the condition progressively worsened and, consequently, she needed to use a wheelchair. A month later, an electromyogram was performed showing axonal motor damage of both upper and lower limbs, suggesting a Guillain-Barre-like disease. She was referred to Neurology. In 2022, she consults for appearance of warm, red, deep nodules, localized on the pretibial region of both legs, arthralgia, and fever (Figure 1). On complementary test, the only initial finding was a high C-reactive protein.

Clinical Hypothesis: A systemic disease.

Diagnostic Pathways: Multiple blood tests, including an autoimmune profile, and a wide microbiological study, were performed without relevant findings. A biopsy of a nodule

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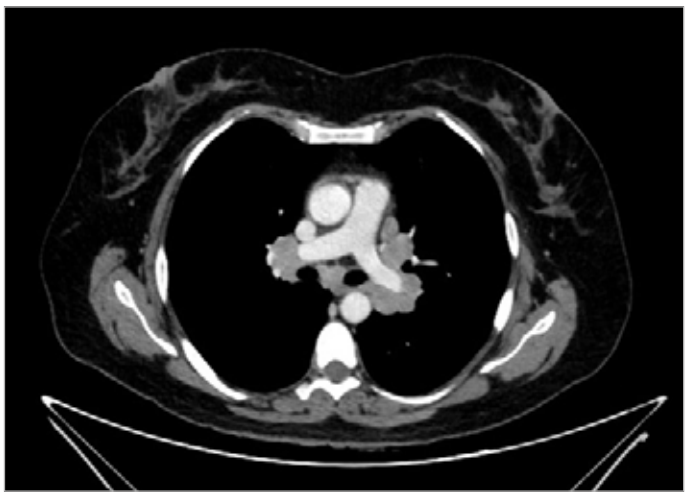
confirmed septal panniculitis, compatible with erythema nodosum. A body-CT showed bilateral hilo-mediastinal adenopathies and hepatomegaly, suggesting sarcoidosis (Figure 2). A lumbar puncture and MRI were normal. As initial treatment she received high-dose methylprednisolone, with excellent clinical response, including both disappearance of erythematous nodules and fever. She was discharged with descending corticoid therapy.

Discussion and Learning Points: Sarcoidosis is a multisystemic granulomatous disease of unknown etiology, that in most cases involves intrathoracic disease. Only 5 to 10% of all patients present initially as neurological disease. Neurosarcoidosis usually shows either as a mononeuropathy of cranial nerves or a central disease, such as meningoencephalitis. Peripheral neuropathy is rare and tends to be a chronic symmetrical injure of both motor and sensitive pathways, being exclusively motor compromise an exceptional presentation.

1187 Figure 1.



1187 Figure 2.

1188 - Submission No. 1039

EPISCLERITIS WITH PAPILLEDEMA, SUDDEN HEARING LOSS AND CENTRAL NERVOUS SYSTEM VASCULITIS: AN ATYPICAL PRESENTATION OF COGAN SYNDROME

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Case Description: A 65-year-old female with no relevant medical history presented to the emergency room with a 14-days history of dizziness worsening with movement, bilateral tinnitus with hearing loss, bilateral ocular redness and a unique episode of disconnection from the environment with body rigidity and a fixed gaze.

Clinical Hypothesis: The initial diagnostic hypothesis was of a peripheral vertiginous condition associated with a probable seizure.

Diagnostic Pathways: A cranial CT was performed with no abnormalities. We requested a brain MRI which showed multiple punctate lesions in the white matter and in the basal nuclei. The lumbar puncture revealed a normal cerebrospinal fluid analysis. The ophthalmological evaluation showed episcleritis with bilateral papilledema, and the otorhinolaryngological examination revealed a Ménière-like vestibular dysfunction. Auditory evoked potentials from the brainstem were made, showing conduction delay with degraded and delayed responses. Taking into account the ocular, vestibular and MRI findings, and in the absence of an infectious focus, the diagnosis of Cogan's Syndrome with associated cerebral vasculitis was established. Treatment with Methylprednisolone boluses was started with rapid clinical improvement and disappearance of the brain lesions in the MRI.

Discussion and Learning Points: Cogan's syndrome is an inflammatory disease characterized by distinctive involvement of both the eye and the inner ear. At the ocular level, it usually presents as interstitial keratitis, episcleritis or even retinal

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vasculitis. In the inner ear it normally causes a Ménière-like vestibulitis. Less than 5 percent of patients debut with systemic symptoms and CNS involvement is very rare.

1189 - Submission No. 422

MESENTERIC INVOLVEMENT AND ITS COMPLICATIONS IN GIANT CELL ARTERITIS: A CASE REPORT

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Case Description: A 79-year-old woman, diagnosed with pneumonia after beginning prednisolone (60 mg/day) for GCA, developed diffuse transient abdominal pain after meals. An angio-CT scan suggested focal head pancreatitis; however, no elevation of pancreatic enzymes was found, and the pain was not localized. There was no clinical response within 2 days of fluid therapy and no diet, the pain worsened, became persistent, and she developed hypotension with hyperlacticemia.

Clinical Hypothesis: Considering the worsening clinical condition, intestinal ischemia could not be excluded as an alternative diagnosis to a systemic inflammatory response syndrome or other complications related to acute pancreatitis.

Diagnostic Pathways: A second angio-CT scan was performed, showing no small bowel parietal enhancement suggesting intestinal ischemia. The patient underwent urgent surgical exploration, revealing small bowel transmural ischemia with a 330 cm extension. The damage was irreversible, and the patient died within a few hours.

Discussion and Learning Points: The pattern of involvement suggests mesenteric arterial occlusion, probably related to GCA involvement. Previous studies reported mesenteric ischemia in GCA, however symptomatic ischemia is rare, as it requires the involvement of several vessels to overcome the protective effect of the extensive mesenteric collateral circulation. Because it is rare and nonspecific, it is frequently missed. Although steroids are the core treatment for GCA symptom control, they do not fully protect against ischemic complications, such as mesenteric ischemia, which can develop after starting steroid therapy. It's not clear if higher doses of steroid therapy would be effective. Early recognition and early surgical management are essential.

1190 - Submission No. 1568

TOCILIZUMAB-ASSOCIATED PSORIATIC ERUPTION

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Case Description: A 70-year-old woman with a history of Rheumatoid arthritis presented with Infliximab-induced psoriatic eruption confirmed by skin biopsy (hyperplastic epidermis, parakeratosis, and lympho-histiocytic infiltration of the dermis). Infliximab was stopped. Eruption improved with topic betamethasone and salicylic acid. Two months later, tocilizumab (TCZ) 8 mg/kg/4weeks was started. After 8 injections, the palmoplantar psoriatic eruption relapsed, and led to stopping TCZ and to starting topic steroids. Methotrexate was started, and hands and soles were free of eruption 9 weeks and 26 weeks after TCZ stop, respectively.

Clinical Hypothesis: Was the psoriatic eruption attributable to TCZ?

Diagnostic Pathways: We searched PubMed, Embase, Clinical Key, Science Direct, Wiley and Cochrane databases for cases of tocilizumab-associated psoriatic eruption, using the terms "tocilizumab" and "psoriasis". We identified 13 cases. Interestingly, one patient developed psoriatic eruption while she was receiving TCZ without any other treatment for the last 11 years[1], and one patient had a relapse of psoriatic eruption after rechallenge of TCZ, 4 months after healing of the first eruption[2].

Discussion and Learning Points: Psoriasis is listed as a side effect for siltuximab, an anti-IL6 antibody, but no case of psoriatic eruption has been reported with the other anti-IL6 antibodies, namely sirukumab and olokizumab, or with the other anti IL6-R antibody, namely sarilumab. The pathophysiology of TCZ-associated psoriatic eruption remains unknown.

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1191 - Submission No. 444

ABDOMINAL PAIN IN SYSTEMIC LUPUS ERYTHEMATOSUS - A RARE CASE

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Case Description: A 72-year-old female, with past history of systemic lupus erythematosus (SLE - diagnosed at age 64; from arthralgias, positive ANA and anti-dsDNA, complement consumption and leukopenia) and antiphospholipid syndrome (APS – hypo coagulated for deep vein thrombosis) presented with intermittent severe abdominal pain, nausea and vomiting. Laboratory results were unremarkable, apart from slight increased inflammatory parameters (CRP 25 mg/dL, ESR 52 mm/1st hour). Abdominal-angio-CT showed significant luminal stenosis of common hepatic artery, left gastric artery and right hepatic artery, with focal thrombus, alternated with aneurismatic dilations.

Clinical Hypothesis: SLE is a multisystemic disease which can clinically exhibit a wide range of presentations. Despite being a rare manifestation, vasculitis of medium-sized vessels can occur in SLE patients, albeit even less frequently with gastrointestinal involvement.

Diagnostic Pathways: Later, angiography confirmed stenotic and aneurismatic lesions of the before-mentioned vessels. There was no hepatic dysfunction, but the risk of life-threatening ischemia of vital organs was still considered very high. The patient was started on emergent immunosuppression with intravenous high-dose corticosteroids and cyclophosphamide as the vascular lesions were interpreted as an SLE-secondary vasculitis. Already under anticoagulation for APS, the presence of arterial thrombus led to the start of simultaneous antiaggregation.

Discussion and Learning Points: There are still no robust guidelines to diagnostic approach and treatment plan for lupus vasculitis, but especially when there is suspicion of gastrointestinal, pulmonary, or nervous system involvement, aggressive and timely management is required to avoid life-threatening manifestations. In this case, given the involvement of medium-sized vessels, we opted for a similar approach as suggested for polyarteritis nodosa, with prompt clinical improvement.

1192 - Submission No. 1972

A CASE OF SEVERE LIVER INJURY AS PART OF DRESS SYNDROME DUE TO MINOCIN

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Case Description: A 17-year-old Jewish female presented in our department with fever, pharyngeal pain, rash, and elevated liver transaminases. She was generally healthy and had started 4 weeks earlier minocycline for acne vulgaris, yet the treatment was discontinued 10 days before admission.

Clinical Hypothesis: On admission clinical picture and laboratory results suggested an infectious etiology, probably a viral disease. Based on patient's history and the peculiar clinical picture the diagnosis of DRESS syndrome was established and systemic treatment with oral prednisone at the dose of 1 mg/kg body weight was initiated.

Diagnostic Pathways: A skin biopsy revealed microscopic findings typical, although not specific for DRESS syndrome.

Discussion and Learning Points: Our patient presented with flu-like symptoms suggesting a viral infection, on admission she denied taking any drugs, there were no infectious disease contacts and no prior history of hepatitis as well as no family history of liver disease or drug reactions. The negative results of the extensive laboratory workup for common infectious and autoimmune diseases and the ongoing deterioration in liver function excluded those etiologies and suggested another culprit. Only after repeated questioning of the patient and her relatives the exposure to minocycline became evident and its role as an etiological agent was suspected. In our view, this is an educational case, and we would like to emphasize the importance of good history taking and family members questioning when clinical presentation with abrupt and severe illness is evident and certain etiology is unclear.

1193 - Submission No. 1015

RELAPSING POLYCHONDRITIS: A DESCRIPTIVE ANALYSIS OF 7 PATIENTS IN AN SPECIALIZED UNIT FOR AUTOIMMUNE DISEASES

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Background and Aims: The objective of the study is to describe characteristics, clinical expression and treatment used of patients diagnosed with relapsing polychondritis (RP).

Methods: Descriptive study conducted by the revision of medical stories of patients with a diagnosis of RP being followed up in the specialized unit in autoimmune diseases. We gathered basal characteristics, the age of onset of the symptoms, the clinical presentation and the treatment used.

Results: Medical histories of 2286 patients were revised, 7 of which had been diagnosed with RP (0.3%). 85.7% of those patients were women with a mean age of 52.5. The average age of onset was 36.3. Involvement of the auricle was the most frequent clinical presentation (71.4%, n=5), followed by nasal and ocular involvement (57.1%, n=4), the vestibular symptoms (42.9%, n=3), skin manifestation and arthritis. None of them presented with neurologic symptoms or valvular disease. 57.1% of patients presented with the association of other autoimmune diseases. Prednisone was the treatment used in 57.1% of patients. One of them required the association of other immunosuppressants (mycophenolate, infliximab) and one of them needed treatment with methotrexate and subsequently with etanercept. 28.5%

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experimented a flare-up during the follow-up that required the use of corticosteroids. 42.9% remained asymptomatic and did not need any immunosuppressant therapy.

Conclusions: In this study, polychondritis mainly affected women with a slightly younger mean age than described in previous studies. The affectation of the auricle was the most frequent clinical presentation. Corticosteroids were the most frequent treatment used as maintenance therapy for symptomatic patients.

1194 - Submission No. 137

POLIGLANDULAR AUTOIMMUNITY IN PATIENTS WITH CELIAC DISEASE: A CASE SERIES

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Background and Aims: Autoimmune endocrine diseases represent a common comorbidity in patients with Celiac Disease. We report a series of six patients presenting with multiple endocrine autoimmunity in association with CD.

Methods: We reviewed a population of 1211 prospectively enrolled patients with CD, to identify patients presenting with at least two concomitant endocrine autoimmune diseases in association with CD.

Results: We found 6 patients presenting with the association of CD and least two concomitant autoimmune diseases. All patients were female. The most common presentation, represented in 5 patients, was the association of CD with autoimmune polyendocrine syndrome type III (APS-III), which consist of the association of Type I diabetes mellitus (T1DM) and an autoimmune thyroidal disease (Hashimoto's thyroiditis in 4 patients, Basedow disease in 1 patient). In all patients with APS-III the first disease to manifest was T1DM. One patient presented with the association of Hashimoto's thyroiditis and autoimmune hypophysitis. In all but one patient CD was not the first disease to manifest; four patients presented no symptoms of CD, and the diagnosis was based on the search for CD serology as a screening for concomitant autoimmune disease. On the other hand, those asymptomatic patients presented with nutrient deficiencies or altered bone mass density, suggesting the presence of subclinical malabsorption; those alteration resolved after beginning gluten free diet (GFD).

Conclusions: CD may present in association with multiple autoimmune diseases. In those patients CD may present with mild or no symptoms, nevertheless it may determine even severe malabsorption, necessitating beginning GFD.

1195 - Submission No. 426

CAN NOMENCLATURE FAIL US? DERMATOMYOSITIS SINE MYOSITIS; AN INTERESTING CLINICAL CHALLENGE

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Case Description: A 56 years old female patient, was admitted to the internal medicine department due to low grade fever, fatigue, psoriasiform rash at the dorsal area of the elbows, fingers and buttocks and weight loss of about 20kg the last 6 months. Her past medical history includes hypertension, dyslipidemia, and depression. She has received a diagnosis of PMR and treated with CS for a short period. No clinical response was observed, and the regimen was discontinued. She underwent a skin biopsy. The histological findings were compatible with psoriasis.

Clinical Hypothesis: Physical examination was significant for the aforementioned rash as well as midfacial erythema involving the nasolabial folds, non-scarring alopecia, periorbital edema and symmetric proximal muscle weakness (4/5). Inflammatory markers were modestly elevated, while CK was wnl. CT scan of the chest displayed mild parenchymal lesions suggestive of interstitial lung disease (ILD) and a few ground glass opacities in the RUL.

Diagnostic Pathways: A biopsy of the left deltoid muscle demonstrated signs of mild myositis. Further immunological tests revealed positive ANA (1/160), anti-Ro 52 (+) and anti-MDA5, thus confirming the diagnosis of MDA5-associated dermatomyositis (DM).

Discussion and Learning Points: Anti-MDA5 (+) dermatomyositis constitutes a substantial portion of the total DM patients and it is characterized by minimal or absent signs of myositis and carries a significant risk for rapidly deteriorating and even fatal respiratory disease, mainly ILD.

1196 - Submission No. 1608

RETURN TO LIFE: A CASE OF RHEUMATIC POLYMYALGIA

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Case Description: A 70-year-old male presented, on our office, a three-months of asthenia and involuntary weight loss. He had arterial hypertension and chronic kidney disease. He complained of joint and upper limb pain irresponsive to analgesia. On physical examination, the movement of shoulders and hip joints was limited by pain. He had a normocytic normochromic anemia with

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a hemoglobin of 11.3 g/dL, normal leucocyte count and formula, normal platelet count, a C-reactive protein (CRP) of 68 mg/L and an erythrocyte sedimentation rate (ESR) of 115 mm/h.

Clinical Hypothesis: During the diagnostic pathway, immunologic diseases, infections, and cancer were excluded. He was diagnosed with polymyalgia rheumatica (PMR), and treatment was started with prednisolone.

Diagnostic Pathways: After three weeks, his symptoms improved dramatically, and the inflammatory markers normalized. He didn't complaint of visual alterations, headaches, or other symptoms.

Discussion and Learning Points: Our case displayed marked symptoms of PMR according to the EULAR/ACR criteria: ≥50 years, both hip and shoulder pain, an abnormal CRP or ESR, pain or limited range of motion at the hip, and symptom improvement after glucocorticoid treatment. The nonspecific clinical presentation and the absence of specific laboratory findings often leads to some diagnostic delay. The authors pretend to emphasize the importance of a careful history and examination, because many clinicians can misdiagnose PMR as other inflammatory conditions. With the right diagnostic and treatment, we can prevent a major burden on the daily life of elderly people.

1197 - Submission No. 1668

UNEXPECTED AWAKENING: REACTIVATION OF SYSTEMIC LUPUS ERYTHEMATOSUS AFTER HEMODIALYSIS INITIATION

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Case Description: A 38-year-old female patient presented with fatigue and alopecia one month after hemodialysis initiation. She had been diagnosed with systemic lupus erythematosus (SLE) at 16 years old with skin, musculoskeletal, hematologic and renal features (class 3 lupus nephritis), as well as hypocomplementemia, anti-dsDNA and anti-cardiolipin antibodies. She also had chronic kidney disease related to SLE and had been submitted to deceased-donor kidney transplantation at 30 years old. Kidney graft function had been decreasing over eight years until she started hemodialysis. At this stage, her medication included tacrolimus, everolimus, prednisolone and hydroxychloroquine and the tacrolimus' dose was decreased by half. Blood workup one month after hemodialysis initiation showed anemia (hemoglobin of 8.8 g/dL), lymphopenia (670/uL) and thrombocytopenia (116,000/uL).

Clinical Hypothesis: Reactivation of SLE or an opportunistic infectious disease, such as CMV disease.

Diagnostic Pathways: CMV serum viral load was undetected and only EBV IgG was present. A C3 decrease (3.7 mg/dL), and an anti-dsDNA titer increase (1,924 UI/mL) were noticed, suggesting a reactivation of SLE. Methylprednisolone pulses (500 mg) were held for 3 consecutive days and everolimus was changed to mycophenolic acid. Symptom relief was remarkable one week after therapy initiation. Erythrocyte and platelet count increased (hemoglobin of 9.9 g/dL and 269,000 platelets/uL), but lymphopenia remained. Over the next 2 months, C3 normalization and a substantial decrease in anti-dsDNA titer were achieved (anti-dsDNA of 153 UI/mL).

Discussion and Learning Points: The risk of SLE reactivation persists after hemodialysis initiation, particularly during the first years, in younger patients and in presence of anti-cardiolipin antibodies, so watchful monitoring is still warranted.

1198 - Submission No. 1617

THE IMPORTANCE OF A GLOBAL VISION OF THE PATIENT

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Case Description: A 56-year-old male, with clinical background of tobacco use, ex-alcoholism, and hypertension, on follow-up for a progressive bilateral leg weakness, with inability to walk, showing improvement after oral dexamethasone. On MRI, lesions on both brain hemispheres, and a biopsy that confirmed inflammatory nature. He is admitted 20 days later for fever and complicated ileocolitis, with perforation of right colon. PCR positive for cytomegalovirus. A hemicolectomy was performed, followed by empiric antibiotic therapy and valganciclovir. On the following days, persistent fever, and leg weakness. On blood test, normocytic anemia and rise of acute phase reactants, with all microbiological and autoimmune studies negative. On computed tomography, chronic hepatopathy and sharpening of right renal artery, with ischemic areas. A transesophageal echocardiogram ruled out endocarditis. Neurophysiology test confirmed central and peripheral sensory and motor damage.

Clinical Hypothesis: A progressive, severe, multisystemic disease, affecting gastrointestinal tract, renal and central nervous system. A differential diagnosis between infections, neoplasia and autoimmune-autoinflammatory syndromes is considered.

Diagnostic Pathways: On pathology samples from hemicolectomy, ischemic transmural necrosis, showing neutrophilic vasculitis of small and medium vessel. As four of Yamamoto criteria are met, a diagnosis of polyarteritis nodosa is stablished.

Discussion and Learning Points: PAN vasculitis is a rare necrotizing arteritis affecting medium and small-sized vessels, typically ANCA-negative. It's predominant on males, with a peak incidence at the age of 60. It can affect all systems: peripheric nervous system, renal, skin, gastrointestinal, cardiovascular, muscular. Only 5-10% involve central nervous system, associating higher mortality rates, and respiratory disease is rare. For diagnosis, VEXAS syndrome and DADA2-associated vasculopathy must be discarded.

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1199 - Submission No. 395

PRESENTING A THEORETICAL MODEL FOR "FIBROMYALGIA" AS A CHRONIC COMPARTMENT-LIKE SYNDROME OF THE WHOLE BODY

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Background and Aims: Chronic pain is a major cause of suffering and is extremely prevalent. Fibromyalgia is a common, overlooked, and misunderstood condition. The mechanism of fibromyalgia and related psychosomatic syndromes is yet to be fully understood. Many theories exist but no single theory seems to explain a wide range of empirical evidence and the pathophysiology and etiology are still not clear. Treatments are insufficient, meanwhile patients suffer. This work suggests an organic mechanical mechanism to help explain "fibromyalgia", based on cross-disciplinary empirical studies.

Methods: Systematic and scoping literature search using multiple phrases in Medline, Embase, Cochrane, PEDro, and MedRxiv, majority with no time limit. Inclusion/exclusion based on title and abstract, then full text inspection. Additional literature added on relevant side topics. 831 records included.

Results: Fascia has complex properties of biotensegrity and can adapt to various states by reversibly changing biomechanical and physical properties. Trigger points, tension, and pain are a hallmark of myofascial pain. Myo/fibroblasts form a collaborating network of contracting cells in fascia and play a role in sustained myofascial tension.

Conclusions: The theory of "fascial-armoring" offers a biological mechanism for fibromyalgia-like syndromes as one medical entity involving a connective-tissue pathology in the form of myofibroblast-generated-biotensegrity-tension[1]. This may lead to central sensitization as well as help explain several of fibromyalgia's manifestations including widespread pain, hyperalgesia, tender spots, chronic fatigue, cardiovascular and metabolic abnormalities, autonomic abnormalities, absence of clear inflammation, silent imaging investigations, and more.

Reference:

[1]Plaut S. Scoping review and interpretation of myofascial pain/fibromyalgia syndrome: An attempt to assemble a medical puzzle. PLoS One. 2022;17(2):e0263087.

1200 - Submission No. 794

CONFUSING ASPECTS IN THE DIAGNOSIS OF A RARE DISEASE

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Case Description: We present the case of a 46 years-old man, non-smoker, with history of diabetes mellitus type 1 for 20 years, CKD stage 3a. The patient was admitted in our clinic due to a radiating chest pain in the left shoulder which lasted for approximately one hour and was associated with expiratory dyspnea and episodes of fever (38-39°C) with 3 months of evolution. Physical examination showed axillary adenopathies and diminished lung sounds on the left side. The X-ray showed pleural effusion, the echocardiography disclosed a small pericardial effusion and the lab test revealed elevated inflammatory biomarkers, mild microcytic hypochromic anemia, thrombocytosis, hypoalbuminemia, proteinuria and the immunogram showed high levels of IgG.

Clinical Hypothesis: Given the findings, we suspected SLE, tuberculosis and sarcoidosis.

Diagnostic Pathways: We performed thoracocentesis and found out that the pleural liquid was an exudate with adenosine deaminase values in normal range and negative bacterial culture test, so tuberculosis was ruled out. Subsequently, more lab tests were performed: antinuclear antibodies and anti-double stranded DNA were positive, and no complement consumption. We also performed a renal biopsy, and the result was diabetic nephropathy stage IV without any autoimmune inference. The chest CT scan revealed multiple pulmonary nodes and mediastinal lymphadenopathies. The biopsy of lung nodes revealed sarcoidosis specific lesions.

Discussion and Learning Points: Sarcoidosis is a rare inflammatory disease which could have autoantibodies also present in SLE, so the final diagnosis needs more investigations and a multidisciplinary team, also, the time between the first symptoms and diagnosis could be long.

1201 - Submission No. 746

A MAN WITH FEVER AND SKIN RASH

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Case Description: Man 64 years-old, with medical history of atrial fibrillation, hypertension, and dyslipidemia with no history of illicit drugs use was referred to our hospital because of fever of 2 weeks with no clear site of infection. He has been hospitalized for 2 weeks in another hospital where he has received antimicrobial

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treatment with levofloxacin, linezolid and fluconazole.

Clinical Hypothesis: In our department he was treated as fever unknown origin.

Diagnostic Pathways: Screening for human immunodeficiency virus infection, hepatitis was negative. The results of serological tests for Rickettsia, Brucella, Coxiella, Leptospira were negative. Immunological testing was pending. Lung and brain CT were performed without pathological findings while the abdomen CT revealed enlarged spleen (13 cm). The patient often complained of headaches therefore a lumbar puncture was performed without pathological findings. Blood and urine cultures were negative. A salmon-pink rash appeared on the neck and trunk during the episodes of fever. The patient did not improve with antibiotics. The characteristics of his fever moved us away from infectious or malignant causes. Corticosteroid treatment was started, and the fever subsided within one day.

Discussion and Learning Points: The patient met three major (fever, rash, and leukocytosis) and three minor (splenomegaly, Rf<11, elevated liver enzymes) criteria for Still's disease. We should always have immunological causes in the back of our mind in the differential diagnosis of prolonged fever as well as that a thorough clinical examination may give us answers to questions that blood and imaging methods will not.

1202 - Submission No. 175

INFLAMMATORY ARTHRITIS (CURRENT AND FUTURE MANAGEMENT)

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Background and Aims: Inflammatory arthritis is a group of autoimmune disorders characterized by joint pain, swelling, warmth, tenderness in the joints, and morning stiffness that lasts for an hour (Poudel et al 2018). It is a vast topic with lots of available data on management. It's often difficult to review all available information in a short period. We have tried to summarize this subject via a poster presentation including current and future management options. We are hopeful that this will help clinicians and improve future patient care.

Methods: We have used all available guidelines (NICE, EULAR, ACR) and up-to-date research in the "inflammatory arthritis" section for this poster creation.

Results: Poster Presentation

Conclusions: See Poster

1203 - Submission No. 1290

GIANT CELL ARTERITIS – A DIAGNOSTIC CHALLENGE

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Case Description: A 60-year-old active smoker woman with unremarkable past medical history and no daily medication was admitted due to a 2-month history of constitutional symptoms (asthenia, anorexia) and unintentional weight loss. She appeared thin and pale, with no other changes on physical examination.

Clinical Hypothesis: The hypothesis of neoplastic, auto-immune, or infectious disease was posed and the diagnostic work-up was started.

Diagnostic Pathways: The laboratory tests showed normocytic normochromic anemia (8.3 g/dL) and elevation of C-reactive protein (97 mg/dL) and erythrocyte sedimentation rate (110 mm). Infectious disease and neoplasia were excluded after negative viral serologies and blood cultures and normal thoraco-abdominopelvic computed tomography (TAP-CT) scan and endoscopic studies. Auto-antibodies detection yielded positive for rheumatoid factor and anti-cardiolipin. Contrast-enhanced TAP-CT scan showed wall thickening of the descending thoracic and abdominal aorta with diffuse uptake. A positron emission tomography (PET) scan showed 18-FDG uptake by the walls of the thoracic and abdominal aorta and carotid, subclavian and axillary arteries, consistent with active large-vessel vasculitis. The diagnosis of giant cell arteritis (GCA) was presumed, and immediate treatment with corticosteroids was started with favorable outcome.

Discussion and Learning Points: Vasculitis can range from mild to life-threatening. The nonspecific presentation makes the diagnosis a challenge. Early detection and treatment can prevent permanent damage. In our case, patient's age and clinical and imaging findings resulted in the diagnosis of large-vessel GCA. We highlight the value PET scan adds to early diagnosis, and the importance of early treatment, even in the absence of a definitive diagnosis.

1204 - Submission No. 1683

HEMORRHAGIC COMPLICATIONS OF HYPOCOAGULATION IN ANTIPHOSPHOLIPID ANTIBODY SYNDROME (APS)

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Background and Aims: APS is a prothrombotic condition characterized by arterial/venous thrombosis and/or obstetric comorbidities, associated with positive antiphospholipid antibodies. Bleeding events are complications resulting from the anticoagulant therapy.

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Methods: Retrospective study of cases of APS in the last 5 years, in the consultation; analysis of gender, age, therapy, INR and bleeding events. The diagnosis was established according to the SAPPORO/SYDNEY criteria, establishing the diagnosis in the presence of 1 clinical and 1 laboratory criterion. Clinical criteria included venous and/or arterial thrombotic events and/or at least 1 miscarriage of a fetus at ≥ 10 weeks' gestation and/or at least 3 abortions at < 10 weeks' gestation and/or at least one delivery at ≤ 34 weeks' gestation; pregnancy, with severe preeclampsia, eclampsia, or placental insufficiency. Laboratory criteria included positivity for lupus anticoagulant antibody and/or anticardiolipin antibody IgM/IgG and/or anti-B2-glycoprotein IgM/IgG antibody.
Results: In 101 cases, 79% were female. 90% of patients were hypo coagulated with warfarin and 10% were hypo coagulated with low molecular weight heparin. Bleeding events were observed in 3% of cases – epistaxis, bleeding angiectasia and gingival bleeding. They were female patients, mean age of 50 years, with overlapping of another autoimmune disease: systemic lupus erythematosus in 2% and immune thrombocytopenia in 1% of cases. All bleeding events occurred in patients receiving warfarin, with a mean INR of 2.28 at the time of the bleeding event.
Conclusions: In this study, bleeding events occurred in 3% of patients diagnosed with APS. The bleeding episodes were mild, which highlights the safety of this therapy.

1205 - Submission No. 2198

BULLOUS PEMPHIGOID - CASE REPORT

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Case Description: Case report: Female, 83 years-old, multiple morbidities, polymedicated, came to the ER because of extensive bullous eruptions with serous fluid, peeling lesions in palms and plants, circular thickened plaques with ill-defined edges and, scratching abrasions, except in the face, mucous membranes, neck, chest and abdomen. The symptoms had a sudden onset, 2 weeks before, and the family doctor prescribed bilastine 10 mg/day and deflazacort 30 mg/day, with no benefit.
Clinical Hypothesis: Drug toxicity, dehydrosis, systemic lupus erythematosus, erythema multiforme, Ccontact dermatitis, pemphigus vulgaris and bullous pemphigoid.
Diagnostic Pathways: Normal blood work. Skin biopsy showed linear deposit in the dermo epidermic junction of C3 and IgG. Treatment with prednisolone 1mg/Kg/day showed improvement.
Discussion and Learning Points: Bullous pemphigoid is a bullous autoimmune dermatosis. It's characterized by the development of auto antibodies against components of the desmosomes BP 250 and 180. Its early recognition is important because of its high rate of mortality in elderly people. In this case, even though with didn't have the results for auto-antibodies BP 250 and 180 available right away, early clinical recognition and plus 4 diagnostical criteria: absence of atrophic scars, no lesions in the head, mucous membranes, or neck, older than 70 years and suggestive histology made the diagnosis of Bullous Pemphigoid. Early start of therapy improves the symptoms and changes the prognosis.

1206 - Submission No. 1360

BIOLOGICAL THERAPY IN SYSTEMIC LUPUS ERYTHEMATOSUS: A CASE REPORT

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Case Description: We present the case of a 38-year-old woman diagnosed with systemic lupus erythematosus (SLE) and type V membranous lupus nephritis (LN) after a kidney biopsy in 2013. Initially, was successfully treated with Hydroxychloroquine, ACE inhibitors, ASA, atorvastatin, glucocorticoids, and mycophenolate. In 2017 eruptive dermatofibromas and sclero-dermiform changes were diagnosed so mycophenolate was suspended, and azathioprine was started. The patient was in clinical and analytical remission until 2021 when she consulted with generalized asthenia, arthralgia, and recurrence of her skin lesions. Furthermore, massive proteinuria (>5 g/day) was observed so it was decided to perform a new kidney biopsy, and no differences were found (same histological class). Suspension of azathioprine was indicated and new treatment with ciclosporin 3 mg/kg/day and belimumab 200 mg/week was decided improving skin lesions, arthralgia, asthenia, and laboratory test abnormalities (anti-DNA antibodies turned negative and albuminuria decreased 594.54 mg/day - SLEDAI-2K 3 points VS previously 14 points).
Clinical Hypothesis: Biological therapies in the management of SLE have positive clinical implications. The advent of more targeted therapies will increase our ability to control disease activity in SLE patients and minimize unnecessary toxicity. Diagnostic and prognostic strategies will need to be developed to determine which biologic therapy is likely to be effective depend on the characteristics of the patients.
Diagnostic Pathways: Recently, we found belimumab plus standard therapies for LN improved renal responses and reduce kidney-related events compared to standard therapy, with no significant adverse effects[1].
Discussion and Learning Points: Our case confirms the efficacy of belimumab in patients with active SLE.

References:

[1]Furie R et al. Two-Year, Randomized, Controlled Trial of Belimumab in Lupus Nephritis. NEJM (2020) Sep 17; 383(12): 1117-1128. doi: 10.1056/NEJMoa2001180

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1207 - Submission No. 1425

ENTHESITIS-RELATED ARTHRITIS, A RARE FORM OF JUVENILE IDIOPATHIC ARTHRITIS

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Case Description: A 14-year-old male with asthma and allergic rhino conjunctivitis history consulted due to one-month of right mechanical coxalgia, without previous trauma. He presented a single febrile episode with no skin lesions or constitutional symptoms. On physical examination, he had limitation in mobilization of the right hip due to pain. Laboratory test revealed elevated inflammatory markers. No findings in X-rays. MRI of the hips were compatible with an inflammatory/infectious process in the right coxo-femoral joint, with moderate synovitis and bone involvement.

Clinical Hypothesis: Septic arthritis or femoro-acetabular osteomyelitis was suspected so admission was decided. Bone scintigraphy and MRI of the hips were suggestive of septic arthritis. Autoimmunity study (ANA, ACPA and HLA-B27), blood cultures, arthritis serologies (Coxiella, Bartonella, EBV, CMV, Brucella, Lyme disease), Mantoux and finally an arthrotomy was performed obtaining a sample of the joint capsule.

Diagnostic Pathways: On the following days, the patient presented left patellar tendon enthesitis. This finding together with negative microbiology results and positive HLA-B27 study, led to suspicion of autoimmune process. Therefore, antibiotic-therapy was withdrawn and NSAIDs and prednisone (0.5 mg/kg/day) were started with good clinical response. A diagnosis of arthropathic-endopathic juvenile idiopathic arthritis (JIA) was established. Methotrexate was decided with clinical control, but he presented hepatic side effects, so adalimumab 40 mg/2 weeks was started, maintaining clinical and analytical remission.

Discussion and Learning Points: Enthesitis-related arthritis is an undifferentiated juvenile spondylarthritis of juvenile characterized by peripheral, asymmetric joint involvement, predominantly lower limbs, onset in males older than 6 years and associated with enthesitis/sacroiliitis during its evolutionary course. Association with HLA-B27 is also common.

1208 - Submission No. 1487

HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS IN ADULTS: ALWAYS JUST A FIRST STEP TOWARDS THE FINAL DIAGNOSIS

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Case Description: Seventy-one-year-old Caucasian female. Presented febrile and dehydrated, complaining of a one-month history of asthenia, weight loss, night sweats, progressively worse. Pancytopenia, no changes on blood smear, elevated transaminases, and cholestasis. Evolved with refractory hypotension. Started vasopressor support and broad-spectrum empirical antibiotics. High ferritin (4334 ng/mL) and increased triglycerides (267 mg/dL). Global hypogammaglobulinemia and C4 consumption with no autoantibody positivity. Bacterial and viral infections were excluded.

Clinical Hypothesis: Hemophagocytic lymph histiocytosis (HLH) with unknown trigger. Secondary humoral immunodeficiency, probable same etiology as HLH.

Diagnostic Pathways: Started on high-dose intravenous anakinra and replacement-dose IvIg, high-dose steroids later introduced. Soluble CD25 10420 U/mL. HScore 203 points. Imaging showed hepatosplenomegaly, with multiple small liver nodules and diffuse small lymphatic nodes. Non-albuminuric proteinuria led to identification of monoclonal lambda light chain production. Peripheral blood and bone marrow flow cytometry revealed a small but abnormal B lymphocyte population with lambda chain restriction, suggestive of low-grade lymphoma. No hemophagocytosis figures were noticed in the bone marrow. Liver biopsy revealed infiltration by diffuse large B cell lymphoma. Treated with R-CVP regimen. Anakinra dose was gradually reduced to 100 mg daily SC. One month after discharge is responding well to chemotherapy with no HLH recurrence.

Discussion and Learning Points: HLH is a severe, life-threatening condition that requires a high-level of suspicion so that prompt supportive treatment can be started. Importantly, although in

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children it can be triggered autonomously due to inborn errors of immunity, in adults it is more often secondary to infections, cancer or autoimmunity which much be quickly sought and treated.

1209 - Submission No. 1917

NOT ALL GERIATRIC CACHEXIA IS CANCER - THE DIFFICULT LATE-ONSET RHEUMATOID ARTHRITIS: CASE REPORT

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Case Description: Seventy-six-year-old man with treated hypothyroidism. Admitted with 3-months history of anorexia, 10% of total body weight loss and asthenia. On physical examination, he presented with symmetrical and painful synovitis of the small (hands) and large joints with morning stiffness. Without shoulder or hip girdle pain, fever, or apparent involvement of other organs.
Clinical Hypothesis: Rheumatic, infectious or paraneoplastic disease.
Diagnostic Pathways: Analytical parameters showed inflammatory anemia and elevated C-reactive protein and erythrocyte sedimentation rate. A comprehensive list of complementary diagnostic tests were made, namely thoraco-abdomino-pelvic computed tomography, transthoracic echocardiogram, blood cultures and viral serology. None has given a definitive diagnosis, until rheumatoid factor and cyclic citrullinated peptide antibodies shown to be elevated (279.9 UI/mL and 435.0 UI/mL, respectively). Late-onset rheumatoid arthritis (LORA) was then diagnosed and, once on systemic steroids and methotrexate, he gained weight and resolved his synovitis. The treatment had to be temporarily stopped due to septic arthritis of the right knee (*S. aureus*), that resolved after suspension of immunosuppressants, surgery and intravenous antibiotics. He was discharge to motor rehabilitation unit and outpatient follow-up.
Discussion and Learning Points: LORA accounts for 10-30% of patients with RA and can present with greater systemic involvement and functional impairment, and higher disease activity. High-level clinical suspicion is determinant, and, in some clinical settings, neoplastic or infectious disorders must be excluded. Timing and degree of immunosuppressants are key features due to the risk of infections, namely in these polymedicated immunosenescence patients. Target therapies (anti-TNF or anti-IL-6) could be an early hypothesis due to the lesser systemic side-effects compared to classic disease modifying anti-rheumatic drugs.

1210 - Submission No. 1222

DESCRIPTIVE ANALYSIS OF PATIENTS DIAGNOSED WITH ANTIPHOSPHOLIPID SYNDROME IN A COUNTY HOSPITAL

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Background and Aims: Antiphospholipid syndrome (APS) is a systemic autoimmune disease characterized by the presence of antiphospholipid antibodies (anti-cardiolipin antibodies, antibody presence of antiphospholipid antibodies. The prevalence is estimated at 40-50 cases/100,000 inh but studies are not robust in part due to interlaboratory variability. The aim of this study is to describe the clinical characteristics of patients with AFS treated in an internal medicine department of a tertiary hospital.
Methods: A descriptive study of patients diagnosed with APS according to the Sapporo criteria in the internal medicine department of Hospital Serranía since 2002 to 2022.The following variables were collected: age, sex, number of vascular events, type of antibodies, type of thrombosis and mortality. Qualitative variables were summarized as frequencies and percentages, and quantitative variables were summarized as means and percentages.
Results: In the period studied 14 patients were diagnosed in our service, 9 males (64.3%) and 5 females (64.3%) with a mean age of 54.93 years at the time of diagnosis. Of the whole patients studied, 6 had arterial thrombosis, 6 had venous thrombosis (one of the patients had a venous thrombosis), 1cerebral venous sinus thrombosis and 2 both venous and arterial thrombosis having one of them CAPS. The most frequently present antibodies were ACA and Beta2IgM. LA was present in 50%. Only one death due to causes unrelated to FAS diagnosis.
Conclusions: In our cohort we found a lower number of women than described in the literature, probably due to the small sample chosen because only patients who met the classificatory criteria were included. The antibody profile of our population is similar to that found in other registries. Moreover, CAPS is also a rare entity in our midst.

1211 - Submission No. 993

A DIAGNOSTIC DILEMMA IN A PATIENT WITH HISTORY OF BREAST CANCER

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Case Description: We present the case of a 64 years-old woman, who was admitted in our clinic with a three days evolution of fatigue and dyspnea. The patient had a history of breast cancer

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who underwent quadrantectomy and radiotherapy, two years before. Physical examination revealed paleness and pericardial friction. The lab tests showed severe normocytic normochromic anemia, elevated levels of inflammatory biomarkers, moderate increase in creatinine, hypoalbuminemia, low-level proteinuria and microhematuria. The echography disclosed pericardial effusion (2.4 cm) posterior of left ventricle, 60% ejection fraction, absence of ascites and pleural effusion.

Clinical Hypothesis: Given the findings, we suspected cancer recurrence, a hematological malignancy, or an autoimmune disease

Diagnostic Pathways: A mammography was performed, and local recurrence of cancer was ruled out. Also, the patient underwent a CT scan which revealed only pericardial effusion, failed to identify any active malignancy, also, the levels of CA 15-3 were normal. The immunogram disclosed high levels of IgG and a bone marrow biopsy was performed and the results didn't show any abnormalities. Afterwards more blood tests were performed: negative ANA, no complement consumption, but positive p-ANCA (14.9 U/ml). A renal biopsy was performed and indicated an aspect of proliferative glomerulonephritis. The patient received corticosteroids, cyclophosphamide and rituximab and her evolution was favorable.

Discussion and Learning Points: Pericardial effusion is a rare complication of ANCA positive vasculitis, especially as a first manifestation of the disease. In this case, the hematological and pericardial involvement of vasculitis was confusing considering that the patient had a cancer history.

1212 - Submission No. 367

NECROTIZING MYOPATHY: A DIAGNOSTIC CHALLENGE

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Case Description: The authors present a 73-year-old man chronically medicated with low-dose-statin, describing a 1-month history of progressive muscle weakness after a dose of mRNA COVID-19 vaccine. The week prior to admission, the condition evolves quickly to tetra-paresis and limitation for basic activities of daily living. Myalgias and red urine were reported. Initial observation showed neck flexion paresis, proximal tetra-paresis with preserved distal strength, muscle atrophy and pain, reduced osteotendinous reflexes, no fasciculations and no cutaneous lesions. Serum and urine analysis showed rhabdomyolysis and increased acute phase reactants. Cerebral CT was unremarkable. Muscle magnetic resonance imaging of the thighs revealed symmetric generalized myopathy, and electromyography confirmed myopathic pattern with marked signs of muscle fiber necrosis. Statin was suspended, given its potential myotoxicity.

Clinical Hypothesis: Based on clinical description, several differential diagnoses can be sought. The main hypothesis in this case was an inflammatory myopathy (e.g., immune-mediated necrotizing myopathy, polymyositis, inclusion body myositis). Other possible causes included toxic or infectious processes.

Diagnostic Pathways: Microbiological and autoimmunity panels were negative, including anti-HMGCoA reductase antibody. Investigation for occult neoplasia was also negative. Muscle biopsy showed a necrotizing myopathy and no inflammation. No benefit was observed with statin withdrawal, but a 4-week-trial of corticosteroids and rehabilitation program integration was followed by great motor and functional improvement.

Discussion and Learning Points: Immune-mediated necrotizing myopathy seems the most certain diagnosis. Recent reports have shown temporal association with COVID-19 vaccination and this condition. However, it might be wise not to exclude statin myotoxicity, given it can take 4 weeks to see any improvement after drug withdrawal.

1213 - Submission No. 196

LINKAGE OF ANA SEROPOSITIVITY IN ADULTS WITH INCREASED RATES OF MALIGNANCIES IN A LARGE-SCALE CROSS-SECTIONAL STUDY

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Background and Aims: Antinuclear autoantibodies (ANAs) are detected in a variety of autoimmune diseases but also in normal subjects and infectious diseases. The link between ANA as either a predictor or marker of malignancy is more controversial but potentially important. The aim was to evaluate the association between ANA seropositivity and malignancies in adults.

Methods: This large population-based study utilized the electronic database of the largest health organization in Israel. All subjects that tested positive for ANA on one or more occasions between the years 2007-2019 were included and were matched by age, gender, and place of residence with seronegative controls. An association between seropositivity and malignancies was evaluated using univariate and multivariate logistic regression models.

Results: The study population included 102,931 ANA seropositive subjects and the same number of seronegative controls. ANA seropositive patients had higher rates of overall malignancies (17.4% vs. 16.7%, p<0.001) and specifically lung cancer (1% vs. 0.8%, p<0.014), liver and bile cancer (0.3% vs. 0.2%, p<0.017), Hodgkin lymphomas (0.3% vs. 0.2%, p<0.002) and non-Hodgkin lymphomas (1.2% vs. 1%, p<0.001). These associations remained

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significant when adjusting to the presence of autoimmune diseases. Within the ANA seropositive cohort, higher titers were also associated with greater rates of malignancies.

Conclusions: ANA seropositivity is positively associated with malignancies, specifically lung, liver, and lymphomas, regardless to the presence of a background autoimmune disease.

1214 - Submission No. 1564

ANTISYNTHETASE SYNDROME: A DIAGNOSTIC AND THERAPEUTIC CHALLENGE DURING THE COVID-19 PANDEMIC

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Case Description: A 64-year-old male, presented with fever, progressively worsening dyspnea on exertion, hand arthralgia, muscular weakness, and fatigue. During hospitalization, respiratory deterioration and rhabdomyolysis induced acute kidney injury were noted. Based on the above, the patient underwent extensive infectious and immunological lab tests, imaging studies as well as electromyography and muscle biopsy of the affected quadriceps.

Clinical Hypothesis: Anti-synthetase syndrome refers to a rare immune mediated systematic disease; in its typical form it encompasses the co-existence of myositis, interstitial lung disease, non-erosive polyarthritis and the presence of anti-Jo1 antibodies. Less commonly, the syndrome presents with fever, Raynaud phenomenon and skin lesions known as "mechanic's hands".

Diagnostic Pathways: Thorough testing revealed exceedingly and consistently increased levels of CPK (>5000 IU/L), increased aldolase and creatinine levels – in the absence of acute glomerulonephritis. Moreover, computed tomography of the chest reported diffuse, bilateral infiltrates attributed to interstitial lung disease. Electromyography noted myopathic lesions and the muscle biopsy inflammatory and necrotic myositis. The immunological work-up was positive for increased titer of anti-Jo1 antibodies. In this context, the diagnosis of anti-synthetase syndrome was established so the patient was administered combined immunosuppressive treatment.

Discussion and Learning Points: Anti-synthetase syndrome constitutes a rare immune-mediated clinical entity. Despite the shared features with the broader inflammatory myositis' spectrum, there are distinct clinical and immunological characteristics. This unusual co-existence of myositis, interstitial lung disease, non-erosive arthritis as well as the presence of anti-Jo1 antibodies is the cornerstone of the diagnosis. Hence, this recognition calls for immediate start of immunosuppressive treatment so that irreversible lung damage is prevented.

1215 - Submission No. 2205

EXUBERANT CUTANEOUS MANIFESTATION OF SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) IN ELDERLY – A RARE FIRST MANIFESTATION

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Case Description: A 79-years-old man presented to the emergency department with a diffuse erythematous rash in the face, head, neck, and hands associated to pruritus and sometimes fever, that had been worsening during the last 45 days. As relevant medical history he reported only diabetes mellitus type 2 and denied knowledge of skin or autoimmune diseases. The physical examination revealed an erythematous rash with scaly lesions at the borders in the face, head, and neck mainly and erythematous papules or macules on the dorsal aspects of the hands sparing the knuckles.

Clinical Hypothesis: As differential diagnosis was hypothesized acute systemic SLE or photo-dermatosis.

Diagnostic Pathways: The initial diagnostic tests didn't reveal any alteration. Others diagnostic tests were done such as autoimmune studies, which revealed an increase of the sedimentation rate, positives ANA and Ac anti DsDNA, and a skin biopsy which revealed a vacuolar interface dermatitis supporting the diagnosis of SLE. As therapeutic measures, the use of sun-protective measures was recommended, including sunscreens, protective clothing, and behavior alteration. Was started application of topical corticosteroid + systemic corticosteroid + hydroxychloroquine and an improvement in the skin lesion was seen.

Discussion and Learning Points: SLE is a multiorgan autoimmune disease of unknown etiology with many clinical manifestations. The skin is one of the target organs most variably affected. Late onset SLE represents a specific sub-group of the disorder, beginning above 50-65 years, and the incidence ranges in the interval of 12-18%. According to several authors, skin manifestations occur rarely in the elderly patients with late SLE onset, which makes this case so interesting.

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1216 - Submission No. 2065

DRESS INDUCED BY ALLOPURINOL TREATED WITH CYCLOSPORIN, A CLINICAL CASE

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Case Description: A 67-year-old man with hyperuricemia, dyslipidemia, arterial hypertension, presented in the emergency room with disseminated pruritic dermatosis with edema and erythema of the face, fever and malaise with 4 days of evolution. He started allopurinol one month before. The blood tests had leukocytosis, neutrophilia, eosinophilia 870/mm^3, CRP 10.4 mg/dL, PCT 12.8 ng/mL, urea 119 mg/dL, creatinine 3.78 mg/dL, Na+ 129 mmol/L, K+ 6.3 mmol/L and LDH 507 U/mL. ECG, chest x-ray and kidney ultrasound did not show anomalies.

Clinical Hypothesis: DRESS (Drug reaction with eosinophilia and systemic symptoms); allopurinol-induced acute generalized exanthematous pustulosis; Stevens-Johnson syndrome.

Diagnostic Pathways: DRESS is most likely diagnosis. He had typical rash, eosinophilia, fever with a score 4 -RegiSCAR. HHV-7 positive and HLA-B 58:01 in heterozygosis. He started corticosteroid for 5 days and cyclosporin with clinical improvement.

Discussion and Learning Points: DRESS is drug reaction characterized by an extensive skin rash with visceral organ involvement, latency between drug initiation and onset of disease is typically 2-8 weeks. If unrecognized, this condition may be fatal, with a mortality rate of up to 10%[1]. Our clinical case reports DRESS induced by allopurinol, treated with systemic corticosteroids and cyclosporine. Although evidence remains limited, there are increasing reports on the rapid resolution with a short course of oral cyclosporine[2,3].

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1217 - Submission No. 896

MYASTHENIA GRAVIS, A CLINICAL CASE DEVELOPED BY COVID-19?

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Case Description: A 78-year-old woman presented to the emergency room for evaluation of a left-eye ptosis, hoarseness and muscle weakness that had been present for 3 days. She reported a 2-week history of rhinorrhea, headache, and mild fever due to COVID-19. An icepack and pyridostigmine tests were positive. Acetylcholine receptor and MuSK antibodies were not detected, and neurophysiological tests and a CT of the head, neck, thorax and abdomen did not show anomalies. A diagnosis was made.

Clinical Hypothesis: Myasthenia gravis, seronegative subgroup; Lambert-Eaton syndrome; hypothyroidism; space-occupying brain lesions; acquired neuromyotonia; other paraneoplastic syndromes.

Diagnostic Pathways: clinical tests (ice-pack and pyridostigmine), antibodies (anti-Ach, anti-MuSK, and anti-LRP4), thyroid hormones, EMG, body CT.

Discussion and Learning Points: MG is a neuromuscular disease, immune-mediated by antibodies that affect the neuromuscular junction. Antibodies anti-Ach, anti-MuSK, and anti-LRP4 are specific and sensitive. About 15% of patients remain seronegative, because of: test sensitivity, antibodies against other postsynaptic membrane antigens or MG non-antibody mediated[1]. In addition, COVID-19 is associated with immune-mediated diseases[2]. Our clinical case reports a seronegative MG triggered by COVID-19. We alert for the diverse manifestations that COVID-19 can develop, specially myasthenic syndrome since in literature only one case is described[3].

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1218 - Submission No. 1657

GIANT CELL ARTERITIS: A TYPICAL BUT UNCOMMON PRESENTATION

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Case Description: 77 years old woman, with a history of osteoarticular degenerative disease, taking prednisolone 2.5 mg id

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for suspected polymyalgia rheumatica, and naproxen 500 mg SOS. The patient was observed in the ER due to intense headaches with 4 days of evolution, in the frontotemporal region, predominantly on the left side, which did not subside with naproxen and woke her at night. The patient also reported temporomandibular joint pain, and, on the day of admission, she noted an irregularity at palpation of the left temporal area. Upon observation, a hard left temporal artery with well-defined palpable contours was highlighted, with associated erythema and pain.

Clinical Hypothesis: The main clinical hypothesis was giant cell arteritis (GCA).

Diagnostic Pathways: Analytical workup revealed an increase in erythrocyte sedimentation rate (ESR) (77 mm/h) and a decrease in hemoglobin (Hb) to 10.1 g/dL. The patient had taken an analytical study three weeks prior, showing an ESR of 11 mm/h and Hb of 12.2 g/dL Ophthalmology observation excluded neurovascular alterations. She was discharged with prednisolone 1 mg/kg/day. A Doppler ultrasound and arterial biopsy confirmed the diagnosis of GCA. The patient showed a good clinical and analytical response to the treatment, with headache resolution in the next few days and progressive normalization of ESR.

Discussion and Learning Points: The presentation of GCA with visible signs of arterial inflammation is rarely observed and, in this case, allowed the initiation of therapy promptly, avoiding consequences with a high impact on quality of life, such as eye damage. Arterial biopsy, although important, should not delay the initiation of therapy.

1219 - Submission No. 2126

IGG4-RELATED DISEASE, MAJOR PLAYER IN INFLAMMATORY ABDOMINAL AORTIC ANEURYSMS, A CASE SERIES

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Background and Aims: Inflammatory abdominal aortic aneurysm (iAAA) occurs in 3-10% of patients with AAA. If left untreated iAAA may progress to retro-peritoneal fibrosis (RPF) and permanent kidney function loss. Although atherosclerosis is generally considered the underlying mechanism of iAAA, other etiology has not been studied structurally. Involvement of IgG4-Related Disease (IgG4-RD), which is a fibro-inflammatory multi-organ disease, that generally needs long term treatment, has incidentally been reported in iAAA.

Methods: 32 patients (94% male; mean age 66.8 (SD 7.2) years) were recruited from the outpatient clinic of our hospital, if either a radiological or pathological diagnosis of iAAA was made. The cause, and complications were recorded, if known.

Results: In this case series, 27 (84%) of the patients with iAAA suffered from atherosclerosis of the abdominal aorta. In 59% of the cases co-morbid disease were identified during work-up, including IgG4-related disease (n=11, 34%), malignancy (n=4), inflammatory bowel disease (n=2), psoriasis (n=1), and granulomatosis with polyangiitis (GPA) (n=1). Hydronephrosis occurred in 47% (19% bilateral) of which 60% ended with permanent loss of kidney function, or unilateral afunctional kidneys. Possible involvement of IgG4-RD in organs was only reported in 3 out of 11 cases (cholangitis, pancreatitis, and pleural lesions). 45% of IgG4-RD patients were treated solely with prednisolone, and 36% with other immunosuppressives (18% combined for steroid sparing).

Conclusions: The majority of patients had a potentially treatable underlying disease, stressing the importance of an early structural workup. IgG4-RD was the most reported cause, warranting looking beyond specialty boundaries.

1220 - Submission No. 2129

INCREASED INCIDENCE OF RAYNAUD'S PHENOMENON ASSOCIATED DISCOLORATIONS IN GIANT CELL ARTERITIS POSSIBLY ASSOCIATED WITH LARGE VESSEL INVOLVEMENT

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Background and Aims: Large vessel giant cell arteritis (LV GCA) can cause significant narrowing of the subclavian and axillary arteries, either by inflammation or remodeling, which reduces blood pressure in the arms. Also, mono- and multiphasic discoloration, associated with Raynaud's phenomenon (RP) has been observed in GCA patients. This study aims to systematically investigate the presence of Raynaud's phenomenon in patients with GCA.

Methods: Patients diagnosed with GCA, and controls (Lifelines cohort) were given a validated questionnaire (CSQ) on RP symptoms (white, blue/purple, and red discoloration provoked by cold exposure). In total, 30 GCA patients were enrolled in this study, as well as 150 matched controls. Furthermore, imaging data (PET-CT, MRI, ultrasound (US)), and temporal artery biopsy (TAB) of all GCA patients were evaluated.

Results: 30 GCA patients were included, with a mean age of 68.6 (±6.5) years (Controls 66.1; ±7.8). In both groups 76.7% were female. 12 (40%) reported significantly higher occurrences of mono- or multiphasic discoloration compared to the controls (n=25; 16.9%; p=0.01). New onset mono- or multiphasic discolorations were reported in 6 of these 12 patients. Imaging data of these patients showed severe Large Vessel GCA (with subclavian and axillary involvement). Three patients reported that the discolorations disappeared during treatment of the GCA. Interestingly, the 3 patients who still had complaints, all had stenosis of either the subclavian, the axillary artery, or both.

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Conclusions: The data of this study suggests that a closer look at LV involvement in patients with new RP, combined with GCA or PMR-associated symptoms might be necessary.

1221 - Submission No. 710

GIANT CELL ARTERITIS: IMPACT ON QUALITY OF LIFE AND ASSOCIATED COMORBIDITIES

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Background and Aims: Giant cell arteritis (GCA, also known as Horton disease, cranial arteritis, and temporal arteritis) is the most common of the systemic vasculitis. Is a classic disease of older adults; it virtually never occurs in individuals younger than 50 years of age and peaks in incidence in the seventh decade. The aim was to describe the impact on quality of life (QoL) and comorbidities in patients with GCA.

Methods: Cross-sectional observational study performed in a tertiary hospital between April/2021 and February/2022. GCA according to ACR-1990 criteria, and controls without GCA, matched by sex and age (±5 years). QoL assessed by EuroQol EQ-5D-5L questionnaire for the Spanish population, and comorbidities and 10-year survival by Charlson Comorbidity Index. Variables described as mean ± standard deviation or n (%).

Results: N=15 patients with GCA, median age 79.7±6.8 years, with a majority of women: 11 (73.3%). All were over 50 years old, 13 (86.7%) had recent-onset headache, 13 (86.7%) ESR>50mm/h, four (26.7%) pain or weak pulse in temporal artery, and five (33.3%) compatible histology. The control group (n=15) was 80.5±6.0 years old. Charlson Comorbidity Index tended to be higher (5.9±2.0 vs. 4.9±2.2; p=0.206) and 10-year survival lower (19.9±24.0% vs. 35.9±35.7%; p=0.162) in patients with GCA compared to age- and sex-paired controls.

Conclusions: In our study, patients with GCA did not present relevant differences in quality of life compared to controls. It is necessary to expand the sample to confirm the impact of GCA on quality of life, which would allow us to carry out an individualized patient-centered clinical practice.

1222 - Submission No. 277

A CLINICAL APPROACH OF LUPUS NEPHRITIS ASSOCIATED WITH CATASTROPHIC ANTIPHOSPHOLIPID-ANTIBODY SYNDROME

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Case Description: A 32-year-old woman was admitted to the hospital with rapidly worsening renal function. She was diagnosed with systemic lupus erythematosus twelve years ago, manifested by Raynaud s syndrome, thoracic and abdominal serositis, rash and livedo reticularis. She was diagnosed with antiphospholipid -antibody syndrome ten years ago. On admission, erythematous rash on her face and anterior torso and there was also a popular rash on the left hand that blanched with compression. Cyanosis was evident on the tip of the nose and on the left hand. Livedo reticularis was present on the nose and the fingers, without active ulcers. The urine was positive for protein; the sediment contained 2 to 4 red cells per high-power field, without white cells or casts.

Clinical Hypothesis: The patient of our case report had a history of postpartum pulmonary embolus, fingertip ulcers and thrombocytopenia: on these clinical and serological findings, the diagnosis of the lupus-associated antiphospholipid-antibody syndrome also seems firmly established.

Diagnostic Pathways: Examination of a kidney-biopsy specimen should easily distinguish between these two disorders. All the abnormalities of renal biopsy are mainly those of thrombotic microangiopathy.

Discussion and Learning Points: The patient's rapidly progressive renal failure may be associated with either the antiphospholipid-antibody syndrome or systemic lupus erythematosus. The progression of severe renal impairment over a period of several days has shown that anti-phosphorus-antibody predominates and has been the leading cause of rapidly progressive renal impairment.

1223 - Submission No. 168

A CASE OF CHRONIC CUTANEOUS LEUKOCYTOCLASTIC VASCULITIS

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Case Description: A 57-year-old female, presented to an internal medicine consultation due to skin lesions in the lower limbs associated with pruritus and worsening pain in the last month. The patient denied having systemic symptoms or recent history of infection, exposure to new drugs or relevant personal history. On physical examination, purpuric and petechial lesions were identified with areas of ulceration limited to the lower limbs.

Clinical Hypothesis: Considering not only the symptoms the patient presented but also the presence of purpuric and petechial

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lesions with areas of ulceration limited to the lower limbs, the most likely clinical hypothesis was cutaneous small vessel vasculitis.

Diagnostic Pathways: A detailed investigation was carried out to assess potential risk factors, identify signs of systemic involvement and determine the underlying cause. The patient underwent several diagnostic tests which included: laboratory tests (CBC, immunoglobulin, serum complement, ANA, ANCA, FR, HIV antibody, HCV, and HBC serology…), chest radiograph, HRCT, EKG, and echocardiogram. As there were no relevant findings, the patient underwent a skin biopsy for direct immunofluorescence microscopy, which revealed histological findings compatible with leukocytoclastic vasculitis, but excluded an immune complex-mediated vasculitis. Therefore, the diagnosis of chronic cutaneous leukocytoclastic vasculitis was established.

Discussion and Learning Points: Leukocytoclastic vasculitis is a small vessel vasculitis that can present systemic involvement in 50% of cases. Small vessel vasculitis can present as severe and potentially fatal clinical conditions. Thus, it is essential to carry out a thorough investigation to establish the correct diagnosis and to initiate therapy at an early stage.

1224 - Submission No. 1495

UNEXPLAINED FEVER IN AN ELDERLY PATIENT – CHALLENGING IN DIAGNOSIS

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Case Description: Female, 82 years-old, came to the Emergency Department due to mechanical lumbar and lower limbs pain worsened for 3 days, with prostration and fever from that day. There weren't constitutional symptoms or epidemiological context. Physical examination: apyretic, prostrate, abdominal discomfort, pain on lower limbs. There were no signs of infection.

Clinical Hypothesis: In the absence of an established infectious focus, connective tissue diseases, malignancies, drug fever and other systemic conditions must be considered.

Diagnostic Pathways: Blood tests: leukocytosis, C-reactive protein (CRP) 33.68 mg/dL, normal procalcitonin. Combur test, SARS-CoV-2, chest radiography and abdominal-pelvic computed tomography (CT) revealed normal. Septic screening was performed, and empirical ceftriaxone started. Lumbar puncture: Staphylococcus hominis (possible contamination). The patient was hospitalized. Cranioencephalic and lumbosacral CT, chest CT-angiography, echocardiogram and serum electrophoresis shown normal. Serologies and septic screening were negative. She remained pyretic, with elevation of sedimentation rate (ESR) and CRP. We escalated antibiotic therapy, without response. She started shoulder girdle pain/stiffness. Autoimmune study and ultrasound of temporal arteries were unremarkable. Polymyalgia rheumatica (PMR) was presumed, prednisolone 40 mg/day started, with clinical response and normalization of CRP. The patient was discharged for appointments: notice of peripheral arthritis in the right metacarpal and metatarsal phalanges. PMR with peripheral joint involvement/initial seronegative rheumatoid arthritis (RA) was assumed – initiated methotrexate.

Discussion and Learning Points: In the absence of a defined etiology for fever, we intend to recall the diagnosis of PMR in elderly patient with pain and stiffness of shoulder, elevation of CRP/ESR and response to corticotherapy. The difficulty in distinguish PMR and seronegative RA is also highlighted.

1225 - Submission No. 984

GRANULOMATOSIS WITH POLYANGIITIS OR PSEUDOVASCULARITIS?

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Introduction: Pseudo-vascularitis is a dreadful complication of cocaine use that can mimic systemic diseases, particularly granulomatosis with polyangiitis (Wegener's disease). Serological tests and histological studies are not always helpful, but the localized involvement and the unusual evolution should lead us to suspect it.

Observation: A 28-year-old female patient presented with Wegener's disease with isolated ORL involvement made of recurrent epistaxis despite the usual treatment with corticosteroids and cyclophosphamide, associated with intense paroxysmal headaches resistant to analgesics. The clinical examination was poor.

Diagnostic Pathways: The nasofibroscopy found a destruction of the nasal septum, the biopsy was denied by the patient. The biological work-up did not reveal any inflammatory syndrome, the renal work-up was correct with positive ANCA. The thoracic CT scan and brain imaging were without abnormalities. Upon questioning, the patient was found to have taken several hidden drugs: tobacco, alcohol, and heroin and cocaine use, confirmed by urine tests. The diagnosis of pseudo-vascularitis was retained in the absence of elements in favor of a Wegner's disease and the patient was referred to the detoxification center and oriented in ORL for a rhinoplasty.

Discussion and Learning Points: Pseudo-vascularitis represents a diagnostic trap because it can mimic a genuine vasculitis. It is a real challenge and must be suspected in time in order to propose an adequate management.

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1226 - Submission No. 988

HYPEREOSINOPHILIC SYNDROME PRESENTING WITH SEVERE MANIFESTATIONS – A CASE REPORT

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Case Description: 68-year-old male presented to the emergency department for 1-week of unsteady gait and lethargy and 3-weeks of asthenia, anorexia and 2 kg weight-loss. Physical examination showed lethargy, ataxic gait and decreased upper right limb muscle strength. Brain-CT displayed left subarachnoid hemorrhage and blood analysis revealed severe peripheral eosinophilia (13600/uL), elevated C-reactive protein, natriuretic peptide, and high-sensitivity troponin-I. Transthoracic echocardiogram showed thickened, hyperechoic and granular ventricular walls and mild-to-moderate left ventricular systolic dysfunction. Brain-MRI revealed multiple acute and subacute ischemic strokes and active cerebellar hemorrhage. The patient was admitted to neurocritical care unit and started on methylprednisolone pulses.

Clinical Hypothesis: Hyper-eosinophilic syndrome (HES) with cardiac and CNS involvement was suspected.

Diagnostic Pathways: IgE serum levels were increased, with normal vitamin B12, tryptase and ACE. PDGFRA, BCR-ABL1, c-KIT-D816V and JAK2-V617F mutations were negative. Bone marrow biopsy excluded myeloproliferative disorder and lymphoma. Immune study was negative except for ANA titer of 1/100 and discretely elevated rheumatoid factor. Viral serologies and microbiologic and parasitological cultures were negative. Cerebral angiography did not suggest active vasculitis. Endomyocardial biopsy was negative for vasculitis and granulomas. After findings suggestive of peripheral neuropathy and chronic sinusitis, nerve and nasal biopsy were also negative for vasculitis. A diagnosis of idiopathic-HES was established. After pulsing, the patient started prednisolone 1 mg/kg/day, followed by mepolizumab 300 mg/month.

Discussion and Learning Points: HES is a rare disorder of peripheral eosinophilia and potentially life-threatening eosinophilic end-organ complications. Work-up can be challenging due to broad range of reactive, autoimmune, and neoplastic causes. When efforts fail to establish a cause a diagnose of idiopathic-HES is made.

1227 - Submission No. 1463

STATIN-INDUCED IMMUNE-MEDIATED NECROTIZING MYOPATHY

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Case Description: A 71-year-old man was evaluated at an Internal Medicine consultation because of a weight loss of about 15 kg in two months, asthenia, myalgia, and muscle weakness. He also reported occasional dysphagia for solids. The patient had hypertension, dyslipidemia and he was a smoker. Medications included antihypertensives, aspirin and a statin. Physical examination revealed predominantly distal muscle weakness in the upper and lower limbs, with preserved osteotendinous reflexes and sensitivity, as well as muscle atrophy. Laboratory test results included a significant elevation of transaminases and lactate dehydrogenase, as well as a striking elevation of CK (around 50 times above normal limits). The blood count and the tumor markers were normal.

Clinical Hypothesis: The suspected diagnosis was a myopathy, so statin treatment was discontinued and CK and aldolase levels were requested to assess progress.

Diagnostic Pathways: No significant findings were observed in the chest-abdominal-pelvic CT scan. The electrophysiological study showed signs of acute denervation with increased polyphasic potentials and preservation of recruitment patterns. These findings are highly characteristic of inflammatory myopathies, although not specific. Positivity for anti-HMGCR antibodies in serum was observed and, with a high diagnostic suspicion of immune-mediated necrotizing myopathy secondary to statins, a muscle biopsy was requested, which finally confirmed the diagnosis.

Discussion and Learning Points: Immune-mediated necrotizing myopathy presents with a clinical picture very similar to polymyositis. It is characterized by bilateral proximal involvement and is more frequently associated with dysphagia and pulmonary involvement, as well as higher CK levels. It can appear spontaneously or be secondary to drugs, usually statins. It can also be a paraneoplastic picture.

1228 - Submission No. 2433

THE CO-EXISTENCE OF SERONEGATIVE ANTI–GLOMERULAR BASEMENT MEMBRANE DISEASE AND ACHALASIA: A UNIQUE CASE REPORT

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Case Description: A 32-year-old male patient without a significant medical history presented with hemoptysis in May 2017. No obvious pathological finding was found in the physical examination,

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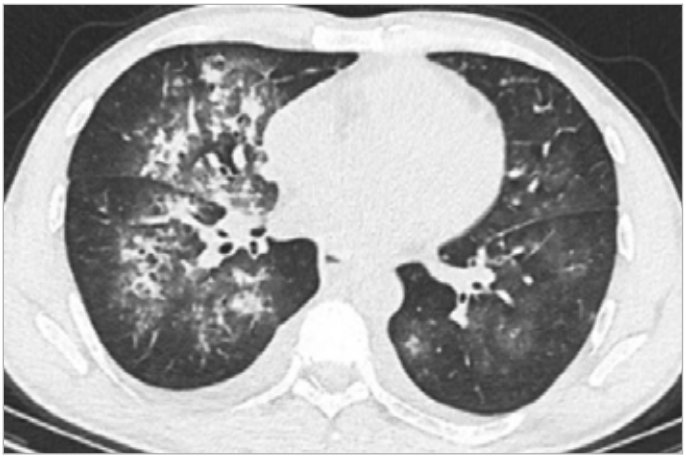
test results, bronchoscopy. In January 2022, he admitted again with dyspnea and non-massive hemoptysis. He had occasional yellow vomiting for 3 months and a weight loss of more than 5 kg. In laboratory analysis, anemia (Hemoglobin: 6.8 g/dL), acute kidney failure (creatinine: 8.1 mg/Dl), elevated acute phase reactants CRP: 70 mg/L, proteinuria and hematuria were detected. MPO ANCA, PR-3 ANCA and anti-GBM antibodies were negative. Thorax CT were disclosed with alveolar hemorrhage (Figure 1a). Ear-nose-throat examination and paranasal sinus CT showed no pathology. Kidney biopsy revealed crescentic appearance in more than 50% of glomeruli and on immunofluorescence staining a linear pattern of IgG staining along the GBM. Because he had epigastric pain, nausea-vomiting, dysphagia and dilated esophagus appearance on thorax CT, barium esophagogram was performed (Figure 2). All these findings were consistent with the diagnosis of achalasia and seronegative anti–GBM disease. Control thorax CT after immunosuppressive therapy involving 1 gr methylprednisolone for 3 days, cyclophosphamide and plasmapheresis was depicted in Figure 1b.

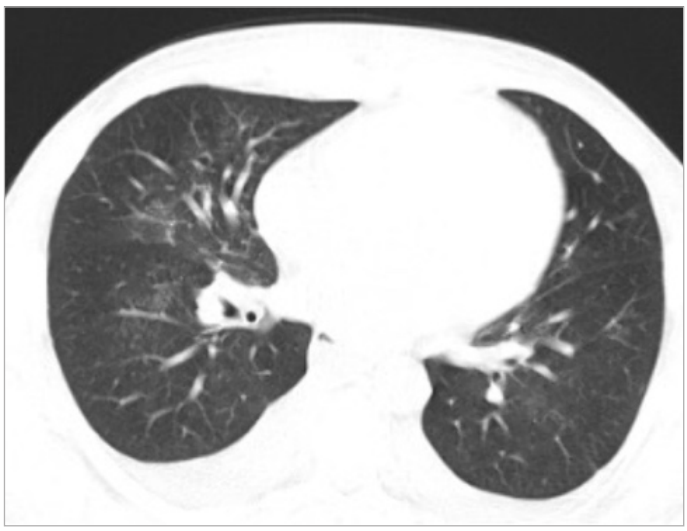
Clinical Hypothesis: Achalasia is not always more common among patients with autoimmune diseases.

Diagnostic Pathways: Physical examination, Laboratory tests, Immunological tests, CT and barium esophagogram.

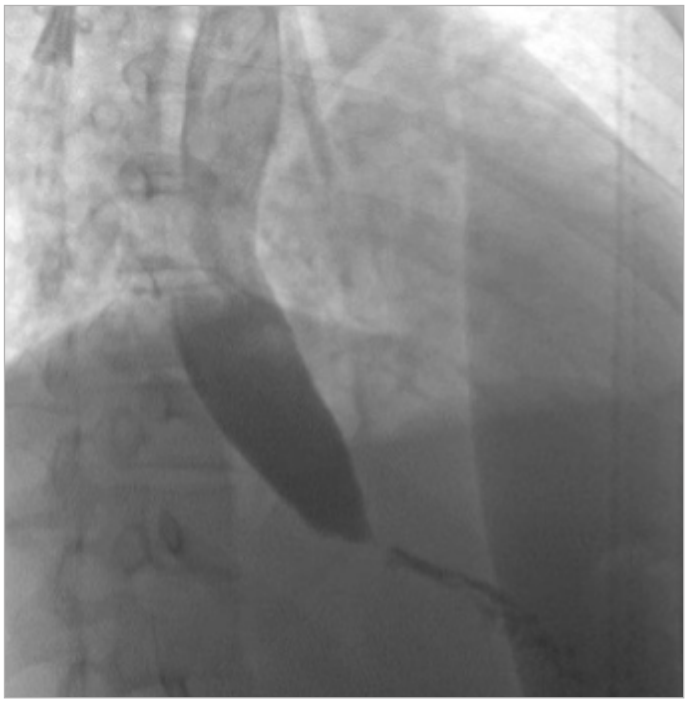
Discussion and Learning Points: This is the first case report in which achalasia and anti-GBM disease occurred in the same patient.



1228 Figure 1a. Thorax CT before treatment



1228 Figure 1b. Thorax CT after treatment



1228 Figure 2. Barium swallow study shows bird's peak sign

1229 - Submission No. 1304

DERMATOMYOSITIS, WHAT TO LOOK FOR AND UNTIL WHEN?

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Case Description: 60-year-old patient with no previous history of interest, admitted for muscle weakness and myalgias with heliotrope erythema, Gottron papules and shawl sign, diagnosed with primary dermatomyositis (negative for neoplastic screening). She started treatment with hydroxychloroquine 200 mg/day, prednisone 30 mg/day, rituximab two boluses 1g/15 days,

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immunoglobulins 0.4 g/kg/day for 5 days with favorable evolution.
Clinical Hypothesis: After 12 months of asymptomatic treatment with mycophenolate 1g/12h, she presented a new outbreak of myalgia, dysphagia and epigastralgia and elevated muscle enzymes. Gastroscopy and body-CT scan were requested to screen for associated neoplasia, ruling out malignancy. Treatment was started with prednisone, rituximab and immunoglobulins and mycophenolate was replaced by azathioprine 50 mg/12h.
Diagnostic Pathways: One year later he consulted for a similar outbreak but associated with coughing spells, and azathioprine was replaced by methotrexate 2.5 mg/weekly. On this occasion he presented refractoriness, so a chest CT scan was requested, showing a right parahilar lesion which was classified as squamous cell carcinoma of the lung with bone metastasis in the right femoral head. Chemotherapy was started and clinical remission was achieved.
Discussion and Learning Points: Dermatomyositis is an inflammatory myopathy whose association with cancer is recognized. Factors associated with malignancy include: late onset, severe skin involvement and shawl sign, resistance to treatment, presence of dysphagia and certain antibodies, and screening for neoplasia at debut is mandatory. The peak incidence is during the first year. The yield of continued cancer surveillance after initial detection is low unless specific signs suggest underlying malignancy or relapse of inflammatory myopathy occurs after a period of remission.

1230 - Submission No. 1697

SARCOIDOSIS: A RARE PRESENTATION

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Case Description: Female, 49 years old. Obese, with hyperparathyroidism secondary to vitamin D deficiency, reflux esophagitis, uterine neoplasia undergoing local treatment and chemotherapy for 17 years and depressive syndrome. She was referred to the Clinical Unit of the Medical Outpatient Clinic for recurrent bilateral parotitis with 2 months of evolution, without defined etiology, after multiple cycles of antibiotic therapy. She reported weight loss, xerostomia and xerophthalmia. She had pain on palpation and palpable cervical and submandibular adenopathies. She later developed anterior pleuritic chest pain.
Clinical Hypothesis: Local obstruction, inflammation, autoimmune disease, infiltrative disease.
Diagnostic Pathways: The initial investigation highlights negative autoimmunity, normal immunoglobulin assay, negative ACE and immunophenotyping of peripheral blood without evidence of lymphoproliferative disease. Biopsies of both parotid salivary glands were inconclusive, and salivary gland biopsy had no criteria for Sjogren's Syndrome. A chest CT was performed, showing bilateral mediastinal and hilar lymphadenopathy, the largest with a short axis of 22 mm, without abdominal or pelvic involvement; and bronchoscopy for aspiration biopsy of adenopathies that revealed non-necrotizing granulomatous lymphadenitis compatible with stage I pulmonary sarcoidosis, with parotid extrapulmonary involvement.
Discussion and Learning Points: Sarcoidosis is a systemic, inflammatory disease characterized by non caseating granulomas of unknown etiology. Pulmonary involvement is the most frequent, however it can affect several organs, reaching the exocrine glands in 5% of cases. This clinical case demonstrates that, although rare, especially as the first manifestation of the disease, the exocrine glands involvement by sarcoidosis is possible. The associated symptomatology is common to other diseases leading to a delayed diagnosis and consequent impact on the disease prognosis.

1231 - Submission No. 2391

DRUG-ASSOCIATED REACTION WITH SYSTEMIC SYMPTOMS (DARSS)

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Case Description: A 53-year-old male was admitted to our hospital from another hospital due to acute dyspnea. Initial diagnosis was prepatellar bursitis. Treatment included amoxicillin/clavulanic acid, metamizole, and ibuprofen. The patient was subfebrile and had hyperthermia and redness of the left knee. Oxygen saturation was 90% during ambient air breathing. Laboratory parameters showed leukocytosis with lymphopenia and elevated C-reactive protein, transaminases and cholestatic parameters. Computer tomography of the thorax demonstrated mediastinal and bihilar lymphadenopathy. Abdominal ultrasound showed normal findings with the exception of splenomegaly. Based on the persistent knee infection, treatment with amoxicillin/clavulanic acid, metamizole and ibuprofen was continued; knee puncture and samples taken during wound revision remained without growth. Intraoperative findings were non-irritant. Subsequently, the patient developed acute renal failure with proteinuria; liver and cholestatic parameters worsen.
Clinical Hypothesis: Persistent fever, respiratory distress, hepatopathy, acute nephropathy, splenomegaly, and mediastinal and bihilar lymphadenopathy led to a wide differential diagnosis including infections, rheumatic diseases, and autoimmune and allergic reactions.
Diagnostic Pathways: Extensive infectious and inflammatory investigation was negative. The RegiSCAR scoring system categorized our case as "possible" for DRESS syndrome despite the absence of eosinophilia and rash. Because patient's pathology mimicked DRESS, we determined eosinophil cationic protein (ECP) which was strongly elevated.
Discussion and Learning Points: Antibiotic and anti-inflammatory treatment was replaced by high-dose steroid-therapy resulting in an overall improvement. This case points to the possible existence of a pathological entity that resembles DRESS without eosinophilia and rash and with shorter time from drug-exposure to manifestation. Determination of ECP proved helpful. Further research is necessary to investigate the case.

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AS19. OTHER

1232 - Submission No. 1115

TREATMENT OF SEVERE BULLOUS PEMPHIGOID (BP) INDUCED BY DPP-4 INHIBITOR; LINAGLIPTIN

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Case Description: An 84-years-old female patient with a newly diagnosis of BP is transferred to our department for further evaluation and treatment. Large, ruptured fluid-filled blisters were expanded to the trunk as well as to the upper and lower extremities. Past medical history was significant for Type II DM, autoimmune thyroiditis, arterial hypertension, and CKD. The patient was recently placed on a new antidiabetic agent; linagliptin.
Clinical Hypothesis: DPP-4 inhibitors have been implicated in the development of BP although the pathophysiological mechanisms have not been elucidated.
Diagnostic Pathways: Antibodies against hemi-desmosomal proteins at the dermo-epidermal junction and cancer biomarkers were ordered. The results came out negative.
Discussion and Learning Points: The skin lesions appeared to be infected and the inflammatory markers were markedly elevated. Through jugular vein catheter placement, abundant fluids and broad-spectrum antibiotics were administered. The patient was transferred to plastic surgery department. Expertise applied nanocrystalline silver dressing (Acticoat) moistened with sterile water to alleviated wound infection and promote wound healing. Antimicrobial foam dressing (Mepilex Ag), which is designed for low to medium exuding burns and wounds and inactivates wound relevant pathogens (bacteria and fungi) was also used. Furthermore, it acts as an antimicrobial barrier and limits the risk of infection or re-infection. During hospitalization, regular wound dressing changes were conducted. After a few weeks the skin lesions had completely resolved, and the patient was discharged in an excellent condition. DPP-4 was switched to an alternative agent.

References:

García-Díez I, et al. Bullous pemphigoid induced by DPP-4 inhibitors. Eight cases with clinical and immunological characterization. IntJ Dermatol. 2018 Jul;57(7):810-816.

1233 - Submission No. 540

AN AUDIT INTO THE EFFECTIVENESS OF THE ACUTE MEDICINE TEACHING PROGRAMME AT HINCHINGBROOKE HOSPITAL – 2022/23

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Background and Aims: Quality improvement programme conducted in 2022 assessing the effectiveness of the acute medicine teaching programme (after a year from establishing it in 2021) with the aims of: improve learner's views on how the programme will increase their clinical performance; tailor teaching to learner training programme curriculums and standardize the format; improve the degree to which learners feel teaching will reduce the rate of clinical incidents; to identify and improve if learners feel the programme reduces their cognitive overload.
Methods: This audit covered 4 months in 2022. All healthcare professionals at all training levels included. All responses were analyzed through a range of quantitative scoring and qualitative comments via google docs questionnaires which were disseminated via QR code. A second cycle is organized.
Results: 50 responses received, 82% of responses rated 8 or higher with respect to adherent to curriculum. 30% of responses scored a 10/10 and 68% scored between 6-9/10 agreed it helps reduce errors. 52% of responses felt there was not too much information given. 88% of responses scored 7-10/10 strongly agreeing that teaching will improve daily practice. 85.5% of responses felt it promoted diverse learning in a respectful way.
Conclusions: Results has shown that learners feel the acute medicine programme is a useful asset to accompany acute internal medicine specialty rotations. Chosen topics have been extremely relevant to learner's curriculums and cases seen in real life. Areas for improvement highlighted condensing down the volume of information given within the 1-hour time into more targeted teaching and more of case base discussion formats onwards.

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1234 - Submission No. 1147

STATISTICAL AGREEMENT BETWEEN EXPERT ECHOCARDIOGRAPHY AND FOCUSED CARDIAC ULTRASOUND (FOCUS): A POWERFUL TOOL IN THE ULTRASOUND GUIDED ERA

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Background and Aims: Focused cardiac ultrasound (FoCUS) is performed at patients' bedside by the same clinicians who provide the healthcare. We looked forward to assessing statistical agreement between expert echocardiography performed by Cardiologists and FoCUS conducted by Internal Medicine professional members of the point of care ultrasound (POCUS) unit at Hospital Universitario Clínico San Cecilio.

Methods: A total of 123 FoCUS exams were reviewed from September 2021 to April 2022. 42 of them were selected considering the availability of echocardiography in the month following the admission as well as the absence of new significant cardiac events different to main diagnosis. Visually estimated left ventricular ejection fraction (LVEF) was analyzed apart from other specific measures. Agreement between exams was then expressed by Cohen's Kappa index (KI).

Results: Mean age in our sample resulted in 73.1±12.6 years. Main diagnoses at admission were heart failure and sepsis (35.7% each). LVEF was visually preserved in 69% of cases with a KI of 0.67 (KI > 0.6, substantial agreement). Presence and severity of pericardial effusion achieved a KI of 0.64 as well. Rest of features reached moderate (right ventricular function and existence of valvular diseases, KI 0.55 and 0.48) or fair agreement (pulmonary hypertension data and left atrial dilation, KI 0.36 and 0.34).

Conclusions: We achieved substantial agreement in key features such as visually estimated LVEF. Statistical agreement studies allow us to detect our strengths and weaknesses in our way to implement FoCUS as a mainstay in clinical care.

1235 - Submission No. 1472

THE IMPORTANCE OF ANAMNESIS IN A CASE OF POISONING

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Case Description: A 71 years-old man, gardener, with a history of depressive syndrome and substance abuse presented to a hospital emergency room due to persistent nausea and vomiting. The previous evening, he had taken a decoction containing oleander leaves for self-harm.

Clinical Hypothesis: Cardiac glycosides (such as Nerium oleander) are contained in several plants, they are cross-reactive with common method of digoxin's dosage. Digoxin acts by inhibiting the Na+/K+ ATPase, mainly in the myocardium and it has a parasympathetic effect on the atrioventricular node.

Diagnostic Pathways: The patient appeared alert, oriented, slowed down, cardiopulmonary, and abdominal examination were unremarkable, negative neurological objectivity. He underwent toxicological screening with a positive result for chronic alcohol abuse. ECG revealed normal sinus rhythm, patient's serum digoxin and potassium levels were found normal. The poison control center gave indication to start intravenous magnesium and activated charcoal. The patient was hospitalized in our ward and hydro electrolytic replenishment, diuretic and cathartic therapy were performed. A brain MRI highlighted vascular encephalopathy with associated thinning of the roof of the midbrain and folia of the cerebellar worm on an atrophic degenerative basis, the neurologist concluded by cerebellar syndrome in chronic ethyl abuse and introduced aspirin and statin. Due to the persistence of deflected mood, escitalopram was prescribed. Geriatric counselling made diagnosis of mild neurocognitive disorder on a mixed basis and introduced a vitamin neuroprotective therapy. At a follow-up, the patient presented in stable clinical conditions; MMSE 27/30; GDS 1/15; ADL 3/5; IADL 5/6.

Discussion and Learning Points: This case reiterates how the medical history is crucial in diagnostic-therapeutic algorithm.

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1236 - Submission No. 1691

WHAT HIDES A HEMOLYTIC ANEMIA

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Case Description: A 62-year-old, male, hospitalized for Hemolytic Anemia. He reported asthenia, dyspnea for minor efforts and lipothymia episodes within the past 2 weeks. He was evaluated by his attending physician and was identified a hemoglobin (Hb) drop of 6 g/dL (11.5 to 5.5 g/dL) in 2 days, with macrocytosis, as well as thrombocytopenia with 72,000/uL.

Clinical Hypothesis: The case was discussed with immuno-hemotherapy and assumed that ineffective erythropoiesis due to VB12 deficiency could explain this changes.

Diagnostic Pathways: He was sent to the Emergency Department and study performed showed a total bilirubin of 1.82 mg/dL and direct bilirubin of 0.68 mg/dL, haptoglobin <1, normal transaminases and alkaline phosphatase, lactic dehydrogenase of 4204 U/L. He had a marked vitamin B12 (VB12) deficiency, 155 pg/mL, without iron or folic acid deficiency. Exhaustive review: blood smear with erythrocyte anisochromia and anisopoikilocytosis with some macrocytes, rare dacrocytes and rare erythrocyte fragments (schistocytes). Normal protein electrophoresis and a positive anti parietal cell antibody. Other markers of autoimmunity, direct and indirect Coombs negative, normal complement, infectious serologies and anti-platelet antibodies negative, abdominal-pelvic computed tomography without significant changes and upper digestive endoscopy with chronic gastritis.

Discussion and Learning Points: Intramuscular replacement was started without the need for support transfusions. Three months later, on reassessment, he was asymptomatic and had Hb of 13.5 g/dL and platelets of 209,000 uL. This case stands out for the atypical presentation of an anemia with deficiency of VB12, rarely associated with hemolysis and which forced further investigation and exclusion of other causes.

1237 - Submission No. 1899

INTERNET HOSPITAL: MAXIMISING THE FUTURE OF CONNECTED DIGITAL CARE

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Background and Aims: With the rapid advancement of technology and digitalization, novel and unique concept of Internet Smart Hospitals (ISH) and Smart Hospital Departments (SHD) emerged: hospitals lead solely by AI and public hospital management operating virtually. This revolutionizing project allowed to progressively eliminate the space and time limitations of traditional medical institutions, to facilitate and democratize access to high-quality medical resources. ISH and SHD also set a revolutionary example for the global healthcare.

Methods: Review of the National Health Commission (NHC) report, a systematic analysis on Chinese State authorities' news. focus was put on efficacy, characteristics, and implementation of NHC policy to lead internet health into standardized development and that online medical advice should equal the quality of physical institutions.

Results: The number of ISH surpassed 1,700. ISH and SDH concepts attracted interest in the global healthcare industry. AI is not perceived as impersonating physicians, but a enhancement and symbiotic addition to traditional system. Over 90% of counties are covered by SDH, providing high-quality resources, and improving efficiency. In 2021, ISH served 298 million people, an increase of 83.08 million compared to 2020. Online outpatient treatments increased 17-fold. Online hospital users accounted for 28.9 percent of Chinese residents.

Conclusions: Over 1700 internet hospitals form an integrated online/offline medical service. ISH and SDH play an increasingly important role improving the efficiency of hospitals, ensuring medical safety and cost reduction. The implementation of ISH in social coverage resolved the disbalance of medical availability (3.6 million registered doctors) and increasing demand for medical treatment (23.6 million daily doctor visits).

1238 - Submission No. 805

HYPONATREMIA AND MORTALITY

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Background and Aims: Hyponatremia, even though the most commonly occurring kind of blood ion imbalance, is also one of the most neglected. That can lead to life-threatening complications.

Methods: This work aimed to evaluate the occurrence of hyponatremia in a population of patients admitted to our internal medicine department in 2021 and to assess the influence of hyponatremia on in-hospital mortality.

Results: In 2021, 2536 patients were hospitalized, and 587 (307 men and 279 women) had some level of hyponatremia on admission, which is 23.1% prevalence. We analyzed the values obtained and compared them according to the patients' age. The prevalence of hyponatremia in older age groups is, on average, 24%. In patients 50 years old or younger, it lowers to 16%. When it comes to mortality in patients with hyponatremia, when evaluating the results of patients comparing different age groups, we discovered higher mortality in younger patients. Of all the patients admitted, 231 died during hospitalization, 69 with hyponatremia on admission. We counted the odds ratio of obtained values with results confirming the results of earlier studies (OR 1.43, CI 1.06 – 1.94, p-value 0.02).

Conclusions: Hyponatremia was present in nearly one-quarter

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of acute medical patients admitted to the internal medicine department. Hyponatremia on admission has a statistically significant influence on in-hospital mortality. Therefore, all healthcare professionals should pay special attention to this high-risk patient population.

1239 - Submission No. 1689

DIAGNOSTIC CHALLENGE: TOXIC EPIDERMAL NECROLYS

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Case Description: A 54-year-old man presented to the emergency department with diffuse erythematous maculopapular rashes over his body after the second dose of oral metamizole and clarithromycin (which were prescribed because patient presented with fever, myalgias and dry cough for 3 days). The lesions started as painful erythematous itchy macules, progressed into blisters followed by dermo-epidermal detachment, involving > 50% of body surface, and mucosal damage. Patient also presented with conjunctival hyperemia, odynophagia, dysphonia, and difficulty swallowing. Patient denied any daily medications or known drug allergy. The physical examination showed fever, tachycardia, mild edema of oropharynx, extensive detachment of skin and oral mucositis. Nikolsky sign was positive. The patient was admitted to the Intensive Care Unit, and due to the progressive oropharynx involvement early endotracheal intubation was performed. The patient was transferred to a burn center by helicopter, with posterior favorable evolution.

Clinical Hypothesis: Toxic epidermal necrolysis (TEN)/ Stevens-Johnson's Syndrome (SJS); viral exanthem; Staphylococcal scalded-skin syndrome; autoimmune blistering diseases (*Pemphigus vulgaris*, bullous pemphigoid; IgA dermatosis).

Diagnostic Pathways: The temporal relation between drug ingestions and the first symptoms were suggestive of SJS /TEN. Collaboration of a Dermatologist. Blood tests showed elevation of inflammatory parameters. No skin biopsy performed.

Discussion and Learning Points: TEN is a rare life-threatening disease characterized by detachment of full thickness epidermis. Although we were not able to definitely confirm the cause, the more probable agents identified were metamizole e clarithromycin. This case recognizes SJS /TEN as a diagnostic challenge and highlights the importance of an early therapeutic approach and correct orientation to burn centers.

1240 - Submission No. 2029

VITAMIN D DEFICIENCY IN A SERIES OF PATIENTS WITH ALCOHOL-USE-DISORDER ADMITTED FOR DETOXIFICATION

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Background and Aims: To describe vitamin D levels in patients with alcohol-use-disorder (AUD) admitted for in-patient detoxification.

Methods: Cross-sectional study in patients with AUD admitted for in-patient detoxification between 2017 and 2022 in Hospital Germans Trias i Pujol. Information about alcohol consumption was gathered by clinical interview. On the second day of admission a blood sample was taken, including blood-count and biochemistry, as well as vitamin D and parathormone (PTH) values. Vitamin D deficit was defined as <10 ng/mL, and inadequate values between 10-20 ng/mL.

Results: 186 patients were included (76% male), with a median age of 50 years (interquartile range (IQR) 41-56 years). Patients presented a median consume of 130 grams of alcohol-a-day after admission (IQR 100-200) and had a median time of AUD of 16.4 years (IQR 8.3-26). Median level of vitamin D was 11 ng/mL (IQR 7-17), PTH 53.3 ng/mL (IQR 40.7-72.7), calcium 9.2 ng/mL (IQR 8.9-9.5), and phosphate 3.8 ng/mL (IQR 3.4-4.2). Only 32 patients (17%) presented normal values of vitamin D, while 72 (38%) presented inadequate levels, and 85 (45%) presented a deficit. Moreover, 9 patients (4.6%) presented undetectable levels of vitamin D (<4 ng/mL). No differences were found between sex, level of alcohol consumption (p=0.46) nor duration of AUD (p=0.036) regarding vitamin D (p=0.17). Nevertheless, patients with deficit had significantly higher age (p=0.02). All patients with <20 ng/ml of vitamin D were discharged with substitution treatment.

Conclusions: Inadequate levels of vitamin D in patients with AUD admitted for detoxification are frequent, and almost half of the population studied presented vitamin D deficiency. This could mean a higher risk of bone fractures, as well as other grave health issues (cardiovascular disease, chronic inflammatory diseases, and cancer).

1241 - Submission No. 693

THE IMPORTANCE OF THE ANAMNESIS

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Case Description: A 52-year-old had lost 30 Kg in the last 6 months associated with weakness of the four limbs, more pronounced in shoulders and hypogastric pain. He was recently studied in the

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gastrointestinal department for anemia and increased bilirubin levels, without pathological findings. No trips or pets. He works as a bricklayer. Physical examination revealed proximal weakness in the four limbs, limitation to the elevation of the upper limbs and hyporeflexia.

Clinical Hypothesis: - Cancer. - Spinal cord compression. - Acute intermittent porphyria. - Guillain Barré syndrome. - Paroxysmal nocturnal hemoglobinuria. - Hemochromatosis.

Diagnostic Pathways: Laboratory findings showed anemia. Serology for hepatotropic viruses, autoimmunity, gammopathy, thoracic-abdominal CT scan, 24-hour urine and lumbar puncture were also requested, all of which were normal. The only relevant finding was a severe neurogenic involvement. We decided to re-interview the patient, who admitted that he had helped a friend to renovate his house with more than 50 beams in the ceiling. We requested heavy metals in blood with levels five times above normal.

Discussion and Learning Points: Saturnism or lead intoxication is the most frequent heavy metal disease, although it is an infrequent entity. It is usually due to occupational, environmental, or dietary exposure. Acute intoxication is infrequent, and is usually due to oral ingestion, so it manifests with abdominal pain and diarrhea. Chronic intoxication requires continuous and prolonged exposure. There is a subclinical phase followed by the symptomatic phase which may present with anemia, abdominal pain, hepatotoxicity, Burton's rim a polyneuropathy among other manifestations. The most important for the diagnosis is to suspect it.

1242 - Submission No. 2023

GENDER DIFFERENCES IN MEDIAN NERVE CROSS-SECTIONAL AREA MEASURED USING ULTRASONOGRAPHY AMONGST ADULT FILIPINOS

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Background and Aims: Prior literature has reported a wide range of normal values for ultrasonographically measured median nerve (MN) sizes, with 0.09 mm^2 being on the higher limit. However, there has been lack of consensus as to the true cut-off value for non-pathologic MN sizes due to historically nonhomogeneous study designs and non-geographically diverse or representative inclusion criteria. This study evaluates the sonographic measurements of the MN among Filipinos and investigates the effects of sex on nerve measurements.

Methods: Forty healthy individuals (80 hands) from Manila, Philippines were included in this study (17 males, 23 females). Bilateral measurements of the cross-sectional area (CSA) of the MN were obtained at the carpal tunnel outlet (CTO), with the trapezium laterally and the hook of hamate medially, using a portable diagnostic SonoSite Edge ultrasound machine with linear array transducer under the musculoskeletal setting.

Results: Participants averaged 38 years of age (p=0.80) with an average BMI of 24.79 (p=0.35). The average CSA of the male left MN was 0.062 cm^2, while the right MN was 0.065 cm^2. The average CSA of the female left MN was 0.053 cm^2, while the right MN was 0.058 cm^2. The differences between both left and right hands for males and females were statistically significant ($p<0.05$).

Conclusions: Our findings suggest that gender is associated with MN sizes at the CTO. Further studies are recommended to compare Filipino ultrasonographic measurements to the international community, and to determine the appropriateness of utilizing non-Filipino or non-female specific ultrasonographic measurements for diagnosis of MN entrapment neuropathies such as carpal tunnel syndrome.

1243 - Submission No. 1613

PARENTERAL NUTRITION; ARE WE DOING IT RIGHT?

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Background and Aims: Determine what type of parenteral nutrition both central and peripheral we use in a second level hospital and the characteristics of the hospital prescription.

Methods: Retrospective descriptive study. Data was collected from 01/01/2021 to 12/31/2021 from all parenteral nutrition prescribed during that period in all hospital services, including intensive care, considering the type of nutrition prescribed and the prescribing service, among others.

Results: In our hospital we have 6 types of central total parenteral nutrition as well as two types of peripheral parenteral nutrition. In the period of referred time, 88 nutritions were prescribed; 11 NPT diabetic, 14 NPT standard, 5 NPT stress,18 NPT individualized, 9 NPT severe patient, 3 renal, 7 peripheral without electrolytes, and 18 with electrolytes. Of the 88 prescribed nutritions, 27 were patients admitted to general surgery, 11 to the digestive, 18 in internal medicine, 13 in ICU, 12 in other medical services, and 7 in other surgical services. In the ICU, most of the nutrition prescribed was individualized (with a greater contribution of nitrogen and less volume). The services with the longest duration of TPN prescription were general surgery with a mean of 15 days and ICU with an average of 25 days.

Conclusions: The recommendations on the composition of these preparations vary according to the publication of the most up-to-date guides and scientific evidence. Currently, the guidelines recommend increasing the nitrogen supply (especially in critical patients). It is necessary to update the composition of nutrition in hospitals according to the new recommendations.

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1244 - Submission No. 2406

PREDICTION VALUE OF HEMATOLOGICAL RATIOS (NLR, ELR, MLR, PLR, PNR, PMR, NMR) FOR DISEASE ACTIVITY IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Background and Aims: In recent years, numerous studies have focused on the role of hematological ratios for disease activity assessment in systemic lupus erythematosus (SLE). To evaluate the role of neutrophil-to-lymphocyte ratio (NLR), eosinophil-to-lymphocyte ratio (ELR), monocyte-to-lymphocyte ratio (MLR), platelet-to-lymphocyte ratio (PLR), platelet-to-neutrophil ratio (PNR), platelet-to-monocyte ratio (PMR), and neutrophil-to-monocyte ratio (NMR) as disease activity predictors in SLE.

Methods: Cross-sectional study with prospective inclusion of patients fulfilling the 2012 Systemic Lupus International Collaborating Clinic (SLICC) criteria. The disease activity was assessed by the SLE Disease Activity Index (SLEDAI) and the European Consensus Lupus Activity Measurement (ECLAM) score, while accrual damage by SLICC index.

Results: 161 SLE patients among which 146 (90.7%) females, with mean age at inclusion 48.5±12.8 years were enrolled. The erythrocyte sedimentation rate (ESR) levels were correlated to that of NLR (r=0.259; p=0.001), PLR (r=0.325; p<0.001), PMR (r=0.283; p<0.001), and NMR (r=0.175; p=0.030), as well as with the disease activity SLE scores: SLAM (r=0.490; p<0.001) and ECLAM (r=0.444; p<0.001). On the contrary, none of the hematological ratios calculated (NLR, ELR, MLR, PLR, PNR, PMR, or NMR) were correlated with the SLE disease activity or accrual damage scores (p>0.05).

Conclusions: In summary, our study results cannot confirm previous hypothesis of hematological ratios like NLR, ELR, MLR, PLR, PNR, PMR, or NMR as biomarkers for overall disease activity assessment in SLE.

1245 - Submission No. 2184

LATE- VERSUS EARLY-ONSET IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

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Background and Aims: Systemic lupus erythematosus (SLE) is the most complex autoimmune disease, affecting ten times more frequently women, especially in young ages. Late-onset SLE group was described as a rare occurrence with milder presentation.

Methods: Prospective study with successive inclusion of SLE patients diagnosed according to the 2019 EULAR/ACR classification criteria. Late-onset was defined as the patient age of 50 years or above at diagnosis. Same clinical and paraclinical parameters were collected in all cases.

Results: A total number of 161 SLE patients, 91.3% feminine gender, was included. There were identified 133 patients with early-onset (< 50 years) versus 28 patients with late-onset (> 50 years). Disease duration was significant different between the two groups: 43.6±11.8 years versus 61.5±6.1 years, p<0.001. Among disease involvements, the inflammatory arthralgias and alopecia were more frequent in SLE patients with early onset (<50 years): 106 patients (83.5%) versus 16 patients (64.0%), p=0.025, and 88 patients (70.4%) versus 12patients (48.0%), p=0.030, respectively. Also, late-onset SLE patients had higher damage index as assessed by the SLICC score: 1.0 (0.0; 2.0) versus 2.0 (1.0; 3.0) points, p=0.024. On the contrary, there was not identified a significant difference among the two groups for disease activity, SLEDAI score: 6.0 (2.0; 10.0) versus 6.0 (2.0; 9.0) points, p=0.843.

Conclusions: In conclusion, age onset may modulate disease phenotype in SLE patients. However, we did not identify late-onset as predictor for less active, benign SLE disease.

1246 - Submission No. 886

WHEN THE CURE IS THE PROBLEM

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Case Description: 47-year-old man, with known history of head trauma complicated with left hemiparesis and epilepsy, came to the ER because of a one-month history of progressive gait imbalance, daily vertiginous episodes and persisting vomiting. He denied headache, fever, or lack of strength. He had already been evaluated in a different hospital, where he did a head-CT showing diffuse cerebellar atrophy, mega cisterna magna and other sequelae of his accident, occurred more than 30 years ago. No acute ischemic nor hemorrhagic findings on imaging. His

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daily medication consisted of 200mg of phenytoin twice daily. On physical exam he was hemodynamically stable and afebrile. Neurologic exam, apart from the known deficits, showed bilateral horizontal nystagmus and dysarthria, as well as right lower limb ataxia and broad-based gait.

Clinical Hypothesis: The main hypotheses were stroke, phenytoin intoxication, or cerebellar compression.

Diagnostic Pathways: Phenytoin intoxication was a strong hypothesis due to his recent CT-scan with no new findings and compatible physical exam. Serum measurement was ordered, and the result came with a phenytoin concentration of 53.9 mg/L (therapeutic levels between 10.0 and 20.0 mg/L). The patient repeated head-CT, which showed no space conflict on the cerebellar space. He was admitted in the Internal Medicine ward for pharmacological wash-out and evaluation by Neurology. He was discharged after seven days with complete remission of his symptoms and treated with a bridging regimen of clobazam and eslicarbazepine.

Discussion and Learning Points: This case alerts to the importance of knowing the effects of toxic concentrations of drugs and reminds that they should be monitored in an outpatient setting.

1247 - Submission No. 1261

ACUTE URINARY RETENTION AND SEVERE HYPONATREMIA

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Case Description: A 70-year-old man was admitted in the Internal Medicine ward with severe hyponatremia. He had history of benign prostatic hyperplasia, epilepsy, and depression, and was medicated accordingly. In the past year he had had two episodes of urinary retention associated with hyponatremia requiring hospital admission. In the current episode, he presented with 24-hour urinary retention and euvolemic hyponatremia (118 mEq/L, normal serum osmolarity) with low urinary sodium (14 mEq/L) and low urinary osmolarity (83 mOsmol/kg). He denied polydipsia and on physical exam he had no signs of hypervolemia.

Clinical Hypothesis: At this point the main hypothesis was hyponatremia related with urinary retention, but the contribution of some of the patient's medication was still unknown.

Diagnostic Pathways: During his hospital stay therapy with sertraline was suspended and the urinary catheter's removal was attempted. The patient developed urinary retention and severe hyponatremia less than 24 hours after that, with sodium declining from 137 mEq/L to 119 mEq/L. After new urinary catheterization the patient had profuse diuresis (more than 13,000 cc of urine in 18 hours) and spontaneous correction of sodium levels. The patient was discharged with indication to maintain urinary catheter until evaluation by Urology for potential prostatic surgery. Sertraline was reintroduced as it had no role on this patient's case.

Discussion and Learning Points: Acute urinary retention is a rare cause of hyponatremia. The pathophysiology of this entity is not yet completely clarified but, according to the published cases, it is believed that vasopressin release due to bladder distention has a role. This case brings up an unusual yet easily treatable cause of hyponatremia.

1248 - Submission No. 2004

CORRELATION ANALYSIS OF MALNUTRITION AND FRAILITY SCALES WITH MUSCLE ULTRASOUND PARAMETERS IN PLURIPATHOLOGICAL PATIENTS ADMITTED TO INTERNAL MEDICINE. PILOT STUDY

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Background and Aims: Sarcopenia is one of the most prevalent geriatric syndromes. Ultrasound can be used in its assessment.

Methods: This is a pilot study carried out on 23 poly-pathological patients during their first week of admission to the Hospital Clínico de San Carlos who underwent a clinical ultrasound to assess muscle and fat morphology. In addition, SARC-F scales, CONUT, Barthel, FRAIL, MNA, PFEIFFER were sampled. Demographic parameters and blood analyses were also measured. A linear regression model was applied between the dependent ultrasound variables and the clinical-demographic variables. The significance level was set at $p<0.05$.

Results: 17 patients (79.9%) of the population were males and had a mean age of 87.52±4.92 years. The most frequent reason for consultation was dyspnea, secondary to heart failure (10, 43.5%), respiratory failure (4, 17.4%) or COPD exacerbation (13.01%). Thickness of rectus femoris muscle is significantly positively predicted by Frail Scale (2.634, p=0.046). On the other hand, thighs fat measurement is significantly predicted by body mass index (0.742, p=0.007), Charlson index (2.966, p=0.015) CONUT scale (2.894, p=0.036) and lymphocytes (0.648, p=0.022) in a positive way, while it is significantly and negatively predicted by Barthel Index (-0.214, p=0.03) and male gender (-14.189, p=<0.001). Finally, preperitoneal fat measurement is also negatively predicted by male gender (-8.15, p=0.041).

Conclusions: In this pilot study there is a significant correlation between ultrasound variables like thighs fat and variables of

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functionality as Barthel index. Further studies are needed to determine the role of clinical ultrasonography in the evaluation of malnutrition and sarcopenia.

1249 - Submission No. 197

EVERYTHING THAT GLITTERS IS NOT GOLD

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Case Description: A 48-year-old woman consults for weight loss and abdominal discomfort. On examination she is a thin patient, with a weight of 44 kg and a height of 158 cm (BMI 17.6) and on abdominal palpation she has slight diffuse discomfort with a hard, non-painful hepatomegaly of about 2 cm, with no other masses or organomegaly palpable. A blood test was done showing marked eosinophilia, 20.5% with a total of 1500 eosinophils/mm^3 (normal < 500). She had an AST of 32 U/L (normal up to 31) and an ALT of 45 U/L (normal 5-39).

Clinical Hypothesis: Some commonly used drugs cause mild eosinophilia. Usually, mild-moderate eosinophilia (500-2000 µL) have their origin in allergic, neoplastic, or connective tissue diseases. A weight loss equal to or greater than 5% in the last 6 months usually points to an organic cause. Among the causes of general syndrome, up to 40% of cases are due to a neoplastic process.

Diagnostic Pathways: All analytical results were normal. A gastroscopy, an abdominal ultrasound and a CT scan followed by a PET scan was performed. In this context, the differential diagnosis was fundamentally inclined to a disseminated neoplastic picture of hematological nature (lymphoma type) or solid organ. It was decided to perform a liver biopsy that reported non-necrotizing epithelioid granulomas with giant cells, compatible with sarcoidosis.

Discussion and Learning Points: Sarcoidosis is a granulomatous disease that can affect any organ. For its diagnosis in the less common forms, a biopsy is required to identify non-necrotizing granulomas in the affected organs.

1250 - Submission No. 203

MALNUTRITION AND HIP FRACTURE IN OLDER ADULTS

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Background and Aims: The aim of this study was to determine the clinical characteristics of patients older than 65 years admitted with hip fracture and to determine whether those with malnutrition have greater complications and longer hospital admissions.

Methods: We retrospectively reviewed all patients older than 65 years admitted for hip fracture in our hospital during one year; we compared the clinical characteristics of those who had albumin less than 3.5 g/dL with those who had the same or higher albumin. The data were analyzed using PAWS Statistic 20.

Results: 88 patients older than 65 years of age were admitted to our hospital during one year for hip fracture, 70.5% were women. 20.5% lived in a nursing home. The average age was 84.8 years. 82.1% had albumin less than 3.5 g/dL and 87.2% had total protein less than 6.4 g/dL.

In those patients with albumin less than 3.5 g/dL dementia and chronic kidney disease was more frequent. These patients required more transfusions after surgery and the surgery was delayed more days. The hospital stay was longer. Mortality during admission was also higher in those with malnutrition; none of the patients with normal albumin died during hospital admission. The same occurred with mortality at 3 months, that was higher in those patients with malnutrition.

Conclusions: Early assessment of nutritional status in the elderly hip fracture can be integrated into the selection of those patients who may require increased preventive and corrective measures, including protein supplementation to improve vital prognosis as well as facilitate early functional recovery.

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1251 - Submission No. 201

APPLICATION OF ARTIFICIAL INTELLIGENCE TO STUDY ATHEROGENESIS INDEX OF PLASMA (AIP) AS A POTENTIAL DIAGNOSTIC TOOL FOR METABOLIC SYNDROME

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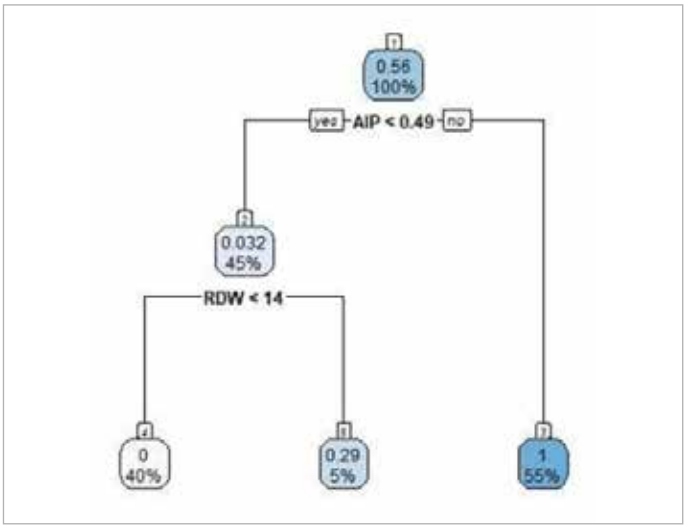
Background and Aims: The atherogenic index of plasma (AIP) is considered an effective biomarker for the prediction and prognosis of atherosclerotic cardiovascular disease and has been associated with insulin resistance. Our purpose is to study the potential use of AIP as a diagnostic tool for Metabolic Syndrome (MetS).

Methods: We studied a group of 77 individuals (38 men and 39 women) who met the three laboratory criteria for the diagnosis of MetS included in the US National Cholesterol Education Programme Adult Treatment Panel III (NCEP ATP III, fasting glucose >100 mg/dL, triglycerides >150 mg/dL and HDL <40 mg/dL for men and <50 mg/dL for women). The control group consisted of 60 people (29 men and 31 women) which met none of the aforementioned criteria. The data were extracted from the laboratory database of our hospital. The laboratory tests evaluated in this study were CBC parameters, fasting glucose, HDL and triglycerides. AIP is calculated according to the formula, log (TG/HDL-C). The statistical analysis included the implementation of recursive partitioning of classification, regression and survival trees (RPART package of CRAN).

Results: The statistical analysis yielded a decision tree that shows us that AIP succeeds in distinguishing individuals without MetS (Category 0, AIP<0.49) from individuals with MetS (Category 1, AIP>=0.49) (Figure 1). It is remarkable that the healthy group is further separated by RDW, yielding a mixed group with RDW<14 and AIP>=0.49.

Conclusions: Our study suggests that AIP might be not only a strong and independent predictor, but also a useful diagnostic tool for MetS. Furthermore, the role of RDW and the discrete, mixed group resulting from the analysis is worth investigating.



1251 Figure 1.

1252 - Submission No. 1245

A 65-YEAR-OLD WOMAN WITH ALTERED MENTAL STATUS FINALLY DIAGNOSED WITH CATATONIA

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Case Description: A 65-year-old woman with a recent benzodiazepine administration for anxiety was admitted due to progressive mental and physical deterioration. Physical exam revealed a comatose patient, febrile with signs of sialadenitis and no other specific findings. From laboratory tests, increased inflammatory markers were observed, with prerenal acute kidney injury accompanied with severe hypernatremia.

Clinical Hypothesis: Initial hypothesis was altered mental status due to infection and hypernatremia.

Diagnostic Pathways: CT brain was performed with no pathological findings. Patient was intravenously hydrated and empirically administered ceftriaxone. Improvement of all laboratory parameters was not accompanied by significant improvement of consciousness level (GCS 8/15). Lumbar puncture was performed with no CSF abnormal findings. Further evaluation with electroencephalogram supported nonspecific encephalopathy findings. From constant clinical reevaluation, we observed patient's resistance to passive eye opening. After ruling out vascular, structural, metabolic, and infectious factors for consciousness level disturbance, a psychiatric consultation was asked for possible catatonia. Patient's psychiatric history revealed psychotic features with delusion in the last 6 months before admission, along with inhibited movement, posturing and negativism deteriorating during the last month. Diagnosis of catatonia was established, and lorazepam was administered with initial impressive clinical improvement. Patient finally passed away from unrelated causes (cardiovascular disease).

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Discussion and Learning Points: Catatonia is a behavioral syndrome highlighted by inability to move normally despite full physical capacity to do so. Catatonia diagnosis poses a significant challenge for physicians since its features are not pathognomonic. Early diagnosis is crucial as catatonia is related to increased mortality rates.

1253 - Submission No. 1393

A MULTINATIONAL QUESTIONNAIRE-BASED STUDY OF FACTORS AFFECTING THE INVOLVEMENT OF INTERNAL MEDICINE RESIDENTS IN CLINICAL RESEARCH

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Background and Aims: Medical progress is based on sound scientific research. However, residency training mainly focuses on clinical work, with sparse opportunities to be involved in research activities. We aimed to (i) investigate the extent to which the involvement of internal medicine residents in research differs across Europe and (ii) elucidate factors implicated in order to facilitate the standardization of residency programs across Europe.

Methods: We conducted a pilot study across 10 European countries. An online questionnaire was used to collect data, including the year of residency, the availability of a structured research program, the types of research offered, and funding.

Results: A total of 77 internal medicine residents responded to the questionnaire: 21 (27.3%) were from Turkey, 18 (23.4%) Italy, 20 (26%) Greece, 7 (9%) the Netherlands, and 11 (14.3%) from UK, France, Switzerland, Finland, Estonia and Ireland. Most of the participants were 4th-year residents. Structured research programs in the context of residency were present in 53%. Among residents, 6% received funding for their research activities. The main type of study was case reports (28%); the main reasons for not being involved in research activities were lack of time (35%) and limited knowledge on how to conduct clinical research (25%).

Conclusions: The level of research involvement among Internal Medicine residents varies widely across Europe. Improving clinical research and methodology training and incorporating structured research time during residency are proposed strategies to enhance the research experience among residents.

1254 - Submission No. 1171

PANCYTOPENIA CAUSED BY CONCURRENT USE OF ALLOPURINOL AND AZATHIOPRINE. A CASE REPORT ILLUSTRATING THE IMPORTANCE OF MULTIDISCIPLINARY TEAM

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Case Description: A 79-year-old woman with a history of autoimmune hepatitis, on azathioprine 100 mg daily, hypothyroidism and hypertension was admitted to the medical ward of our tertiary hospital due to increasing weakness, fatigue and shortness of breath.

Clinical Hypothesis: Several etiologies should be excluded, including infection, anemia, cardiogenic or respiratory causes and abnormal thyroid hormone levels. The possibility of drug adverse events could also be considered.

Diagnostic Pathways: The blood tests revealed mild pancytopenia with a white blood cell count of 3.1×10^3/μL, a hemoglobin of 6.6 g/dL and a platelet count of 135×10^3/μL. The reticulocyte index was 0.24%, serum bilirubin and liver enzymes were normal, direct Coombs was negative, while a blood smear displayed decreased erythrocytes with two distinct populations. After further history evaluation, she stated that during annual laboratory examination uric acid levels were elevated, therefore a general physician prescribed her allopurinol. Therefore, pancytopenia was associated with the concurrent use of allopurinol and azathioprine. Allopurinol was discontinued and azathioprine was withheld temporarily with normalization of the complete blood cell count.

Discussion and Learning Points: The interaction between azathioprine and allopurinol could have easily been avoided if a multidisciplinary team had preferred either to reduce the dose of azathioprine before initiation of allopurinol or to monitor uric acid levels without treatment since she had no symptoms of hyperuricemia. Undetected drug interactions can be life-threatening to patients. It is vital that the general physicians, specialists for chronic illness, pharmacists, and patients work together to optimize therapeutic outcomes and avoid unnecessary drug interactions.

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1255 - Submission No. 1240

WHEN CALCIUM GOES DOWN AND DOWN. HYPOCALCEMIA DUE TO DENOSUMAB, ABOUT A CASE

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Case Description: A 94-year-old woman with a prior history of atrial fibrillation, chronic kidney disease, fracture of the left ilio-pubic ramus in 2017 and a right femur pertrochanteric fracture in 2021. Treatment with denosumab was consequently administered every 6 months since then. She presented to the Emergency Department with a chief complaint of asthenia, anorexia, spatiotemporal disorientation, and recurrent falls during the previous fifteen days. Physical examination was unremarkable. Laboratory tests showed hemoglobin 9.3 g/dL, leukocytes 4.60*10^3/µL, creatinine 1.13 mg/dL, calcium 5.3 md/dL, albumin 4.3 g/dL and phosphate 2.3 mg/dL. Intravenous calcium replacement was started, with progressive improvement in serum calcium levels.

Clinical Hypothesis: Given the severe hypocalcemia, a more exhaustive study was conducted, highlighting 25-hydroxy-vitamin D and parathyroid hormone (PTH) levels of 6.2 µg/L and 554 ng/L, respectively.

Diagnostic Pathways: Reviewing her previous clinical history, the patient already presented decreased levels of calcium and vitamin D prior to the introduction of denosumab, that had not been reassessed after its initiation. In addition, the patient had received the last dose of denosumab a month earlier. Given these findings, supplementation of vitamin D and oral calcium and immediate withdrawal of denosumab were determined. Two weeks after discharge, she maintained normal calcium levels (calcium 9.2 mg/dL).

Discussion and Learning Points: Real-life rates of denosumab-induced hypocalcemia are higher than previously reported, reaching up to 7.4% in some recent studies. It can develop not only after the first dose but also after subsequent doses over more than 2 years of treatment. Pretreatment serum calcium and creatinine levels are major predictors for this complication.

1256 - Submission No. 542

EVALUATION OF POTENTIAL YEARS OF LIFE LOST IN MOSCOW IN 2020

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Background and Aims: To assess potential years of life lost (PYLL) rate in Moscow in 2020.

Methods: The data was obtained upon request to Federal State Statistics Service; the calculations were conducted using the software developed by the National Medical Research Center for Therapy and Preventive Medicine. PYLL was calculated for people aged 15-72 years by formula PYLL=∑Di*ai where "Di" is the absolute number of deaths for the age interval "i"; "ai" is the number of unlived years.

Results: PYLL in 2020 in Moscow was 9441.2. Premature losses were 2.54-fold higher in males. Diseases caused 73,8% (6966.5) of all PYLL, alcohol-related causes – 7.4% (701.6), drug-related causes – 6.9% (653.3). Losses due to alcohol and drug-related causes were relatively higher in males (16.8% vs 8.9%). Analysis by ICD-10-classes showed the leading role of circulatory system diseases (CSD) – 28.1% (2651.2), external causes – 18.5% (1746.5), malignant neoplasms (MN) – 17.8% (1679.4) and COVID-19 – 9.6% (902.8). The four above mentioned groups of diseases caused 77.6% of PYLL. The highest PYLL rate in males was due to ICD – 30% (3204.1), external causes – 22% (2352.2), MN – 13.2% and COVID-19 – 9% (968.4). In females the most significant groups were MN – 28% (1172.75), ICD – 24% (1004.1), external causes – 11% (451.9) and COVID-19 - 11% (448.4).

Conclusions: The highest PYLL-rate was due to CSD. However, the most important cause in females was MN. PYLL rate due to external causes was significant as well. COVID-19 was the fourth major cause of premature losses.

1257 - Submission No. 2144

BILATERAL PSOAS MUSCLES SPONTANEOUS HEMORRHAGE

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Case Description: Male, 48 years old, history of heart failure with biventricular arrhythmogenic cardiomyopathy and atrial fibrillation. Admitted due to an acute kidney injury, started bilateral anterior thigh, with paresis and paresthesia in the lower limbs (LLs). Hemodynamically stable, with pain on passive and active mobilization of the lower limbs, palpable and symmetric pedal pulses.

Clinical Hypothesis: Spinal cord injury. Compartment syndrome. Psoas hemorrhage.

Diagnostic Pathways: The abdominopelvic computed tomography scan showed right psoas muscle (PM) hematoma (8x3.2cm) with intramuscular hematoma with liquid level (Figure 1, yellow arrow) and hematoma in the ipsilateral iliac muscle with double liquid level (7x4x2.7 cm) (Figure 1, blue arrow) and intramuscular hemorrhage in the left PM (7x3 cm). Despite the suspension of hypo coagulation and absolute bed rest, clinical and imaging worsening, ending with patient's death.

Discussion and Learning Points: Pain and numbness in the thigh should prompt suspicion of femoral neuropathy. The diagnosis

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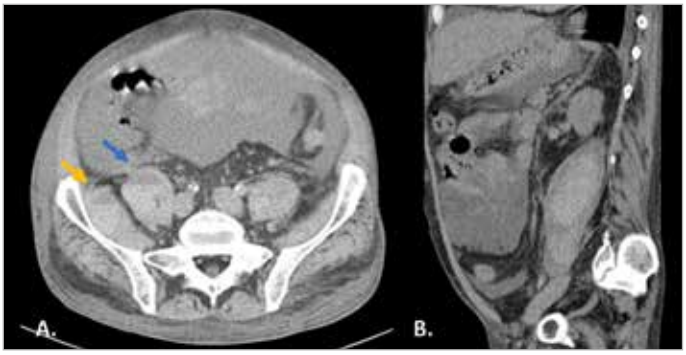
must be made as soon as possible to avoid unfavorable outcomes. In this case, by coincidence, bilateral femoral neuropathy occurred in a patient who already had many comorbidities, which made the prognosis even more serious.



1257 Figure 1.

1258 - Submission No. 939

DESCRIPTIVE ANALYSIS OF THE PATIENTS STUDIED FOR FEVER OF UNKNOWN ORIGIN IN OUR CENTER

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Background and Aims: Describe the clinical characteristics, the diagnostic process, and the therapeutic management of the immunocompetent patients with fever of unknown origin in our center.

Methods: Retrospective descriptive study that included patients with fever of more than 38.3ºC, of at least 3 weeks duration, whose cause is not able to be established after 3 weeks of outpatient evaluation or after 1 week of in-hospital study. The data was obtained, both in the hospitalization area as in external consultations of Internal Medicine, from January 2021 to June 2022.

Results: There were 66 patients with GRD 420 "Fever of Unknown Origin" (FUO), of which only 18 met criteria. 72% were women and the mean age of patients was 62.35 years. 66.6% presented elevation of an acute phase reactant. 11.1% of patients had positive serology for HBV and HCV, no patient for HIV. 5.5% presented a diagnostic test for tuberculosis infection. 5.5% had a microbiological isolation in the different cultures performed. The only elevated tumor marker was β2-microglobulin with almost 40%. 11.1% had positive ANA without systemic disease criteria. 55% are still classified as FUO.

Conclusions: This entity continues to be a challenge for Internal Medicine professionals due to its broad diagnostic spectrum. The small number of patients recruited in our study may be related to a poor characterization of febrile syndrome, which is an area for improvement. FUO was more prevalent in women, accompanied by an increase in acute phase reactants and with a large percentage of patients without an etiological diagnosis. The main causes found were infectious origin.

1259 - Submission No. 230

DIFFERENCES IN CHRONIC THROMBOEMBOLIC PULMONARY HYPERTENSION MANAGEMENT IN PATIENTS WITH CANCER AND PRIMARY THROMBOPHILIA

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Background and Aims: Chronic Thromboembolic Pulmonary Hypertension (CTEPH) constitutes the only curable cause of pulmonary hypertension. Studies about the management of patients with thrombophilia or cancer and CTEPH are scarce. The prevalence and types of thrombophilic disorders and cancer associated to CTEPH are unknown. The aim of this study was to describe the differences in the therapeutic strategy in both groups of patients as well as to describe the most frequent cancer and thrombophilia association to CTEPH in a sample of patient of a reference unit.

Methods: An observational, retrospective and monocentric study was designed with a sample constituted by the cohort of 455 patients diagnosed of CTPEH from 2007 to 2019 in the Pulmonary Hypertension Unit of the 12 de Octubre Hospital in Madrid. Two hypothesis contrast (χ^2, T-student or ANOVA) compared the differences in both groups of patients.

Results: In our sample 61 patients had cancer and 161 had at least one primary thrombophilia. Patients with cancer (table IA, B) received less thromboendarterectomy (34.43% vs 54.08%, p=0.004), more balloon-pulmonary angioplasty (31.15% vs 19.39%, p=0.036) and more triple pharmacologic treatment (9.84% vs 4.34%, p=0.049). Patients with thrombophilic disorders (table 2A, B) received more thromboendarterectomy (65.22% vs 45.93%, p<0.05), less balloon-pulmonary angioplasty (12.42% vs 19.39%, p=0.007) and less double pharmacologic treatment (12.42% vs 22.01%, p=0.017). More than 50% of the associated tumors in our cohort corresponded to hematological neoplasms (27.86%, Table 3) and breast cancer (27.86%). Antiphospholipid antibodies (43.07%) represent the most frequent thrombophilia (Table 4).

Conclusions: Patients with thrombophilia received more surgical treatment. Patients with cancer received more pharmacological and interventionist treatment. Breast cancer and hematological neoplasms and antiphospholipid antibodies were respectively the most frequent cancer and thrombophilia associated to CTEPH.

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	QUALITATIVE VARIABLES		
	CANCER (=61)	WITHOUT CANCER (n=392)	
	N (%)	N (%)	p
Gender (male)	16 (26.23)	129 (32.91)	0.298
Diabetes	8 (13.11)	42 (10.71)	0.578
Arterial hypertension	23 (37.70)	162 (41.33)	0.592
Dyslipidemia	16 (26.23)	101 (25.77)	0.939
Smoker	16 (26.23)	129 (32.91)	0.298
Ischemic cardiomyopathy	3 (4.92)	22 (5.61)	0.825
Splenectomy	0 (0.00)	13 (3.32)	0.149
Proximal disease	55 (90.16)	324 (82.65)	0.140
PE	43 (70.49)	314 (80.31)	0.080
DVT	**16 (26.23)**	**172 (43.39)**	**0.009**
Simple therapy	13 (21.31)	107 (27.30)	0.324
Double therapy	15 (24.59)	63 (16.07)	0.101
Triple therapy	**6 (9.84)**	**17 (4.34)**	**0.049**
Balloon pulmonary angioplasty	**19 (31.15)**	**76 (19.39)**	**0.036**
Thromboendarterectomy	**21 (34.43)**	**212 (54.08)**	**0.004**

1259 Table 1A. Contrast of hypotheses for qualitative variables in patients with and without cancer or hematological malignancies

	QUANTITATVE VARIABLES						
	CANCER			WITHOUT CANCER			
	N	$\bar{X}$ (DE)	IC 95%	N	$\bar{X}$ (DE)	IC 95%	p
Age (years)	61	61.04 (14.23)	54.47;64.61	392	58.61(15.47)	57.06;60.14	0.219
BMI (kg/m^2)	51	27.36 (4.73)	22.06;24.66	358	26.25 (4.93)	27.75;28.75	0.172
TM6M (m)	48	369.10 (113.41)	337.02;401.18	315	376.58 (124.01)	362.89;390.27	0.604
BTproBNP (pg/ml)	51	1364.02 (1906.94)	840.65;1887.39	297	1343.37 (2280.32)	1084.03;1602.71	0.911
TAPSE (mm)	54	18.037 (4.84)	16.75;19.33	323	17.78 (4.59)	17.28;18.28	0.543
mRAP (UW)	61	9.03 (4.88)	7.81;10.25	370	9.01 (5.12)	8.49;9.53	0.872
mPAP (mmHg)	61	45.46 (12.52)	42.32;48.60	392	46.16 (12.59)	44,91;47.41	0.675
PVR (UW)	59	9.33 (4.65)	8,14;10,52	365	9.18 (4.73)	8.69;9.67	0.770

1259 Table 1B. Contrast of hypotheses for quantitative variables in patients with and without cancer or hematological malignancies

	QUALITATIVE VARIABLES		
	THROMBOPHILIA (=161)	WITHOUT THROMBOPHILIA (n=209)	
	N (%)	N (%)	p
Gender (male)	71 (44.10)	92 (44.02)	0.988
Diabetes	17 (10.56)	24 (11.48)	0.779
Arterial hypertension	24 (14.91)	50 (23.92)	0.032
Dyslipidemia	39 (24.22)	53 (25.36)	0.802
Smoker	53 (26.23)	71 (32.91)	0.298
Ischemic cardiomyopathy	12 (7.45)	14 (6.70)	0.832
Proximal disease	130 (81.25)	181 (86.60)	0.127
PE	116 (84.06)	124 (78.98)	0.275
DVT	72 (50.34)	80 (44.94)	0.143
Simple therapy	53 (32.92)	51 (24.40)	0.071
Double therapy	**20 (12.42)**	**46 (22.01)**	**0.017**
Triple therapy	7 (4.34)	12 (5.82)	0.549
Balloon pulmonary angioplasty	**20 (12.42)**	**76 (19.39)**	**0.007**
Thromboendarterectomy	**105 (65.22)**	**96 (45.93)**	**0.000**

1259 Table 2A. Contrast of hypotheses for qualitative variables in patients with and without thrombophilic disorders

	QUANTITATVE VARIABLES						
	THROMBOPHILIA			WITHOUT THROMBOPHILIA			
	N	$\bar{X}$ (DE)	IC 95%	N	$\bar{X}$ (DE)	IC 95%	p
Age (years)	161	60.04 (13.22)	58.15;61.93	209	59.03(15.44)	56.97;61.15	0.328
TM6M (m)	121	361.03 (130.03)	337.86;384.2	181	378.75 (112.71)	362.33;395.17	0.209
BTproBNP (pg/ml)	106	1611.28 (2488.71)	1152.67;2069.89	167	1163.56 (2204.59)	829.19;1497.93	0.116
TAPSE (mm)	117	17.91 (4.42)	16.75;19.33	174	17.94 (4.74)	17.11;18.71	0.947
mRAP (UW)	137	9.68 (5.09)	8.69;10.67	182	8.81 (5.23)	8.05;9.57	0.171
mPAP (mmHg)	161	47.29 (13.30)	38.24;42.34	209	46.41 (11.90)	44,80;48,02	0.509
PVR (UW)	146	9.72 (5.01)	8,91;10,53	204	9.24 (4.63)	8.60;9.88	0.360

1259 Table 2B. Contrast of hypotheses for quantitative variables in patients with and without thrombophilic disorders

Cancer and hematological malignancies (n = 61)	N (%)
Breast	**17 (27.86)**
Ovary	3 (4.91)
Endometrium	2 (3.27)
Cervix	1 (1.61)
Bowel	4 (6.56)
Myeloproliferative	**12 (19.67)**
Lymphoproliferative	**5 (8.20)**
Urinary	4 (6.56)
Kidney	1 (1.61)
Prostate	1 (1.61)
Head and neck	2 (3.27)
Skin	1 (1.61)
Others	7 (11.48)

1259 Table 3. Cancer and hematological malignancies frequency

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Thrombophilic disorders	N (%)
Antiphospholipid antibodies	**59 (43.07)**
MTHFR polymorphism	18 (13.14)
Leiden V factor	15 (10.95)
Hyperhomocisteinemia	13 (9.49)
Prothrombin G20210A	12 (8.76)
C or S protein deficiency	10 (7.30)
XII factor mutation	4 (2.92)
VIII Factor increase	2 (1.46)
VII Factor increase	2 (1.46)
Hipodisfibrogenemia	1 (0.73)
Antithrombin III deficit	1 (0.73)

1259 Table 4. Thrombophilic disorders distribution in our sample

1260 - Submission No. 2335

25-YEAR-OLD MALE WITH CERVICAL LYMPHADENOPATHY AND FEVER

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Case Description: 25-year-old male with a clinical history of recurrent thromboembolic disease related to antiphospholipid syndrome and anticoagulant treatment. He was admitted to the Internal Medicine Unit for fever and odynophagia. Physical examination revealed an adenopathic tumor in the right anterior carotid triangle with a soft consistency, with no other findings. Laboratory tests showed mild leukopenia and slightly elevated C-reactive protein. An autoimmunity test and viral serology were performed, which were both negative. A PET-CT scan showed pathological lymphadenopathies at the cervical level suggesting a lymphoproliferative process.

Clinical Hypothesis: Lymphoproliferative disease.

Diagnostic Pathways: Two cervical lymph nodes were surgically removed and referred to the Pathology Unit, where a diagnosis of necrotizing histiocytic lymphadenitis (Kikuchi-Fujimoto disease) was made.

Discussion and Learning Points: Kikuchi-Fujimoto disease is a rare benign process characterized by painful cervical lymphadenopathy associated with fever (35%), leukopenia (50%) and sometimes rash. It is more common in women in their third decade of life. Its pathogenesis is unknown, but the clinical course and histopathological data suggest that it represents an abnormal T lymphocyte and histiocyte immune response to an infectious agent (e.g., Epstein-Barr virus, HIV, parvovirus). Most cases resolve spontaneously within two to three months and recurrences are rare. Diagnosis is made by lymph node biopsy, which is requested mainly to rule out other more serious diseases. A relationship has been found between Kikuchi's disease and the development of other pathologies including systemic lupus erythematosus. Therefore, so an autoimmunity study should be performed in these patients, especially in those with data suggesting this condition.

1261 - Submission No. 2095

IN-HOSPITAL MORTALITY AND HYPOPHOSPHATEMIA: DATA FROM AN INTERNAL MEDICINE CLINIC

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Background and Aims: Hypophosphatemia (serum phosphate<2.5 mg/dl) is a significant electrolyte disorder, but often overlooked, especially in internal medicine units. Major phosphate depletion is associated with serious and life-threatening complications, leading to prolonged hospitalization and increased mortality. Aim of this study was to investigate the in-hospital mortality of hypophosphatemic patients of an internal medicine clinic.

Methods: We conducted a retrospective study of 176 patients with hypophosphatemia who were consecutively hospitalized at the 2nd Department of Internal Medicine of University Hospital of Ioannina.

Results: Out of 176 hypophosphatemic patients, 15 died during their hospital stay (8.5%). The death incidence in our study population was statistically higher than the mortality rate of the general patient cohort hospitalized in our clinic (13.5% versus 4.3%). Patients of older age (mean value 83 years old, SD 12.3), females (13.3%) as well as those with a history of acute stroke (17.4%), osteoporosis (17.4%) and recent major surgery (42.9%) were statistically correlated with higher mortality rates. Infection as a cause of hospital admission (16.3%), hospital-acquired hypophosphatemia (46%), and acute tubular necrosis (36.4%) were also associated with increased mortality. Additionally, the multivariate analysis revealed that high normal serum sodium values, hypoalbuminemia and high leukocyte count were independent risk factors of mortality.

Conclusions: The aforementioned comorbidities, demographic characteristics and biochemical findings lead to hypophosphatemia mainly due to phosphate's redistribution and enhanced renal excretion, resulting in increased mortality rates.

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1262 - Submission No. 1498

TOTAL BODY CT YIELD IN THE WORKUP OF FEVER OF UNKNOWN ORIGIN

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Background and Aims: Total body computerized tomography (TBCT) is frequently used as a diagnostic tool for fever of unknown origin (FUO) workup instead of a recommended FDG-PET/CT. We have assessed the TBCT diagnostic yield on a large, unselected cohort of patients with FUO in internal medicine departments.

Methods: We assessed the demographic, clinical, imaging and laboratory data of 408 consecutive patients hospitalized in large 1200 bed tertiary center with a primary diagnosis of FUO in whom TBCT was performed. A positive study was defined as a scan whose result led to the documented final diagnosis.

Results: A total of 164 patients (40%) had a positive TBCT result. Multivariable analysis revealed that none of the clinical factors was associated with a positive TBCT result.

Conclusions: TBCT has a clinically significant yield in medical patients with FUO and can be a reasonable alternative to FDG-PET/CT when the latter is unavailable.

1263 - Submission No. 647

AI-SCORE (ARTIFICIAL INTELLIGENCE-SARS COV2 RISK EVALUATION): A FAST, OBJECTIVE AND FULLY AUTOMATED PLATFORM TO PREDICT THE OUTCOME IN COVID-19 PATIENTS

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Background and Aims: To develop and validate an effective and user-friendly AI platform based on a few unbiased clinical variables integrated with advanced CT automatic analysis for COVID-19 patients' risk stratification.

Methods: 1575 consecutive COVID-19 adults admitted to 16 hospitals during wave 1 (February 16-April 29, 2020), submitted to chest CT within 72h from admission, were retrospectively enrolled. 107 variables were initially collected; 64 extracted from CT. The outcome was survival at +28d from admission. A rigorous AI model selection framework was adopted for models' selection and automatic CT data extraction. Model performances were

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compared in terms of AUC. A web–mobile interface was developed using Microsoft PowerApps. The platform was externally validated on 213 COVID-19 adults prospectively enrolled during wave 2 (October 14-December 31, 2020).

Results: The final cohort included 1125 patients (292 non-survivors, 26%) and 24 variables. Logistic showed the best performance on the complete set of variables (AUC=0.839±0.009) as in models including a limited set of 13 and 5 variables (AUC = 0.840 ± 0.0093 and AUC = 0.834 ± 0.007). For non-inferior performance, the 5 variables model (age, sex, SpO2, well-aerated lung and cardiothoracic vascular calcium) was selected and the extraction of CT-derived parameters was fully automatized. This final fully automatic model showed AUC = 0.842 (95% CI: 0.816–0.867) on wave 1 and was used to build a 0–100 scale risk score (AI-SCoRE). The predictive performance was confirmed on wave 2 (AUC 0.808; 95% CI: 0.7402–0.8766).

Conclusions: AI-SCoRE is an effective and reliable platform for automatic risk stratification of COVID-19 patients based on a few unbiased clinical data and CT automatic analysis.

1264 - Submission No. 2415

METABOLOME PROFILING IN THE SERUM OF DOGS WITH CHRONIC VALVULAR DISEASE USING A TARGETED METABOLOMICS APPROACH AND UHPLC-MS/MS

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Background and Aims: Chronic valvular disease (CVD) is the most common heart disease in adult dogs. The CVD pathology is almost identical in humans and dogs. Therefore, canine CVD is considered a suitable animal model in human medicine. The aim of the study was to investigate serum metabolome of dogs with myxomatous mitral valve disease (MMVD) using a targeted metabolomics approach by UHPLC-MS/MS.

Methods: Serum was collected from healthy dogs (N=7) and dogs with MMVD stages: B1 (N=7, with no/mild mitral regurgitation), B2 (N=9, advanced mitral regurgitation) and C (N=7, congestive heart failure). Samples were analyzed using the Absolute IDQ p400 kit on a Thermo Orbitrap Q Exactive Plus UHPLC-MS/MS. Metabolites were extracted from dog serum on the 96-well plate system for protein-removal, internal standard normalization and derivatization. Data processing was performed using the MetIDQ software.

Results: Targeted metabolomics analysis of serum samples resulted in the identification of 154 metabolites divided into different groups: acylcarnitines (1), Biogenic amines (8), amino acids (18), sphingolipids (22), glycerides (21), cholesterol esters (5), glycerophospholipids (78) and sugars (1). Among them, 29 metabolites were significantly different between the four groups. The most significant metabolites were carnitine and sphingomyelin (38:1). Pathway analysis showed seven different pathways considered significant ($p < 0.05$, impact >0.1).

Conclusions: Our results provide an overview of the serum metabolome of dogs with different CVD stages and highlight new targets for further investigation, as well as metabolites to serve as potential biomarkers for early detection of CVD and of progression from stage B1 to B2.

1265 - Submission No. 725

MORBIDITY AND MORTALITY PROFILE ACCORDING TO SEASONS AT A DISTRICT HOSPITAL IN PORTUGAL

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Background and Aims: Weather is an important influence for people's health and some diseases. The aim is to describe an epidemiological profile for inpatient, according to the seasons (SS), in an Internal Medicine Department at a District Hospital in Portugal.

Methods: Using five-years (2015 to 2019) from inpatient records was made a prevalence study. According with SS were described sex, age, admissions, hospital stay, mortality, morbidity (according to Chapter 1 from International Classification of Diseases (ICD) -10 codes), and hospital readmission. With the Jamovi Statistics program were calculated central tends, frequencies and dispersion. Using α=0.05 the groups were compared.

Results: A total of 6254 admissions were registered (49.8% [$IC_{95\%}$49.6-50.0] was women); an average age was 71.0-year-old (range 18-104 years-old), without significant differences between men and women (p=0.337). Mortality and readmission rates were 15.9% ($IC_{95\%}$15.0-16.8) and 2.0% ($IC_{95\%}$1.7-2.4), respectively. Spring presented the highest average hospital stay (15.7 days [$IC_{95\%}$ 15.6-15.8]). Diseases of the circulatory and respiratory systems were the most frequent (29.8% [$IC_{95\%}$ 29.7-29.9] and 26.7% [$IC_{95\%}$ 26.6-26.8], respectively) and them were most frequent in winter, but in summer the most frequent were genitourinary 32.5% ($IC_{95\%}$ 33.9-38.3) and skin 31.4% ($IC_{95\%}$17.4-47.3) diseases. In front of SS no significant differences were found for age (p=0.660), hospital stay (p=0.378), mortality (p=0.186) and hospital readmission (p=0.597); but founded for the number of hospitalizations (p<0.001) and morbidity (p<0.001).

Conclusions: The SS influence in the morbimortality inpatient, which could change in the face of increasing climate change, so that, it will be important for clinical decision and hospital management planning.

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1266 - Submission No. 2194

ASSOCIATIONS OF INCREASED CREATIN-KINASE IN PATIENTS WITH COVID-19

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Background and Aims: Coronavirus disease 2019 (COVID-19) by the acute respiratory syndrome coronavirus 2 (SARS-CoV-2) proved to be a great challenge due to multi-organ involvements, rhabdomyolysis included, as well as severe outcome in selected cases. Our study identifies specific characteristics of COVID-19 patients who developed increased creatinine kinase (CK) levels.
Methods: Cross-sectional study with retrospective inclusion of COVID-19 patients diagnosed by RT-PCR SARS-CoV-2 using specimens derived from oropharyngeal swabs. All patients with available results for the creatinine kinase (CK) levels during hospitalization were included.
Results: Overall, data of 138 COVID-19 patients, 55.1% male gender, were included in analysis. Even if laboratory parameters like inflammatory markers, ferritin, albumin, or D-dimers correlated ($p<0.005$) to COVID-19 diseases severity, similar results were not confirmed for the CK levels: 96.5 (51.7; 187.2) versus 83.0 (54.7; 130.2) versus 95.0 (46.0; 288.2) UI/L in mild, moderate, and severe COVID-19, respectively. Regarding the COVID-19 symptoms at admission, only the headache, loss of appetite, and vomiting were more frequent in COVID-19 patients with increased CK: 16/88 (15.4%) versus 11/23 (32.4%) $p=0.030$, 7/97 (6.7%) versus 7/27 (20.6%) $p=0.020$, and 3/101 (2.9%) versus 4/30 (11.8%) $p=0.041$, respectively. C-reactive protein and procalcitonin were the laboratory parameters best correlated to CK levels based on the ROC curve analysis: AUC (95%CI) 0.669 (0.0528-0.810) and 0.770 (0.625-0.914).
Conclusions: Increased CK levels do not correlate to disease severity in COVID-19 patients. Moreover, increased CK levels were more frequently found in patients with increased inflammation's parameters. Loss of appetite and vomiting at admission might be suggestive for associated increased CK levels.

1267 - Submission No. 439

DIALYSIS METHODS (HEMODIALYSIS, PERITONEAL DIALYSIS) COST FOR THE TREATMENT OF PATIENTS WITH END-STAGE CHRONIC KIDNEY DISEASE IN GREECE

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Background and Aims: Chronic Kidney Disease (CKD) is one of the leading causes of morbidity and mortality worldwide and patients with end-stage renal disease (ESRD) are treated with Kidney Replacement Therapy (KRT). Most popular KRT modalities are Hemodialysis (HD) and Peritoneal Dialysis (PD). According to European Renal Association's registry in 2019, Greece has one of the highest percentages of KRT's prevalence and incidence rate in Europe.
Methods: This analysis records direct monthly costs for patients with ESRD in Nephrology Department of a public hospital in Thessaloniki, examines the composition of medical costs (medical/mechanical equipment cost, pharmaceutical products cost, personnel cost, laboratory cost, building-facilities cost, hospitalization cost) and compares the reimbursement by public health funds based on diagnosis-related group (DRG). Hemodialysis costs were calculated separately for conventional HD (cHD) and online Hemodiafiltration (online HDF).
Results: Total direct HD cost was recorded at 1757.8 Euros/month/patient and total direct PD cost at 323,215 Euros/month/patient. In 2019, hospital reimbursement was set at 116.31 Euros for conventional HD and 167.18 Euros for online HDF. A ratio use of two HD methods was set at 60%/40% for cHD/online HDF respectively. Since the center follows this ratio, average cost was calculated at 1776.5 Euros/patient/month. Hospital reimbursement for PD was set at 249 Euros/patient/month.
Conclusions: This analysis showed that hospital reimbursement was not beneficial for Hemodialysis Department operating cost, when monthly hospitalization cost was calculated, on the contrary of private Hemodialysis Departments.

1268 - Submission No. 1531

QUALITY OF LIFE PATIENTS WITH END-STAGE CHRONIC KIDNEY DISEASE UNDERGOING DIALYSIS (HEMODIALYSIS OR PERITONEAL DIALYSIS) IN GREECE

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Background and Aims: There has been a growing interest in the investigation of Quality of Life for patients with end stage chronic kidney disease (CKD) in Greece. Kidney Disease Quality of Life (KDQOL) questionnaire is one of the most popular tools to measure QoL of dialysis patients. It has been translated into Greek and KDQOL's reliability and validity have been verified in Greece.
Methods: Patients' QoL was assessed with KDQoL questionnaire, which was distributed to all the patients in Nephrology Department of a public hospital in Thessaloniki. A linear regression was performed between the dimensions of KDQOL questionnaire and dialysis modality.
Results: For HD patients, KDQOL questionnaire analysis recorded a satisfactory level at social functioning (63.2), mental health (67.4), social interaction (71.8), work (80) and encouragement from staff (82.9). For PD patients, KDQOL

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questionnaire analysis recorded a satisfactory level at mental health (62), disease symptoms (71.5), social interaction (71.8), social support (61.7), work (90) and encouragement from the staff (82.9). Variables with a negative coefficient are associated with greater odds of the patient undergoing PD, while variables with a positive coefficient are associated with greater odds of the patients undergoing HD.

Conclusions: This analysis concluded that both dialysis modalities have in the majority of the dimensions of the questionnaire a negative effect on patients QoL without statistically significant differences. PD patients bothered more by CKD burden, symptoms and pain but maintained social interaction more actively and reported better sleep quality.

1269 - Submission No. 1527

A CASE REPORT OF POISONING DUE TO CONIUM MACULATUM

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Case Description: The poison hemlock *(Conium maculatum)* is a highly toxic plant, widely known from the death of Socrates in ancient Greece and it can be fatal if ingested. We report a case of a couple 70-year-old man and 71-year-old woman who presented to the emergency department with generalized muscle weakness, nausea, and peripheral numbness. The woman also referred relief of the right knee osteoarthritis pain. They referred boiled wild carrot consumption, found in their garden, 2 hours prior to symptom onset. They both were hemodynamically stable and fully conscious.

Clinical Hypothesis: There was a high clinical suspicion of hemlock poisoning, due to the resemblance of the two plants. Two photos of the plants were presented to the patients and they both confirmed the accidental ingestion of conium maculatum.

Diagnostic Pathways: A gastric lavage was performed and revealed many pieces of the plant. The Greek Poison Center reported no specific antidote. The patients were carefully monitored and laboratory tested. Macrogol was used for the emptying of the bowels and reduction of the absorption of the poison. They did not develop respiratory insufficiency. The laboratory tests demonstrated no deterioration, and the symptoms were gradually improved. The woman also referred reappearance of the symptoms of knee osteoarthritis, the rest physical examination became normal, and they discharged four days after their admission. The plant was sent to a phytopathological Institute and *Conium maculatum* was identified.

Discussion and Learning Points: Hemlock poison cause tremors, muscle weakness, analgesia, respiratory failure, rhabdomyolysis and acute renal failure. Death usually comes as a result of respiratory muscle paralysis and respiratory failure due to coniine, an alkaloid with nicotinic effects. People-especially in rural areas-ignore the toxicity of many plants and this can lead to serious poisoning or death.

1270 - Submission No. 167

CASE REPORT OF CEFEPIME INDUCED NEUROTOXICITY IN A PATIENT WITH NORMAL KIDNEY FUNCTION

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Case Description: 78-year-old male with a medical history of coronary artery disease, depression, and newly diagnosed lung cancer, was admitted in the ER department due to fever (T 38.8°C). He was alert and oriented on three domains, without hypoxemia. Labs: WBC 11,200 (71% neutrophils); CRP 25.13 mg/dL, normal renal function. Chest imaging revealed pneumonia. Because of prior antibiotic exposure, a combination scheme of cefepime and linezolid was selected. On day seven of cefepime administration, the patient developed acute-onset, asynchronous myoclonic activity of the limbs accompanied by altered mental status.

Clinical Hypothesis: Cefepime-induced neurotoxicity (CIN) represents a well-documented adverse event, especially in patients with renal impairment. However, this adverse reaction can also be observed in patients with preserved renal function and should always be included in the differential diagnosis of patients with encephalopathy under cefepime treatment.

Diagnostic Pathways: Our patient exhibited encephalopathy with involuntary non-epileptic movement in his extremities and impaired mental status. Vital signs were stable. Biochemical investigations did not show electrolyte disturbances, hypoglycemia, or acute kidney injury. A CT brain was performed to exclude acute structural and cerebrovascular abnormalities. CIN was suspected and cessation of the drug was decided. The patient's mental status returned to baseline by day eleven.

Discussion and Learning Points: Cefepime can accumulate to CNS leading to CIN. Recent studies have suggested that patients with normal renal function or renal dose adjustment can also develop CIN. Precipitating factors apart from renal dysfunction include critical illness, altered blood brain barrier and older age.

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1271 - Submission No. 2174

CONSTITUTIONAL SYNDROME CASE

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Case Description: A 60-year-old man, 120 pack/year smoker, was evaluated in a medical appointment due to a constitutional syndrome. He described crampy abdominal pain unrelated to meals, asthenia, early satiety, anorexia, and a 35 kg weight loss in 4/5 months. For the previous month, he had been having alternating constipation periods with diarrhea associated with abdominal pain. Given the persistence of these symptoms, hospitalization was decided for further investigation.

Clinical Hypothesis: Infectious and malabsorption causes, and inflammatory bowel diseases were investigated. Neoplastic, autoimmune and chronic infectious diseases (such as HIV, viral hepatitis and tuberculosis), as well as other less likely causes (hyperthyroidism, adrenal insufficiency), were also considered.

Diagnostic Pathways: Upper gastrointestinal endoscopy displayed chronic gastritis and *Helicobacter pylori* infection. Laboratory tests revealed normocytic/normochromic anemia, without further alterations. Colonoscopy was normal and stool cultures were negative. Chest/abdomen/pelvis computed tomographic angiography at first presented without suspicious lesions; however, while revising images with radiology team, an atherosclerotic plaque was found on the anterior wall of the abdominal aorta at the emergence of the celiac trunk and superior mesenteric artery. Chronic mesenteric ischemia was considered and was later confirmed with a new computed tomographic angiography.

Discussion and Learning Points: Chronic mesenteric ischemia is uncommon and frequently overlooked or misdiagnosed as symptoms are nonspecific. Dyspepsia attributable to *Helicobacter pylori* infection, marked weight loss, anemia without vitamin deficiencies and abdominal pain unrelated to food intake led clinicians to investigate other systemic diseases and delay this diagnosis.

1272 - Submission No. 2432

VITAMIN B12 DEFICIENCY: A CAUSE OF ABNORMAL BEHAVIOR

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Case Description: 76-year-old female, autonomous, previously fully cognitive until 6 months prior, taken into Urgent Care with cognitive deterioration, and hetero-aggressiveness developing over this same period. Patient had 3 visits to UC over the previous 2 weeks, her condition worsening, with persecutory delusion, physical aggressiveness, and total anorexia. Background shows records of anxiety and depression without any consultation with psychiatry, homebound isolation since 2020, with decreased autonomy over the previous year due to a fracture of the left femur. History shows meat consumption had been halted for the past 3 years, and changes to the food pattern over the past year – skipping meals, snack-type-foods-based diet). At Urgent Care: uncooperative, the speech, despite being fluent, was driveling and lacking in content. Physical exam showed no changes.

Clinical Hypothesis: Vitamin B12 deficit; brain Mass; Alzheimer's dementia; HIV-induced dementia; neurosyphilis.

Diagnostic Pathways: The study shows a severe vitamin B12 deficit (<83 pg/mL) with folic acid, thyroid function, HIV and syphilis serology negatives. Cranioencephalic CT scan showed no changes. Positive antiparietal cell antibodies were detected (1:160), antinuclear antibodies and anti-intrinsic factor antibodies were negative.

Discussion and Learning Points: The behavioral alterations noted coincide with one of the main reasons for the patient's visit to Urgent Care. With several different possible etiologies, the vitamin B12 deficit is a rare, albeit reversible cause for the behavioral alterations, and one that can harbor severe psychiatric symptoms that impact patients' lives. The investigation of this deficit should be carried out in all patients due to how easily reversible their condition is, when diagnosed in a timely manner.

1273 - Submission No. 2421

TELEMEDICINE: REAL LIFE AND FUTURE PERSPECTIVES. PRELIMINARY RESULTS OF THE LIMS AND GREENLINE-HT RANDOMIZED TRIALS

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Background and Aims: In recent years, burden of complex patients in Internal Medicine Wards (IMW) is increased. To improve poly-pathological patients management both during the acute and stable phase of disease, randomized wireless monitoring studies (WMS) are ongoing in Castelli Hospital IMW.

Methods: A portable wireless system allowing continuous, real-time vital sign monitoring and creation of a personalized alert system for each patient via a portable device was used both for inpatients (72 hours monitoring, LIMS Ligh Monitoring Study) and outpatients after discharge (5 days monitoring, Greenline-HT Study) in poly-pathologic, frail patients admitted in IMW.

Results: Up to now WMS of inpatients (LIMS Study) recruited 145 patients and Greenline H-T Study recruited 166 outpatients. During 2022 the total number of people discharged from IMW

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were 1024, 31% of them were monitored using telemedicine devices. Reduction of major complications: from 43.5% to 29.5% in in-patients, from 48% to 22% in out-patients. Reduction of time spent by the nurse on the detection of vital signs: 49–58 min /day for patient (in-patients). Reduction of in-hospital mortality from 16% to 9.3%. 30-day rehospitalization rate for patients monitored at home after discharge reduced by 50%. Improved patient management and satisfaction.

Conclusions: The preliminary results of telemedicine studies suggest a new model for taking care of the patient with comorbidities using light monitoring both during the acute and stable phase of disease for the early evidence of changes in vital parameters and the prevention of major complications that frequently cause rehospitalizations and worsen the prognosis.

1274 - Submission No. 2119

LITHIUM TOXICITY: IDENTIFYING MORTALITY RISK FACTORS

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Background and Aims: Lithium is a drug used as treatment for mood disorders, especially bipolar disorder. Lithium levels should be monitored due to risk of intoxication. There is limited data regarding risk factors for mortality in case of intoxication. The aim of this study is to identify predictors of mortality in lithium poisoning.

Methods: Retrospective cross-sectional observational study of all patients diagnosed with lithium poisoning between 1/01/2019 and 13/06/2022 in Valencia's General Hospital. An anonymized SPSS® database was used for collection and statistical analysis.

Results: 21 patients were included, 52.4% were female, median age of 53. Regarding the causes of intoxication, the main causes were attempted suicide (14.3%), underlying infectious process (38.1%) and dehydration (14.3%). 3 patients required hemodialysis. Mortality rate was 9.5%. In comparison by groups, baseline GFR was statistically significantly lower in the deceased group (27.5 ml/min vs. 87.0 ml/min; p=0.028). Age didn't reach statistical significance (p=0.093). As for the indication for hemodialysis, significant differences were observed in the deceased and non-deceased groups (p=0.048). Dehydration due to low intake was the most frequent cause of intoxication in the deceased group (66.70% vs. 33.33%; p=0.000).

Conclusions: 21 lithium poisonings were reviewed in three years. Sample size is small because it is a relatively infrequent pathology. Baseline glomerular filtration rate, acute renal failure, and dehydration due to low intake were identified as risk factors for mortality. Patients with indication for dialysis had a higher risk of mortality, possibly due to the severity of the intoxication. However, more studies are needed to confirm these results.

1275 - Submission No. 974

BLEEDING: SEARCH FOR A CAUSE

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Case Description: A 70-year-old man presented with a spontaneous right arm hematoma. Past medical history included hypertension and COPD. He got the COVID-19 vaccine one month ago and was infected a year ago.

Clinical Hypothesis: The patient presented with a large hematoma and an unexplained prolonged APTT. Acquired hemophilia A (AHA) should be suspected in such patients. The diagnosis is confirmed in the laboratory by the subsequent identification of reduced FVIII levels and FVIII inhibitor titration.

Diagnostic Pathways: Further testing for this patient suggested the presence of FVIII inhibitor and showed FVIII titer 0. Because of the high mortality related to this disorder, immunosuppressive therapy with methylprednisolone and cyclophosphamide was started immediately. Screening for autoimmune diseases and malignancies was negative. Other possible factors include infectious diseases and pharmacological causes, which were thoroughly investigated. COVID-19 disease and vaccination have been correlated with AHA.

Discussion and Learning Points: AHA is a rare disorder with an incidence of 1.5/million/year. Well-established risk factors are malignancy, autoimmune diseases, and pregnancy. Still, up to 50% of reported cases are idiopathic. A detailed examination and careful medical history investigation can provide possible answers. Regardless of the cause, patients are at risk of severe hemorrhage until the inhibitor is eradicated. Immunosuppression is vitally important after diagnosis. However, there is no consensus regarding the treatment regimen. Additional studies are needed to clarify the appropriate regimen for this population. Close follow-up is also essential for these patients. With the present case we aim to summarize what is currently known of AHA and provide practical advice on diagnosis and treatment.

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1276 - Submission No. 235

HOW DOES MODERATE/SEVERE OSTEOARTHRITIS AFFECT PATIENTS AND WHAT IS THE ECONOMIC BURDEN OF THE DISEASE IN GREECE? INSIGHTS FROM THE PONOS STUDY

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Background and Aims: Limited data exist about the impact of osteoarthritis (OA) on patients' lives and the healthcare system. Our study aimed to quantify the discomfort that patients experience, and the cost associated with the disease.

Methods: Patients with symptomatic hip/knee, moderate/severe OA were prospectively enrolled in one study visit for a period of two months. Patients filled in two questionnaires: HOOS/KOOS [focusing on hip/knee pain, function, quality of life, range from 0 (worst) to 100 (best)] and the EQ-5D-3L/EQ VAS, which assesses quality of life. The resources used for the management of OA were recorded to estimate the direct/indirect cost.

Results: Of the 164 patients (mean age 70.5, 78.7% women and a body mass index 28 kg/m^2) 58.5% and 41.5% suffered from knee/hip OA respectively. All the patients received paracetamol (mean 35 pills/month), 75% NSAIDS (16 pills/month), 50% opioids (5 pills/month) and 40% intraarticular steroid/hyaluronic annually. When evaluating pain, symptoms, limitation to activity, patients reported similar scores in both HOOS/KOOS, with mean values approximately equal to 50. Significant limitation was reported in function in sport/recreation and quality of life with 13.2% and 4.4% of patients respectively reporting 0 in the HOOS. Mean reported values were 0.396 for EQ 5D and 52 for EQ VAS, both implying poor to moderate health status. The overall annual direct cost was 1,675€ (SD 2,518) including medications, hospitalization, joint replacement surgery and physiotherapy, whereas the indirect cost was 3,501€ (SD 4,439).

Conclusions: OA is a debilitating disease with poor quality of life and high economic impact.

1277 - Submission No. 2102

OCULAR SARCOIDOSIS

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Case Description: Female patient, 65 years old, with a history of previous hospitalization in the Cardiology Service for polyserositis with pericardial effusion with cardiac tamponade, who underwent pericardiocentesis in April 2021, and a second hospitalization with a new bilateral pleural effusion and pericardial effusion in the same year. She was referred to the Medicine consultation due to a mass in the inner region of the left eye without interference with visual acuity or oculomotor function and without any other symptomatology. She performed a study of brain TC and orbits with a lesion occupying the orbital space in the upper lateral and lower aspects of the left orbit, with slight left ocular proptosis, performed a biopsy with a result showing sarcoidosis.

Clinical Hypothesis: Sarcoidosis. Lymphoproliferative disorders. Intraorbital tumors.

Diagnostic Pathways: Cerebral CT scan with study of the orbits, biopsy, anatomopathological study.

Discussion and Learning Points: The multisystemic involvement of the disease can reach infrequent locations of sarcoidosis.

1278 - Submission No. 2171

A CASE OF AUTOIMMUNE HAEMOLYTIC ANAEMIA IN AN ELDERLY WOMAN

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Case Description: 84-year-old female, history of cholecystectomy, hypertension and dyslipidemia, referred by the general practitioner with hypotension, nausea, vomiting, brownish urine, yellowish sclera and pallor, with recent blood counts revealing hemoglobin (Hb) of 4.3 g/dL and total bilirubin (TB) 4.52 mg/dL; direct (DB) 2.14 mg/dL). At examination was conscious, oriented, collaborative, pulse rate 78/min, BP 128/58 mmHg cardiac and pulmonary auscultation normal, unpainful abdomen, without palpable liver. Without visible blood loss.

Clinical Hypothesis: Hemolytic anemia, other hematological diseases, unknown gastrointestinal tumor, liver disease, etc.

Diagnostic Pathways: Hb 4.8 g/dL, MCV 130 fl, platelets 147,000; reticulocytes 23.54%, TB 6.89 mg/dL, DB 2.39 mg/dL, ESR 86, LDH 344 U/L, normal iron, folate and B12 Vitamin. Indirect Coombs test and anti-IgG4 antiglobulin test positive, low haptoglobin. Peripheral blood smear showed anisocytosis, few stomatocytes, without precursor cells. Antinuclear antigen and anti-neutrophil cytoplasmic antibody negative. Normal INR, transaminases, alkaline phosphatase, gamma GT. Chest X-ray normal, abdominal ultrasound: liver and spleen with normal dimensions, without

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suspicious lesions, normal biliary duct, no adenopathies.

Discussion and Learning Points: Autoimmune hemolytic anemia (AIHA) was assumed. Patient was transfused with two units of red cells and started prednisolone 1 mg/kg body weight daily. hemoglobin level increased with relief of symptoms. After that, was transferred for hematology department, maintaining follow up. AIHA is characterized by the destruction of red blood cells by warm or cold autoantibodies Has an estimated prevalence of 17/100,000. It can be primary (idiopathic) or secondary (infections, drugs, lymphoproliferative disorders, immunodeficiency, etc.). Should be suspected in patients with macrocytic anemia and altered hemolytic markers. Steroids are the mainstay therapy.

1279 - Submission No. 1225

DRUG-INDUCED HYPERSENSITIVITY SKIN REACTION WITH APIXABAN – AN UNCOMMON SIDE EFFECT

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Case Description: Male, 84 years, good self-care. Hospitalized for decompensated heart failure due to respiratory infection. During hospitalization, episode of irregular supraventricular tachycardia, EKG with de novo atrial fibrillation. CHADS-VASC 6, HAS-BLED 2, started therapeutic anticoagulation with apixaban 5 mg. After 2 days, develops generalized erythematous rash over the trunk, abdomen, back and limbs, with pruritus. Denied fever, myalgias, arthralgias or other new complaint.

Clinical Hypothesis: Cutaneous allergic reaction to a recently introduced drug, dietary product? Other?

Diagnostic Pathways: Without known drug or food allergies, hospitalized for several days before rash presence, no previous hypersensitivity reaction to hospital products, recent introduction of apixaban, without other new drug. No increase in inflammatory parameters, any new lab results changes, with improvement of the initial clinical features that led to hospitalization. Apixaban suspension decided, replacement with warfarin. The skin rash disappeared after discontinuation of the drug and low-dose, short-term course of prednisolone, strengthening the hypothesis of drug-induced hypersensitivity skin reaction due to Apixaban

Discussion and Learning Points: Apixaban is a factor Xa inhibitor indicated, among others, to reduce the risk of stroke and systemic embolism in patients with non-valvular atrial fibrillation. Hypersensitivity reactions (such as skin rash) have been reported in less than 1% of patients. Few cases of cutaneous reactions related to apixaban have been reported and those usually include palmoplantar psoriasiform rash, vasculitis and acute generalized erythematous pustulosis. The authors present a case of hypersensitivity from such a commonly used drug as apixaban – Although rare, Early recognition of allergic reactions from this widely used drug is important, giving potential complications.

1280 - Submission No. 533

INTERNIST AND BIOTHERAPY: EXPERIENCE OF THE INTERNAL MEDICINE DEPARTMENT

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Background and Aims: The advent of biotherapy has revolutionized the management of general diseases. This therapeutic approach is of potential benefit for serious, refractory pathologies. We report the experience of the internal medicine department.

Methods: This is a descriptive, retrospective study, spread over 5 years. We collected all patients who received biotherapy for general pathologies. A data sheet was established to collect all the items necessary for the analysis of our work.

Results: Sixty-nine patients were included, with a mean age of 37±9 years. Anti-TNF alpha was the most commonly used agent (n=45), followed by anti-IL6 (n=14) and anti-CD20 (n=10). These biological agents were prescribed mainly for 14 diseases: Behçet's disease, Takayasu's disease, Crohn's disease, rheumatoid arthritis and uveopathies. Corticosteroid dependence, resistance to conventional treatments and/or intolerance to immunosuppressants were the main indications. 4 cases of immediate side effects and 19 cases of late side effects were recorded. Biotherapy was effective in more than half of the patients.

Conclusions: Biotherapy represents a real advance in the therapeutic arsenal of vasculitis and systemic diseases. Its efficacy and good tolerance are at the origin of its prescription when the indication is established.

1281 - Submission No. 1476

ANCA: THE CLINICAL AND ECONOMICAL EFFECTIVENESS IN A TERTIARY HOSPITAL – REAL-TIME DATA

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Background and Aims: The detection of antineutrophil cytoplasmic antibodies (ANCA) is the most important test for the diagnosis of vasculitis known as ANCA-associated vasculitis (AAVs) The present study aims to evaluate the referral of the ANCA test in relation to its positivity and the relative cost in a tertiary hospital.

Methods: Data for ANCA testing were collected at the Laboratory of Immunology and Histocompatibility of Larissa University Hospital. ANCA was performed by Indirect Immunofluorescence (IIF) on slides fixed with ethanol and formalin, (c-ANCA, p-ANCA) (NOVALite® ANCA, Inova Diagnostics). ELISA against proteinase-3 (PR3) and myeloperoxidase (MPO) was held as confirmation

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test for immunofluorescence-positive samples (EUROIMMUN Medizinische Labordiagnostika AG Germany). The cost of all the above tests was calculated based on the prices per reagent and per test.

Results: A total of 2,404 samples were examined with IIF, 4% of these were positive (N=96). In more details, 42 samples were characterized c-ANCA-positive (1.75%) and 54 p-ANCA-positive (2.25%). ELISA testing revealed 1.62% positive anti-PR3 and 1.78% anti-MPO. The cost of the aforementioned tests was approximately 16,828€ for the ANCA test and 10,818€ for the ELISA test.

Conclusions: AAVs are low frequency diseases (4-42/100,000). The low rate of positive results recorded at the hospital could possibly indicate the non-targeted referral of the test, fact that may lead to confusion and diagnostic dilemmas especially in atypical cases. The purposeless demand of ANCA test makes it costly for the health system, considering the need of second confirmation method.

1282 - Submission No. 2030

ATAXIA, NYSTAGMUS, MAGNESIUM AND PROTON PUMP INHIBITORS: A LINK DOES EXIST!

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Case Description: A 66-year-old man presented with a subacute onset of ataxia, nystagmus, and mild cognitive impairment.

Clinical Hypothesis: In the ED he underwent a head CT scan and an abdomen US exam, both normal. A severe hypomagnesemia was detected, and Mg replacement therapy was started. In the suspect of diseases involving brain or meninges, cerebral + spinal cord MRI and cerebrospinal fluid examination were performed, but no abnormal findings came out. In the suspect of a paraneoplastic syndrome, he underwent upper and lower endoscopies, full body CT scan, PET-CT scan with FDG, onco-neural markers dosage in blood and CSF samples; everything turned out normal.

Diagnostic Pathways: His symptoms gradually improved, and we discharged him. Three weeks later, he presented to our outpatient clinic with same symptoms. Mg levels were found low in blood and urine too. Taking into account a possible iatrogenic cause of magnesium malabsorption, we stopped his long-term PPI therapy. Mg levels went back to normal, and his symptoms disappeared.

Discussion and Learning Points: Vertical nystagmus is a rare sign of severe hypomagnesemia. In the absence of a structural lesion of the cerebellar and vestibular pathways, the only recognized metabolic causes are Wernicke encephalopathy and severe magnesium deficiency. An association between hypomagnesemia and PPI was first described in 2006. The pathophysiological basis of this association is still not fully understood: it is probably based on a reduced intestinal solubility of Mg and a reduced expression of TRPM (transient receptor potential melastatin), which have high affinity for Mg absorption, as the intraluminal pH increases.

1283 - Submission No. 923

A PROTOCOL FOR A CROSS-SECTIONAL STUDY ON ATTITUDE OF PATIENTS ATTENDING PHARMACY TOWARDS PHARMACIST'S ROLE IN PHARMACEUTICAL CARE OF MOOD DISORDERS

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Background and Aims: According to the WHO ~280 million people in the world have depression. The prevalence of depression in Lithuania was 24 cases per 1,000 in 2019. As an integral member of the healthcare team, community pharmacists can be aware of and recognize symptoms associated with mental illness, assist with triaging patients to the appropriate care provider and closely monitor patient medication adherence. The aim of this study is to evaluate the attitude of patients attending pharmacy towards pharmacist's role in pharmaceutical care of mood disorders.

Methods: The cross-sectional study will be performed and the sample size of 481 patient is calculated. All consecutive patients attending pharmacy will be asked to participate and after signing informed patients' consent will be asked to provide sociodemographic information. Also, patients will be provided with 5-point likert-scale questions created for this study to evaluate patients' attitude towards pharmacist's role in pharmaceutical care of mood disorders. Furthermore, patients will be asked to fill in the PHQ-9 questionnaire to evaluate if they have depressive symptoms. The Lithuanian Bioethics Committee approval is going to be received (estimated time – the 1st quarter of 2023).

Results: Patients' attitudes towards pharmacist's role in pharmaceutical care of mood disorders will be evaluated. Also, the relationship between patients' attitude and sociodemographic data and depressive symptoms will be evaluated.

Conclusions: Conclusions will be drawn on patients' attitude towards pharmacist's role in pharmaceutical care of mood disorders. Also, practical recommendations will be introduced to the Ministry of Health of the Republic of Lithuania.

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1284 - Submission No. 1066

REAL WORLD EXPERIENCE OF PROCALCITONIN ASSOCIATION WITH DURATION OF ANTIBIOTICS AND LENGTH OF STAY (LOS) IN PATIENTS WITH COMMUNITY ACQUIRED PNEUMONIA (CAP)

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Background and Aims: Procalcitonin is a biomarker of bacterial infection which can guide clinicians in optimizing duration of antibiotics and length of stay (LOS). Objective of this study was to determine association of procalcitonin levels with duration of antibiotics and LOS in patients with community acquired pneumonia (CAP).

Methods / Intervention: This is a retrospective observational study of 44 patients admitted with radiologically confirmed diagnosis of community acquired pneumonia from 01/08/2021 till 31/07/2022. Procalcitonin was checked at admission in all. Data was collected from electronic medical record and analyzed via SPSS version 29.

Results / Impact: 23 patients had normal (<0.50 ng/ml) and 21 had high procalcitonin (>0.50 ng/ml) values. In high procalcitonin group median value was 3, mean duration of antibiotics 10 days and mean length of stay 9 days. In normal procalcitonin group median procalcitonin value was 0.07, mean durations of antibiotics and length of stay 7 days each. On comparing two groups there was statistically significant difference in duration of antibiotics (10 vs 7 days, p <0.01) while difference was not statistically significant for LOS (9 vs 7 days, p=0.4) (Table 1).

Conclusions: We demonstrate that high procalcitonin level in CAP is associated with longer duration of antibiotics as compared to those with normal procalcitonin. There is no significant difference in LOS in two groups. Extensive use of procalcitonin failed to reduce LOS in those with normal levels.

	Normal Procalcitonin Group	High Procalcitonin Group	p value
Duration of antibiotics (Mean)	7 days	10 days	< 0.01
Length of stay (Mean)	7 days	9 days	0.4

1284 Table 1.

1285 - Submission No. 1027

EFFICACY OF VAGAL NEUROMODULATION IN ONE CASE OF CYCLIC VOMITING SYNDROME

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Background and Aims: We reported a case of a 20-year-old female who presented to our outpatient clinic for Cyclic Vomiting Syndrome (CVS). Since the age of 12 she had CVS attacks characterized by 3 days of nausea, vomiting and severe dehydration every 2 months. Previous echocardiography, EEG and brain imaging were negative. The patient was evaluated in our clinic in order to exclude the presence of a dysautonomia.

Methods / Intervention: We performed 7-day ECG monitoring and a head up tilt test. The ECG monitoring revealed a severe heart rate increase from sleep to wakefulness in the morning (ΔHR=70 bpm) and a progressive reduction of the ΔHR on the days preceding the vomiting episode. The HUTT revealed an exaggerated HR response during orthostatism (ΔHR=35 bpm) in the absence of orthostatic hypotension, suggesting a diagnosis of Postural Orthostatic Tachycardia Syndrome. Considering the POTS possibly linked to an autonomic dysfunction with a shift of the sympatho-vagal balance towards a sympathetic predominance, we decided to start a 6-month treatment with transcutaneous auricular vagus nerve stimulation. This was performed by the patient at home for 4 non-consecutive hours/day, with a stimulation frequency of 25 Hz and an intensity of 0.5-5 mA according to the personal daily skin sensitivity.

Results / Impact: After 6 months of tVNS, the patient reported no CVS attacks and a new 7-day ECG monitoring revealed a decreased ΔHR from sleep to wake (ΔHR=40 bpm).

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Conclusions: The observed beneficial results could be due to a neuromodulatory effect of tVNS. Further studies are needed to evaluate the efficacy of tVNS in CVS.

1286 - Submission No. 1165

TARGETING IMMUNOFIBROSIS IN SEVERE COVID-19: COMBINED INHIBITION OF NETS AND JAK/IL-6 SIGNALING ABOLISHES THE FIBROTIC ACTIVITY OF LUNG FIBROBLASTS BY RESTORING THEIR DOWNREGULATED KLF2 EXPRESSION

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Background and Aims: In COVID-19, lung fibroblasts (LFs) are activated leading to fibrotic damage. Krüppel-like factor 2 (KLF2) has been linked with fibrosis and neutrophil-mediated thromboinflammation; however, its role in COVID-19 remains elusive. Recently, we found that COMBI rescue therapy [inhaled DNase, plus inhibitors of IL-6R (tocilizumab) & JAK-1/2 (baricitinib)] on-top of standard-of-care (SOC: dexamethasone/heparin) may be beneficial in severe COVID-19 by targeting activated LFs. Here, we further investigated the effect of disease microenvironment on the fibrotic potential of LFs and its association with KLF2 expression.

Methods / Intervention: Human LFs were isolated from healthy lung tissue. Plasma from severe COVID-19 patients was used for in-vitro stimulations of LFs. RT-qPCR, immunostaining, collagen and wound healing assays were performed to assess the role of disease microenvironment and COMBI therapy on LFs and KLF2 expression.

Results / Impact: COVID-19 plasma-incubated LFs were activated acquiring a pre-fibrotic phenotype characterized by increased CCN2 (Cellular Communication Network Factor 2) expression and excessive collagen production. This was well-correlated with KLF2 down-regulation in mRNA, protein and functional level. Pre-incubation of LFs with the COMBI agents, led to decreased fibrotic activity and upregulated KLF2. COMBI-treated patients had better outcome compared to SOC. In line with this, LFs stimulated with plasma from COMBI-treated patients at day 7 characterized by lower CCN2 and higher KLF2 levels, compared to prior-to-treatment plasma, an effect not observed in SOC-treated patients.

Conclusions: We describe a mechanistic link between NETs/JAK/IL-6 signaling and fibroblast KLF2 expression, in COVID-19 immunofibrosis. Combined therapeutic strategies by targeting this mechanism may be beneficial in COVID-19 and other fibrotic diseases.

1287 - Submission No. 1747

THE SIGNIFICANCE OF THE PNPLA3 I148M GENETIC VARIANT IN AUTOIMMUNE HEPATITIS (AIH)

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Background and Aims: AIH is a relatively rare autoimmune disease with a strong genetic background. The concurrence of non-alcoholic fatty liver disease (NAFLD) in AIH possibly signifies a more severe disease. The PNPLA3 I148M (rs738409 C/G) variant is a well-established genetic modifier of NAFLD. Our aim was to investigate the significance of the PNPLA3 I148M variant in AIH.

Methods / Intervention: 200 patients with AIH followed in our Centre were evaluated while 100 healthy subjects served as controls. Genotyping was performed with allelic discrimination End-Point PCR.

Results / Impact: The I148M variant was present in 95/200 (47.5%) AIH patients compared to 47/100 (47%) healthy controls (p=1.000). Patients with GG/CG genotypes were more likely to suffer from at least one metabolic risk factor (GG/CG 74.4% vs CC 61%, p=0.038) and to present with decompensated cirrhosis at diagnosis (GG/CG 6.3% vs CC 1%, p=0.038). Simple steatosis was present in 35/186 (18.8%) and steatohepatitis in 14/186 (7.5%) patients with available liver biopsy without correlation with the PLPLA3 genotype. The stage of fibrosis and grade of inflammation didn't correlate with any genotype. Response to treatment was also independent. On Kaplan Meier analysis homozygosity for the G allele corelated with reduced survival free of decompensation (p=0.006), cirrhotic events (decompensation, liver transplantation, HCC) (p=0.001) and liver related death or liver transplantation (p=0.011) in treated patients.

Conclusions: The PLPLA3 I148M variant in AIH patients is associated with increased risk of advanced disease at diagnosis and reduced survival free of cirrhotic events and liver related death/liver transplantation, regardless of the presence of NAFLD.

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1288 - Submission No. 1285

CENTRAL NERVOUS SYSTEM INVOLVEMENT IN SYSTEMIC DISEASES

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Background and Aims: Involvement of the central nervous system (CNS) during systemic diseases represents both diagnostic and therapeutic challenge. Our objective was to determine the characteristics of CNS involvement during systemic diseases.

Methods / Intervention: Retrospective descriptive study including patients with CNS involvement during systemic diseases, admitted to the Neurology and Internal Medicine departments of the University Hospital of Mahdia over a 11-year period (2008-2018) for headaches.

Results / Impact: Forty-three patients were admitted. Their mean age was 48.7±12.86 years. The involvement of the CNS was inaugural of the systemic disease in 51.2% of cases and appeared during the follow-up in 48.8% of patients with a median delay of 4 years (9-1.5). The circumstances of discovery of CNS involvement were headaches, motor deficit and cranial nerve involvement in 79.1%, 37.2% and 14% of patients, respectively. Cerebrospinal MRI showed T2 and Flair hyper-signals in the white matter in 90.7% of cases. The diagnoses retained was cerebral vasculitis in all cases. Associated systemic diseases were dominated by Gougerot-Sjögren syndrome in 32.55 of cases following by Behçet's disease and systemic lupus erythematosus (30.2% and 20.9%, each). Corticosteroid therapy was prescribed in 88.4% of patients. Immunosuppressants were associated in 46.5% of cases. The evolution was marked by improvement, stability, and relapse in 39.5%, 23.3% and 37.2% of cases, respectively.

Conclusions: CNS involvement can initiate or complicate systemic diseases. The clinical picture is characterized by non-specific signs, dominated by headaches. The systemic diseases most likely to cause CNS involvement, according to our study, are Gougerot-Sjögren syndrome and Behçet's disease.

1289 - Submission No. 1350

HEADACHES AS A NEUROLOGIC MANIFESTATION REVEALING SYSTEMIC DISEASES

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Background and Aims: Headaches associated with systemic diseases are either primary or secondary with or without a direct link to the systemic disease. Our objective was to describe the characteristics of headache revealing systemic diseases.

Methods / Intervention: Retrospective descriptive study including patients admitted to the Neurology and Internal Medicine departments of the University Hospital of Mahdia over a 12-year period (2008-2019) for headaches.

Results / Impact: Twenty-four patients were included. Their mean age was 51.7±13.3 years. No patient had a history of systemic disease. Headaches were chronic and subacute in 50% and 20.8% of cases, each. They were often described as holocranial (41.7%). Neurological signs were dominated by neurosensory disorders (50%). Dry eyes and dry mouth symptoms were the most described (66.7%). Joint symptoms were present in 16 patients. The neurological examination found a pyramidal syndrome in 54.2% of cases. The anomalies of the cutaneous-mucous examination dominated the clinical picture (79.1%). Cerebrospinal magnetic resonance imaging showed FLAIR T2 hyper-signals and T1 hypo-signals in 20 and 10 patients, each. The diagnosis retained was cerebral vasculitis in all cases. Positive antibodies were dominated by antinuclear antibodies (45.8%). Biopsy of accessory salivary glands showed lymphocytic sialadenitis in 41.7% of cases. Associated system diseases were dominated by Gougerot-Sjögren syndrome (41.7%) and lupus (20.8%). Specific treatment was necessary in 19 patients. The evolution was favorable in most patients.

Conclusions: A significant rate of headaches could be an inaugural symptom of systemic diseases. Hence the interest of early management and the search for associated systemic signs.

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1290 - Submission No. 1394

PRIMARY SJÖGREN'S SYNDROME: THE CURRENT STATE IN MAHDIA, TUNISIA

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Background and Aims: Although being one of the most frequent connectivitis, the diagnosis of primary Sjögren's syndrome (pSS) is often difficult to make and delayed due to the heterogeneity of the clinical presentation and the insidious progression of the disease. Our objective was to determine the characteristics of pSS.

Methods / Intervention: Descriptive retrospective study including patients followed-up in the University Hospital of Mahdia for pSS over a period of 11 years (September 2011-June 2022).

Results / Impact: A total of 40 patients were included with a mean age of 59.5 years and a sex ratio M/F of 0.05. Ocular and oral symptoms were present in 95% and 92.5% of patients, each. The biopsy of the accessory salivary glands was contributory in 70% of cases. Extra-glandular manifestations were present in 85% of patients, articular and respiratory symptoms were the most frequent (75% and 70%, each). One-tenth of patients had psychiatric symptoms. Anti-SSA and anti-SSB antibodies were positive in 30% and 20% of cases, respectively. High disease activity was noted in 22.5% of patients. In addition to the symptomatic treatment, corticosteroid therapy and Immunosuppressants were prescribed in 60% and 40% of cases, respectively. The evolution was favorable in the majority of cases (67.5%). A lymphomatous transformation was noted in one patient (2.5%).

Conclusions: Multicenter studies including all internal medicine departments in Tunisia would seem interesting in order to draw up a complete profile of the epidemiological, clinical, paraclinical and therapeutic characteristics of patients followed for pSS in our country.

1291 - Submission No. 341

MORTALITY RISK SCORES AND CARDIAC SYMPATHETIC INNERVATION IN PATIENTS WITH HEART FAILURE

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Background and Aims: ^{123}I-meta-IodineBenzylGuanidine (^{123}I-mIBG) scintigraphy represents an effective non-invasive method to assess cardiac adrenergic innervation. Many clinical risk scores have been proposed to identify patients with Heart Failure (HF) at risk of all-cause mortality, with presumable lower benefit from implantable cardioverter defibrillator (ICD) therapy. Since the relationship between the two classes of tools, one suggestive of major arrhythmic risk, the other of all-causes mortality, has not been adequately investigated, the objective of the study was to test the association between the most employed risk scores for predicting non arrhythmic mortality and myocardial ^{123}I-mIBG imaging parameters, assessing cardiac sympathetic innervation, in a population of patients with HF.

Methods / Intervention: Patients with HF (left ventricle ejection fraction < 50%) undergone cardiac ^{123}I-mIBG scintigraphy and the collection of variables to estimate eight risk stratification models (AAACC, FADES, MADIT, MADIT-ICD non-arrhythmic mortality score, PACE, Parkash, SHOCKED and Sjoblom) were included. Cardiac adrenergic impairment was defined as late Heart to Mediastinum ratio (H/M) <1.6.

Results / Impact: 269 participants with HF were included. Late H/M showed weak negative correlation with all the predicting scores, the strongest association emerged for FADES ($r = -0.32$, $p < 0.001$). The analyses revealed poor discriminatory power of mortality scores on cardiac denervation, with areas under the curve (AUC) ranging from 0.54 for Parkash to 0.62 for FADES.

Conclusions: A weak association was found between eight mortality risk scores and cardiac innervation. This evidence suggests the need to integrate tools indicative of both arrhythmic and general mortality in the management of HF patients, especially for device implantation indication.

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1292 - Submission No. 1860

MAKE A WISH - WELLNESS INITIATIVE SUPPORTING HEALTH MINI-GRANTS IN AN ACADEMIC MEDICAL DEPARTMENT

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Background and Aims: With burnout on the rise among health professionals, academic leaders have been searching for effective strategies to enhance well-being among their faculty and staff members. The WISH Grant program aims to: 1. Enhance well-being among faculty and staff members through innovative collaborations. 2. Solicit creative proposals for wellness activities from across an academic medical department.

Methods / Intervention: In 2018, the Department of Medicine created the "Wellness Initiative Supporting Health (WISH) Grant" program and solicited online applications (limited to 500 words) to fund small wellness projects of up to $500. Applications were scored by external reviewers using a specified scoring system. Grant recipients were sent a brief anonymous post-program evaluation survey.

Results / Impact: Over four cycles of grant solicitation between 2018-2022, 36 of 65 (55%) applications received funding. The most commonly proposed objectives included (1) individual wellness strategies, (2) team-building activities, and (3) networking events. 53% of recipients provided program feedback. WISH Grant awardees noted the event(s) had high participation rates, fostered inter-disciplinary, cross-institutional collaboration, and demonstrated positive outcomes. All grantees reported that the funded activity helped enhance wellness among participants and 82% felt that the program had an impact beyond direct participants. All strongly agreed with continuation of the WISH Grant initiative.

Conclusions: The robust response of innovative wellness proposals suggests a clear need to create new programs and enhance ongoing wellness opportunities within this Department of Medicine. With minimal funds, effective inter-disciplinary initiatives can be developed and/or supplemented to foster wellness among faculty and staff members within a large, diverse academic medical department.

1293 - Submission No. 1236

ASSOCIATION OF PULSED TRANSMITRAL AND TISSUE DOPPLER PARAMETERS WITH HEART FAILURE

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Background and Aims: To assess whether the E wave measured by transmitral Doppler, the e' wave of tissue Doppler (TD) in the medial mitral annulus and its E/e' ratio can be valid parameters for the detection of heart failure (HF).

Methods / Intervention: An observational case-control study was carried out in a second-level hospital with patients attending with HF and the controls attending for other reasons, without HF. Pulsed transmitral flow Doppler and TD analysis were performed. A total of 127 echocardiographies were performed, of which 71 patients had HF. E and e' wave by TD and E/e' ratio were analyzed. Mann–Whitney U test was used to perform univariable analysis.

Results / Impact: The mean E wave in patients without HF was 64.21 cm/s and with HF 90.63 cm/s ($p < 0.01$), concluding that there were significant differences in the E wave in the HF group. The e' wave in patients without HF was 12 cm/s and in patients with HF, it was 8.00 cm/s ($p < 0.01$). The E/e' ratio in patients without HF was 8.04 and in patients with HF it was 14.53 ($p < 0.001$), so there is a statistically significant association between the ratio and the presence of HF.

Conclusions: The E and e' wave and their ratio differ significantly in patients with HF and may be useful parameters in its detection. Our study is a unicentric, case-control study, with the limitations inherent to this type of study. Echocardiography was performed by experienced physicians, which may also be a bias for the extrapolation of results.

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1294 - Submission No. 760

HYPNOSIS-BASED THERAPEUTIC COMMUNICATION (HBTC) IN COVID-19 INTERMEDIATE CARE. A TOOL TO LIGHTEN HEALTHCARE WORKERS' HEAVY BURDEN

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Background and Aims: Non-invasive respiratory therapies are essential in the management of severe COVID-19. Still, these therapies can be frightening and traumatic. Negative emotions may affect patient's cooperation, undermine his/her tolerance/acceptance, and even lead to treatment refusal and worse outcomes. HCWs' reaction to patients who refuse treatment can be emotionally exhausting and result in a considerable stress burden. Hypnosis-Based Therapeutic Communication (HBTC) can improve patients' tolerance, and positively affect HCWs' experiences.

Methods / Intervention: Four one-hour introductory seminars to HBTC were given (once per week) to HCWs working in the COVID-19 intermediate care unit of Geneva University Hospitals. Primary goals of these seminars were: 1. To understand/recognize patients' "spontaneous trance state" (i.e., increased susceptibility to suggestions when faced with situations with a strong emotional/affective impact); and to take advantage of this state to exert a positive influence. Basic HBTC techniques (i.e., positive suggestions, refraining from warnings, commiserations, negatively loaded statements, or anticipation of potentially unpleasant sensations) were taught. A survey -built upon Kirkpatrick's levels of training evaluation- was submitted before the course and one month after. Questions ascertained what the participants thought about the course (level 1, "reaction"), what knowledge/skills were acquired (level 2, "knowledge"), and whether what was learned was finally applied (level 3, "behavior"). Answers before and after the course were compared.

Results / Impact: These courses were appreciated and sufficient to learn the basis of HBTC. A positive impact on HCWs' feelings when faced with difficult situations was also evident.

Conclusions: HBTC basic techniques can be easily integrated into everyday practice and can positively impact HCWs in their clinical everyday life.

1295 - Submission No. 977

THE EFFECT OF OVERNIGHT SHIFTS ON PHYSIOLOGICAL INDICATORS OF FATIGUE AMONGST PHYSICIANS

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Background and Aims: Studies confirm the relationship between stress, fatigue, and heart rate (HR). We aimed to examining the effect of different shift types in internal medicine department (IMD) on physiological responses based on HR data related to stress among residents during different shifts.

Methods / Intervention: 5 residents working in IMD, were monitored for 160 days using 4GARMIN VIVOSMART fitness bracelets that collected information regarding their HR. Shift types included: day shifts, full night shifts, half night shifts. The metrics examined were average HR, max HR and number and magnitude of significant HR accelerations. Type III ANOVA models were fitted separately for each response variable with the shift type as an independent variable. HR data was standardized per physicians as it is distributed differently between individuals.

Results / Impact: Significant differences were found between shift types for the max HR ($p = 0.001$), adjusted count of tachycardia events ($p = 0.006$), tachycardia events duration ($p = 0.005$), adj HR acceleration count ($p < 0.00005$) and HR acceleration intensity ($p < 0.000001$). Post-hoc analysis summary showed that max HR, tachycardia durations, HR acceleration count and HR acceleration intensity were higher during full night shifts compared to day shifts. Tachycardia event account and tachycardia duration were higher during half night shifts compared to day shifts.

Conclusions: This study provides evidence of the association between an easy to measure and highly usable metric HR, stress, and shift types. The results are the first findings in a larger study aiming to find physiological indicators correlative and predictive of medical staff wellbeing, fatigue, stress and burnout.

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1296 - Submission No. 1969

RISK OF BURNOUT AND STRESS IN PHYSICIANS WORKING IN A COVID TEAM: A LONGITUDINAL SURVEY

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Background and Aims: The COVID-19 pandemic represents a source of stress and potential burnout for many physicians. This single-site survey aimed at assessing perceived stress and risk to develop burnout syndrome among physicians operating in COVID wards.

Methods / Intervention: This longitudinal survey evaluated stress and burnout in 51 physicians operating in the COVID team of Gemelli Hospital, Italy. Participants were asked to complete the Maslach Burnout Inventory (MBI) and the Perceived Stress Questionnaire on a short run (PSQs) (referring to the past 7 days) at baseline (T0) and then for four weeks (T1-T4). Perceived Stress Questionnaire on a long run (PSQl) (referring to the past 2 years) was completed only at T0.

Results / Impact: Compared with physicians board-certified in internal medicine, those board-certified in other disciplines showed higher scores for the Emotional Exhaustion (EE) score of the MBI scale. Depersonalization (DP) score showed a reduction over time. Attending physicians scored lower than the resident physicians on the DP scale and higher than resident physicians on the Personal Accomplishment (PA) scale. PSQl predicted higher scores on the EE scale, DP scale and lower scores on the PA scale. PSQs showed a reduction over time. Attending physicians had a lower PSQs score compared with the resident physicians.

Conclusions: Medical specialty and clinical position could represent risk factors for the development of burnout in a COVID team. In these preliminary results, physicians board-certified in internal medicine showed lower risk of developing EE during the entire course of the study.

1297 - Submission No. 1218

ANTIBODIES AGAINST EGG-ALBUMIN, BOVINE SERUM ALBUMIN AND CASEIN IN PATIENTS WITH PSYCHIATRIC DISORDERS

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Background and Aims: Multiple studies have found a correlation between psychiatric disorders and food. Casein is the antigen related with most disorders while, recent studies of our team revealed increased anti-egg albumin antibodies in patients with severe Alzheimer's disease. The aim of this study was the detection of antibodies against denatured and native egg-albumin, bovine serum albumin (BSA) and casein in serum of patients with psychiatric disorders (PD).

Methods / Intervention: 85 serum samples of patients with PD and healthy individuals were tested using ELISA plates coated with the appropriate antigens.

Results / Impact: According to the results, 31.8% of PD patients were anti-egg albumin positive vs 5.7% in general population (p=0.028, chi square test), 14% were anti-BSA positive vs 0% in general population and 56.8% of PD patients were anti-casein positive vs 14.2% in general population (p=0.001). The greater increase in anti-egg albumin antibodies was observed in dipolar disorder (42%, p=0.012), in anti-BSA (40%) was observed in schizophrenia and depression and in anti-casein was observed in dipolar disorder (70%, p=0.009), followed by psychosis (75%, p=0.004), schizophrenia (60%, p=0.013) and depression (60%, p=0.012). The percentage of patients positive to at least one of these antibodies varied between 80% and 100%. Low, not statistically significant percentage of positive samples was found in patients with dementia. Most patients were positive against native molecules.

Conclusions: Egg-albumin and BSA in addition to casein seem to correlate with several mental disorders, pointing to the importance of good intestinal function and the role of specific food consumption in these patients.

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1298 - Submission No. 1875

SUCCESS RATE IN ACHIEVING GUIDELINE TARGETS FOR LIPID PARAMETERS FOR ATHEROSCLEROTIC CARDIOVASCULAR RISK PREVENTION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS: A RETROSPECTIVE ANALYSIS

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Background and Aims: Atherosclerotic cardiovascular disease (ASCVD) is a major cause of morbidity and mortality in worldwide especially among patients with type2 diabetes mellitus (T2DM). The aim of the study is to reveal the success rates of glycemic control serum low-density-lipoprotein cholesterol (LDL-C), serum triglyceride (TG) and non-high density-lipoprotein cholesterol (Non-HDL-C) targets according to recent guidelines.

Methods / Intervention: This is a retrospective observational study of 389 previously diagnosed T2DM patients (217 women, 172 men) of outpatient diabetes clinic. Demographic characteristics, comorbidities, medications and laboratory measurements were recorded from the electronical system. ASCVD risks and target rates for LDL-C, TG, Non-HDL-C, HbA1c were evaluated according to 2019 European Society of Cardiology (ESC)/European Atherosclerosis Society (EAS) guidelines.

Results / Impact: Of the total cases, 22.6% had moderate, 12.6% had high and 64.8% had very high ASCVD risk. Patients on target for LDC-C, TG, and Non-HDL-C were low in overall patient group (7.8%, 45.5%, 8.9% respectively). Although lower LDL-C was seen in patients under statin treatment (p<0.001), the percentage of patients with target LDL-C was similar in both groups (p=0.239). In this study 8.9% of total T2DM patients were at non-HDL-C targets. Patients that use statin had lower Non-HDL-C and had better target rates (p<0.001 and p=0.029). In patients with >7%HbA1c, LDL-C target success rates were lower (p=0.028), but non-HDL-C target success rates were higher (p=0.039).

Conclusions: In this pilot observation, the rate of achievement of lipid targets recommended by 2019 ESC/EAS was low. More attention is needed to achieve success rates of lipid parameters and manage the risk of ASCVD in T2DM patients.

Characteristics	Overall *n*=389 mean±SD	Men *n*=172 mean±SD	Women *n*=217 mean±SD	*p*-value
Age(years)	57.95±9.53	58.07±9.56	57.86±9.52	0.992
DM duration (years)	12.72±7.45	12.77±7.34	12.68±7.56	0.851
BMI (kg/m²)	31.45±5.36	29.67±3.77	32.87±5.98	<0.001
FBG (mg/dL)	153.92±50.84	158.10±50.47	150.64±50.99	0.125
HbA1c (%)	7.83±1.35	7.97±1.41	7.72±1.30	0.339
HbA1c on target, n (%)	99(25.44)	138(80.2)	34(15.6)	0.021
Total cholesterol (mg/dL)	202.74±46.43	196.46±50.61	207.87±36.62	0.008
LDL-C (mg/dL)	121.49±38.63	117.01±40.81	124.87±36.62	0.130
LDL-C on target, n (%)	29(7.8)	14(8.7)	15(7.0)	0.564
Triglyceride (mg/dL)	180.26±112.10	190.44±128.83	172.24±96.47	0.305
Triglyceride on target, n (%)	177(45.5)	78(45.3)	99(45.6)	0.957
Non-HDL-C (mg/dL)	156.05±44.99	153.99±48.94	157.63±41.75	0.435
Non-HDL-C on target, n(%)	34(8.9)	17(10.3)	17(7.9)	0.470
AST (IU/L)	21.74±11.08	22.90±12.16	20.82±10.09	0.056
ALT (IU/L)	25.41±19.40	28.17±23.73	23.22±14.79	0.003
eGFR (mL/min/1.73m²)	88.03±20.73	87.64±20.82	88.34±20.70	0.937
Albumin (g/dL)	4.37±0.28	4.41±0.28	4.34±0.28	0.017
ASCVD Risk, n(%)				
Moderate	88(22.6)	29(16.9)	59(27.2)	0.053
High	49(12.6)	24(14.0)	25(11.5)	
Very High	252(64.8)	119(69.2)	133(61.3)	
Complications, n(%)				
Microalbuminuria	117(30.1)	56(32.6)	61(28.1)	0.374
Neuropathy	144(41.5)	56(38.4)	88(43.8)	0.323
Retinopathy	94(27.6)	34(24.3)	60(30.0)	0.246
Comorbidities, n(%)				
HT	254(65.3)	119(69.2)	135(62.2)	0.151
CAD	105(27)	61(35.5)	44(20.3)	0.001
CVD	33(8.5)	18(10.5)	15(6.9)	0.212
PAD	20(5.1)	14(8.1)	6(2.8)	0.170
Treatments, n(%)				
Statins	183(47)	88(51.2)	95(43.8)	0.154
Fenofibrate	17(4.4)	12(7.0)	5(2.3)	0.043
Insulin	213(54.8)	100(58.1)	113(52.1)	0.260
metformin	342(87.9)	152(88.4)	190(87.6)	0.876
Sulfonylurea	57(14.7)	31(18.0)	26(12.0)	0.112
Pioglitazone	8(2.1)	3(1.7)	5(2.3)	0.738
DPP4i	200(51.49)	89(51.7)	111(51.2)	0.919
SGLT-2i	55(14.1)	20(11.6)	35(16.1)	0.206
Acarbose	7(1.8)	4(2.3)	3(1.4)	0.704
GLP-1	12(3.1)	4(2.3)	8(3.7)	0.561
Glinides	7(1.8)	2(1.2)	5(2.3)	0.471

Statistical significance at <0.05. DM: diabetes mellitus; BMI: body mass index; FBG: fasting blood glucose; HbA1c: glycated hemoglobin; LDL-C: low density lipoprotein cholesterol;

1298 Table 1. Summary of demographic data and laboratory findings of patients according to gender

	Statin use (+) *n*=183 mean±SD	Statin use (-) *n*=206 mean±SD	*p-value*
Age (years)	60.17±8.31	55.98±10.11	<0.001
Gender (male), n (%)	84(40.8)	88(48.1)	0.154
DM duration (years)	14.74±7.20	10.92±7.32	<0.001
BMI (kg/m²)	31.17±4.73	31.71±5.86	0.668
FBG (mg/dl)	149.42±45.24	157.87±55.09	0.196
HbA1c, %	7.79±1.15	7.87±1.51	0.601
HbA1c on target, n(%)	39(21.3)	60(29.1)	0.081
Total cholesterol (mg/dL)	192.62±47.56	211.77±43.56	<0.001
LDL-C (mg/dL)	111.89±39.57	130.39±35.58	<0.001
LDL-C on target, n (%)	17(9.4)	12(6.2)	0.239
Triglyceride (mg/dL)	170.68±102.38	188.81±119.72	0.193
Triglyceride on target, n(%)	88(48.1)	89(43.2)	0.359
Non-HDL-C (mg/dL)	145.98±46.49	164.93±41.76	<0.001
Non-HDL-C on target, n (%)	22(12.4)	12(5.9)	0.029
ASCVD Risk, n(%)			<0.001
Moderate	23(12.6)	65(31.6)	
High	16(8.7)	33(16.0)	
Very High	144(78.7)	108(52.4)	
Complications, n (%)			
Microalbuminuria	60(32.8)	57(27.7)	0.272
Neuropathy	85(52.5)	59(31.9)	<0.001
Retinopathy	53(33.5)	41(22.5)	0.023
Comorbidities, n (%)			
HT	145(79.2)	109(52.9)	<0.001
CAD	72(39.3)	33(16)	<0.001
CVD	21(11.5)	12(5.8)	0.046
PAD	10(5.5)	10(4.9)	0.786

Statistical significance at <0.05. SD: standard deviation; DM: diabetes mellitus; BMI: body mass index; FBG: fasting blood glucose; HbA1c: glycated hemoglobin; LDL-C: low density lipoprotein cholesterol; Non-HDL-C: non-high-density lipoprotein cholesterol; ASCVD: atherosclerotic cardiovascular disease; HT: hypertension; CAD: coronary artery disease; CVD: cerebrovascular disease; PAD: peripheral artery disease; DPP4i: dipeptidyl peptidase inhibitors; SGLT2i: sodium-glucose cotransporter-2 inhibitors.

1298 Table 2. Comparative analysis of Demographic characteristics of the study group according to statin use

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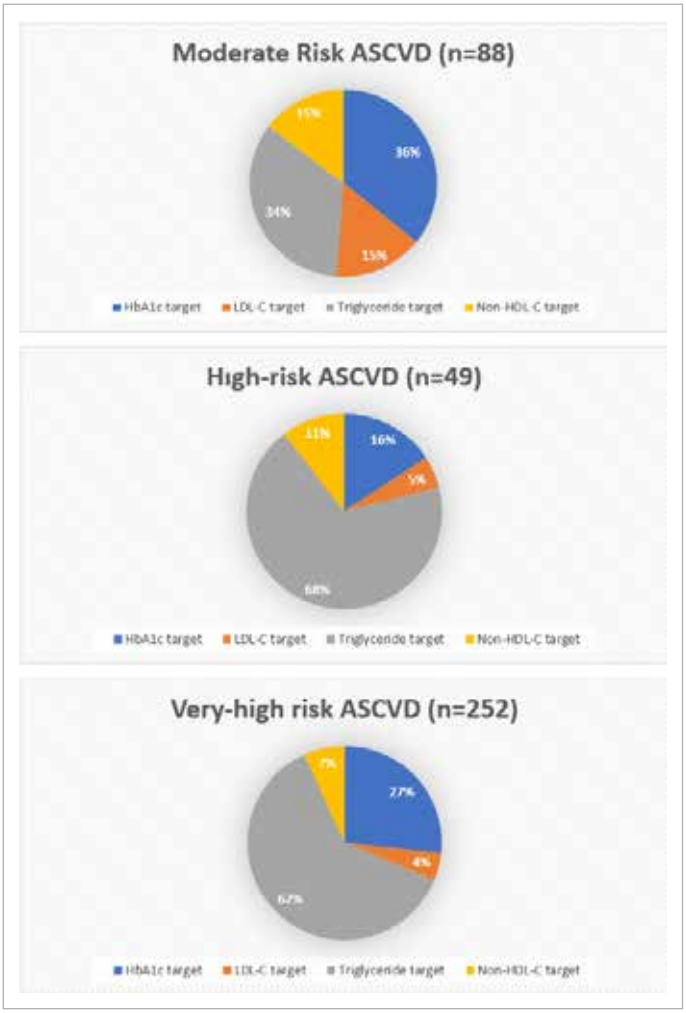
	Hba1c<7.0 n=99 mean±SD	Hba1c≥7.0 n=290 mean±SD	p-value
Age (years)	58.06±9.11	57.91±9.58	0.922
Gender (men)	34 (%34.3)	138 (47.6)	0.021
DM duration (years)	9.40±7.33	13.84±7.17	<0.001
BMI (kg/m²)	31.02±5.15	31.60±5.42	0.266
FBG (mg/dL)	121.33±31.59	164.82±51.42	<0.001
HbA1c (%)	6.42±0.37	8.31±1.23	<0.001
Total Cholesterol (mg/dL)	200.47±39.89	203.51±48.50	0.794
LDL-C (mg/dL)	121.76±34.54	121.39±40.04	0.699
LDL-C target, n(%)	12(12.2)	17 (6.2)	0.028
Triglyceride (mg/dL)	161.92±99.59	186.54±115.57	0.083
Triglyceride on target n(%)	128(44.1)	49(49.5)	0.061
Non-HDL-C (mg/dL)	152.14±38.13	157.43±47.15	0.301
Non-HDL-C on target, n(%)	21(7.5)	13(13.1)	0.039
eGFR (mL/min/1.73m²)	87.62±19.54	88.17±21.15	0.518
Statin use n(%)	39 (%39.4)	144 (%49.7)	0.076
Complications, n(%)			
Microalbuminuria	18(18.2)	99 (34.1)	0.002
Neuropathy	22 (26.5)	122 (46.2)	0.001
Retinopathy	11 (13.4)	83 (32.2)	<0.001
Comorbidities, n(%)			
HT	56 (56.6)	198 (68.3)	0.036
CAD	22 (22.2)	83 (28.6)	0.209
CVD	3 (3.0)	30 (10.3)	0.013
PAD	2 (2.0)	18 (6.2)	0.075
ASCVD Risk, n(%)			
Very High	48(48.5)	204(70.3)	<0.001
High	7 (7.1)	42 (14.5)	
Moderate	44 (44.4)	44 (15.2)	

Statistical significance at <0.05. DM: diabetes mellitus; BMI: body mass index; FBG: fasting blood glucose; HbA1c: glycated hemoglobin; LDL-C: low density lipoprotein cholesterol; Non-HDL-C: non-high-density lipoprotein cholesterol; eGFR: estimated glomerular filtration rate; ASCVD: atherosclerotic cardiovascular disease; HT: hypertension; CAD: coronary artery disease; CVD: cerebrovascular disease; PAD: peripheral artery disease

1298 Table 3. Characteristics of the study participants according to glycemic regulation



1298 Image 1.

1299 - Submission No. 1757

FRAILTY PATIENT UNIT - FIRST 100 PATIENTS

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Background and Aims: The current clinical model, does not consider the negative impact on functionality that a hospitalization can generate in a fragile person. This Unit was created to enable an approach to the fragile person, in a multidimensional perspective seeking that the process of hospitalization causes the least possible damage.

Methods / Intervention: Based on our database, we evaluated the effectiveness of the Fragile Patient Unit using the following parameters.

Results / Impact: Patients in this Unit are from the Internal Medicine wards. We analyzed the first 100 patients and found that the 3 main reasons for admission to the ward: heart failure (20%); pneumonia (14%) and stroke (11%). With regard to the indicator FRAIL, the mode value is 4. Regarding daily living activities and muscle strength, we have that the average Bartel index upon admission is 21 and exit 66. With regard to the "Grip Strength" we have a positive evolution of 29%. Assessing nutrition through the MNA, of these patients, we obtain the value 7 (malnourished) as the mode value. We also highlight the 3% mortality rate and the recurrence rate admission at 72 hours 2%.

Conclusions: Thus, the authors conclude, in a preliminary way, that patients admitted to the Unit had a lower risk of functional decline at discharge and higher probability of survival, with differences also in the mortality rate. This demonstrates that care patients with acute medical illnesses in our Frailty Unit produces a functional benefit compared to the care conventional hospital procedures and decrease the probability of re-hospitalization after 72 hours.

1300 - Submission No. 515

SMALL AIRWAYS DYSFUNCTION IN PATIENTS WITH DECOMPENSATED LIVER CIRRHOSIS

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Background and Aims: End-stage liver cirrhosis is associated with various intrathoracic complications involving the pleura, lung parenchyma, and pulmonary circulation. The function of the small airways in these patients has not been fully studied. The aim of the present study is to evaluate the function of the small airways in patients with decompensated liver cirrhosis.

Methods / Intervention: Seventy-eight patients with

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decompensated liver cirrhosis of various etiology and 37 healthy controls underwent spirometry, diffusing capacity for CO (DLCO) measurement, single- and multi- breath nitrogen washout (N2SBW, MBNW), lung plethysmography, interrupter technique evaluating respiratory resistance (Rocc) and forced oscillatory technique (FOT).

Results / Impact: Patients with liver cirrhosis had statistically lower predicted forced expiratory volume in 1 second (FEV1), predicted forced vital capacity (FVC), predicted total lung capacity (TLC) measured by lung plethysmography (TLCpleth), and predicted DLCO ($p<0.05$).

Also, patients with liver cirrhosis presented statistically lower values of sGaw and Gaw and statistically higher values of Raw, sRaw, lung clearance index (LCI), predicted maximal mid-expiratory flow (FEF25-75), predicted closing volume to vital capacity ratio (CV/VC), the predicted phase III slope and the R5-R20 difference compared to healthy controls ($p<0.05$). Additionally, there was a statistically greater number of participants with CV/VC% > 120% of predicted and with phase III slope N2SBW > 120% of predicted in the patient group compared to the control group ($p<0.05$).

Conclusions: In conclusion, decompensated liver cirrhosis is associated with small airways dysfunction. This dysfunction may be due to their compression by interstitial edema induced by the circulation in the blood of vasoactive substances and endotoxins.

1301 - Submission No. 297

FEAR OF HYPOGLYCEMIA IN TYPE 1 DIABETES MELLITUS: CAN CONTINUOUS GLUCOSE MONITORING AND INSULIN PUMP THERAPY HELP TO INCREASE QUALITY OF LIFE?

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Background and Aims: Fear of hypoglycemia (FoH) is one of the biggest challenges in disease control in individuals with type 1 diabetes mellitus (T1D). Continuous glucose monitoring (CGM) and insulin pump therapy (IPT) are widely used in clinical practice. Still, their effects on the fear of hypoglycemia and quality of life (QoL) are not well known.

Methods / Intervention: This study used questionnaires to identify the impact of IPT and CGM on hypoglycemia awareness, FoH, and QoL. For this purpose, we used the Gold questionnaire, Hypoglycemia Fear Survey II [HFS], and Diabetes Quality of Life [DQoL] questionnaire, respectively, in 151 adults with a pre-existing diagnosis of T1D.

Results / Impact: In all, 151 patients (42.4% men; mean age 33.3±11.6 years; duration of T1D 17.6±8.5 years) were included in the study. The percentage of the patients using IPT was 39.07%, and 33.1% of the patients were on CGM. The mean value of the self-reported glycosylated hemoglobin (HbA1c) was 7.6%±1.3%, and 16% of the patients experienced a severe hypoglycemic event in the last 6 months. There was a significant association between the scores of FoH and hypoglycemia awareness in the whole group ($p=0.03$). Regarding the treatment satisfaction subscale of DQoL, CGM users reported higher treatment satisfaction levels compared to non-users ($p=0.02$). However, no significant differences were found between patients with IPT and without IPT in the subscale of the treatment satisfaction scores, as well as the total DQoL scores.

Conclusions: Since CGM was related to better treatment satisfaction scores, it may contribute to treatment compliance in patients with T1D.

1302 - Submission No. 1192

A RARE CASE OF ACUTE GENERALIZED EXANTHEMATOUS PUSTULOSIS AND EXFOLIATIVE RASH INDUCED BY HYMENOPTERA ENVENOMATION

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Background and Aims: Acute generalized exanthematous pustulosis (AGEP) is a severe, mostly drug-induced, adverse cutaneous reaction. It manifests as erythematous eruption accompanied by hundreds of pinhead-sized, sterile pustules that mainly appear in the skin folds. The manifestations are often associated with fever. The course is benign although in some cases systemic involvement may be life-threatening. AGEP's occurrence following a spider bite has also been reported in the literature. The aim is to present a rare case of AGEP-like rash accompanied by exfoliation 24hours after Hymenoptera envenomation in a 53-year-old woman with no history of drug administration.

Methods / Intervention: The patient was admitted to the Trikala General Hospital due to fever and a non-painful and non-pruritic generalized erythematous pustular eruption with sudden onset. The eruption appeared in the trunk and limbs. In parts of the trunk there was some exfoliation. There was no involvement of mucous membranes. She had free medical and drug history. She only reported a bee sting in the right leg 24h before admission.

Results / Impact: Routine laboratory workup revealed leukocytosis and raised CRP. The imaging revealed no specific findings. The patient was hospitalized and treated with teicoplanin, antihistamines and methylprednisolone. A skin punch biopsy revealed intraepidermal pustules, mild spongiosis of the epidermis and perivascular infiltration of neutrophils and eosinophils. Blood/urine cultures were negative. Extensive

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hormonal and immunological testing were negative. Remission occurred within a week.

Conclusions: Clinical history, laboratory and histological findings led to the suspicion of AGEP. Our rare case implies that other causes other than drugs may trigger AGEP-like reactions.

1303 - Submission No. 1312

BASELINE INSULIN AND GLUCOSE ON HOMA-IR LEVELS IN PREDIABETIC HYPERTENSIVE PATIENTS TREATED WITH RAS-BLOCKERS PLUS CCB. A MULTI-VARIATE ANALYSIS FROM A RANDOMIZED 12-WEEK STUDY

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Background and Aims: Prediabetes is associated with hypertension and vice versa. Current guidelines for the management of hypertension recommend combination treatment with RAS-blockers plus CCBs as one therapeutic approach, as these combinations seem to favor glucose homeostasis. Herein, we report the effect of such combinations, on insulin and glucose levels and their association with HOMA-IR, after a 12-week treatment, in hypertensive prediabetic patients.

Methods / Intervention: Data were collected from 158 patients. Patients were randomized in delapril/manidipine (DEL/MANI) 30/10 mg/day, in telmisartan/amlodipine (TEL/AMLO) 80/5 mg/day and in valsartan/amlodipine (VAL/AMLO) 160/5 mg/day (n= 53, 51, 54 patients respectively). Baseline characteristics are presented in Table1A.

Results / Impact: The resulting alternations in HOMA-IR, after the 12-week treatment are presented on Table 1B&2 for all treatment groups. Analysis showed that higher mean INS levels per 1 μIU/mL in patients with INS levels: 10.69 μIU/mL, mean weight: 82.86 Kg and Glu: 102.83 mg/dL at baseline, were associated with an increase on HOMA-IR-2 by 47% (p<0.0001), 51% (p<0.0001) and 37% (p<0.0001), in DEL/MANI, VAL/AMLO and TEL/AMLO group, respectively. Increase in mean Glu levels per 1 mg/dL in patients with Glu: 103.83 mg/dL, mean weight: 82.86 Kg and INS: 9.69 μIU/mL at baseline resulted in an increase of HOMA-IR-2 by 4% (p=0.0004), 7% (p=0.006) and 7% (p<0.0001), for same groups, respectively.

Conclusions: TEL/AMLO exerted the most beneficial effect overall, on glycemic profile indices and insulin resistance compared to the other treatments, with lower rates of increase in HOMA-IR. On the other hand, DEL/MANI resulted in lower rates of increase in HOMA-IR compared to other treatments (both compared to reference level).

Characteristics/ Drug combinations	DEL/MANI	TEL/AMLO	VAL/AMLO
N (Men-Women)	53(30-23)	51(35-16)	54(33-21)
Age (Years)	58.08 ±11.73	58.04 ±13. 6	64.44 ±11.64
Glucose (mg/dl)	100 [97-107]	100 [98-106]	104 [96.25-110.75]
Insulin (μIU/mL)	8.6[6.3-11.4]	13[9.5-14.9]	6.2[4.2-9.23]

Table 1A. Patients' characteristics at the start of the study

Parameter	Start of treatment	After 3 Months of Treatment	% Change	p-value
HOMA-IR				
DEL/MANI	2.14[1.52-2.89]	2.17[1.35-2.74]	1.4 % (0.03)	0.577^
TEL/AMLO	3.06[2.27-3.91]	2.37[1.44-3.61]	-22.55 % (-0.69)	0.005*
VAL/AMLO	1.66[1.01-2.18]	1.87[1.05-2.83]	12.65 % (0.21)	0.072^^^

Data are presented as Average ± Standard Deviation, Median [25th-75th].
*p < 0.05 compared to DEL/MANI treatment, **p < 0.01 compared to DEL/MANI treatment, ***p < 0.001 compared to DEL/MANI treatment
^p < 0.05 compared to TEL/AMLO treatment, ^^p < 0.01 compared to TEL/AMLO treatment, ^^ <0.001 compared to TEL/AMLO treatment

Table 1B. Results of insulin resistance indices before and after the three-month treatment

Parameter	About turn log-HOMA-IR 2 (95% CI)	About turn HOMA-IR 2 (95% CI)	p-value
mean baseline values			
INS (μIU/mL)	0.3859 (0.2205, 0.5512)	1.4709 (1.2466, 1.7354)	<0.0001
Glu (mg/dL)	0.0351 (0.0159, 0.0543)	1.0357 (1.016, 1.0558)	0.0004
TEL/AMLO	-0.1431 (-0.3334, 0.0472)	0.8667 (0.7165, 1.0484)	0.1395
VAL/AMLO	0.1162 (-0.0906, 0.3229)	1.1232 (0.9134, 1.3811)	0.2685
INS-Medication Interaction			<0.0001
INS: TEL/AMLO	-0.0733 (-0.1126, -0.0341)	0.9293 (0.8936, 0.9665)	0.0003
INS: VAL/AMLO	0.0271 (-0.0204, 0.0745)	1.0275 (0.9798, 1.0774)	0.2609
Glu-Medication Interaction			<0.0001
Glu: TEL/AMLO	0.0572 (0.0319, 0.0826)	1.0589 (1.0324, 1.0861)	<0.0001
Glu: VAL/AMLO	-0.0051 (-0.0255, 0.0152)	0.9949 (0.9748, 1.0153)	0.6193
*Reference Level**	0.782 (0.6551, 0.9090)	2.1859 (1.9253, 2.4819)	<0.0001

*Reference Level: Patients treated with DEL/MANI with mean INS: 9.69 μIU/mL, Weight: 82.86 Kg, Glu: 102.83 mg/dL , γ-GT: 30.32 U/L and initial HOMA-IR values: 2.48 units.

Table 2. Results of the final multi-variate Linear Regression Model of the second measurements of HOMA-IR (HOMA-IR 2)

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1304 - Submission No. 1157

A MULTI-VARIATE ANALYSIS OF THE EFFECT OF RAS BLOCKERS PLUS CCB COMBINATIONS ON INSULIN RESISTANCE INDICES AN UPDATE FROM A RANDOMIZED 12-WEEK OPEN-LABEL COMPARATIVE STUDY

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Background and Aims: Hypertension is associated with a variety of metabolism disorders such as insulin resistance. Current guidelines for the management of Hypertension advise combination treatment with RAS-blockers plus CCBs as one therapeutic approach. ARB or ACE-i plus CCB combinations are considered to have a beneficial effect on glucose homeostasis. We present comparative results of the effect of such combinations, on HOMA-IR, after a 12-week treatment, in hypertensive prediabetic patients.

Methods / Intervention: Data were collected from 158 patients. A total of 53 patients were randomized in delapril/manidipine (DEL/MANI) 30/10 mg/day, 51 patients in telmisartan/amlodipine (TEL/AMLO) 80/5 mg/day and 54 patients in valsartan/amlodipine (VAL/AMLO) 160/5 mg/day, treatment group respectively. Baseline characteristics are presented in Table1A.

Results / Impact: The resulting alternations in HOMA-IR, after the 12-week treatment are presented on Table1B for all treatment groups. Table2 shows multivariate regression results on HOMA-IR levels with each treatment. Analysis showed that for each unit of increase in the average HOMA-IR before treatment (i.e., for patients with HOMA-IR: 3.48 units), a reduction of HOMA-IR-2 by 66% is expected (p=0.0017) in the DEL/MANI group. For VAL/AMLO and TEL/AMLO group, a reduction of 62% (-and 71% is expected (p=0.0033, p=0.0001) is expected, respectively.

Conclusions: A significant change on HOMA-IR was shown at the end of treatment, between TEL/AMLO and DEL/MANI (p<0.05), with increased insulin sensitivity in TEL/AMLO group. Patients in TEL/AMLO group had also lower insulin resistance (HOMA-IR) compared with those in VAL/AMLO (p<0.001). Greater reductions in HOMA-IR are expected with TEL/AMLO than with other therapies, in patients with mean HOMA-IR levels of 3.48 units prior to treatment initiation.

Characteristics/ Drug combinations	DEL/MANI	TEL/AMLO	VAL/AMLO
N (Men-Women)	53(30-23)	51(35-16)	54(33-21)
Age (Years)	58.08 ±11.73	58.04 ±13. 6	64.44 ±11.64
BMI (Kg/m^2)	28.73 [27.73-30.3]	29.32 [27.37-31.65]	28.09 [26.81-29.89]
Glucose (mg/dl)	100 [97-107]	100 [98-106]	104 [96.25-110.75]
Insulin (*μIU/mL*)	8.6[6.3-11.4]	13[9.5-14.9]	6.2[4.2-9.23]

Table 1A. Patients' characteristics at the start of the study

Parameter	Start of treatment	After 3 Months of Treatment	% Change	p-value
HOMA-IR				
DEL/MANI	2.14[1.52-2.89]	2.17[1.35-2.74]	1.4 % (0.03)	0.577^
TEL/AMLO	3.06[2.27-3.91]	2.37[1.44-3.61]	-22.55 % (-0.69)	0.005*
VAL/AMLO	1.66[1.01-2.18]	1.87[1.05-2.83]	12.65 % (0.21)	0.072^^^

Data are presented as Average ± Standard Deviation, Median [25th-75th].
*p < 0.05 compared to DEL/MANI treatment, **p < 0.01 compared to DEL/MANI treatment,
***p < 0.001 compared to DEL/MANI treatment
^p < 0.05 compared to TEL/AMLO treatment, ^^p < 0.01 compared to TEL/AMLO treatment,
^^^<0.001 compared to TEL/AMLO treatment

Table 1B. Results of insulin resistance indices before and after the three-month treatment

Parameter	Change in log-HOMA-IR 2 (95% CI)	Change in HOMA-IR 2 (95% CI)	p-value
HOMA-IR (initial measurement)	-1.0871 (-1.6651, -0.5092)	0.3372 (0.1892, 0.601)	0.0003
TEL/AMLO	-0.1431 (-0.3334, 0.0472)	0.8667 (0.7165, 1.0484)	0.1395
VAL/AMLO	0.1162 (-0.0906, 0.3229)	1.1232 (0.9134, 1.3811)	0.2685
*Reference Level**	0.782 (0.6551, 0.9090)	2.1859 (1.9253, 2.4819)	<0.0001

***Reference Level: Patients treated with DEL/MANI with mean INS levels: 9.69 μIU/mL, Weight: 82.86 Kg, Glu: 102.83 mg/dL, γ-GT: 30.32 U/L and initial HOMA-IR levels: 2.48 units.**

Table 2. Results of the final multi-variate Linear Regression Model of the second measurements of HOMA-IR (HOMA-IR 2)

1305 - Submission No. 1554

THE WELLNESS WAVE: INSPIRING CONNECTIONS AND CAREER SUCCESS

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Background and Aims: Medical students and residents experience higher rates of burnout, anxiety, depression, and suicide[1]. The Wellness Wave (WW) initiative was developed to promote a culture of wellness in medicine, decrease isolation, and to empower medical students. Goals included opportunities for students to lead important discussions, connect with mentors, and create their own wellness toolkits.

Methods / Intervention: Internal Medicine leaders from different career stages and settings were invited to participate in student-led interviews. Content included career advice and best wellness

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practices such as Mindfulness-Based Stress Reduction and laughter therapy. Interviews released via a website (acpwellness.org) and were promoted through social media. Sponsorship by American College of Physicians Southern California Region III Chapter and Society of General Internal Medicine.

Results / Impact: 38 mentor interviews led by 16 medical students. Collaborations between 22 institutions and two professional organizations fostered numerous connections around wellness. 1600 views to date.

Conclusions: Increasing levels of isolation, anxiety, depression, burnout, and suicide in medical students and residents are alarming[1]. Mitigating stressors, mentorship, and accessing wellness resources are essential to reversing these trends. The WW bridged this gap by creating a diverse community and fostering open and candid discussions about career pathways, wellness practices, coping strategies, and building inclusive environments. Students garnered tools for their own wellness and incorporated their voices into potential solutions. More research and support to decrease unique stressors faced by physicians-in-training is vital prior to their entry into the workforce.

References:

[1]Christophers B, et al. Mental Health of US Medical Students During the COVID-19 Pandemic. J Gen Intern Med. 2021 Oct;36(10):3295-3297.

1306 - Submission No. 1748

PREVALENCE OF GASTROESOPHAGEAL VARICEAL HEMORRHAGE AND ITS ASSOCIATED FACTORS AMONG PATIENTS WITH CHRONIC LIVER DISEASES AT UNIVERSITY OF GONDAR HOSPITAL, GONDAR, NORTHWEST ETHIOPIA

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Background and Aims: This study attempted to assess the magnitude and factors contributing to the development of variceal hemorrhage to improve early diagnosis, prophylaxis, and treatment of the problem.

Methods / Intervention: Cross-sectional study was conducted on 262 patients with CLD. A binary logistic regression model was used and an adjusted odds ratio with a 95% confidence level and P-value less than 0.05 were used to assess the degree of association.

Results / Impact: 262 patients were included in this study. Younger (≤50 year) patients have four times (AOR= 4.13 (95%CI, 1.08-15.81), p=0.038) higher risk of bleeding. Patients with grade F2 and F3 varices have six times (AOR 6.41 (95%CI, 1.33-30.74), p=0.02) and fifteen times (AOR =15.33 (95%CI, 3.55-66.12), p=0.000) higher risk of bleeding, respectively. Patients not taking beta blockers have five times (AOR= 5.38 (95%CI, 1.82-15.90), p=0.002) increased risk of bleeding. Patients with concomitant infections have ten times (AOR =10.36 (95%CI, 1.74-62.60), p=0.011) higher risk of bleeding. Patients with more than three years of duration of illness have eleven times (AOR =11.19 (95%CI, 3.39-36.99), p=0.000) increased risk of bleeding compared with shorter duration of illness. Patients with platelet numbers less than 50,000/ µl have thirteen times (AOR =13.46 (95%CI, 4.55-34.17), p=0.000) higher risk of bleeding.

Conclusions: Variceal bleeding is found to be high in patients with CLD. Higher grades of varices, nonuse of beta-blockers, and infection are associated with a higher risk of bleeding. Illness more than three years, low platelet number, and age less than 50 years are significantly associated with an increased risk of bleeding.

1307 - Submission No. 912

THE MISSING PUZZLE PIECE: AN UNUSUAL CASE OF LIMBIC ENCEPHALOPATHY

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Background and Aims: An 82-year-old woman presented in the emergency department (ED) for generalized seizures, disorientation, and anterograde amnesia. The family reported acute mental state deterioration in the last month. Physical examination was unremarkable. Biochemical assessment revealed only a severe hyponatremia, easily corrected in the ED. The electroencephalogram didn't show substantial alterations while brain MRI highlighted bilateral pons and hippocampus hyper density, suggestive for limbic encephalopathy. A cerebrospinal fluid (CSF) analysis was within normal limits. Furthermore, chest and abdomen computed tomography failed to identify a source of a suspected paraneoplastic encephalopathy.

Methods / Intervention: After the exclusion of a possible infectious and paraneoplastic encephalopathy, suspecting a limbic encephalitis, we decided to start a 3-day course of 500 mg daily IV methylprednisolone. Nevertheless, for the following weeks, her mental state remained substantially unchanged. Meanwhile, the antibodies on the CSF sample resulted negative. She was, therefore, discharged at home, with scheduled neurologic follow up in ambulatory setting.

Results / Impact: Three months later, she returned to the ED for a persistent worsening cognitive state, confusion and sphincteric incontinence. A new MRI showed a significant increase of the right hippocampal lesion extended in the para-hippocampal and temporo-mesial region, suggestive for high grade glial lesion with bi-hemispherical, supra e infratentorial infiltration. Considering the diagnosis and the prognosis, a surgical approach was ruled out.

Conclusions: In conclusion, sometimes a missing puzzle piece, even a seemingly small one, can prevents us from seeing the bigger picture, or rather distinguish two similar ones. Sometimes, like in our case, that piece is just time.

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1308 - Submission No. 1839

CORRELATION BETWEEN INSULIN RESISTANCE AND COGNITIVE IMPAIRMENT IN HYPERTENSIVE PREDIABETIC FRAIL ELDERS

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Background and Aims: Prediabetes leads to an increased cardiovascular risk. Moreover, patients with prediabetes often suffers from hypertension, further increasing the risk for cardiovascular complications. Frailty is common in hypertensive patients and insulin resistance has been linked to frailty in older adults with diabetes and prediabetes. No study evaluated the exact role of insulin resistance on cognitive impairment in hypertensive prediabetic elders with frailty.

Methods / Intervention: We studied prediabetic and hypertensive elders with frailty from March 2021 to March 2022. The following inclusion criteria had to been fulfilled: 1) previous diagnosis of hypertension with no clinical or laboratory evidence of secondary causes; 2) previous diagnosis of prediabetes; 3) age > 65 years; 4) Montreal Cognitive Assessment (MoCA) Score <26; 5) Frailty.

Results / Impact: Of 178 patients screened, 37 were excluded; thus, 141 patients entered our database. We observed a strong inverse correlation between MoCA Score and HOMA-IR (r: -0.807). The results were confirmed with a linear regression analysis using MoCA Score as the dependent variable, after adjusting for several covariates, including age. We observed a strong inverse correlation between MoCA Score and HOMA-IR (r: -0.807). The results were confirmed with a linear regression analysis using MoCA Score as the dependent variable, after adjusting for several covariates.

Conclusions: Our results must be contextualized in frailty whereas comorbidities play a pivotal role. We speculate that insulin resistance should be treated with or without diabetes to avoid complications. In particular, insulin resistance in hypertensive subjects should be evaluated during mid-life to avoid cognitive impairment in late life. Further studies are warranted to confirm our results.

1309 - Submission No. 1549

DIALYSIS METHODS (HEMODIALYSIS, PERITONEAL DIALYSIS) QALYS OF PATIENTS WITH END-STAGE CHRONIC KIDNEY DISEASE IN GREECE

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Background and Aims: There has been a gap in the investigation of Quality-adjusted life-years (QALY) for patients with end stage chronic kidney disease (CKD) in Greece. QALY combines Lifespan and Quality of Life (QoL) into a single number and evaluates different medical interventions. Kidney Disease QoL (KDQoL) questionnaire consists of SF-12 instrument (general physical/mental well-being) plus 24 CKD-related items (symptoms, effects, and disease burden). Questionnaire's reliability and validity have been verified in Greece, supporting the Greek version use in economic evaluation studies. However, KDQoL questionnaire does not allow QALYs calculation and EQ-5D becomes the preferred tool, but not for CKD patients.

Methods / Intervention: QoL patients' assessment was based on KDQoL questionnaire, which was distributed to all patients center. Since there is no decoding algorithm from KDQOL-36 to EQ-5D, an alternative approach is to use the available algorithms from SF-12 to EQ-5D. Algorithms were produced to map KDQOL-36 to EQ-5D-3L (for France, Germany, Italy and Spain) and EQ-5D-5L (for Singapore). Based on the KDQOL questionnaire, the utility values collected by the patients in each method and then the corresponding QALYs were calculated in order to estimate the benefits (effectiveness) of each intervention.

Results / Impact: Effectiveness was estimated at 0.483 QALYs for PD and 0.584 QALYs for HD.

Conclusions: The lower value in PD patients was not statistically significant compared to HD patients and can be explained by the fact that the sample population of PD patients was much older and dependent on their caregivers.

1310 - Submission No. 2259

CERVICAL AND INTRACRANIAL ARTERIAL DISSECTIONS- AN 18-YEAR RETROSPECTIVE STUDY

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Background and Aims: Cervical Arterial dissections (AD) account for 25% of strokes in the young, and only 1-2% in the general population. Intracranial ADs are much less frequent. In order to characterize the cases of AD in a Stroke Unit, a retrospective study and review of the literature was performed.

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Methods / Intervention: A retrospective study, with data collection from the discharge notes of patients with AD admitted to a stroke unit from January 5, 2004 to December 31, 2021. Descriptive statistical analysis was performed, and the data were compared with literature.
Results / Impact: Of the 5325 patients admitted during this period, 33 arterial dissections were diagnosed. Most occurred in males (73%). Mean age was 50 years. AD was spontaneous in 60% of cases. Identified etiologies included cervical trauma (n=5); vigorous exercise (n=2); traumatic C2 fracture; weight bearing; dancing; postpartum period; during shaving; after parachute jump. The identified risk factors were hypertension (50%), smoking (16%), oral contraception (13%), hyper homocysteinemia (6%) and fibromuscular dysplasia (3%). Dissections were extracranial in 97%: carotid -55% (in 3 cases bilaterally) and vertebral-42% (with 1 case of intracranial extension). One exclusively intracranial - posterior-inferior cerebellar artery (PICA). Clinical manifestations were: stroke (85%), headache (33%), cervicalgia (18%), otalgia (9%), incomplete Horner's syndrome (6%), syncope (6%). Strokes were ischemic, major, mostly monofocal, and the arterial territories of the middle cerebral arteries and the PICA were the most frequently involved. Hypocoagulation (58%) or platelet antiaggregation (42%) was instituted at discharge.
Conclusions: Arterial dissections have variable clinical expression, and are an important cause of stroke, especially in young people.

1311 - Submission No. 2262

GUILLAIN-BARRÉ SYNDROME AND MILLER FISHER VARIANT - RETROSPECTIVE STUDY

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Background and Aims: Guillain-Barré syndrome (GBS) is manifested by flaccid muscle paralysis and ascending areflexia, with the exception of the Miller-Fisher variant. This study aims to describe the characteristics of inpatients diagnosed with GBS.
Methods / Intervention: Data was collected from the discharge letters of patients with GBS admitted between January 1, 2017 and May 31, 2022. Descriptive analysis of the data was performed.
Results / Impact: A total of 12 GBS patients were included, 67% male, with a median age 73 years. The most common reported prior infections were acute gastroenteritis (n=5) and respiratory infection (n=1). One patient had a tetanus vaccine 2 weeks prior. All patients presented with areflexia/hyporeflexia and most with lower limb muscle weakness (n=11). In addition, five patients had sensitivity changes, four had facial paresis, two required mechanical ventilation for respiratory failure. Albumin-cytological dissociation was observed in 100% of patients. All patients were treated with intravenous immunoglobulin (IVIg), of which 2 discontinued treatment and then underwent plasmapheresis. One patient underwent plasmapheresis because of lack of response to IVIg. All patients progressed favorably, but only one of the patients fully recovered the deficits at 6 months after admission. Three of the patients had a presentation suggestive of Miller-Fisher.
Conclusions: Despite the inherent limitations of retrospective studies, including non-systematized electronic clinical records, the results of this analysis match those in the literature, namely regarding the epidemiology and clinical behavior of SBG. The small sample size, despite the number of years studied, reflects the rarity of this entity.

1312 - Submission No. 1758

THE PREVALENCE, THE CLINICAL, BIOLOGICAL AND ULTRASOUND CHARACTERISTICS OF THE PATIENTS WITH ALCOHOLIC HEPATITIS IN ROMANIA

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Background and Aims: Alcoholic hepatitis continues to remain and important health problem.
Methods / Intervention: We have studied the prevalence, the clinical, biological and ultrasound characteristics in patients with alcoholic hepatitis from three major cities from Romania. The liver fibrosis was estimated by the Forns index and the APRI score.
Results / Impact: Among the 436 patients with livers steatosis, 59 (13.5%) had alcoholic hepatitis. The other etiologies of the liver steatosis were: 52% NAFDL, 15% NASH, 10% viral C hepatitis, 4% drugs induced hepatitis, 3% viral B hepatitis, 2% autoimmune hepatitis, 0.45% liver cancer. We have formed 2 groups: group A with alcoholic hepatitis (n=59) and group B with other etiology of liver disease (n=377). There were significant differences between the two groups regarding: age (p=0.019), the grade of liver steatosis (p=0.027), ASAT (p=0.003), ALAT (p=0.0053), total bilirubin (p=0.03), GGT (p=0.002), BMI (p=0.037). The average Forns index was 4.9566 in group A and 5.1816 in group B (p=0.246). The average APRI score was 0.2951 in group A and 0.3731 in group B (p=0.4002). At those with alcoholic hepatitis there is an inverse linear correlation between the number of platelets and the Forns index (r = -0.544) and the APRI score (r = -0.402).
Conclusions: The patients with alcoholic hepatitis are younger; have a BMI lower than average and have higher values of liver enzymes. The noninvasive markers of fibrosis do not differ significantly at those with alcoholic hepatitis comparing with those with other etiologies. The platelets number can be an indicator for liver fibrosis in patients with alcoholic hepatitis.

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1313 - Submission No. 1244

SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) COMPLICATED BY COVID-19: OR THE OTHER WAY ROUND?

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Background and Aims: A 41-year-old female, with a history of refractory SLE, ischemic stroke, lower limb peripheral mononeuropathy, and osteoporosis under immunosuppressive regimens and denosumab, presented to our department complaining of fever 12 days following a SARS-CoV-2 positive test. During her stay, no compromise of respiratory function was observed, however, she suddenly presented blepharoptosis and ipsilateral drooping of the mouth angle. Her course was further complicated with severe anemia, thrombocytopenia, and hypocalcemia. Following a 15-day stay and courses of Remdesivir, methylprednisolone, IgG, and electrolytes replenishment, she presented clinical improvement and was finally discharged.

Methods / Intervention: Immediate neurologic manifestations suggested either peripheral facial nerve palsy or acute vascular incident in the context of SLE vasculopathy or COVID-19-associated encephalitis. Similarly, thrombocytopenia, anemia, and profound hypocalcemia could be attributed to refractory SLE exacerbation or secondary elicited immune-mediated syndromes, as well as, COVID-19 extrapulmonary manifestations in conjunction with potential denosumab adverse effects.

Results / Impact: Hematology, metabolic and immunology profiling was negative for hemorrhage, intravascular microangiopathic hemolytic anemia, immune-mediated thrombocytopenia (heparin-induced/idiopathic), and hemophagocytic lympho-histiocytosis or calcium disorders. Brain CT and MRA imaging were inconclusive for new vascular damage, while the lumbar puncture was normal.

Conclusions: A multilevel approach, including hematology, rheumatology, neurology, and infectious diseases consults, was needed to differentiate between manifestations of acute COVID-19 disease and pathology owing to SLE so as to explore all plausible scenarios. This case highlights how COVID-19 management extends beyond infectious disease wards, and multidisciplinary collaboration can benefit COVID-19 patients with underlying complicated comorbidities and immunosuppression.

1314 - Submission No. 2086

A CASE OF WILKIE SYNDROME COMBINED WITH NUTCRACKER SYNDROME IN FEMALE WHO FOLLOWED UP THE MISDIAGNOSIS OF CROHN: VASCULAR SYNDROMES IN DIFFERENTIAL DIAGNOSIS OF CROHN?

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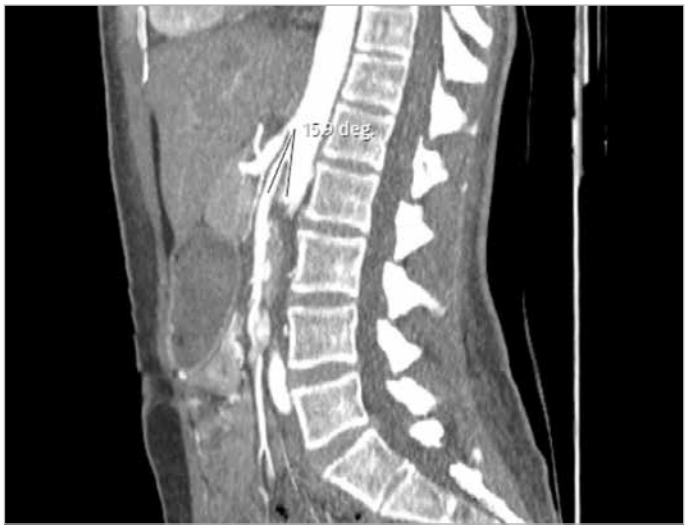
Background and Aims: 27 age old female was admitted to our clinic, abdominal pain, loss of appetite, weight loss, watery diarrhea. The patient was diagnosed with Crohn's disease 1 year ago. The patient was last started golimumab for 2 months but has not affect the symptoms. Although weight loss can be observed in the course of Crohn, it was thought that the diagnosis of Crohn might be wrong in the patient who did not respond to immunosuppressive treatments, weight loss. In addition, it was considered to rule out oncological and vascular diseases in patient.

Methods / Intervention: This case was made by obtaining written permission from the patient, using records, articles published in scientific journals.

Results / Impact: We did esophagogastroscopy-colonoscopy again, we took samples for pathology, no pathology observed in this test. We performed CT angiography for Wilkie's syndrome, because of unresponsiveness to rituximab, prednisolone, and golimumab, and symptoms. The BT angiographic examination found an aortomesenteric angle of 15.9° (Image 1) and compression of duodenum and the left renal vein. (Image 2) The patient diagnosed with Wilkie's and Nutcracker's syndrome and referred to the surgery.

Conclusions: Wilkie's syndrome has been reported in association with Crohn disease before. Wilkie's syndrome may occur in a patient with Crohn, as well as Wilkie's syndrome should be kept in mind in the differential diagnosis of Crohn's disease, because symptoms such as diarrhea attacks, weight loss, loss of appetite.



1314 Figure 1. The angle between the AA "and the SMA was measured 15.9°

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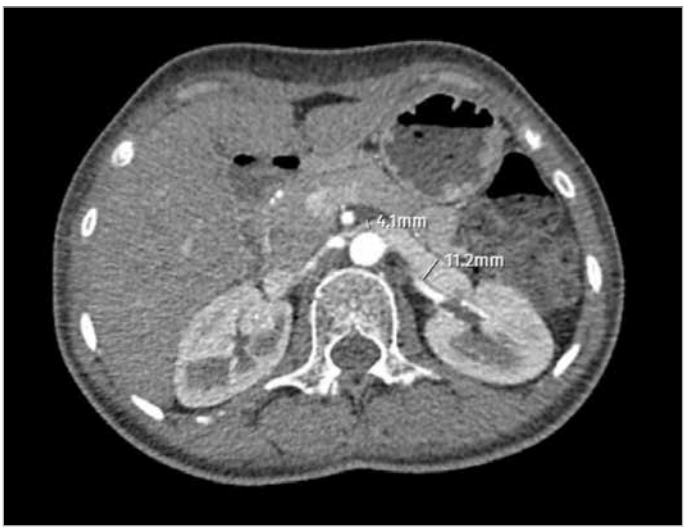

1314 Figure 2. Compressed left renal vein between the SMA and the AA

1315 - Submission No. 2436

ACUTE TAFRO SYNDROME ON CHRONIC BACKROUND: UNUSUAL AND MYSTERIOUS TAFRO SYNDROME, PRESENT WITH ACUTE VIRAL HEPATITIS B AND HEPATITIS B-ASSOCIATED PANCREATITIS

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Background and Aims: A patient was hospitalized with a preliminary diagnosis of acute hepatitis. The patient's hepatitis markers and autoimmune markers were negative. Tenofovir Alafenamide was started after the patient was found to be HBs Ag positive and HBV DNA high.

Methods / Intervention: The patient's lipase level was elevated, and he had abdominal pain. The patient was diagnosed with acute pancreatitis. A tendency to pancytopenia was detected in the examinations of the patient, who was also pancytopenic at his first visit. The patient's neutropenia deepened during his hospitalization. Since he also had fever, blood culture was taken with the diagnosis of neutropenic fever and tazobactam was started. The patient then underwent a bone marrow biopsy. – Bone marrow biopsy results: GRADE 3 Reticular fiber increase. In the follow-up of the patient, sub-subordinate bilirubin values tended to decrease, and the INR value continued to decrease. Pet CT was performed due to right submandibular and diffuse small lymphadenopathies, bone marrow involvement was also observed.

Results / Impact: A diagnostic lymph node biopsy was performed from the patient. Castleman's disease-like features on lymph node biopsy was detected. Findings in favor of interstitial lung disease were found in the thorax CT, which was performed for the reasons of shortness of breath.

Conclusions: With these findings, the patient was diagnosed with TAFRO syndrome. and is the first hepatitis B-related case in the literature. This is the first case where pancytopenia deepened, and symptoms increased with acute hepatitis b exacerbation and chronic onset.

1316 - Submission No. 1193

MAPPING THE GENE EXPRESSION LANDSCAPE OF HOST IMMUNE RESPONSE IN BRUCELLOSIS

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Background and Aims: Brucellosis is a common zoonosis with serious public health and economic consequences in endemic areas. Brucella evades host immune mechanisms leading to chronic parasitism and relapses. We studied the molecular changes that take place during infection, both in vitro and ex vivo.

Methods / Intervention: RNA sequencing was performed in primary human macrophages and neutrophils infected with a clinical strain of Brucella spp., and in isolated peripheral blood mononuclear cells (PBMCs) and neutrophils from patients with acute brucellosis before and after successful treatment. Additionally, several inflammatory mediators were measured in the serum of these patients.

Results / Impact: We observed a downregulation in the expression of genes involved in host response, such as TNF signaling, IL-1β production, and phagosome formation in macrophages, and phosphatidylinositol signaling and TNF signaling in neutrophils, being in line with the ability of the pathogen to survive within phagocytes. Active disease was positively correlated with IFN response pathways. We identified 24 common genes that

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were significantly altered in both neutrophils and PBMCs after treatment, including genes involved in IFN signaling that were downregulated, and IL1R1 that was upregulated. The levels of IFN-γ, IL-1β and IL-6 were found significantly increased before the treatment of acute brucellosis. An independent cohort of patients with chronic brucellosis also revealed increased levels of IFN-γ during relapse compared to remissions.

Conclusions: This study provides, for the first time, an integrated transcriptome landscape of immune signature in human brucellosis suggesting candidate molecular pathways and targets for active disease and response to treatment.

1317 - Submission No. 2034

THE MULTIDISCIPLINARY APPROACH TO THE INFLAMMATORY SYNDROME IN PATIENTS WITH MULTIPLE COMORBIDITIES

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Background and Aims: - Intense lumbar pain radiating anteriorly in the left flank and pelvic member with progressive progress and with the impossibility of maintaining orthostatism.

Methods / Intervention: Clinical case presentation.

Results / Impact: The complexity of the cases and the need for a multidisciplinary team.

Conclusions: Correct diagnosis.

1318 - Submission No. 514

LUPUS WITH ANAL AND URINARY SPHINCTERS DISORDERS: A RARE OR EVEN EXCEPTIONAL MODE OF CLINICAL EXPRESSION

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Background and Aims: Systemic lupus erythematosus (SLE) is a chronic systemic dysimmune disease of unknown etiology. Autonomic neuropathy (AN) is one of the exceptional nervous system involvements, particularly when it affects anal and urinary sphincters. We report a case.

Methods / Intervention: A 17-year-old male was referred to us for suspected SLE due to a systemic attack associating fever, polyarthralgia, skin and neuropsychiatric involvement. on clinical examination, we noted thoracic pain, enuresis, and fecal incontinence, with a hypotonia of the anal sphincter (AS) at rest, more marked during voluntary contraction. Biology revealed a positive inflammatory syndrome, and a positive autoimmune test (anti DNA, SM, ribosome, RNP and SSA antibodies). Morphological exploration identified: serositis, a moderate hypotonia of the AS on anorectal manometry and partial left hemispheric comitiality on EEG.

Results / Impact: These data allowed us to retain the diagnosis of SLE according to the criteria of ACR/EULAR 2019, with as a particularity, an exceptional and unusual clinical expression made of neurovegetative sphincter disorders. As to treatment, he was put on corticosteroids, cyclophosphamide, followed by azathioprine, hydroxychloroquine, antipsychotics, and anticonvulsants drugs. In addition to the medical treatment, sphincter self-education sessions (Biofeedback) were recommended. After 7 months, the evolution was marked by a spectacular clinical improvement, in particular for the neuropsychiatric symptoms, urinary and anal sphincters disorders.

Conclusions: The occurrence of AN with urinary and fecal incontinence is rarely described in SLE. Its attributability to lupus disease remains a challenge for us clinicians. A meticulous approach remains the diagnosis key of these pathologies with varied and mysterious expression methods.

1319 - Submission No. 1555

HUGHES STOVIN SYNDROME, A RARE VARIANT OF ANGIO BEHÇET

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Background and Aims: Hughes Stovin syndrome (HSS) is a rare condition characterized by the association of pulmonary arterial aneurysms and deep vein thrombosis. It is a particular form of angio Behçet's disease, mainly affecting young people. We report a case.

Methods / Intervention: A 54-year-old patient with Behçet's disease (BD) initially developed a vascular disorder consisting of thrombosis of the left common femoral vein and the left short saphenous vein which progressed well under corticosteroid therapy (CTC) and anticoagulation. Four years later, the patient developed further thromboses in the right common femoral vein, the right external iliac vein and the homolateral great saphenous vein. The recurrent nature of the thromboses and the tilted position led us to perform a CT angiography, which revealed two aneurysms located in the right internal iliac artery and the trunk of the right pulmonary artery.

Results / Impact: Given this particular vascular involvement, the diagnosis of Hughes-Stovin syndrome was retained. The patient was put on CTC and cyclophosphamide, then, in the absence of improvement, we introduced anti TNF alpha.

Conclusions: HSS is a rare and serious condition that should not be ignored. It should be considered during BD in the presence of recurrent thrombosis associated with aneurysmal lesions. It is a therapeutic emergency, requiring aggressive and effective treatment.

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1320 - Submission No. 1049

COVID-19 AND AUTOIMMUNE INFLAMMATORY MYOSITIS

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Background and Aims: Our aim was to report an observation of SARS-CoV-2 infection associated with autoimmune myositis.

Methods / Intervention: A 77-year-old male, with medical history of hypertension, is admitted for exploration of an acute onset myopathy. Its clinical history begins two months after an infection to SARS-CoV-2, in its moderate form, marked by the proximal muscle weakness, on physical examination, he has a reduced muscle power of the proximal muscle groups 2/5 and 5/5 in distal muscle group associating diffuse myalgia without associated signs of severity. An initial biological assessment found elevated creatine kinase (21,000 IU/L), a positive inflammatory syndrome with normal kidney function. He has a positive SARS-CoV-2 Immunoglobulin G IgG. The MRI data reveals an aspect of active inflammatory myopathy, the muscular histology in favor of necrotizing autoimmune myopathy.

Results / Impact: The differential diagnosis for the myositis is negative, which included autoimmune, infective, metabolic, paraneoplastic and post-viral inflammatory disease. The diagnosis of COVID-19 IgG related myositis is the final diagnosis of exclusion, an excellent clinical progress is noted after initiation of corticosteroid therapy.

Conclusions: The potential involvement of SARS-CoV-2 viral particles in direct muscle damage is not clear. Nevertheless, the accountability of these mechanisms, in the absence of specific myositis antibodies, singularly includes the autoimmune process, triggered by COVID-19, which has justified early diagnosis and initiation of corticosteroid therapy, markedly improving our patient's prognosis. A better knowledge of the physiopathological mechanisms is necessary in order to establish the causal link between SARS-CoV-2 infection and autoimmune myopathy, if such a link exists!

1321 - Submission No. 838

L-GLUCOSE UPTAKE IN CANCER AND NORMAL CELL LINES

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Background and Aims: L-glucose is the mirror image isomer of D-glucose. L-glucose is a molecule that is rarely found in nature. Data from in vitro and in vivo studies examining the ability of cancer cell lines to take up L-glucose are scarce. The aim of this study was to examine the metabolism of L-glucose in five human cancer cell lines and three human normal cell lines.

Methods / Intervention: Cells were incubated with several concentrations of L-glucose and a standard concentration of D-glucose up to 72 hours. Cell viability and proliferation levels were determined by MTT and ATP, respectively. At the highest L-glucose concentration, were measured the levels in the four phases of the cell cycle, apoptosis, and lactate acid. Moreover, confocal microscopy and two fluorescent probes (2-NBDG/D-glucose and 2-NBDLG/L-glucose) were used to investigate whether L-glucose is taken up by cancer and normal cells.

Results / Impact: Only cancer cell lines showed a significant increase in viability levels and in intracellular ATP levels after exposure to L-glucose in comparison with the control group. Only cancer lines had an increase in cell cycle phases after exposure to the higher L-glucose concentration in comparison with the control group, while apoptosis levels were lower in comparison with the control group. In addition, lactate acid levels increased after exposure to the higher L-glucose concentration in comparison with the control group. Moreover, 2–NBDLG/L-glucose was not taken up by normal cells, but only from cancer cells.

Conclusions: L-glucose is taken up only by cancer cells and not by normal cells.

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1322 - Submission No. 190

INFLIXIMAB FOR VASCULAR INVOLVEMENT IN BEHÇET SYNDROME

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Background and Aims: Vascular involvement is an important cause of morbidity and mortality in patients with Behçet's syndrome (BS). TNF inhibitors have been reported to be effective for almost all serious manifestations of BS, but data on vascular involvement is still limited. We aimed to survey the efficacy and safety of infliximab (IFX) in BS patients with vascular involvement followed in a dedicated tertiary center.

Methods / Intervention: Charts of all BS patients who used IFX for vascular involvement between 2004-2021 were reviewed. Primary endpoint was remission at Month 6, defined as a lack of new clinical symptoms/findings associated with vascular lesion, lack of worsening of the primary lesion, lack of a new vascular lesion on imaging, and CRP<10 mg/L. Relapse was defined as the development of a new vascular lesion or recurrence of a preexisting vascular lesion.

Results / Impact: Among the 127 patients (102 men, mean age at IFX initiation: 35.8±9 years) treated with IFX, 110 (87%) received IFX for remission induction and 87/110 (79%) were refractory to conventional treatments. The remission rate was 73% (93/127) at month 6 and 63% (80/127) at Month 12. 17/100 (17%) patients experienced 22 relapses. Adverse events leading to IFX discontinuation were allergic reactions (n=5), infections (n=3), paradoxical reactions (n=3), malignancies (n=2), and heart failure (n=1). Four patients had died and the reasons for death were lung adenocarcinoma, sepsis, and pulmonary hypertension due to pulmonary artery thrombosis (n=2).

Conclusions: Infliximab seems to be effective in majority of BS patients with vascular involvement, even in those who are refractory to immunosuppressives and corticosteroids.

1323 - Submission No. 463

SUBSEQUENT STUDIES UPON DIAGNOSIS OF DEEP VEIN THROMBOSIS

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Background and Aims: 48-year-old male smoker one-packet/day, ex-consumer of cocaine, hashish, and THC, with no history of parenteral drug use. He presented with edema and blisters up to the root of the right lower limb for 4 days associated with pain, increased temperature and flushing. No dyspnea or associated tachycardia. No family or personal history of thrombosis. No recent travel or intravenous treatment. No prolonged immobilization or weight loss. Our aim was to describe timely testing for diagnosis.

Methods / Intervention: - Physical examination: pulmonary auscultation with bilateral scattered wheezing. Right lower limb without edema; left lower limb with grade IV/VI edema and blisters. No palpable pectoral or tibial pulses, filiform femoral. - Blood tests: glucose 297 mg/dl, creatinine 1.02 mg/dl, bilirubin 1.30 mg/dl, sodium 134 mEq/L, potassium 5.4 mEq/L, CRP 109.5, hemoglobin 12.5 g/dl, leukocytes 11,200 mm3. Fibrinogen 539, D-dimer 22320. - Thoracic X-ray: normal. - Echo Doppler: thrombus in the lumen of the left common femoral vein, which has no flow inside, not compressible. The thrombus has its head in the left iliac vein. - Body Tc: calcification of nodule in LTD and partially calcified nodule in LLM. - PET-CT: normal.

Results / Impact: Screening for occult neoplasia in patients with thromboembolic disease seems an interesting strategy but has no real benefit.

Conclusions: According to the recommendations of the British National Institute for Health and Clinical Excellence, in young patients with venous thromboembolic disease, is enough with clinical history, physical examination, chest X-ray and basic biochemistry, while other additional examinations such as PET-CT would be considered in patients over 50 years of age.

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