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EMERGENCY AND ACUTE CARE MEDICINE

[Abstract:0001]

APPROACHING TO A SEPTIC SHOCK IN THE EMERGENCY DEPARTMENT

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Keywords: *sepsis, emergency, shock, fluid-challenge*

Sepsis results from an unregulated inflammatory response to an infectious insult, accounting for a significant percentage of hospital admissions. The clinical presentation is often nonspecific, as other nosological entities may course with an exuberant inflammatory response. Mortality rates sepsis-related have been decreasing, however, even after hospital discharge, sepsis carries an increased risk of new episodes and hospital admissions.

Clinical Case: A 51 years old woman, history of atrial fibrillation and anaemia. No usual medication. Filed in the Emergency department (ED) due to change in neurological status associated with vomiting and diarrhoea within 12 hours. Other symptoms were denied. On physical examination, the patient was feverish and confused. Hemodynamically stable and without respiratory failure. No auscultatory changes except for tachycardia. Soft and depressible abdomen, without signs of peritoneal irritation. Extremities warm and well perfused. Arterial blood gas analysis revealed a hyperlacticaemia in the order of 7.1 mmol/l and an anaemia with a Hb value of 7.8 g/dl.

Once recognized the clinical severity, volume replacement measures, antipyretics and empirical antibiotic therapy were instituted. Blood count, renal function, ionogram, C-reactive protein, coagulation study, summary urine analysis, blood and urine culture were performed was well as a thoraco-abdomino-pelvic tomography.

The patient was subsequently admitted in a differentiated care unit to continue medical care. The prognosis and mortality of sepsis, besides the host factors, depend on rapid institution of appropriate antibiotic therapy and resuscitation measures. Recognition of clinical severity signs are fundamental for the rapid institution of prognostic-modifying measures.

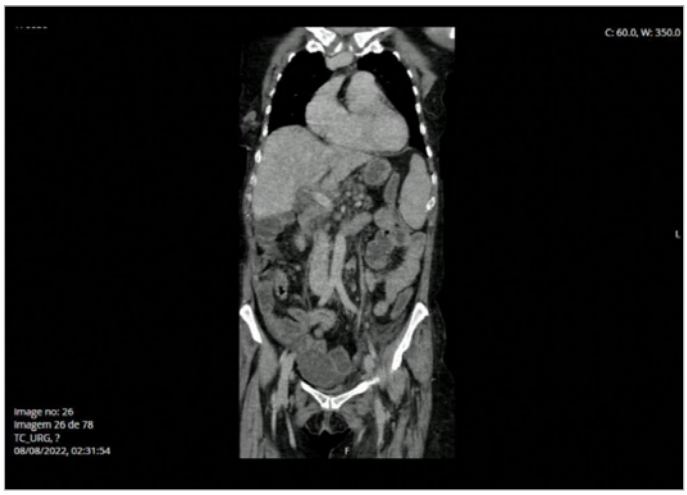

Figure 1. *An abdominopelvic CT showing an unclarified colitis. The most likely hypotheses mentioned in the report were infectious and ischemic.*

leukocytes	24.70 x 10^3 µ/L
neutrophils	22.72 x 10^3 (92%) µ /L
haemoglobin	7.8 g/dl
lactates	7.1 mmol/L
C-reactive protein	1.86 mg/dl
pH	7.4
bicarbonate	13.1 mmol/L

Table 1. *The blood count reflects an important inflammatory response, as well as the arterial blood gas analysis showing alkalemia as an attempt to compensate for the metabolic acidosis occurring in the body due to sepsis.*

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[Abstract:0129]

HAEMODIALYSIS-RESISTANT DABIGATRAN INTOXICATION

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A 63-year-old woman was admitted to the ICU because of hypotension, prolonged epistaxis, gastrointestinal bleeding, and recurrent hypoglycaemia. Urosepsis leading to acute kidney injury was later identified as an underlying condition and treated by cefotaxime. All of the above symptoms were caused by drug accumulation (perindopril, indapamide, metformin, canagliflozin, glimepiride, and dabigatran). Hypotension was easily managed by crystalloids and norepinephrine, hypoglycaemia by continual intravenous glucose. The main trouble was coagulopathy caused by dabigatran - international normalized ratio (INR) over 6, Activated Partial Thromboplastin Time (aPTT) over 200 s and haemoclot over 500 ng/ml - leading not only to epistaxis but also to GIT bleeding, haematuria and bleeding from sites of vascular accesses.Idarucizumab was administered after admission with prompt clinical effect, dialysis catheter was inserted without bleeding and intermittent haemodialysis was performed. Coagulation improved after idarucizumab (aPTT 69s) but worsened a few hours later (aPTT 105s) and second day (aPTT 115s). Even another dialysis did not improve coagulopathy (aPTT 129s, haemoclot over 500 ng/l on 3rd day). On the third day, another idarucizumab was administered and continual renal replacement therapy (CRRT) was started. Even during 3 days of CRRT dabigatran level was increasing due to washing dabigatran out from tissues, but it did not exceed 347 ng/l and aPTT of 2,45s on 5th day of hospitalization.Even after 12 days, 3 days of CRRT, 4 intermittent haemodialysis, and two doses of idarucizumab patient was still in the therapeutic range for dabigatran.This case shows the treacherousness of dabigatran rebound phenomenon.

Keywords: *dabigatran, haemodialysis, intoxication*

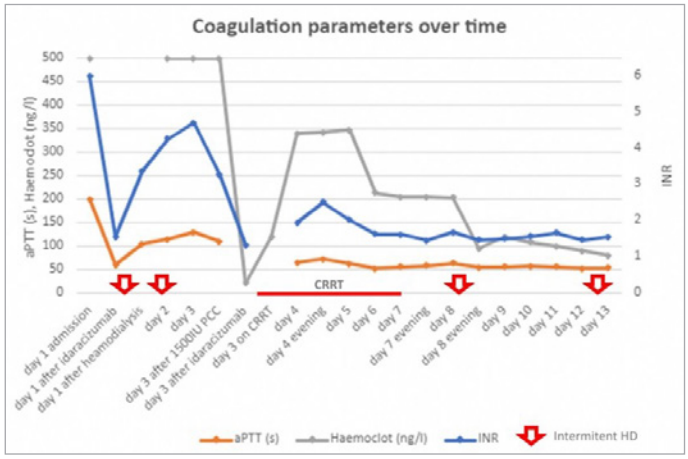

Figure 1. *Coagulation parameters over time.*

[Abstract:0138]

HAMMAN'S SYNDROME IN THE CONTEXT OF DIABETIC KETOACIDOSIS: A CLINICAL CASE

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Introduction: Hamman's syndrome is characterized by the sudden development of pneumomediastinum in the context of intense coughing and vigorous efforts, often manifesting with chest pain, shortness of breath, and palpable subcutaneous emphysema.

Clinical Case: An 18-year-old healthy male patient developed nausea and vomiting accompanied by vigorous coughing. Additionally, he reported shortness of breath and chest pain with a few hours of evolution. Upon admission, he was tachypnoeic, with crepitations upon bilateral neck palpation. Initial study revealed metabolic acidaemia, blood glucose level of 329 mg/dL, and ketonemia of 4.2 mmol/L. Additionally, a chest X-ray showed the presence of subcutaneous emphysema and gas bubbles in the mediastinal cavity, a finding confirmed by thoracic computed tomography that favoured the diagnosis of Hamman's Syndrome. Since it was a small-sized pneumomediastinum in a hemodynamically stable patient, a conservative strategy was decided upon, and high-concentration oxygen therapy was initiated. After correcting the precipitating factor (diabetic ketoacidosis), a follow-up CT scan revealed a reduced extent of the previously observed pneumomediastinum and emphysema, and the patient showed good clinical progress.

Discussion: Hamman's syndrome, also known as Spontaneous Pneumomediastinum, is a rare clinical condition characterized by the presence of free air in the mediastinal cavity not related to a precipitating injury. It is more commonly diagnosed in young males and should be excluded in those with precipitating events such as vomiting or vigorous coughing. The recommended treatment, once underlying pathology is ruled out, involves a conservative strategy, with the condition generally having a benign and self-limited course.

Keywords: *hamman syndrome, spontaneuos pneumomediastinum, diabetic ketoacidosis*

[Abstract:0297]

MASSIVE AIR EMBOLISM

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Air embolism is a rare but potentially fatal complication that can result from several medical procedures.

We present the case of a 66-year-old patient, with a history of breast neoplasia, undergoing chemotherapy via central venous catheter (CVC) in the right subclavian vein. Admitted

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to the emergency room due to shock of unclear aetiology. Axial computerized tomography showed air in the right ventricle and multiple vascular structures. The patient progressed into cardio-respiratory arrest and, despite the measures taken, she died. The air embolism was interpreted as a likely complication of CVC use. With this case it is intended to highlight the importance of this clinical entity as a complication of common medical procedures.

Keywords: *air embolism, central venous catheter, emergency room*

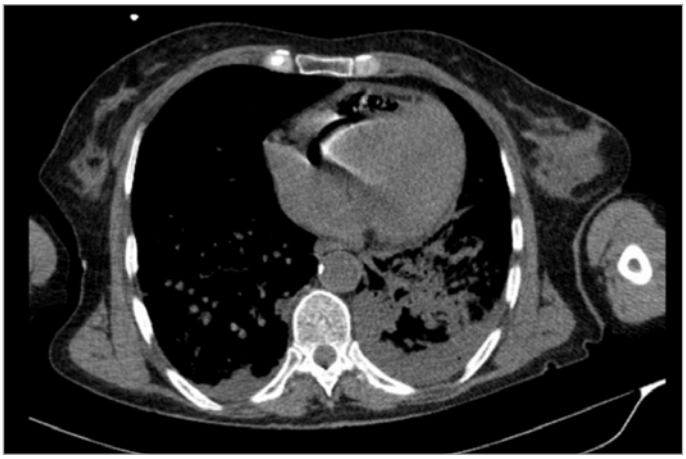

Figure 1. *Air in the lumen of the right ventricle.*

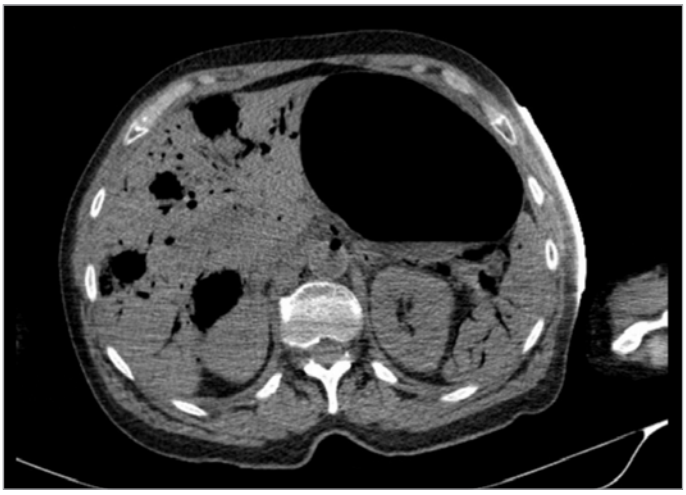

Figure 2. *Gas content in multiple vascular structures and liver parenchyma.*

[Abstract:0340]

A CASE OF METHEMOGLOBINEMIA-RECOGNISING THE SIGNS IS CRUCIAL IN MAKING THE DIAGNOSIS

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We present a case of methemoglobinemia diagnosed based on recognition of a constellation of typical signs after the diagnosis had been overlooked upon initial evaluation. This case reminds us to question our diagnosis when the clinical diagnosis is incongruent with the presentation and initial test results.The patient is a 35-year-old Indian male who presented to the emergency department with fever, cough and dyspnoea. His oxygen saturation was 89% on room air. He was diagnosed with bronchitis and admitted to the hospital. Breath sounds were vesicular with no wheeze.His oxygen saturation plateaued at 92-93% despite increasing supplemental oxygen to 3L/min. His respiratory examination and chest X-ray (CXR) were normal. Concerned about persistent low oxygen saturation out of proportion to CXR findings, we performed an arterial blood gas and noted dark-coloured blood. A saturation gap was noted-pO_2 of arterial blood gas was 149.5, while SpO_2 was 92-93%. Methemoglobinemia was suspected and confirmed when the methaemoglobin level returned as 21.8%. His symptoms resolved completely after administering methylene blue. Further history and investigation for the underlying cause of methemoglobinemia was unyielding. Although methemoglobinemia is uncommon, it should be considered as a differential in patients presenting with hypoxemia out of proportion to clinical and initial investigation findings. In this case, typical cyanosis was not evident due to his dark complexion. However, chocolate-coloured blood, low pulse oximetry readings incongruent with normal pO_2 on arterial blood gas, and refractory unexplained hypoxia were typical signs that should raise suspicion of this condition.

Keywords: *methemoglobinemia, cyanosis, methylene blue*

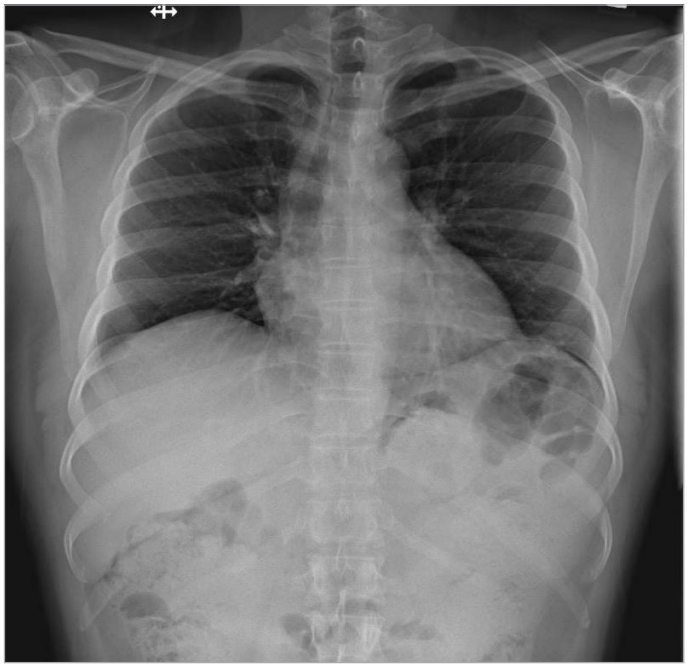

Figure 1. *Chest X-ray performed was unremarkable. Patient's desaturation was out of proportion to chest X-ray findings.*

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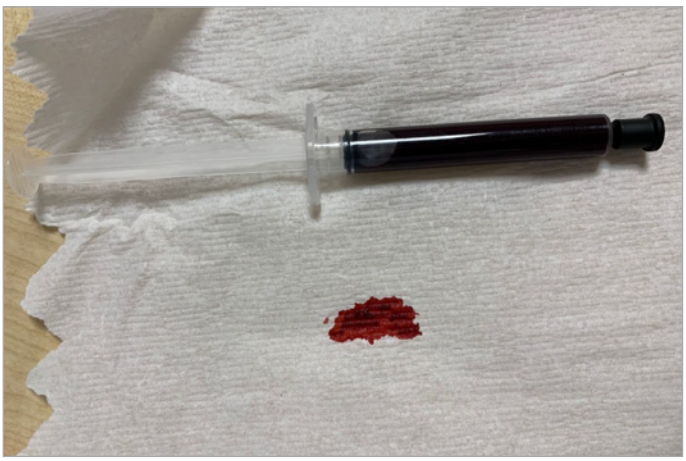

Figure 2. Dark brown blood noted on arterial blood gas, due to methemoglobinemia.

Investigation	Result	Reference range
Haemoglobin	16.5	14.0-18.0 g/dL
Arterial blood gas	pH: 7.373 pCO_2: 38.9 pO_2: 149.5 BE: -2.7	pH: 7.350-7.450 pCO_2: 35.0-45.0 mmHg pO2: 75.0-100.0 mm_{Hg} BE: -2.0- 2.0 mmol/L
Chest X-ray	No consolidation in the aerated lungs. Minor atelectasis in the left lower zone. No pneumothorax or pleural effusion.	
Methaemoglobin level (before methylene blue)	21.8%	0.0-1.5%
Methaemoglobin level (after methylene blue)	1.1%	0.0-1.5%
Respiratory virus PCR (throat swab)	Positive for Influenza A (Flu-A Subtype H1-2009)	
G6PD Screen (Qualitative)	Present	Present
Hb electrophoresis	Hb-A Present Haemoglobin A2: 2.9 Haemoglobin F: < 1.0 No abnormal haemoglobin band detected, but silent thalassemia not excluded.	Haemoglobin A2: 2.3-3.3% Haemoglobin F: 0.1-1.4%
Urine and blood toxicology	Blood toxicology: prednisolone detected. Blood toxicology negative for acidic and neutral drugs, alcohol and volatiles, benzodiazepines, hypnotics and opioids. Urine toxicology: cetirizine, chlorpheniramine, paracetamol and prednisolone detected. Urine toxicology negative for alcohol, benzodiazepines, hypnotics, opioids, and other acidic and neutral drugs.	

Table 1. Significant results.

[Abstract:0453]

DECODING ETHYLENE GLYCOL INTOXICATION IN A COMPLEX CLINICAL LANDSCAPE

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Ethylene glycol, a commonly used liquid in products like antifreeze, has a serious public health threat due to its presence in everyday items. Its ingestion, whether intentional or accidental, can lead to irreversible harm or death. Metabolized in the liver, ethylene glycol produces toxic byproducts that can damage organs such as the kidneys. Initial symptoms include nausea, vomiting, abdominal pain, and confusion, progressing to severe renal failure and neurological complications.

The presented case involves a 48-year-old male who ingested ethylene glycol with suicidal intent. Swift decision-making was crucial, with treatment including ethanol, sodium bicarbonate, thiamine and pyridoxine to inhibit alcohol dehydrogenase. Haemodialysis was urgently considered due to severe metabolic acidosis and elevated toxin levels. Management strategies encompass an ABCDE approach, alcohol dehydrogenase inhibition, correction of systemic acidosis, administration of cofactors, and haemodialysis when indicated. Activated charcoal and gastric lavage are ineffective due to rapid drug absorption.

In conclusion, ethylene glycol poisoning is a severe condition requiring prompt recognition in cases of metabolic acidosis with elevated osmolar and anion gaps. Early treatment, including haemodialysis when necessary, is crucial to prevent severe complications. The presented case received timely intervention, aligning with current management guidelines.

References:

1. Sivilotti ML, Burns MM, Ganetsky M. Methanol and ethylene glycol poisoning: Management. Updated: Jul 29, 2021. Review updated until: Apr 2023.
2. Sivilotti ML, Burns MM, Hendrickson RG, Ganetsky M. Methanol and ethylene glycol poisoning: Pharmacology, clinical manifestations, and diagnosis. Updated: Jul 09, 2022. Review updated until: Apr 2023.

Keywords: *liver, acidosis, ethanol, bicarbonate, haemodialysis*

[Abstract:0516]

WHICH TOOL IS THE MOST ACCURATE FOR PREDICTING PATIENT DETERIORATION IN THE EMERGENCY DEPARTMENT? A COMPARISON OF SIX EARLY WARNING SCORES AND SIMPLE CLINICAL JUDGMENT

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Aim: This study aimed to compare the accuracy of the most used early warning scores (EWS) to find the most accurate in the general

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ED population, and to compare their added value compared to the sole clinical judgment.

Methods: This is a single-centre, retrospective observational study. The digital records of all consecutive ED admissions ≥18 years from 2010 to 2019 were evaluated and six EWSs were calculated: NEWS, NEWS2, MEWS, RAPS, REMS, and SEWS. The discrimination performance of each EWS was calculated by ROC analysis. The primary endpoint was death/ICU admission within 24 hours.

Secondary endpoints were the assessment of the added value of clinical judgment to each EWS, measured by the net reclassification improvement, and the evaluation of the relative weight of each EWS item on the prediction of the primary outcome, measured by neural network analysis.

Results: The study cohort consisted of 225,369 patients. Overall, 1941 (0.9%) patients were admitted to ICU or died within 24 hours. NEWS was the most accurate predictor with an AUROC of 0.904, similar to NEWS2 (AUROC 0.901). The remaining EWS had a significantly lower accuracy. The clinical judgment was a fair good predictor of poor outcome, however, EWS evaluation could add up to 20% to overall risk estimation.

Conclusions: All the EWS demonstrated good accuracy for the prediction of short-term poor outcomes, with the sole exception of RAPS. The NEWS had the better balance in discrimination and calibration both in patients selected by clinical judgment and in the general ED population.

Keywords: *emergency department, early warning score, NEWS, NEWS2, REMS, RAPS*

[Abstract:0631]

A FARMER'S "PIN" PUPILS POINT THE DIAGNOSIS

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Purpose: We present the case of a 78-year-old male farmer, who was admitted to our Department due to impaired level of consciousness, following one episode of vomit and diarrhoea 2 hours ago. There was no report of recent drugs, herbs, or mushrooms ingestion.

Methods and Findings: On clinical evaluation the patient was lethargic with pinpoint pupils and tetraparetic with decreased tendon reflexes and mild calve fasciculations. Laboratory tests revealed leukocytosis, prerenal azotaemia, hypokalaemia, lactic acidosis.

Based on these findings, our differential diagnosis included acute haemorrhagic stroke and brain oedema, meningoencephalitis and metabolic causes/intoxication. Brain tomography excluded cerebral haemorrhage, oedema or tumour and the results of the cerebrospinal fluid were not consistent of infection.

Naloxone bolus infusion was used in case of opioid intoxication, with no results. A more detailed history by his relatives revealed pesticide misuse and consumption of potentially contaminated agricultural products. Based on the history and the clinical findings, organophosphate poisoning was the most likely diagnosis. Due to rapid respiratory deterioration, the patient was started on atropine infusion under continuous monitoring. Pseudocholinesterase levels returned exceptionally low, confirming the clinical diagnosis of possible organophosphate poisoning. High doses of atropine and pralidoxime, combined with symptomatic management, resulted in progressive clinical improvement and the patient discharged home.

Conclusions: Unintentional organophosphate intoxication is a rare cause of death, due to strict regulations, especially in urban regions. Nevertheless, in rural areas, early recognition of neurological, respiratory and gastrointestinal signs by physician are crucial for the diagnosis and treatment of the patient.

Keywords: *organophosphate, poisoning, lethargic, coma, pinpoint pupils*

[Abstract:0639]

PREVALENCE OF MOBILITY AND FUNCTIONAL DECLINE PRIOR TO PRESENTATION TO HOSPITAL IN AN OLDER ADULT POPULATION

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The number of older patients presenting to hospital is increasing. 30-60% of older patients experience functional decline during hospitalisation[1]. Little is known about the prevalence of functional decline at presentation to hospital.

Purpose: To assess the prevalence of reduced mobility and function in an older adult population in a tertiary emergency department.

Methods: Patients had an abbreviated comprehensive geriatric assessment completed by an interdisciplinary Geriatrician-led frailty team. Gender, age, clinical frailty score (CFS), delirium detection tool (4AT), malnutrition screening tool (MST), excessive polypharmacy (>10 medications) and reduction in mobility and function were entered onto Excel. Results of a convenience sample were analysed using descriptive statistics.

Findings: 162 records were accessed. The mean (SD) age was 82 (7) years. The female-to-male ratio was 1.2:1. The mean (SD) CFS was 5 (1.3). 90% had a 4AT recorded, in whom delirium or likely mild cognitive impairment was present in 54% (n=79). 80% had an MST recorded, of which 29% (n=37) were at risk of malnutrition.

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57% had information regarding polypharmacy recorded, of which 47% (n=44) had excessive polypharmacy. 64% (n=104) had reduction in mobility or functional status recorded. 78% (n=81) had decline in mobility or function.

Conclusions: The majority of patients assessed experienced mobility and functional decline at presentation. There is a high prevalence of other interacting frailty syndromes highlighted by comprehensive geriatric assessment. Early intervention is critical to prevent further decline.

Reference

1. Covinsky MD, K.E., et al (2003). Loss of Independence in Activities of Daily Living in Older Adults Hospitalized with Medical Illnesses: Increased Vulnerability with Age. Journal of the American Geriatrics Society.

Keywords: *frailty, older persons, functional decline, mobility*

CGA component measured	Data Complete	Result : patients with an "at risk" score
4AT	90% (n = 146)	54% (n = 79)
MST	80% (n = 129)	29% (n = 37)
Excessive polypharmacy	57% (n = 93)	47% (n = 44)
Reduction in mobility/function	64% (n = 104)	78% (n = 81)

Interpretation of tools used:
4AT: Score 0 = normal; Score 1-3 = mild cognitive impairment; Score ≥ 4 suggestive of delirium
MST: Score ≥ 2 suggests risk of malnutrition
Polypharmacy is usually described as >5 medications but excessive polypharmacy (>10 medications) is associated with the worst patient outcomes
Reduction in mobility/function: Measured as a reduction in the 2 weeks prior to arrival to the emergency department.

Table 1. *Comprehensive Geriatric Assessment Results.*

[Abstract:0717]

DRESS SYNDROME (DRUG RASH WITH EOSINOPHILIA AND SYSTEMIC SYMPTOMS)

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Background: DRESS is a type of adverse drug reaction that can cause skin and organ dysfunction. Nitrofurantoin is an antimicrobial drug commonly used to treat UTIs. However, it has caused DRESS in only 3 out of 254 cases. In this case, a 75-year-old woman developed DRESS syndrome as a result of taking nitrofurantoin for UTI. Investigations revealed eosinophilia, pleural effusion, and hepatic steatosis, all attributed to nitrofurantoin. DRESS syndrome is a delayed immune reaction that can occur up to 8 weeks after exposure to a trigger drug. Diagnosis requires at least 3 of the following symptoms:

- Hospitalization
- Suspected drug-related reaction
- Acute skin rash
- Fever above 38°C
- Enlarged lymph nodes in at least two sites; Involvement of at least one internal organ; Abnormal blood countIn conclusion, prompt recognition of nitrofurantoin as a drug attribute of Dress syndrome is crucial, as it can be life-threatening.

Reference

1. Drug Rash with Eosinophilia and systemic symptoms Robert M. Kliegman MD, in Nelson Testbook of pediatircs, 2020 DRESS Syndrome - an overview | ScienceDirect Topics
2. Antibacterial antibiotic-induced drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome: a literature review by Shiva, Sharifzadeh, Amir Hooshang Mohammadpur, Ashraf Tavanaee and Sepideh Elyasi (Antibacterial antibiotic-induced drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome: a literature review | SpringerLink (oclc.org))
3. http://www.regiscar.org/Diseases _HSS_DRESS.html

Keywords: *DRESS, nitrofurantoin*

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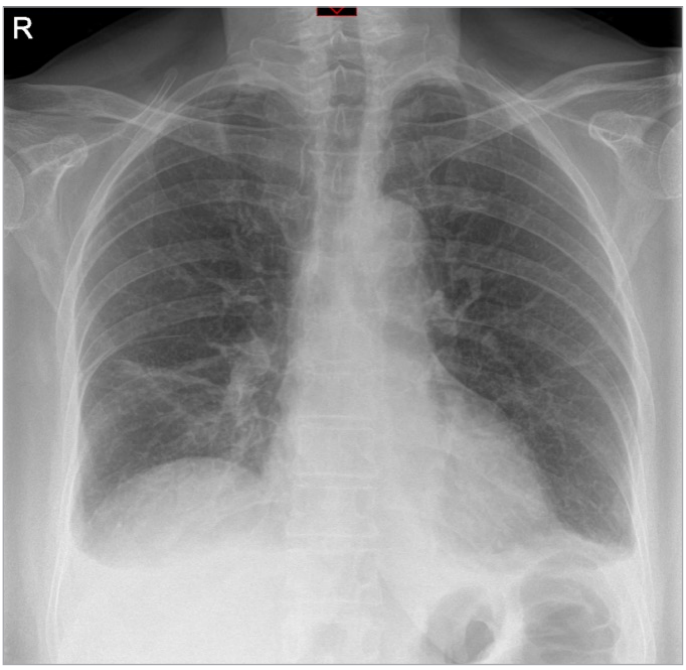

Figure 1. CXR. Pleural effusion.

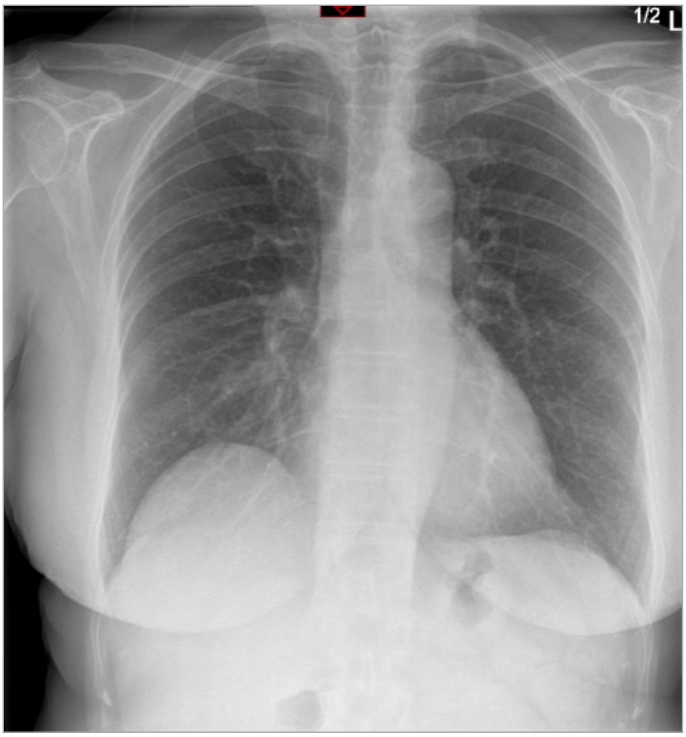

Figure 2. CXR after treatment with steroid and diuretic.

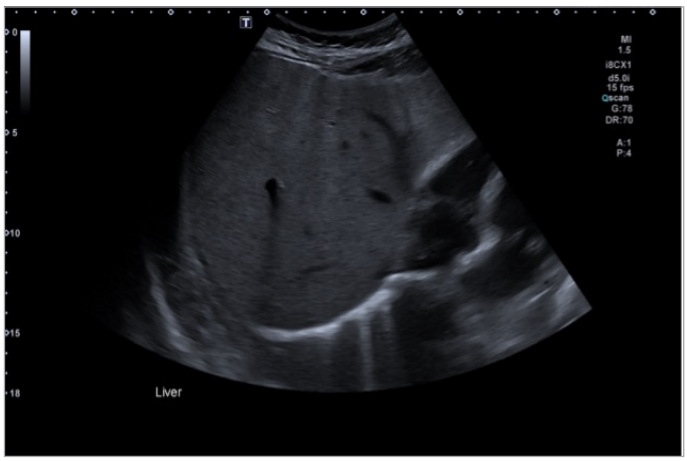

Figure 3. Liver steatosis.

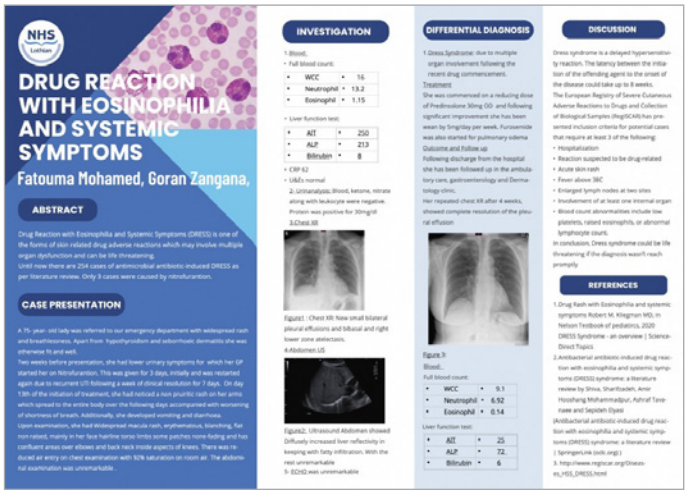

Figure 4. Poster including blood result.

[Abstract:0727]

THE CELLULAR COMPOSITION OF MACROPHAGE INFILTRATION IN PATIENTS WITH ADHF DEPENDING ON THE SERUM LEVEL OF HIGHLY SENSITIVE CRP

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Objective: To reveal the characteristics of macrophage infiltration in patients with ADHF depending on the serum level of hsCRP.

Methods: This trial included 21 patients (84% men, LVEF of 29.17±9.4%) with ADHF, not earlier than 6 months after PCI or/and CABG (#NCT02649517). All patients underwent

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endomyocardial biopsy with double immunofluorescence for definitions macrophage infiltration. CD68 was a marker for the cells of the macrophage lineage, CD80 was considered as M1-like macrophage and CD163, CD206, stabilin-1 were as M2-like macrophage biomarkers. On admission the result of serum level of hsCRP (ELISA) of more than 3.0 mg/L was regarded by us as predictively significant. All patients were divided into 2 groups. Group 1 comprised patients (n=14) with hsCRP>3.0 mg/L; group 2 comprised patients (n=7) with hsCRP< 3.0 mg/L.

Results: The differences between the groups were only in the number of CD163-/CD206+ macrophages. The number of CD163-/CD206+ macrophages were (p=0.038) higher in group 1 by 21% in comparison to group 2 (53.0 [43.0; 62.0] vs. 42.0 [29.0; 52.0], respectively). However, there were greater numbers of CD68+/CD80+ macrophages in group 1 than group 2 (20.5 [14.0; 35.0] vs. 17.0 [12.0; 27.0], respectively). The numbers of CD68+/CD80- and CD68-/CD163+ macrophages were dominated in group 2. The numbers of CD68+ CDstabilin-1+ macrophage cells were similar in both groups. Also, the correlation was found between the serum level of hsCRP and number of CD163-/CD206+ macrophages (r=0.514, p=0.042).

Conclusions: Our data demonstrated the relation between the number of M2-like macrophages (CD163-/CD206+) and marker of inflammation (hsCRP) in patients with ADHF.

Keywords: *acute decompensated heart failure, coronary heart disease, endomyocardial biopsy, macrophages, high-sensitivity C-reactive protein*

[Abstract:0759]

NAVIGATING THE COMPLEXITIES: A CLINICAL CASE STUDY ON SUPERIOR VENA CAVA SYNDROME DIAGNOSIS AND MANAGEMENT

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Superior vena cava syndrome (SVCS) is characterized by signs and symptoms resulting from obstruction or occlusion of the superior vena cava and can lead to significant morbidity and mortality. Despite the increase in benign cases, as a thrombotic complication of intravascular devices, it is frequently observed secondary to malignancy as a consequence of thrombosis, direct invasion of tumour cells into the vessel or external compression. A 59-year-old woman, with a history of former smoking and pulmonary tuberculosis at 18-years-old, with no sequelae. The patient went to the Emergency Department (ED) due to coughing, facial and neck oedema. Upon admission, she presented a hypertensive and tachycardic. On objective examination, there was a change in vocal timbre, cough, facial and neck oedema and headache in the supine position. Observed a moon-like oedema of the face and telangiectasias in the chest. Analytically, leukocytosis (13,900) and neutrophilia (80.3%). A computed tomography angiography of the chest was done, describing a large solid expansive formation and invasion of the superior vena cava and azygos, with SVCS secondary to the lung neoplastic lesion.

Patient was placed on oxygen therapy and elevation of the head of the bed. Therapy with enoxaparin, dexamethasone and furosemide was initiated. The Kishi score >4 was assessed, with an indication for probable stent placement.

Although SVCS is rare, we must be aware of its existence and the importance of carrying out an immediate investigation in patients without a history of neoplasia. The primary management is symptom relief and treatment of the underlying disease.

Keywords: *superior, vena cava, neoplasia*

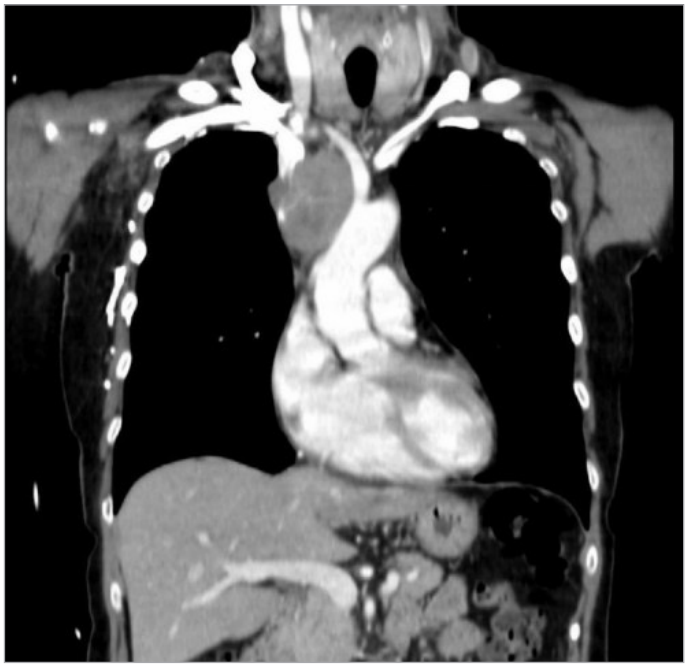

Figure 1. *SVCS 1. Computed Tomography Angiography of the chest.*

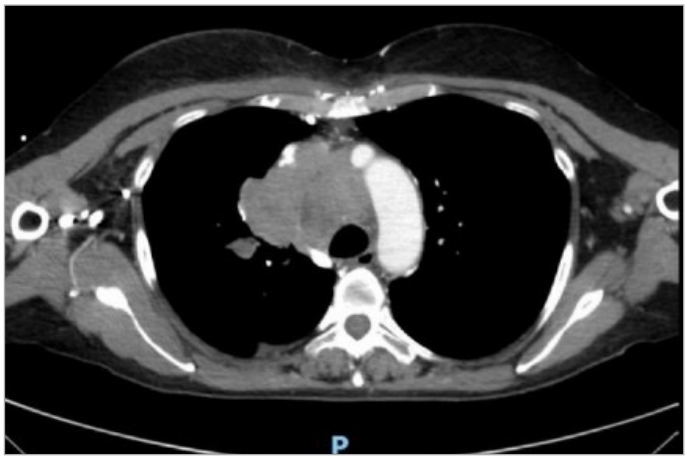

Figure 2. *SVCS 2.*

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[Abstract:0765]

AWARENESS ON WORKPLACE VIOLENCE AGAINST HEALTHCARE WORKERS – AN EMERGENCY ROOM PERSPECTIVE

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Introduction: Over the last few years, there have been several accounts of the rising incidence of violence against healthcare professionals in emergency and critical care setting. The issue of violence in healthcare settings as a law and policy issue and its awareness continues to remain relevant.

Objectives: To know what percentage of healthcare workers working in emergency medicine department have been affected by physical violence and verbal abuse.

Methods: A questionnaire was answered by 250 medical and paramedical professionals. Questions were designed to assess 4 major parameters: basic awareness, legal discourse, essential IPC sections and impact it had after experiencing verbal abuse and physical violence.

Results: Amongst all physicians, residents and nursing officers had experienced some or other form of violence in form of physical scuffle or verbal threat during their line of work.

Basic awareness of violence amongst healthcare professionals worldwide and in India was also poor amongst all study participants.

Healthcare workers who faced verbal and physical altercation 18.7% reportedly had no impact on their mental health, 6.7% had been diagnosed as having clinical depression and 74.6% have experienced low mood ranging from a few hours to many days after the episode.67.6% stated that it did not affect them, 24.3% reported that it affected their outlook towards all patients, 8.1% of health care workers reported that this affected their outlook.

Conclusions: The awareness of violence against healthcare professionals is low amongst resident physicians, undergraduates and nursing officers. It is recommended to include this topic in competency assessment.

Keywords: emergency, workplace, behaviour

[Abstract:0846]

MACHINE LEARNING-BASED MORTALITY PREDICTION MODEL FOR CRITICALLY ILL PATIENTS (MAC MBES)

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Predicting near exitus patients is shown to be an important application for better usage of healthcare resources in terms of nursing medical equipment and doctor supervision. With better allocation of resources, healthcare providers can significantly improve healthcare for patients. In order to predict which critical patients are going to be exitus within 28 days, we developed a machine learning-based tool. This study includes adult critical patients admitted to the critical unit. After 1232 patients were extracted from an electronic registry in Turkey, subjects were divided into the training set for development and the test for validation. 1250 non-critical patients were excluded, and then 84 patients who met the study criteria were included. We named this model MAC-MBES. Seventeen variables, including characteristics of patients, vital signs, and laboratory test data at hospital arrival, were trained as predictors for machine learning. A random forest machine model was used in this research. The outcome was death during the hospital stay. MAC-MBES uses seventeen variables that can be easily obtained in any unit of the hospital, potentially benefiting critical care and preventing unnecessary suffering. The model can predict which patients will be exitus in 26 days with 76 percent accuracy. MAC-MBES offers improved performance for predicting short-term mortality in critically ill patients. MAC-MBES can help physicians determine how to allocate care and treatment for critically ill patients based on the objective risk of death.

Keywords: machine learning, random forest, critic

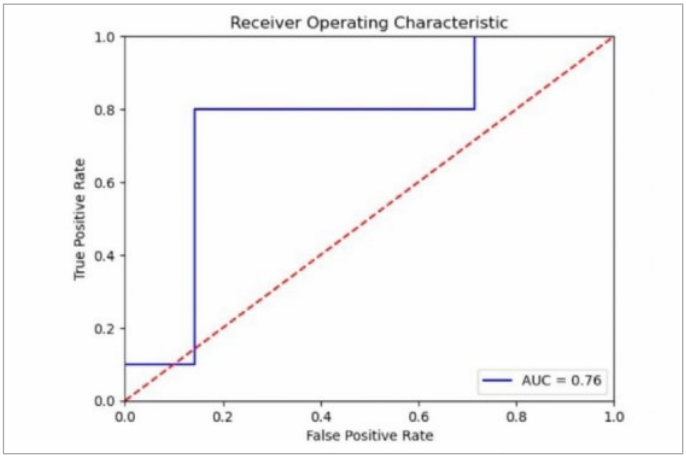

Figure 1. *ROC curve (AUC).*

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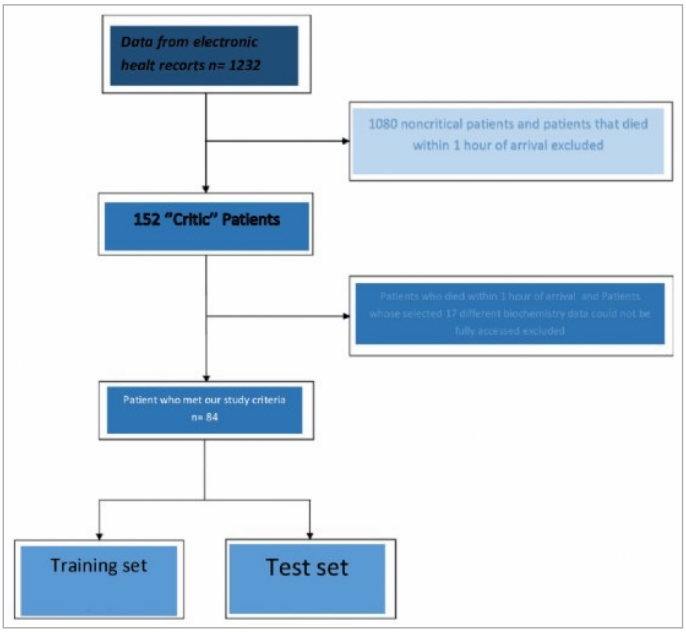

Figure 2. The Plan of The Research.

implement alternative modalities when indicated such as safety sitters may improve utilization metrics for patients hospitalized with bipolar disorder.

Keywords: bipolar disorder, physical restraints, length of stay

Table 1. Patient and hospital characteristics: Physically restrained and non-restrained patients admitted with bipolar disorder

	Restrained Patients	Non-restrained Patients	p-value*
Total, n (%)	5,885 (2.5)	222,945 (97.4)	
Age in years, mean ± SE	36.9 ± 0.42	40.4 ± 0.15	<0.01
Male, n (%)	3,052 (51.8)	103,422 (46.7)	<0.01
Race, n (%)**			
White	3,311 (56.2)	154,835 (69.4)	
Black	1,625 (27.6)	36,407 (16.3)	
Hispanic	557 (9.47)	19,106 (8.58)	
Asian/Pacific Islander	52 (0.80)	30,766 (1.38)	
Bipolar severity, n (%)			<0.01
Hypomania-ICD 10: F10*	45 (7.6)	1,625 (7.3)	
Manic without psychotic features-ICD 10: F11*	520 (8.8)	11,185 (5.0)	
Manic severe with psychotic features -ICD 10: F12*	2,440 (41.4)	33,685 (15.1)	
Depressed mild or moderate-ICD 10: F13*	225 (3.8)	23,220 (10.4)	
Depressed severe without psychotic features-ICD 10: F14*	150 (2.5)	20,835 (9.3)	
Depressed severe with psychotic features-ICD 10: F15*	230 (3.9)	17,470 (7.8)	
Mixed-ICD 10: F16*	700 (11.8)	33,225 (14.9)	
Other-ICD 10: F18*	190 (3.2)	19,860 (8.9)	
Unspecified-ICD 10: F19*	1,385 (23.5)	61,840 (27.7)	
Elixhauser comorbidity score, mean ± SE	2.40± 0.04	2.41± 0.02	0.78
Median income (USD), n (%)			<0.01
$1-$38,999	1,763 (30.0)	77,797 (34.9)	
$39,000-$47,999	1,534 (26.0)	61,246 (27.4)	
$48,000-$62,999	1,379 (23.4)	46,409 (20.8)	
$63,000 or more	1,209 (20.5)	37,493 (16.8)	
Insurance, n (%)			<0.01
Medicare	1,240 (21.0)	57,966 (26.0)	
Medicaid	2,650 (45.0)	87,399 (39.2)	
Private	1,555 (26.4)	60,676 (27.2)	
Uninsured	440 (7.47)	16,904 (7.58)	
Hospital Bed size, n (%)			0.01
Small	1,410 (24.0)	64,176 (28.7)	
Medium	1,430 (24.3)	61,499 (27.6)	
Large	3,045 (51.7)	97,270 (43.6)	
Hospital Region, n (%)			<0.01
Northeast	1,835 (31.2)	48,215 (21.6)	
Midwest	1,245 (21.2)	63,030 (28.2)	
South	1,540 (26.2)	81,311 (36.4)	
West	1,265 (21.3)	30,389 (13.6)	
Teaching status of hospital, n (%)			<0.01
Non-teaching	186 (3.17)	26,084 (11.7)	
Teaching	5,698 (96.8)	196,860 (88.2)	

*Analyses used Pearson's χ^2 and Adjusted Wald tests for categorical and continuous variables, respectively
**Remaining race categories not shown due to low sample size.

Table 1. Patient and hospital characteristics: Physically restrained and non-restrained patients admitted with bipolar disorder.

Table 2. Mean differences and odds ratios for resource utilization outcomes among patients admitted for bipolar disorder comparing those with and without physical restraints: National Inpatient Sample Database (2020)

Outcome*	Restrained patients N=5,885	Unrestrained patients N=222,945	Univariable Mean Difference	(95% CI)	P-value	Multivariable Mean Difference	(95% CI)	P-value
Mean length of stay, days	11.5	7.5	4.0	(3.0 – 4.9)	<0.01	2.8	(1.9 – 3.8)	<0.01
Mean charge per case, US dollars	45,381	28,320	17,061	(12,535 – 21,585)	<0.01	11,004	(6,640 – 15,368)	<0.01
			Univariable Odds Ratio			Multivariable Odds Ratio		
Discharged to home, n (%)	4,695 (79.7)	198,500 (89.0)	0.48	(0.40 – 0.57)	<0.01	0.47	(0.39 – 0.56)	<0.01

*Outcome variables adjusted for confounders in the multivariable analysis include age, race, insurance and comorbidities measured using Elixhauser comorbidity scores), severity of overall illnesses, risk of mortality, severity of bipolar, hospital bed size, geographic region (Northeast, Midwest, South, and West), and teaching hospital status (teaching vs. non-teaching hospital).

Table 2. Mean differences and odd ratios for resource utilization outcomes among patients admitted for bipolar disorder comparing those with and without physical restraints: Nationwide Inpatient Sample Database (2020).

[Abstract:0878]

OUTCOMES AMONG HOSPITALIZED PATIENTS WITH BIPOLAR DISORDER WHEN PHYSICAL RESTRAINTS ARE INTRODUCED

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Background: Physical restraints are associated with adverse outcomes in specific patient populations, but their full impact on patients hospitalized for bipolar disorder is not known.

Methods: National Inpatient Sample database year 2020 was used to study hospitalized adult patients with bipolar disorder. We compared the patients who required physical restraints to those who did not. Multivariable regression analysis was performed to compare healthcare resource utilization and post-hospital discharge disposition site outcomes.

Results: 228,830 patients were admitted to hospitals with bipolar disorder. 5,885 (2.5%) had physical restraints applied, and 222,945 (97.4%) did not (Table 1). Physically restrained patients were younger than unrestrained (mean age [± standard error] 36.9 ± 0.42 vs. 40.4± 0.15; p<0.01) and had a greater proportion of males (51.8% vs 46.7%; p<0.01). Those with physical restraints experienced longer hospital stays (adjusted Mean Difference aMD=3.4 days; p<0.01) and incurred greater hospital charges (aMD = $12,396; p<0.01) than non-restrained patients (Table 2). Patients with physical restraints were less likely to go home after hospital discharge than unrestrained patients (adjusted Odds Ratio=0.46; <0.01).

Conclusions: Though patients with physical restraints did not comprise many patients hospitalized with bipolar disorder; they utilized greater hospital resources than unrestrained patients. Goals to further reduce or eliminate physical restraint use and

[Abstract:0900]

TO SEE OR NOT TO SEE; LOOK FOR DEMYELINATION! - A CASE REPORT

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A 26-year-old female was referred by ophthalmology with a headache, sudden visual loss and bilateral papilloedema.

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Examination revealed bilateral dilated pupils with depressed reaction to light and profound visual loss; loss of appreciation of light in both eyes. Her CT head was normal and subsequent lumbar puncture showed a normal opening pressure of 12 cm H_2O. Neurology reviewed her urgently; their working diagnosis was neuromyelitis optica spectrum disorder (NMOSD) as they found bilateral papillitis. She had an urgent MRI head which revealed high signal changes within the white matter of the parietal region and posterior to the occipital horn, with signal hyperintensity in the pre-chiasmatic optic nerve.She received high dose IV methylprednisolone for 72 hours, without improvement, thus was transferred to a specialist centre for plasmapheresis, which improved her symptoms.

Discussion: Neuromyelitis optica spectrum disorder is a progressive demyelinating disease that has symptoms overlapping with multiple sclerosis. It more commonly affects females, with a prevalence of 0.07-10 cases per 100,000 people. NMOSD classically presents with a transverse myelitis and optic neuritis, largely affecting the spinal cord and optic nerve. Intravenous corticosteroid therapy is initially used in the treatment of acute attacks. Early initiation of plasmapheresis is recommended and found to be beneficial in patients with acute severe vision loss, which is refractory to corticosteroids.

Key learning points: 1. It may be clinically difficult to differentiate papillitis (intraocular optic neuritis) from papilloedema.

2. Early recognition and treatment of NMOSD is fundamental in preventing disease progression and reversing visual loss.

Keywords: *NMOSD, visual loss, papillitis, plasmapheresis*

[Abstract:1042]

ANALYSIS OF EMERGENCY INTERNAL MEDICINE HOSPITALIZATION AFTER THE EARTHQUAKE IN TURKEY: DEMOGRAPHIC AND CLINICAL RESULTS OF VICTIMS

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Objectives: On February 6, 2023, a devastating earthquake struck the south-eastern part of Turkey that affected eleven major cities. Thousands of people lost their lives, and many were buried under collapsed buildings. The aim of this study is to examine the demographic characteristics, clinical results, laboratory findings and injuries of the victims who applied to the emergency internal medicine service after the earthquake.

Patients and Methods: In this study, medical records of 60 patients with crush syndrome who applied to Ankara Bilkent City Hospital Emergency Department of Internal Medicine after the earthquake were evaluated retrospectively through the system.

Results: 56.67% of the patients were male, the mean age was 34.5, the mean duration of stay under the rubble was 15 hours, and 40 (66.67%) of them had extremity trauma. Twenty-two patients (36.67%) had fasciotomy and 15 (25%) had amputation. Various complications developed in patients; 36 AKI (60%) and 15 (25%) wound infections were detected. Haemodialysis was applied to 32 patients (53.33%) due to AKI. AKI was detected in 17 of the patients who underwent fasciotomy, and wound infection was observed in 9 of them. Wound infection was detected in 13 of the patients with AKI. Mortality developed in 3 patients.

Conclusions: Rapid determination of demographic characteristics, laboratory findings and clinical results of earthquake patients admitted to the Emergency Internal Medicine service is critical for the development of future disaster preparedness, response and recovery policies.

Keywords: *earthquake, crush syndrome, acute kidney injury, Turkey*

		n	%
	Male	34	(56.67)
Gender	Female	26	(43.33)
*Age		37.35±15.13	34.5 (18-85)
*Time under the rubble (h)		28.39±32.32	15 (1-144)
*Length of stay in internal medicine clinic (day)		24.58±8.07	27 (3-36)

Table 1. *Demographic characteristics of patients and their distribution values.*

*n: Number of patients %:proportion in the whole population *n is replaced by mean±s.d, % is replaced by median (min-max).*

	n	%
Trauma area		
Extremity	40	(66.67)
Hip	4	(6.67)
Vertebra	7	(11.67)
Thorax	11	(18.33)
Cranial	1	(1.67)
Operation performed		
Fasciotomy	22	(36.67)
Amputation	15	(25.00)
Complications		
AKI	36	(60.00)
Wound infection	15	(25.00)
Haemodialysis and mortality		
Haemodialysis	32	(53.33)
Mortality	3	(5.00)

Table 2. *Patients distribution by trauma site, operation performed, hemodialysis and mortality.*

n: Number of patients %:proportion in the whole population.

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		Fasciotomy				p
		No		Yes		
		n	%	n	%	
Myoglobin on admission (µg/L)	<1000	18	(48.65)	2	(9.09)	0.002
	>1000	19	(51.35)	20	(90.91)	
AKI		19	(50.00)	17	(77.27)	0.038
Wound infection		6	(15.79)	9	(40.91)	0.030
Haemodialysis		15	(39.47)	17	(77.27)	0.005
Mortality		1	(2.63)	2	(9.09)	0.269

Table 3. Distribution of number of haemodialysis, complications, mortality and laboratory values according to fasciotomy.
n: Number of patients %:proportion in the whole population.

	Fasciotomy				p
	No		Yes		
	Mean±s.d	Median (min-max)	Mean±s.d	Median (min-max)	
Age	39.53±16.74	37.5 (19-85)	33.59±11.21	33 (18-66)	0.225
Time under the rubble (h)	31.2±32.46	22 (1-144)	23.55±32.23	12 (4-144)	0.222
Length of stay in internal medicine clinic (day)	22.11±8.72	23.5 (3-36)	28.86±4.31	30 (17-36)	0.004
Transfusions	3.32±7.09	0 (0-30)	15.91±23.07	8.5 (0-80)	0.003
Number of haemodialysis	6.87±5.74	5 (1-19)	9.53±6.17	8 (1-23)	0.185
On admission					
Urea (mg/dL)	89.22±85.76	50.07 (12.84-393)	92.83±57.15	90.95 (14.9-241)	0.421
Creatinine (mg/dL)	2.57±2.87	0,99 (0.23-10.65)	3.38±1.93	3.64 (0.35-7.11)	0.092
Creatine kinase (U/L)	20314.45±26733.5	8380.5 (508-114208)	43802.05±70486.02	9324 (340-287071)	0.311

Table 4. Comparison of demographic characteristics of patients, length of stay in internal medicine clinic(day), number of haemodialysis, number of transfusions, complications and laboratory values according to fasciotomy.

		Amputation				p
		No		Yes		
		n	%	n	%	
Mortality		2	(4.44)	1	(6.67)	0.732
AKI		29	(64.44)	7	(46.67)	0.224
Wound infection		10	(22.22)	5	(33.33)	0.389
Hemodialysis		26	(57.78)	6	(40.00)	0.232
Myoglobin on admission (µg/L)	<1000	17	(38.64)	3	(20.00)	0.188
	>1000	27	(61.36)	12	(80.00)	

Table 5. Distribution of number of haemodialysis, complications, mortality, and laboratory values according to amputation.
n: Number of patients %:proportion in the whole population.

	Amputation				p
	No		Yes		
	Mean±s.d	Median	Mean±s.d	Median	
Age	37.51±16.15	34 (18-85)	36.87±12.02	35 (19-66)	0.745
Time under the rubble (h)	29.06±35.85	14 (1-144)	26.4±18.92	24 (2-60)	0.489
Length of stay in internal medicine clinic (day)	22.89±8.15	25 (3-36)	29.67±5.38	30 (14-36)	0.004
Transfusions	6.69±15.83	1 (0-80)	11.67±16.79	3 (0-60)	0.21
Number of Hemodialysis	7.08±5.5	5 (1-23)	13.5±5.82	13.5 (7-20)	0.019
Urea (mg/dL)	104.39±81.28	102.7 (12.84-393	49.01±33.49	40.6 (12.84-128)	0.016
Creatinine (mg/dL)	3.26±2.73	2.99 (0,27-10.65)	1.69±1.63	0.67 (0.23-4.92)	0.036
Creatine kinase (U/L)	29026.27±52533.28	8258 (340-287071)	28627.47±34880.41	15486 (1182-114208)	0.361

Table 6. Comparison of demographic characteristics of patients, length of stay in internal medicine clinic, number of hemodialysis, number of transfusions, complications and laboratory values according to amputation.

		AKI				p
		No		Yes		
		n	%	n	%	
Fasciotomy		5	(20.83)	17	(47.22)	0.038
Amputation		8	(33.33)	7	(19.44)	0.224
Wound infection		2	(8.33)	13	(36.11)	0.015
Haemodialysis		1	(4.17)	31	(86.11)	<0.001
Myoglobin on admission (µg/L)	<1000	12	(52.17)	8	(22.22)	0.018
	>1000	11	(47.83)	28	(77.78)	
Mortality		0	(.00)	3	(8.33)	0.147

Table 7. Distribution of number of haemodialysis, complications, surgeries, mortality and laboratory values according to AKI.
n: Number of patients %:proportion in the whole population.

	AKI				p
	No		Yes		
	Mean±s.d	Median (min-max)	Mean±s.d	Median (min-max)	
Age	35.75±12.13	33.5 (19-66)	38.42±16.92	35 (18-85)	0.803
Time under the rubble (h)	38.44±37.05	36 (1-144)	21.69±27.26	12.5 (1-144)	0.108
Length of stay in internal medicine clinic (day)	24.04±8.59	26.5 (3-35)	24.94±7.8	27 (10-36)	0.757
Total number of traumatized extremities	1.77±0.83	2 (1-4)	1.59±0.69	2 (1-4)	0.514
Transfusions	2.17±5.76	0 (0-26)	11.78±19.39	3.5 (0-80)	0.001
Haemodialysis	28.18±13.82	25.34 (12.84-51.36)	8.52±5.98	7 (1-23)	0.115
On Admission					
Urea (mg/dL)	32.14±11.54	30.6 (14.9-51.36)	132.12±71.89	124.5 (20-393)	<0.001
Creatinine (mg/dL)	0.63±0.18	0.64 (0.24-1)	4.45±2.18	4 (1.17-10.65)	<0.001
Creatine kinase (U/L)	14335±19415.44	3950.5 (508-76368)	38837.58±58851.85	10646 (340-287071)	0.030
Ph	7.46±0.05	7.46 (7.38-7.57)	7.38±0.1	7.4 (7-7.54)	<0.001
HCO3 (mmol/L)	25.45±3.02	25.9 (18.3-30.1)	20.34±5.6	21.2 (6.6-29.1)	<0.001
Calcium (mg/dL)	8.43±0.44	8.43 (7.66-9.53)	8.16±0.69	8.17 (6.88-10.32)	0.039
Potassium (mEq/L)	4.12±0.47	4.15 (3.1-5.2)	4.92±1.25	4.57 (3.2-7.8)	0.017

Table 8. Comparison of demographic characteristics of patients, time spent under the rubble, length of stay in internal medicine clinic, number of traumatized extremities, number of haemodialysis, number of transfusions and laboratory values according to AKI.

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[Abstract:1170]

MASSIVE HEMOPERITONEUM IN A CIRRHOTIC PATIENT DUE TO UMBILICAL VARIX RUPTURE

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Introduction: Spontaneous rupture of hepatocellular carcinoma (HCC) is the most counterintuitive diagnosis when hemoperitoneum occurs in patients with chronic liver cirrhosis and portal hypertension. However, intraperitoneal varix rupture is a rare complication of portal hypertension but carries an extremely high mortality rate. We present a fatal case of umbilical varix rupture in a cirrhotic patient with massive hemoperitoneum, which was initially misdiagnosed as a rupture of HCC.

Case Description: A 54-year-old man with cirrhosis was transferred to our emergency department with a 2-day history of progressive severe abdominal pain and distension. His previous medical history is mild hypertension, chronic alcoholism, cirrhosis, hepatocellular carcinoma, and oesophageal variceal rupture. He had a blood pressure of 58/24 mmHg, respiratory rate of 35 breaths/minutes, and pulse of 150/minutes. Physical findings revealed markedly abdominal distension with guarding and rebound tenderness, umbilical hernia, and purpura of Cullen's sign suspicious as intra-abdominal bleeding. Enhanced computed tomography also showed portal hypertension with active extravasation of portosystemic collateral and massive hemoperitoneum. Based on the clinical and radiographic findings, we made a diagnosis of haemorrhagic shock due to umbilical varix rupture.

Discussion: Umbilical varix rupture is relatively rare, but fatal complication of chronic cirrhosis. When a patient in chronic liver cirrhosis with haemorrhagic shock and hemoperitoneum are present, clinicians should consider umbilical varix rupture as a differential diagnosis.

Keywords: chronic cirrhosis, umbilical varix rupture, hemoperitoneum

[Abstract:1325]

WHEN THE DIAGNOSIS AND THE MANAGEMENT OF HEPARIN-INDUCED THROMBOCYTOPENIA DUE TO HEMODIALYSIS IN A PATIENT WITH ATRIAL FIBRILLATION BECOMES A REAL CHALLENGE: A RARE CLINICAL CASE FROM REAL LIFE

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Summary: Heparin-induced thrombocytopenia (HIT) is a life-threatening condition, that occurs after 5-14 days of treatment with heparin and is characterized by a reduction in platelet values below 50% compared to baseline and thromboembolic complications. Type II HIT is the result of an autoantibody directed at the platelet's endogenous factor 4 and heparin complex, which leads to the formation of an immune complex (AbHIT-PF4-E) capable of binding to circulating platelets, activating them, thus leading the formation of platelet aggregates and causing thrombocytopenia.

Case Presentation: S.F. is a sixty-year-old man who came to the emergency area because of acute kidney injury (AKI). He started haemodialysis with low molecular weight heparin (LMWH). After four days, we observed rapid platelets decrease. The first thoracic angio-tomography was normal. That caused a relevant diagnostic delay. Considering the continuous decrease of platelets values, in the strong suspect of type II HIT, we repeated a thoracic angio-tomography, which showed pulmonary embolism. AbHIT-PF4-E were present. Therefore, the patient started haemodialysis without LMWH. Considering the onset of paroxysmal atrial fibrillation (FAP) during hospitalization, we started oral anticoagulant therapy (AO) with Vitamin K antagonists (VKA), despite the high risk of necrosis of lower limbs.

Purpose: We would like to present a clinical case which represented a real challenge.

Methods: Blood count; autoantibody serology; angio-tomography.

Conclusions: HIT is a rare life-threatening condition that can be very insidious and difficult to diagnose. The treatment of this condition can be very hard because of the comorbidities of the patients in Internal Medicine Departments.

Keywords: heparin-induced thrombocytopenia, diagnostic delay, real challenge

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[Abstract:1330]

GLIAL FIBRILLARY ACIDIC PROTEIN AND UBIQUITIN C-TERMINAL HYDROLASE-L1 AS POTENTIAL BLOOD BIOMARKERS FOR CEREBRAL HEMORRHAGE IN MILD TRAUMATIC BRAIN INJURY

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Mild traumatic brain injury (mTBI) is one of the major public health issues as it is common and has a risk of serious sequelae. Biomarker serum levels of glial fibrillary acidic protein (GFAP) and ubiquitin C-terminal hydrolase-L1 (UCH-L1) may provide additional data to the emergency department (ED) clinician, as several studies indicated high negative predictive value for serious intracranial pathology detected with standard head CT scan after mTBI. This ongoing, prospective, monocentric observational study includes all non-pregnant patients (> 18 years old) presenting to the ED, reporting mTBI (GCS >13). The primary endpoint is the sensitivity and specificity of serum biomarkers for intracranial haemorrhage at head CT in patients with mTBI. Continuous variables are reported as median [interquartile range]. Categorical variables are reported as absolute numbers (%). Statistical univariate comparison for primary and secondary outcomes was assessed by the Mann-Whitney U test for continuous variables and the chi-square test (with Fisher test if appropriate) for categorical variables. Between September 15, 2022, and November 30, 2022, 79 patients with mTBI were recruited. The number of patients who reported an intracranial haemorrhage was 11. Median GFAP in patients with intracranial haemorrhage was 129.5 [60.3-369.7], versus 49 [27.2-83.7] in patients with negative head CT scans, a statistically significant difference (p=0.04). Similarly, a statistically significant difference (p=0.10) was observed in the serum value of UCH-L1 (848.6 vs 337.0 respectively). Currently, available data on the blood biomarkers may support the development of a standardized serum assay, even though further patient enrolment is required.

Keywords: *mild traumatic brain injury, blood biomarkers, emergency medicine*

[Abstract:1589]

IMPROVEMENT IN NPS OF EMERGENCY MEDICINE DEPARTMENT WITH A FOLLOW UP MULTIDISCIPLINARY CONSULT, 11 MONTHS 2021 VS 2022, FIRST YEAR EXPERIENCE

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Objective: To examine the NPS (Net Promoter Score) of patients discharged from the Emergency department from February-December 2021 and compared them to 2022 with implementation of the follow-up consult.

Materials and Methods: We analysed NPS, promoters, detractors of February-December 2021 without follow-up consult and compared them to the same months 2022 with implementation of the follow-up consult.

Results: We collected data of February-December of 2021/2022 (Month number, P= Promoters, D= Detractors, NPS), 2021 Month: 02 P: 62, D: 7 NPS: 56, 03 P: 65, D: 8, NPS: 56, 04 P: 56, D: 11, NPS: 45, 05 P: 58, D: 12, NPS 46, 06 P: 54, D: 16, NPS 38, 07 P: 54, D: 18, NPS 36, 08 P: 54, D:19, NPS: 35, 09 P: 53, D: 20, NPS: 33, 10 P: 54, D: 20, NPS: 34, 11 P: 54, D: 20 NPS: 34, 12 P: 54, D: 19, NPS: 35. 2022 Month 02 P: 67, D:10, NPS:57, 03 P: 63, D: 9, NPS: 53, 04 P: 64, D:10, NPS 53, 05 P: 65, D:10, NPS 55, 06 P: 67, D: 22, NPS: 45, 07 P: 68, D: 13, NPS: 55, 08 P: 83, D: 7, NPS: 76, 09 P: 73, D: 10, NPS: 63, 10 P: 77, D: 13, NPS: 64, 11 P: 74, D: 10 NPS: 64, 12 P: 79, D:4, NPS: 75.

Conclusions: The follow-up consult after discharge has been associated with increase in NPS compared to patients without it, representing an important tool after an Emergency room visit.

Keywords: *net promoter score, follow-up consult, emergency medicine*

[Abstract:1691]

UNEXPECTED FINDING ON POINT-OF-CARE ULTRASOUND

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We present a 78-year-old patient who came to the Emergency Department due to a general deterioration of health, a progressive increase in dyspnoea, hoarseness, and weight loss over the past month. Chest X-ray reveals a mass in the left upper lobe with mediastinal widening (Figure 1), leading to admission to the Internal Medicine service for further investigation. During her hospitalization, a bedside clinical ultrasound is performed,

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revealing a hypoechoic mass in the anterior chest region with a hyperechoic halo around it, consistent with a dissected thoracic aortic aneurysm (Figure 2). Consequently, an urgent chest CT is decided upon, showing a significant contrast extravasation at the aortic arch level, indicating either aortic rupture or a previous thoracic aneurysm in that location, associated with pericardial and significant left pleural effusion (Figures 3 and 4). Given these findings, the Cardiac Surgery service is contacted, leading to emergency surgical intervention and aortic prosthesis implantation (Figure 5) due to the dissection of the ascending aortic aneurysm type A.

Discussion: Thoracic aortic aneurysms often remain asymptomatic, being incidental findings in the study of other pathologies in most cases. The risk of aneurysm rupture is proportional to its size, and when it occurs, the mortality rate is estimated at 80-90%. Hence the importance of early diagnosis, emphasizing the crucial role of bedside clinical ultrasound in diagnosing potentially serious pathologies.

Keywords: *ultrasound, aortic, aneurysms*

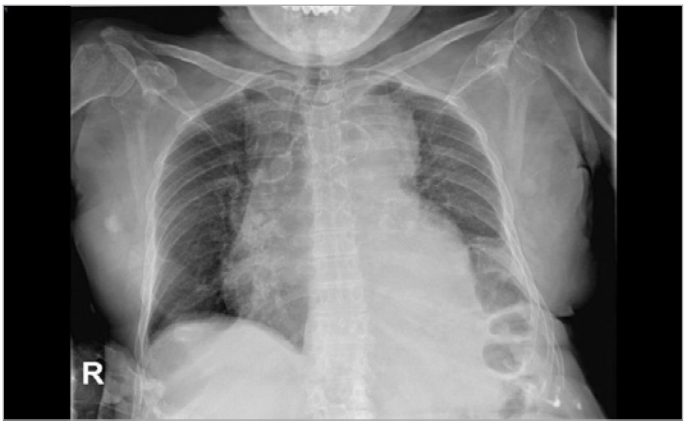

Figure 1. *Chest X-ray with mediastinal widening*

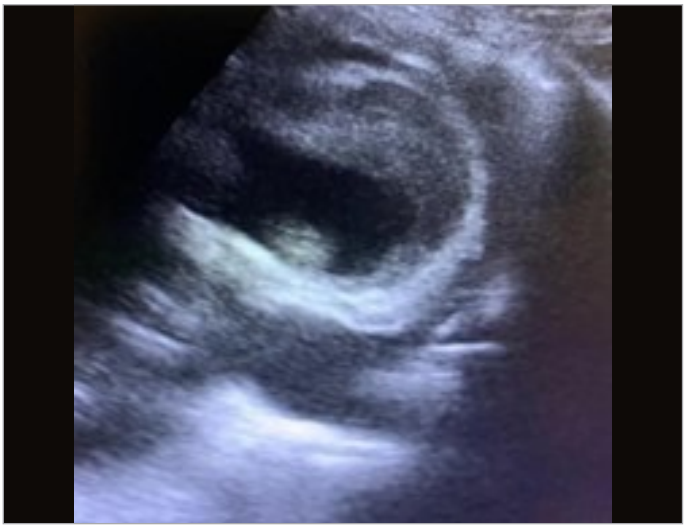

Figure 2. *Pulmonary ultrasound showing a hypoechoic mass with a hyperechoic halo around it, compatible with an aneurysm.*

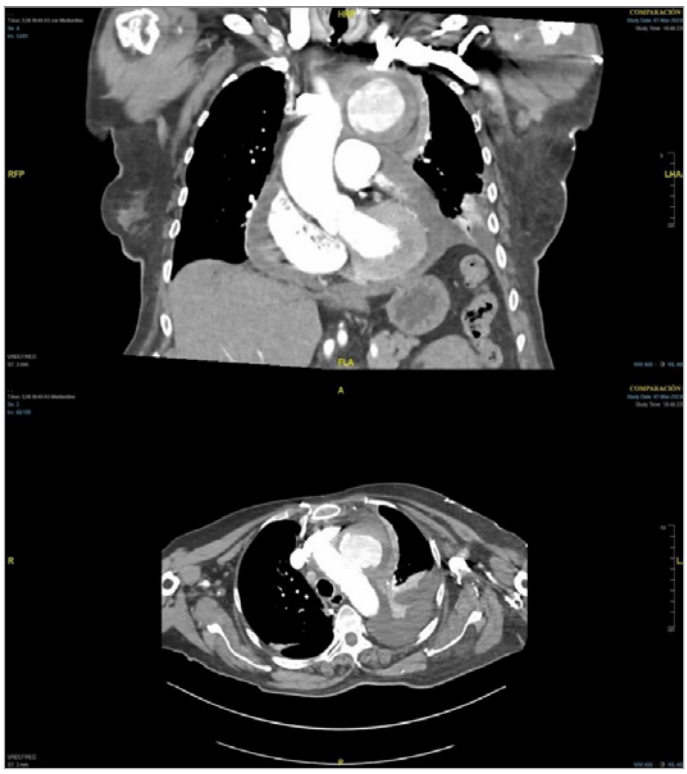

Figure 3 and 4. *Thoracic CT describing the dissecting aneurysm of the ascending thoracic aorta.*

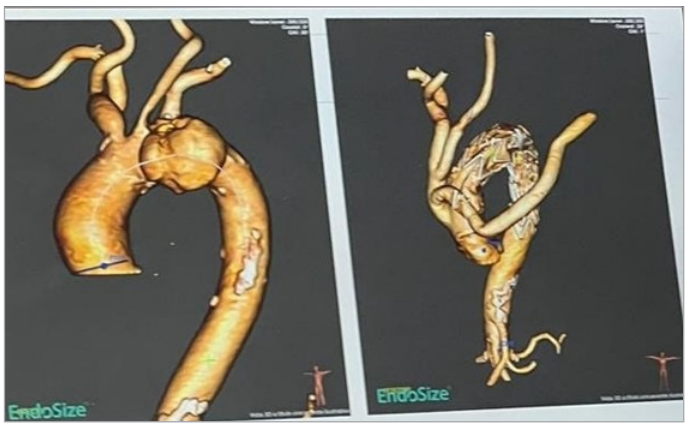

Figure 5. *Placement of endoprosthesis in thoracic aortic aneurysm*

[Abstract:1712]

CARDIOVASCULAR COMPLICATIONS RELATED TO COCAINE CONSUMPTION

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58-year-old male, with a personal history of hypertension, type-2 diabetes mellitus treated with metformin, dyslipidaemia, obesity, cocaine use, and chronic ischemic heart disease. He presents to the emergency room in poor general condition, bradypsychia, postural instability, and slurred and unintelligible speech, followed by a tendency to sleep and poor response to stimuli,

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caused by excessive cocaine use with suicidal intent.On physical examination, he exhibits low blood pressure (70/40 mmHg), O_2 saturation of 92%, poor general condition, signs of distal hypoperfusion, ketotic breath odour, and resting tachypnoea. He is drowsy, without neurological focal findings, but unresponsive to stimuli, and uncooperative with unintelligible language. The rest of the examination reveals no relevant findings.Blood tests reveal leukocytosis (24,700 with 78.8% polymorphonuclear cells), acute renal failure (creatinine 14.1 mg/dL, urea 179 mg/dL, glomerular filtration rate 4 mg/dL, with previous normal values), metabolic lactic acidosis (pH 6.69, bicarbonate 2.6 mmol/L, lactic acid 15 mmol/L), and severe hyperkalaemia (potassium 7.9 mmol/L). Urine toxicology is positive for cocaine.

Diagnoses: -Cocaine intoxication with distributive shock and multiorgan dysfunction syndrome (hemodynamic + central nervous system + respiratory system)

-Anuric acute renal failure with severe hyperkalaemia and hyperlacticaemia metabolic acidosis (possible contributory role of metformin) requiring continuous extrarenal clearance therapy. Cocaine poses numerous complications, primarily cardiovascular, and significantly impacts renal health. Chronic use leads to structural changes and increased oxidative stress, resulting in fibrosis and atherogenesis. Acutely, it induces renal ischemic infarcts. The varied complications underscore the need for multisystem surveillance, emphasizing prevention as the sole effective strategy.

Keywords: *cocaine, acute renal failure, distributive shock*

[Abstract:1740]

RESOLUTION OF A CASE THROUGH POINT-OF-CARE ULTRASOUND (POCUS)

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67-year-old man admitted to Oncology Department due to a complication in the 3rd post chemotherapy cycle. No allergies. He suffered from high blood pressure and COPD. Nursing called for tachycardia and chest pain. Blood pressure 130/70 mmHg, heart rate 130 bpm and 28 bpm. Cardiac and pulmonary auscultation without findings and soft abdomen without pain. No oedema in MMII or signs of DVT. No skin injuries. Normal venous blood gas and chest X-ray without findings. Internal medicine Department was asked for an ultrasound and an echocardiography was performed at the bedside, which revealed plenty of pericardial effusion with right sided collapse and cardiac wobble. The patient was transferred to the Intermediate Care Unit and cardiologists performed therapeutic pericardiocentesis within 4 hours of diagnosis. The patient presented a good clinical evolution and was discharged a few days later.

Diagnosis: cardiac tamponade.

Discussion: Before the "POCUS era" pericardial tamponade was taught as a "clinical diagnosis" based on classic signs and symptoms appreciated at bedside with a stethoscope like low blood pressure, rising venous pressure, pulsus paradoxus and diminished heart sounds. This concept has been bludgeoned into brains of some trainees that suggest ordering an echocardiogram instead based on the assumption that clinical exam findings are not sensitive and specific enough. This case highlights the importance of ultrasound diagnosis in cases of tamponade given the poor sensitivity and specificity of signs such as hypotension and diminished heart sounds (26-28% according recent studies) and no specific symptoms as well as the importance of POCUS for making a prompt diagnosis and setting up an early treatment.

Keywords: *cardiac tamponade, emergency medicine, point of care ultrasound, pericardial effusion*

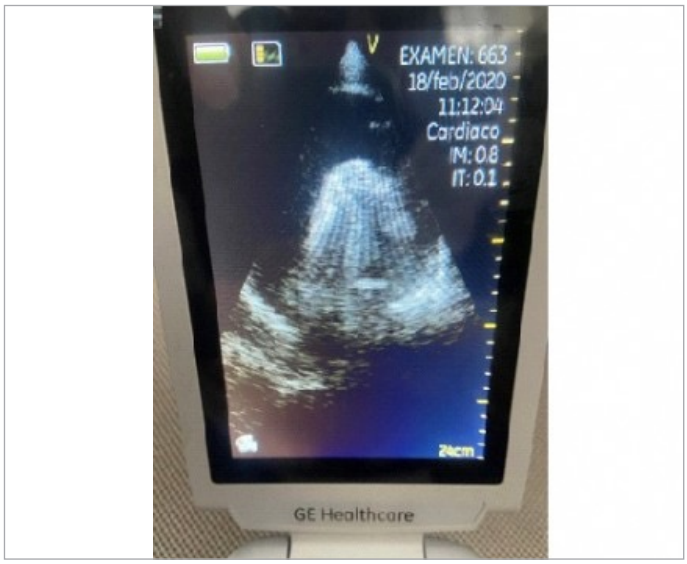

Figure 1. *Cardiac tamponade 1.*
In these images we can see plenty of pericardial effusion with right sided collapse in diastole.

[Abstract:1830]

UNMASKING THE HIDDEN: D-DIMER REVEALING TUMORIGENESIS IN AN ELDERLY PATIENT

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Background and Aims: This case highlights D-dimer's potential as a marker for hidden malignancies, prompting a revaluation of its role beyond thrombosis. Emphasizing the need for a comprehensive diagnostic approach, it underscores the significance of recognizing subtle symptoms in elderly patients for timely intervention.

Case Description: An 82-year-old patient presented to the ER with a two-month history of persistent dysphagia and dyspnoea. Having recently quit smoking after a 40-year habit, initial blood tests yielded no pathological findings. Initially attributed to

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reflux symptoms, the patient was prescribed PPIs and scheduled for gastroscopy. Surprisingly, the gastroscopy unveiled an ulcer in the mid-thoracic oesophagus as also a Barett-oesophagus. However, the mystery deepened when the patient returned to the ER one week later, complaining of worsening dyspnoea. Initially suspected pulmonary Embolism and a slightly elevated D-dimer level prompted a CT Thorax, revealing a 5 cm mediastinal tumour compressing the oesophageal wall at the site of the previously diagnosed ulcer.

Methods: The initial clinical hypothesis was that the patient's symptoms were related to reflux symptoms due to smoking. The discovery of the oesophageal ulcer during gastroscopy supported this hypothesis. However, the exacerbation of dyspnoea raised concerns of an underlying condition not explained by reflux alone.

Discussion: This case highlights the significance of elevated D-dimer levels as a potential marker for tumorigenesis and the need for a comprehensive diagnostic approach. The key takeaway is that seemingly subtle symptoms can indicate hidden malignancies, even in the absence of classic cancer-related symptoms.

Keywords: *D-dimer, tumorigenesis, tumour*

[Abstract:1849]

CASE OF PULMONARY EMBOLISM PROVOKED BY INSOLATION IN A 36-YEARS-OLD VACCINATED MAN WITH PRIMARY ANTIPHOSPHOLIPID SYNDROME

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The case of venous thromboembolism in young man 2 months after vaccination with the clinic of pulmonary embolism after insolation.

36-year-old man was admitted to ICU due to unmotivated dyspnoea, haemoptysis and chest pain. Anamnesis: 2 months ago he was vaccinated; probably reason of his condition was exposure to sunlight with developing fever and symptoms on the next day.

COVID-19 infection was excluded serologically.

Objective: Hemodynamically stable, blood pressure 110/80 mmHg, pulse 110 bpm, tachypnoea, saturation 80%, swelling of jugular veins. D-dimer – 7.1 ng/ml. CT-angiography – thrombotic masses in the segmental branches S9, 10 of both lungs (80% of the vessel lumen). Initial treatment - UFH (patient refused thrombolysis). On 6th day patient developed hemodynamic instability (BP 80/50 mmHg) and systemic thrombolysis with alteplase 100 mg, then LMWH in therapeutic doses, rivaroxaban according to the scheme was performed.

Further examination: we detected serological markers of antiphospholipid syndrome (APS) - IgG/M antibodies to β2-HP, lupus anticoagulant, antibodies to cardiolipins and phospholipids.

The patient had triple positivity for antiphospholipid antibodies (in dynamics up to 12 weeks). Based on the primary APS (Sydney diagnostic criteria), rivaroxaban was replaced by warfarin with a titrated dose up to 11.25 mg to maintain an INR of 2.0-3.0 (TTR 70%). The high dose of warfarin is apparently due to the presence of high titers of antiphospholipid antibodies.

Thus, the likely combined effect of several triggers (vaccination, insolation) that could simulate immunothrombosis with the development of PE on the background of APS can be traced.

Keywords: *pulmonary embolism, antiphospholipid syndrome, anti COVID-19 vaccination*

[Abstract:1937]

AORTO-ENTERIC FISTULA: A TICKING CLOCK WITH A TRICKY DIAGNOSIS

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Case Description: A 60-year-old man was rushed to our emergency room due to recurrence of massive gastrointestinal (GI) bleeding and haemorrhagic shock. He experienced two self-limiting episodes of melena during the first 14 days of hospitalization at a minor facility; no active bleeding spots were seen at endoscopic studies. Since a contrast-enhanced computed tomography (CT) performed earlier that day detected duodenal bleeding, the patient was referred to our angiography. Clinical conditions upon arrival were critical and the patients suffered from cardiac arrest shortly thereafter.

Diagnostic and therapeutic crossroads: After return of spontaneous circulation, it was collegially decided to proceed with endovascular treatment though a persisting state of hemodynamic instability on high-dose vasopressors. No active bleeding points were seen at angiography and patient was transferred to intensive care unit after prophylactic ligation of the gastroduodenal artery. After a new bleeding episode occurred few hours later, aorto-duodenal fistula (AEF) was confirmed and repaired in the operating room. Unfortunately, the patient died 10 days later due to complications of refractory coagulopathy.

Discussion and Learning Points: AEF is a rare yet highly lethal condition and timing for treatment is crucial to increase survival. Diagnosing AEF might be difficult especially in the emergency context, and clinicians should be particularly aware of this scenario when dealing with a massive GI bleeding preceded by less severe episodes called "herald bleedings". Endoscopy is usually uninformative in AEF, and angiography has a low sensitivity when performed on a hemodynamically unstable patient due to splanchnic vasoconstriction, especially when on vasopressors.

Keywords: *aortic fistula, haemorrhagic shock, angiography*

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[Abstract:1939]

WELLENS SYNDROME – DON'T JUST LOOK TO THE ST SEGMENT AND STAND THERE

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Introduction: Occlusion myocardial infarctions (OMI) are life-threatening events. The American College of Cardiology, in a recent consensus statement, stated that the ST segment elevation myocardial infarction (STEMI) equivalents likely represent OMI. Our aim is to illustrate the importance of recognizing STEMI equivalents and to improve patient outcomes.

Case Presentation: A 35-years-old male with no cardiovascular risk factors was admitted in the emergency department (ED) with acute oppressive chest pain at rest in the previous hours. At admission, he was hemodynamically stable and with unremarkable findings at physical examination. A first electrocardiogram (ECG) revealed no abnormalities, and the first high-sensitivity troponin T (hs-TnT) was 20.8 ng/L (normal <14 ng/L). The pain gradually improved after analgesia and rest. A second hs-TnT was 46.8 ng/L and a second ECG in a pain-free state revealed deeply inverted T waves in V1 and V2 leads and a biphasic T wave in V3, suggestive of a Wellens syndrome. After cardiology consultation, a following urgent coronary angiography in the closest hospital with a cardiology expert centre revealed an anterior descendant coronary artery critical stenosis. An OMI was confirmed and therefore a stent was implanted. Prognosis modifying therapy (PMT) was initiated. The following hs-TnT elevation gradually resolved, and the echocardiogram was unremarkable. The patient was discharged asymptomatic.

Conclusions: We present the case of an OMI with no obvious pre-test findings where the STEMI equivalent "Wellens Syndrome" was noticed, leading to earlier cardiology consultation and coronary angiography. The quick recognition of an acute and life-threatening event probably contributed to the excellent verified outcome.

Keywords: *occlusion myocardial infarction, STEMI equivalents, Wellens syndrome*

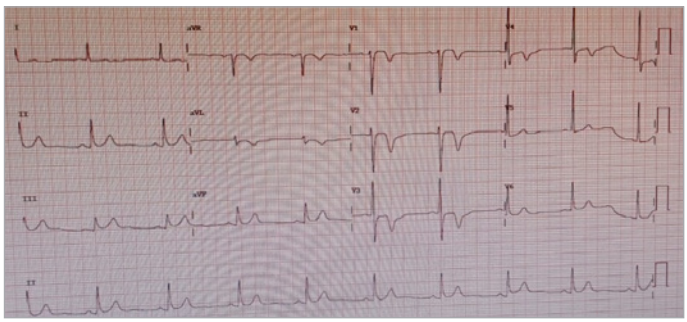

Figure 1. *Second ECG in a pain-free state, suggestive of a Wellens Syndrome.*

[Abstract:2053]

SARCOIDOSIS IN THE EMERGENCY DEPARTMENT: A DIAGNOSE TO KEEP IN MIND

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Introduction: Sarcoidosis is an idiopathic multisystemic granulomatous disease, which frequently occurs in young adults and often presenting with bilateral hilar adenopathies and pulmonary infiltrates.

Case: A 41-year-old male, previously healthy with no known medical conditions or chronic medication and non-smoker, presented with one month of arthralgias and lower limbs stiffness accompanied by asthenia, sweating and fever. The patient denied respiratory and cardiovascular complaints. Physical examination and most laboratory values were within normal limits, except for an elevated PCR (polymerase chain reaction) level (108 mg/L). Chest radiograph depicted bilateral perihilar consolidations while computed tomography of the chest demonstrated hilar and mediastinal lymphadenopathy. A core biopsy of a cervical adenopathy and bronchoscopy revealed non-necrotizing, well-formed granulomas embedded in dense hyaline sclerosis confirming a diagnosis of sarcoidosis.

Conclusions: Sarcoidosis exhibits variable clinical manifestation, ranging from asymptomatic to acute or insidious onset. Symptoms may include weight loss, cough, dyspnoea (severe cases), arthralgias and fatigue. Emergency department management should include recognition arranging urgent follow-up. This case underscores the importance of considering sarcoidosis in young patients with nonspecific symptoms, emphasizing the need for thorough an accurate diagnosis.

Keywords: *sarcoidosis, granulomatous disease, adenopathy*

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[Abstract:2293]

ROLE OF MYOCARDIAL BRIDGES OF THE CORONARY ARTERIES IN CAUSE, COURSE AND PROGNOSIS OF ACUTE CORONARY SYNDROME

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Background: Myocardial bridges of coronary arteries (MBCA) are not routine cause of ACS, but really revealed not so rare.

Materials and Methods: We analysed 130 cases of ACS related to MBCA (2.3% of all coronaroangiographies (CAG), assessed clinical manifestation and 1 - year follow-up. We plan genetic studies to find appropriate markers for precise prognosis.

Results: 130 patients (91 males, 39-females, average age 59.3±6.5 years old) with suspected ACS were admitted to the ICU. CAG was performed in 100% patients. Final diagnoses were - MI - 41 (31.5%), unstable angina (UA) - 87 (66.9%), 2 (1.5%) had no ACS. 4 (3.1%) died in hospital. CAG showed isolated MBCA in 33 cases (25.4%), 74.6% had combination of atherosclerotic lesions and MBCA. Location of MBCA was generally in medium part of anterior coronary artery (CA) - 123 (94.6%) patients. Other 7 had bridges in the right CA or its branches. Severe CA compression (III) was obtained in 43 (33.1%) patients. Coronary interventions were performed only in atherosclerotic plaques (totally 36 (27.7%)). 1 patient was undergone aorto-coronary shunting, but he died 6 months after due to re-MI with cardiogenic shock. 1-year follow-up confirmed that optimal antianginal treatment with β-blockers, ASA, amlodipin, ACE-inhibitors allow to prevent angina attacks in 95 patients (73.1%), 28 (21.5%) experienced angina pectoris II f.cl. 3 (2.3%) patients died (2 - re-MI, 1 - stroke).

Conclusions: We cannot ignore MBCA as cause of ACS. It can have own meaning and be combined with atherosclerotic lesions. Interventional tactics as well prognostic markers need to be clarified.

Keywords: *myocardial bridges, coronary arteries, acute coronary syndrome*

[Abstract:2326]

A VISIBLE ABDOMINAL PAIN - AN EMERGENCY APPROACH

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Introduction: Abdominal aortic aneurysm (AAA) is a potentially fatal condition if not diagnosed and treated in a timely manner. Its prevalence in the adult population is 5% in males and 1% in females, with a mortality rate of 60 to 80% in case of rupture. Clinically, it ranges from being asymptomatic to causing hypovolemic shock and death. The treatment of AAA is surgical, with minimally invasive surgery (EVAR) or laparotomy, but it still carries a short-term mortality rate of about 40%.

Case: We present the case of a 62-year-old man who sought the Emergency Department due to abdominal discomfort persisting for two weeks. Three days earlier, he had seen a physician and was prescribed paracetamol and thiocolchicoside, but his pain worsened. He had no relevant medical history. In the Emergency Department, he was hemodynamically stable and had a pulsatile mass in the periumbilical region on physical examination. Abdominal angiography by computed tomography revealed a large AAA measuring 10 cm with an 8x8 cm intramural hematoma, indicative of contained rupture. He was evaluated by Vascular Surgery and underwent urgent EVAR, with discharge after three days.

Discussion: This clinical case emphasizes the importance of clinical assessment and physical examination as vital diagnostic tools, particularly in the context of AAA, enabling an urgent, life-saving surgical approach.

Keywords: *abdominal aortic aneurysm, pulsatile mass, emergency*

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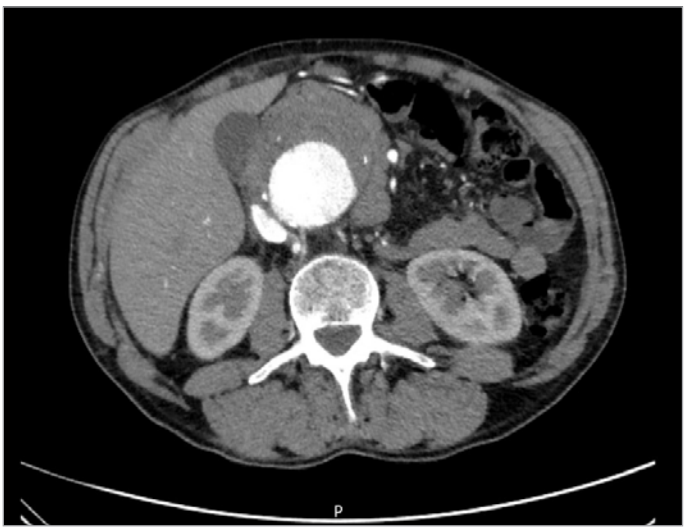

Figure 1. Abdominal aortic aneurysm in axial CT scan.

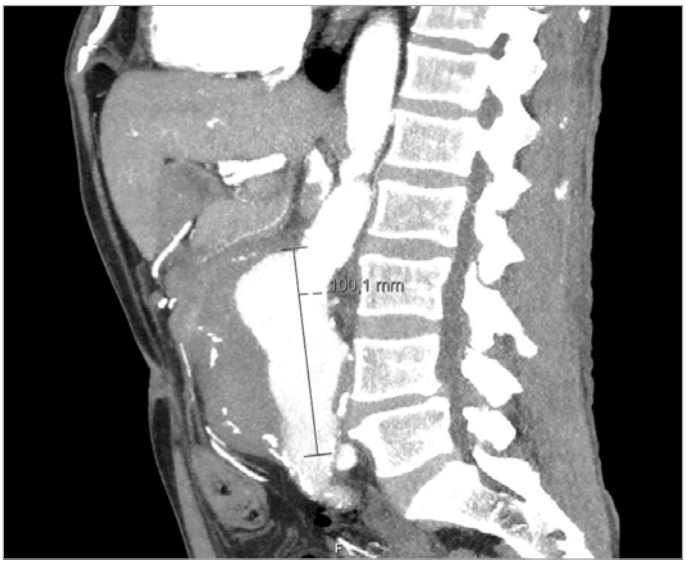

Figure 2. Abdominal aortic aneurysm in sagittal CT scan.

[Abstract:2351]

THE WAITING GAME: A STUDY OF MORTALITY IN THE EMERGENCY ROOM

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Background and Aims: Mortality in emergency rooms (ER) is often associated with extended ER stays. The critical first 6 hours in the ER heighten risks, emphasizing the need for swift admissions and reduced overcrowding. This study aims to evaluate time-to-death at the ER and its patterns.

Methods: Retrospective study of ER patient's deaths between August 2021 and August 2023. Excluded patients <18 years, dead-on-arrival and trauma victims. Data included age, sex, time of admission, Manchester's triage classification, time and assumed cause of death. Patients were divided in early-death (ED) and late-death (LD) groups, with <6 and ≥6 hours-to-death respectively.

Results: Among 177.165 admissions, mortality rate was 494/100.000 patients. 48% of the 726 ER's deaths were male and average age was 80.5 years. The number of patients in the ED group was half the number in the LD group (236 vs. 490). Patients in the ED group were mainly classified as emergent (24.2%) and very urgent (60.2%), whereas those in the LD group were mostly very urgent (47.3%) and urgent (31.4%). Average time to death in ED group was 3h 23min and in LD group was 21h 58min.

Discussion: While patients with severe illness typically have shorter time-to-death, most of deaths in this analysis occurred in the LD group, with time-to-death of nearly one day. This might be related to overcrowding ER and delays in treatment and admission to wards. Further research should target ER mortality factors, aiming to enhance care and reduce mortality rates.

Keywords: emergency room, mortality

[Abstract:2372]

METHHEMOGLOBINEMIA FROM SODIUM NITRITE POISONING

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Introduction: Methemoglobinemia, a rare blood disorder, involves elevated levels of abnormal haemoglobin (methaemoglobin), hindering efficient oxygen delivery due to oxidation. Various factors, such as chemical exposure, medications, and genetic predispositions, contribute to its onset. Symptoms range from cyanosis to respiratory failure and, in severe cases, death.

Case Description: A 21-year-old transgender woman, undergoing gender transition hormone therapy, presented with a history of borderline personality disorder and recent overdose on sodium nitrite, fluoxetine, and ibuprofen. Admitted with reactive pupils, intubated, a Glasgow coma scale of 6, and stable vitals, she exhibited severe methemoglobinemia (>30%). Test results revealed abnormal arterial blood gases and negative urine drug screening.

Discussion: Immediate medical intervention is crucial for sodium nitrite intoxication, a common food additive. Arterial blood gas analysis is pivotal for diagnosis, as it may show normal pO_2 and falsely elevated $SatO_2$. Treatment involves eliminating exposure, providing respiratory support, and administering methylene blue to reverse haemoglobin dysfunction.

Conclusions: A) Clinical awareness is imperative for recognizing

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hypoxia symptoms with normal pO_2 and falsely elevated $SatO_2$. B) Arterial blood gas analysis with methaemoglobin levels (>5%) is essential for diagnosis. C) Management of this medical emergency requires immediate supportive measures and methylene blue administration.

References:
1. Josef T Prchal, MD. Methemoglobinemia. Updated: Nov 8, 2022. Literature review until Nov 2023.
2. Martin H Steinberg, MD, Clifford M Takemoto, MD. Hemoglobin variants altering oxygen affinity. Updated: Aug 18, 2023. Literature review until Nov 2023

Keywords: *methemoglobinemia*, *sodium nitrite*, *cyanosis*, *methylene blue*

[Abstract:2376]

POST-VACCINATED COVID-19 ARTHRITIS AND DVT IN UPPER LIMB. CASE REPORT

Josu Urbieta-Mancisidor[1], *Jesus M Treviño*[1], *Garazi Araña*[1]

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We present a 51-year-old man with a medical history of allergy to kathon, pollen and latex. Ex-smoker (smoking index 15) and dyslipidaemia. The patient was splenectomized in 2006 due to splenomegaly and has been fully vaccinated following the recommendations to date. Our patient has psoriasis which was diagnosed in 2010 and has a psoriatic onychopathy with no evidence of arthropathy to date. Additionally he was diagnosed with polyglobulia (V617F and exon 12 of JAK2 negative) since 2015, whose follow-ups and treatments with prophylactic ASA have been driven by the Haematology Service of our Hospital.
He begins with a sensation of pain upon mobilization, and swelling-erythema, at the level of the right sternoclavicular joint 72 hours after the administration of the first dose of COVID-19 vaccine in the left arm. He was assessed twice in the Emergency Department and was discharge. On august he was admitted into hospital due to reappearance of the discomfort; a cervical-thoracic CT scan was requested showing DVT in the right upper extremity from the subclavian vein to the distal humeral vein. We proceed to perform an eco-Doppler of the supra-aortic trunks. The patient received anticoagulation with bemiparine sodium for 3 months. In the case of our patient that had polyglobulia, a subsequent study of DVT is not considered necessary. Diagnosis of sternoclavicular arthritis is evaluated by Infectious and Rheumatology Services with suspicion of possible SAPHO vs Psoriatic Arthritis. It was decided to start methotrexate and a follow-up per month.

Keywords: *thrombosis*, *primary upper extremity*, *polyglobulia*

[Abstract:2388]

LANGERHANS CELL HISTIOCYTOSIS. CASE REPORT AND LITERATURE REVIEW

Josu Urbieta Mancisidor[1], *Eneritz Urrutia*[1], *Jesus Martin Treviño*[1]

[1] ⚠ The authors did not provide affiliations upon requests from the event organizer

Pulmonary Langerhans Cells Histiocytosis (PLCH) usually manifests with spontaneous pneumothorax. Its main symptoms are non-productive cough and in some cases accompanied by pleuritic pain. In chronic stages the disease can be accompanied by general syndromes with fatigue, dyspnoea and weight loss. The pathophysiology is based on oncogenic mutations of the cellular phenotypes of CD1a dendritic cells and CD34+ mononuclear cells in the lung. The diagnosis is usually made as exclusion due to the difficulty of initially diagnosing it, furthermore because of the asymptomatic phase in early stages. The gold standard diagnostic test is bronchioalveolar lavage. However, the best diagnostic imaging test is CT scan, on the other hand a chest X-ray in the vast majority of cases may be sufficient to suspect the diagnosis. Pharmacological treatment will often depend on the clinical stage. Additionally, a strong recommendation should be made in order to quit smoking and limit exposure to aerosols and exposition to any kind of smoke. Immunotherapy clinical trials are currently underway for the most common mutations. Some patients may benefit from lung transplantation as the last therapeutic step. PLCH is a rare disease and often goes unnoticed. It mainly impacts with a significant decrease in quality of life in adulthood and is associated with premature deaths from respiratory failure. This pathology must be approached in a multidisciplinary way and it should include preventive treatment from primary care to specialized care aiming a specific goal to improve the health condition of these patients.

Keywords: *pulmonary langerhans cells histiocytosis*, *histiocitosis x*, *tobacco*, *spontaneous pneumothorax*, *lung transplant*

[Abstract:2419]

BEHIND DIABETIC KETOACIDOSIS - A CASE OF FOURNIER'S GANGRENE IN A WOMAN

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A 69-year-old female with a medical history of arterial hypertension, type II diabetes mellitus, dyslipidaemia and obesity, usually medicated with insulin glargine, azilsartan/chlorthalidone, atorvastatin and empaglifozin/ metformin, was brought to the

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emergency department due to hypersomnia. She denied fever, cough, diarrhoea, lower urinary tract symptoms or other localizing symptoms. The patient mentioned non adherence to the insulin regimen on the previous 2 days.

On physical exam, she was sleepy, but conscious, with periods of confusion, febrile, hypotensive, tachycardic and showed inflammatory signs of perineal and genital area with extension to the left leg.

Blood analysis showed leukocytosis with neutrophilia, creatinine of 2.4 mg/dL, high C-reactive-protein (48 mg/dL) and procalcitonin (4 mg/dL). Arterial blood gases revealed metabolic acidosis and hyperlactacidemia, urine analysis with ketonuria and glycosuria, thoracic X-ray normal. Urine and blood cultures were collected, and ketoacidosis treatment was promptly started. The abdominal and pelvic CT scan showed subcutaneous emphysema and extensive inflammatory changes on the left labia major and tight compatible with Fournier's gangrene. Empiric antibiotic therapy was started, and the patient was taken up for emergency debridement and she survived.

Fournier's gangrene is a life-threatening condition defined as a suppurative infection causing soft tissue necrosis of the perirectal, perineal, and genital area.

This case highlights the importance of exploring the causes of diabetes decompensation and emphasizes the need of prompt diagnosis and treatment of necrotizing fasciitis in a timely manner. Although rare, necrotizing fasciitis is a highly potential fatal infection, in which the mortality exceeds 40% despite optimal treatment.

Keywords: *diabetes, Fournier's gangrene, necrotizing fasciitis, diabetic ketoacidosis*

[Abstract:2427]

BILATERAL UROLITHIASIS: AN UNCOMMON CAUSE OF ACUTE KIDNEY INJURY

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Introduction: Although renal lithiasis is common, acute kidney injury (AKI) due to urolithiasis accounts for only 1-2% of the cases. We present the case of a patient with post-renal AKI due to bilateral urolithiasis.

Case Report: A 79-year-old man with history of type 2 diabetes mellitus and chronic kidney disease due to G3bA1 obstructive uropathy (baseline creatinine ~ 1.6 mg/dL), presented at the emergency department with abdominal pain in the left lower quadrant (LLQ) associated with nausea and two episodes of vomiting. Physical examination showed pain on superficial and deep palpation of the LLQ, but no signs of peritoneal irritation. Renal Murphy sign was positive on the left. The laboratory data were significant for renal failure (urea 91 mg/dL, creatinine 4.18 mg/dL), hyperkalaemia (5.7 mEq/L) and mild metabolic acidosis (pH 7.419 HCO_3- 20.6 mmol/L); urinary sediment showed leucoerythrocyturia. Renal ultrasound revealed bilateral pyelocaliceal dilatation, but no obstructive cause was identified. Abdominal CT showed obstructive stones in the right and left ureters. Submitted to ureteroscopy with placement of double J on the right and single J on the left. Over the next few days, pain and kidney function improved, although creatinine levels did not recover to the patient's baseline (creatinine 1.97 mg/dL) at the time of discharge.

Discussion: Renal lithiasis is a rare cause of AKI. Early urological intervention is necessary in obstructive uropathy to prevent irreversible kidney damage. Recovery of kidney function depends on the extent and duration of the obstruction.

Keywords: *acute, kidney, injury, urolithiasis*

[Abstract:2434]

EPIGASTRIC PAIN AS AORTIC DISSECTION PRESENTATION

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Case Description: Aortic dissection (DA) is a degenerative disease of the middle layer in which a separation occurs in the intima of the aorta, causing blood flow within a false channel, composed of the inner and outer layers of the aorta. It is classified as type A and type B, involving or not, respectively, the ascending aorta.

A 54-year-old man with a history of hypertension and smoking (117/UMA), admitted to the emergency room for acute epigastric pain, with extreme sweating, sudden onset after physical exertion.

Objective examination: conscious; TA 180/78 mmHg, FC 88 bpm, 85% oxygen saturation; cyanosis; cardiac auscultation: hypophontic tones; abdomen: epigastric defense; palpable / symmetric arterial pulses.

Electrocardiogram: sinus rhythm; supra of ST-T (V1 to V4).

AngioTAC Thoracic / abdominal: aorta with an intimal flap image from the origin of the left subclavian artery to the aortic bifurcation, with extension to the right common iliac artery, aspects compatible with aortic dissection type B (Figure 1). A true permeable lumen was observed in all its extension and false lumen with slow flow and only permeable below the thoraco-abdominal transition (Figure 2). Transthoracic echocardiogram: False thrombosed lumen and true small-calibre lumen.

He has been given therapy with labetalol, isosorbide dinitrate and morphine; repeated angiography CT: stability of aortic dissection, with thrombosis of the false thoracic lumen.

Aortic dissection is an infrequent and fatal disease; the literature shows that mortality with endoscopic vs. medical therapy at 5 years is not significant (11.1 vs 19.3%).

Keywords: *epigastric pain, aortic dissection, angio CT thoracic / abdominal*

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[Abstract:2503]

CAN DRINKING TOO MUCH WATER BE DANGEROUS?

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Sodium plays a fundamental role in body, maintaining normal blood pressure, supporting the work of nerves and muscles and regulating the body's fluid balance. Hyponatremia occurs when serum sodium concentration falls below 135 mEq/L which can be caused by many conditions and lifestyle factors. It can be asymptomatic or, in severe cases, cause seizures, coma or death. A 54-year-old male patient, with a paranoid schizophrenia, medicated with diazepam, clozapine and risperidone, and a chronic smoker, went to the emergency department (ER) after falling from his own height with head and facial trauma. On admission, he had a seizure lasting around 30 seconds with urinary incontinence and was given diazepam.

Laboratory tests revealed severe hyponatremia (105 mmol/L). He was transferred to the Intensive Care Unit for symptomatic severe hyponatremia. The etiological investigation revealed decreased urinary osmolarity and urinary sodium, normal renal and thyroid functions, cortisol study and vasopressin dosage, HIV 1/2 negative, skull, and full-body CT without findings suggestive of neoplasia and drugs and toxic causes excluded. Potomania was therefore assumed, and the patient later confirmed that he drank 4,5L of water a day. The outcome was favourable and uneventful, with correction of serum and urinary sodium, as well as urinary osmolarity.Hyponatremia is defined as a serum sodium concentration of less than 135 mEq/L and can be classified based on the volume status of the extracellular fluid. Treatment depends upon the degree and duration of hyponatremia, severity of symptoms, and volume status and the underlying condition, which can be a challenge.

Keywords: *hiponatremia, potomania, sodium*

[Abstract:2667]

FOURNIER'S GANGRENE DUE TO THE USE OF NOREPINEPHRINE

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Case Description: A 61-year-old man, smoker, with a personal history of arterial hypertension, dyslipidaemia, type 2 diabetes with poor control and metadiabetic complications (arteriopathy with amputation requirement) and obesity. He came to the emergency room for diarrhoea, low level of consciousness and hypotension. In case of hypovolemic and septic shock, volumetric replacement, empirical antibiotic, and vasoactive support with norepinephrine were administered. After stabilization, he was transferred to the Internal Medicine ward for clinical monitoring. During his stay, nurses reported us an ulcerative and suppurative lesion of about 3 centimetres in diameter in the right scrotal region, painful to the touch (figure 1).

Clinical Hypothesis: Fournier´s gangrene, pressure ulcer, necrotizing fasciitis.

Diagnostic Pathway: An abdominal CT scan was performed showing the presence of gas at the scrotal level, so surgical debridement of the right hemiscrotal and ipsilateral inguinal area was performed (figure 2).

Discussion and Learning Points: Diabetes mellitus is the most common risk factor for FG, which typically manifests in men over the age of 55, as in our case. In addition, together with the use of vasoconstrictors such as norepinephrine, the initial lesion could probably have been precipitated, increasing the vascular risk already present in our patient. Once the diagnosis has been confirmed, immediate surgical intervention is required because it is critical to remove necrotic tissue as soon as possible to prevent infection progression. For this reason, it is very important to be aware of such a torpid presentation that requires early intervention.

Keywords: *scrotal ulcer, Fournier´s gangrene, norepinephrine*

[Abstract:2846]

A CROSS-SECTIONAL RETROSPECTIVE ANALYSIS OF EARTHQUAKE RELATED CRUSH INJURIE PATIENTS IN ICU: 6-FEBRUARY EARTHQUAKE IN TURKEY

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Background and Aims: On February 6, 2023, a devastating earthquake hit the south-eastern region of the Turkey. It is caused thousands of people injury and dead. Aim of the study was to determine the characteristics, treatment, and clinical outcomes of critically ill patients with crush injuries in ICU.

Methods: This study was performed with a cross-sectional retrospective design in ICU at Turkey. Patients were included as

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follows; effected 6 February earthquake, need ICU treatment and being crush injury.

Results: A total of 62 patients were included. The mean age was 41±19 years. The patients median APACHE II score was 14. The most common ICU admission was multitrauma and crush injury (82%). Participants median creatinine, CK and myoglobulin on admission were 1.8 mg/dl, 15470.0 U/L, 3000.0 ng/ml, respectively. In ICU admission, 92% patients were received antibiotic therapy, all patients were received anticoagulant treatment, 79% patients were received 0.9% NaCl, bicarbonate 48%, mannitol 15%. A total of 77% patients were needed surgical procedure (most of them extremities surgery (36%) and fasciotomy 36% due to compartment syndrome) and 24% patients had extremity amputation. AKI was developed in 65% of patients. A total of 40% patients were received renal replacement therapy (RRT). The median length of ICU and hospital stay was 6, and 20 days. The 28-day mortality was 13%.

Conclusions: As a result of the study, most of the patients need surgical operations and a quarter of patients required extremity amputation. AKI developed at a high rate and 40% of those patients needed RRT.

Keywords: *crush injurie, earthquake, ICU, Turkey*

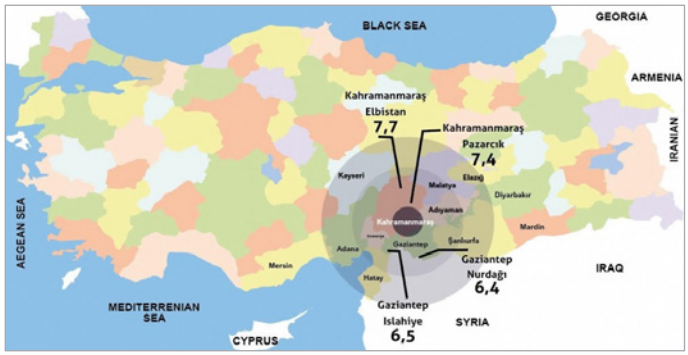

Figure 1. *February 6 earthquake map of the Turkey.*

Number of operations	Type of operation
18	Compartment fasciotomy
5	Upper limb amputation
4	Bilateral/unilateral below-knee amputation
4	Negative pressure chest tube
3	Humerus fracture repair
3	Acetebular fracture repair
1	Debridement and bleeding control
1	Femur intramedullary nail operation
1	Femur corpus repair
1	Diagnostic laparotomy
1	Finger amputation
1	Ankle fracture repair
1	Tibia and fibula fracture surgery

Table 1. *List of the surgical operations patients with crush injury in the ICU.*

[Abstract:3016]

A CASE STUDY: EXTENSIVE METASTASIS FROM TESTICULAR CANCER MISDIAGNOSED AS ACUTE GASTROENTERITIS

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A 29-year-old male, with recurrent visits to emergency services due to nausea, abdominal pain, and anorexia was initially diagnosed with acute gastroenteritis and discharged with corresponding medication. Despite the persistent symptoms through four or more episodes within the same month, the primary care physician-initiated investigation through an imaging examination (ultrasound) that depicted suspicious hepatic nodules warranting further investigation via computed tomography (CT). The CT scan revealed suspicious masses in the liver and lung, suggesting of extensive metastasis. Following the detection of elevated levels of beta-human chorionic gonadotropin (bHCG), the diagnostic process further identified a primary neoplasm located in the testicle.

Keywords: *neoplasm, diagnoses, misdiagnoses, testicular neoplasm*

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