KIDNEY AND URINARY TRACT DISEASES

[Abstract:0027]

CORRELATION OF NEUTROPHIL RATIOS (NLR AND DERIVED NLR) WITH C-REACTIVE PROTEIN IN DIALYSIS PATIENTS

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Background and Aims: In patients with chronic kidney disease, chronic inflammation is common and is associated with adverse clinical outcomes, such as cardiovascular disease and all-cause mortality. The Neutrophil-to-lymphocyte ratios, (NLR) and derived-NLR, are novel, readily available indices, closely related to inflammation, which were initially proposed as oncological prognostic factors. In addition, recent research has shown that NLR has been associated with inflammation and can predict mortality in haemodialysis patients.

The purpose of our study is, by investigating the correlation of NLR and d-NLR with C-Reactive Protein (CRP), to explore their potential as inflammation markers in patients undergoing haemodialysis.

Methods: A retrospective study of the results of CBC and CRP tests in patients undergoing haemodialysis during the last two years was performed. The NLR and d-NLR indices were calculated based on the formulas NLR=(neutrophil/lymphocyte) and d-NLR=[neutrophiles/(WBC-neutrophiles)], where neutrophiles and lymphocytes are the peripheral blood neutrophil and lymphocyte counts and WBC is the total leukocyte count.

The statistical processing of the data was done using the MS Excel 21 program with the application of Spearman's RHO correlation test.

Results: The most recent laboratory tests from 17 male dialysis patients in the last 2 years in the dialysis unit of our hospital, aged 57-87 years (median age 77 years), were included in the study. No statistically significant correlation between NLR, dNLR and CRP, probably due to the small number of participants and the heterogeneity of the study population.

Conclusions: New studies in larger samples of haemodialysis patients will effectively contribute to the understanding of NLR and dNLR for the evaluation of inflammation in this particular population.

Keywords: *neutrophil-to-lymphocyte ratios, NLR and derived-NLR, C-reactive protein, haemodialysis*

[Abstract:0028]

CORRELATION OF SII (SYSTEMIC IMMUNE-INFLAMMATORY INDEX) WITH C-REACTIVE PROTEIN IN DIALYSIS PATIENTS

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Background and Aims: Despite the recent advances in the management of chronic kidney disease, morbidity and mortality in these patients remain particularly high. Persistent chronic inflammation has been recognized as an important factor in the pathophysiology and progression of chronic kidney disease. SII (Systemic Immune-Inflammation Index) is a promising indicator of chronic inflammation with predictive value for various neoplasms and cardiovascular diseases. The purpose of our study is to investigate the correlation of the SII index with C-Reactive Protein in dialysis patients.

Methods: A retrospective study of the results of the general blood test and CRP in dialysis patients during the last two years was performed. The SII index was calculated using the formula SII=[(neutron x PLT)/lymph], where NEUTRO, PLT and LYMPHO are the peripheral blood neutrophil, platelet and lymphocyte counts. The statistical processing of the data was done using the program MS Excel 21 and the application Spearman's RHO correlation test.

Results: The most recent laboratory tests from 17 male patients, undergoing dialysis therapies during the last 2 years in the dialysis unit of our hospital, aged 57-87 years (median age 77 years), were included in the study. No statistically significant correlation between SII index and CRP emerged, probably due to the small number of participants and the heterogeneity of the study population.

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Conclusions: New studies in larger samples of haemodialysis patients will effectively contribute to the understanding of the SII index for the evaluation of inflammation in this particular population.

Keywords: *SII (systemic immune-inflammation index), CRP, dialysis patients*

[Abstract:0029]

CORRELATION OF SIRI (SYSTEMIC INFLAMMATORY RESPONSE INDEX) WITH C-REACTIVE PROTEIN IN DIALYSIS PATIENTS

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Background and Aims: Chronic inflammation has been found to be a major contributor to chronic kidney disease and predisposes to increased cardiovascular complications and overall morbidity in these patients. SIRI (Systemic Inflammatory Response Index) is a novel index for the evaluation of chronic, low-grade inflammation, which is based on the peripheral blood neutrophil, monocyte and lymphocyte counts. The purpose of our study is to investigate the correlation of the SIRI index with CRP in patients undergoing haemodialysis.

Methods: A retrospective study of the results of the CBC and C-Reactive Protein testing in dialysis patients during the last two years was performed. The SIRI index was calculated based on the formula SIRI=[(neutron x mono)/lymph], where neutro, mono and lympho are the peripheral blood neutrophils, monocytes and lymphocytes counts. The statistical processing of the data was done using the MS Excel 21 program and the application of Spearman's RHO correlation test.

Results: The most recent laboratory tests from 17 male patients, undergoing dialysis therapies during the last 2 years in the dialysis unit of our hospital, aged 57-87 years (median age 77 years), were included in the study. No statistically significant correlation emerges between SIRI and CRP, probably due to the small number of participants and the heterogeneity of the study population.

Conclusions: New studies in larger samples of haemodialysis patients will effectively contribute to the understanding of the SIRI index for the evaluation of inflammation in this particular population.

Keywords: *SIRI (systemic inflammatory response index), CRP, dialysis patients*

[Abstract:0030]

CORRELATION OF BASOPHIL -EOSINOPHIL - AND MONOCYTE-TO -LYMPHOCYTE RATIOS WITH C-REACTIVE PROTEIN IN DIALYSIS PATIENTS

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Background and Aims: Basophil-to-Lymphocyte Ratio (BLR), Eosinophil-to-Lymphocyte Ratio (ELR) and Monocyte-to-Lymphocyte Ratio (MLR) have been investigated as potential markers of inflammation in the context of autoimmune and other diseases. Chronic inflammation is significant in haemodialysis patients and has been blamed for increased morbidity, mainly from cardiovascular diseases, and all-cause mortality. The purpose of our study is to investigate the presence of correlation of BLR, ELR and MLR indices with C-reactive protein, an established inflammation biomarker, in patients undergoing haemodialysis.

Methods: A retrospective study of the results of CBC and CRP tests in patients undergoing haemodialysis during the last two years was performed. The BLR, ELR and MLR were calculated based on the formulas BLR=(basophil/lymphocyte), ELR=(eosinophil/lymphocytes) and MLR=(monocyte/lymphocyte), where basophil, eosinophil, monocyte and lymphocyte are the peripheral blood basophil, eosinophil, monocyte and lymphocyte counts, and WBC is the total leukocyte count. The statistical processing of the data was done using the MS Excel 21 program with the application of Spearman's RHO correlation test.

Results: The most recent laboratory tests from 17 male dialysis patients in the last 2 years in the dialysis unit of our hospital, aged 57-87 years (median age 77 years), were included in the study. No statistically significant correlation emerges between BLR, ELR, MLR with CRP, probably due to the small number of participants and the heterogeneity of the study population.

Conclusions: New studies in larger samples of haemodialysis patients will effectively contribute to the understanding the role of BLR, ELR and MLR for the evaluation of inflammation in this particular population.

Keywords: *basophil-to-lymphocyte ratio (BLR), eosinophil-to-lymphocyte ratio (ELR), monocyte-to-lymphocyte ratio (MLR), dialysis patients*

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[Abstract:0031]

CORRELATION OF PLATELET-TO-LYMPHOCYTE RATIO (PLR) AND RDW-TO-LYMPHOCYTE RATIO (RLR) WITH C-REACTIVE PROTEIN IN DIALYSIS PATIENTS

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Background and Aims: Microinflammation is prevalent among dialysis patients and are involved in the pathogenesis of chronic kidney disease morbidity. The Platelet-to-Lymphocyte Ratio (PLR)has been associated with the occurrence and progression of renal and cardiovascular diseases and neoplasms. The RDW (Red cell Distribution Width) index is found to be increased in kidney patients and is being investigated for its predictive value in relation to cardiovascular diseases in this group of patients. The potential of the RLR (RDW-to-Lymphocyte Ratio) as an inflammation biomarker is subject of research. The purpose of our study is to investigate the correlation between PLR, RLR and C-reactive protein in dialysis patients.

Methods: A retrospective study of the results of CBC and CRP tests in patients undergoing haemodialysis during the last two years was performed. PLR and RLR were calculated based on the formulas PLR=(platelet/lymphocyte) and RLR=(RDW/lymphocyte), where platelet and lymphocytes are the peripheral blood platelet and lymphocyte counts, and WBC is the total leukocyte count. The statistical processing of the data was done using the MS Excel 21 program with the application of Spearman's RHO correlation test.

Results: The most recent laboratory tests from 17 male dialysis patients in the last 2 years in the dialysis unit of our hospital, aged 57-87 years (median age 77 years), were included in the study. No statistically significant correlation between PLR, RLR and CRP, probably due to the small number of participants and the heterogeneity of the study population.

Conclusions: New studies in larger samples of haemodialysis patients will effectively contribute to the understanding of PLR and RLR for the evaluation of inflammation in this particular population.

Keywords: *platelet-to-lymphocyte ratio (PLR), RDW-to-lymphocyte ratio (RLR), CRP, dialysis patients*

[Abstract:0032]

ENTEROCOCCUS DURANS/HIRAE PYELONEPHRITIS IN A PATIENT WITH A PIGTAIL URETERAL STENT: A CASE REPORT

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Background: *Enterococcus hirae* and *Enterococcus durans* account for 1-3% of enterococcus species isolated from human clinical specimens. *E. hirae* causes infections in animals and is extremely rarely, in humans. *E. durans* is a microorganism that has mainly been linked to a few cases of infections of prosthetic valves and cardiac implantable electronic devices. The two species are difficult to separate with the conventional microbiological methods. We present a rare case of urinary tract infection caused by *E.durans/hirae* in an elderly patient fitted with a self-retaining ureteral catheter (pigtail).

Case Description: An 89-year-old man came to the emergency department with a 24-hour fever of 38.5°C.He had a history of prostatectomy, hypertension, dyslipidaemia, hyperuricemia, COPD, and hypothyroidism. A pigtail stent was inserted in his right ureter 4 months ago to avoid oliguric episodes due to lithiasis of the right kidney. On admission, physical examination revealed: SAP=121/80 mmHg, SpO_2 98%, PR=68 bpm, diminished breath sounds, abdomen soft/tender/painless and positive costovertebral angle tenderness (Giordano's sign).Upper abdominal C/T showed dilation of the pelivoureteric junction and multiple nephrolithiasis of the right kidney. Urine microscopy revealed: WBC=50-60 hpf, RBC=3-8 hpf, abundant microorganisms. After a 48-hour incubation, the urine culture yielded >10^5 CFU/mL of a Gram(+), catalase-negative(-) coccus, identified as *Enterococcus durans/hirae* and found to be susceptible to ampicillin, ciprofloxacin, daptomycin, linezolid, levofloxacin, teicoplanin, quinupristin/dalfopristin and resistant to penicillin and tetracycline, according to the EUCAST criteria. The patient was treated with ampicillin/sulbactam and ciprofloxacin. He was discharged after 4 days of hospitalization with decreased inflammatory markers and transferred to a urology clinic for a pigtail change.

Discussion: *Enterococcus durans/hirae* infections in humans are uncommon and occur mainly in patients with underlying diseases and compromised health. We present a rare case of *Enterococcus durans/hirae* pyelonephritis in a patient with a self-retaining ureteral catheter (pigtail).

Keywords: *Enterococcus durans/hirae, urinary tract infection, pigtail*

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[Abstract:0033]

SUSCEPTIBILITY OF *ESCHERICHIA COLI* STRAINS ISOLATED FROM URINE CULTURES TO CEFTAROLINE AND CEFTOLOZANE/ TAZOBACTAM

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Background: Ceftaroline and ceftolozane/tazobactam are relatively new, promising antibiotics for the treatment of infection caused by antibiotic-resistant microorganisms. Our purpose is to study the susceptibility of *E. coli* strains, isolated from positive urine cultures, to ceftaroline and ceftolozane/tazobactam.

Methods: Forty *E. coli* strains, isolated from positive urine cultures, were included in the study. Six of these strains produced extended spectrum beta-lactamases (ESBLs). The cultures were performed by traditional microbiological techniques. The strains were identified using the MicroScan Autoscan System (Siemens) and the antibiotic susceptibility testing to ceftaroline and ceftolozane/ tazobactam was performed using the Kirby-Bauer method. The results were interpreted according to the EUCAST criteria.

Results: The results are presented in Table 1. Our findings suggest that 13 (32.5%) of the strains studied showed resistance to ceftaroline, 6 of which produced extended spectrum beta-lactamases (ESBLs) or were multi resistant. On the other hand, rates of resistance to ceftolozane/tazobactam were found much lower, with only 2 strains resistant (5%), including one ESBL-positive strain and one multi resistant.

Conclusions: The resistance of *E. coli* strains to the antibiotics ceftaroline and ceftolozane/tazobactam was found at levels similar to those observed internationally.

Keywords: Escherichia coli, urinary tract infections, ceftaroline, ceftolozane/tazobactam

Table 1	Ceftaroline	Ceftolozane/tazobactam
E	27 (67.5%)	38 (95%)
A	13 (32.5%)	2 (5%)
Total	40 (100%)	40 (100%)

Table 1.

[Abstract:0034]

SUSCEPTIBILITY OF *ESCHERICHIA COLI* STRAINS ISOLATED FROM URINE CULTURES IN NITROXOLINE

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Background: Nitroxoline is a derivative of 8-hydroxyquinoline, a nitrogen heterocyclic compound, which acts as a chelating agent. 8-hydroxyquinoline derivatives have antimicrobial, antioxidant, antineoplastic, anti-inflammatory and anti-neurodegenerative properties. Nitroxoline has been used in the past as treatment and as chemoprophylaxis against urinary tract infections and has also received FDA approval for applications in the treatment of Alzheimer's disease and neoplasms in humans[1,2]. Also, nitroxoline is active against microorganisms that form biofilms [3]. Our purpose is to study the study the susceptibility of *Escherichia coli* strains, isolated from urine cultures, to nitroxoline.

Methods: Forty *E.coli* strains, isolated from positive urine cultures, were included in the study. Six of these strains produced extended spectrum beta-lactamases (ESBLs). The cultures were performed by traditional microbiological techniques. The strains were identified using the MicroScan Autoscan System (Siemens) and the antibiotic susceptibility testing to nitroxolin was performed using the Kirby-Bauer method. The results were interpreted according to the EUCAST criteria.

Results: The results are presented in Figure 1. According to our findings, 95% of the tested strains were sensitive to nitroxoline, whereas only 5% showed resistance.

Conclusions: Nitroxoline is a safe choice for the effective treatment of urinary tract infections caused by *E. coli*.

Keywords: Escherichia coli, nitroxoline, urinary tract infections

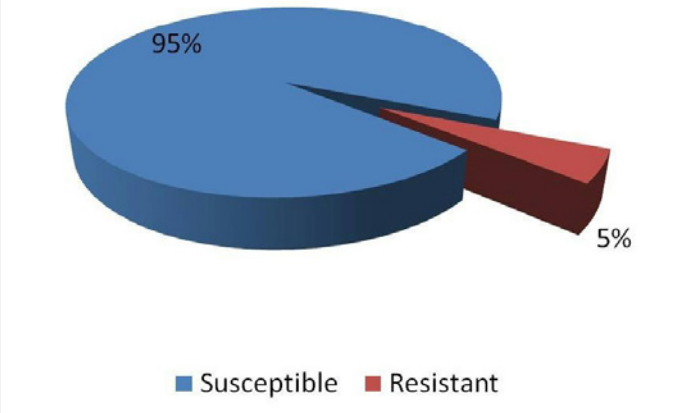

Figure 1. *Resistance to Nitroxoline.*

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[Abstract:0035]

SUSCEPTIBILITY OF *ESCHERICHIA COLI* ISOLATED FROM URINE CULTURES IN PIVMECILLINAM AND FOSFOMYCIN

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Background: Pivmecillinam and fosfomycin are two antibiotics used for the empiric treatment of UTIs. According to the IDSA/ESCMID guidelines, the acceptable rate of antimicrobial resistance in a given area, in order to prescribe empiric antibiotic treatment should not exceed 20%. Our purpose is to study the susceptibility of Escherichia coli strains, isolated from urine cultures, to mecillinam and fosfomycin.

Methods: The study included 40 *E. coli* strains, isolated from positive urine cultures. Six of these strains produced extended spectrum beta-lactamases (ESBLs). The cultures were performed by traditional microbiological techniques. The strains were identified using the MicroScan Autoscan System (Siemens) and the antibiotic susceptibility testing to pivmecillinam and fosfomycin was performed using the Kirby-Bauer method. The results were interpreted according to the EUCAST criteria.

Results: The results of our study are presented in Table 1. Our findings show that only two strains (5%) showed resistance to pivmecillinam and 6 strains (15%) to fosfomycin. All ESBL strains were sensitive to pivmecillinam and only one of them showed resistance to fosfomycin.

Conclusions: Susceptibility rates to the antibiotics pivmecillinam and fosfomycin were found to be <20%. It is worth noting that the ESBL-strains were all sensitive to pivmecillinam and the majority of them to fosfomycin. Therefore, in our region, these drugs are still suitable for the empiric treatment of urinary tract infections.

Keywords: *Escherichia coli, pivmecillinam, fosfomycin, urinary tract infections*

Table 1	Pivmecillinam	Fosfomycin
E	38 (95%)	34 (85%)
A	2 (95%)	6 (15%)
Total	40 (100%)	40 (100%)

Table 1.

[Abstract:0111]

ACUTE INTERSTITIAL NEPHRITIS (AIN) INDUCED BY RIFAMPICIN - A CASE REPORT

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A 53-year-old man presented with a 4-month constitutional syndrome and 3 weeks of productive cough and pleuritic pain. Chest CT showed extensive pulmonary cavitated lesions, compatible with tuberculosis. HIV was negative and sputum analysis stained for acid-fast bacilli (AFB). Rifampicin-isoniazid-pyrazinamide-ethambutol (RIPE) regimen was initiated. Kidney function was normal (sCr 0.6 mg/dL). After 45 days of continuous treatment, AKI (acute kidney injury) was documented (sCr 1.6 mg/dL). A 24h urine study showed albumin/creatinine and protein/creatinine ratios of 229.92 mg/g and 1.16 mg/mg, without eosinophiluria or eosinophilia. The patient remained asymptomatic except for polyuria. Pre- and post-renal causes were excluded. At day 53, sCr rose to 3.3 mg/dL and it was decided to suspend anti-bacillary drugs.

Drug-induced AIN was considered.

Renal tuberculosis, secondary amyloidosis and lymphoproliferative disorders were contemplated - *mycobacterium* urine cultures were negative, fat pad biopsy was innocent, and serum and urine electrophoresis were not suggestive of monoclonality. A sequential reintroduction of anti-bacillary drugs was initiated (rifampicin was substituted by levofloxacin), sCr levels plateaued at 3.3 mg/dL and polyuria persisted. A kidney biopsy was compatible with AIN and negative for AFB. Hence, the diagnosis of rifampicin-associated AIN was established. Kidney function normalised by the 89th day without administration of corticosteroids.

To conclude, in a patient treated with rifampicin presenting with AKI, AIN must be considered. Although other possibilities must be ruled out, swift identification of AIN and discontinuation of rifampicin are vital for kidney function recovery.

Keywords: *tuberculosis, rifampicin, acute interstitial nephritis*

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[Abstract:0112]

CEUS FOLLOW-UP OF ACUTE PYELONEPHRITIS

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Purpose: Contrast enhanced ultrasound (CEUS) is increasingly used in clinical practice as the first diagnostic method in patients with suspected pyelonephritis rather than abdominal CT with contrast medium, especially in young subjects.

Methods: We performed a retrospective analysis on patients in whom a CEUS examination was performed as a follow-up method after acute pyelonephritis as normal clinical practice. Due to the descriptive nature of the study, the timing of the follow-up was set by each physician who managed the patient during hospitalization and discharged the patient.

Findings: Twenty-eight CEUS examinations focused on the kidney were performed as a follow-up after a diagnosis of acute pyelonephritis in 23 patients; in 5 cases (17.8%) the CEUS was repeated several times. B-mode ultrasound detected nephrolithiasis in 4 patients (17.3%) and hydronephrosis in 6 cases (26%). Urine culture was positive for *Escherichia coli* infection in 7 cases (30.4%) and *Klebsiella pneumoniae* infection in 2 patients (8.6%). By evaluating all patients in terms of CEUS examination with normalization (healing) of the renal disease, there is a mean timing of 25.9 days. The ultrasound finding did not induce any therapeutic modification, not even in the cases in which the examination was repeated several times.

Conclusions: Therefore, to set up a CEUS follow up after 25 days from the first diagnosis can reduce the number of repeated tests, with advantages for patients in terms of reduction in the number of tests and costs for the healthcare system.

Keywords: *ultrasound, phyelonephritis, kidney*

[Abstract:0154]

SARCOIDOSIS AND ACUTE KIDNEY INJURY

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The kidney abnormalities in sarcoidosis are noncaseating granulomatous interstitial nephritis and hypercalcemia-related disorders. Acute kidney injury as the initial presentation of sarcoidosis is a rare entity, due to three pathologic processes: nephrocalcinosis with or without nephrolithiasis, interstitial nephritis with or without granulomas and ureteral obstruction.

A 71-year-old man presented with a 6-month history of lethargy, nausea,10 kg weight loss and short term memory loss. Physical examination revealed pulse rate 60/min, blood pressure 160/100 mmHg with an irregular, enlarged prostate gland. A chest X-ray was normal. Biological examination showed anaemia, raised urea and serum creatinine and hypercalcaemia. A renal ultrasound was normal; urinalysis revealed blood 2+, protein +,glucose +, few white cells and some granular casts. A renal biopsy showed foci of lymphocytic tubulitis and a mild mononuclear interstitial infiltrate; focal peri-tubular interstitial calcification; several discrete non-necrotizing epithelioid granulomata comprised of epithelioid macrophages and Langerhans-type giant cells. A histological diagnosis was made for acute or chronic granulomatosis interstitial nephritis with nephrocalcinosis. A CT scan of his chest was performed: calcified mediastinal lymph nodes between the aorta and the trachea, intra-pulmonary nodules scattered throughout the upper and lower lobes without any apparent perivascular or peri- septal association. The scan findings were consistent with sarcoidosis. A serum ACE level was abnormal. A clinical diagnosis of sarcoidosis was made with 40 mg prednisone /day orally, with patient s condition rapidly improved. Sarcoidosis should be considered as a potential diagnosis in any patient with hypercalcaemia and acute kidney injury, and a biopsy must be performed.

Keywords: *sarcoidosis, hypercalcemia, acute kidney injury*

[Abstract:0157]

PARADOXICALLY EFFECTS OF RENIN-ANGIOTENSIN SYSTEM SUPPRESION

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Is any specific organ protection by blocking the renin-angiotensin system?

What is the role of the renin-angiotensin system (RAS) in progressive renal disease?

The renoprotective effect of ACE-inhibitors and angiotensin II (Ang II) receptor blockers is not only mediated via their renal

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hemodynamic effects, but also through non-hemodynamic mechanisms?
What is the clinical evidence for the importance of local renin-angiotensin system (RAS)?
These are several questions of a medical reality: that pharmacological blockade of renin-angiotensin system (RAS) is paradoxically effective although circulating plasma renin activity (PRA) is low. An overview of the normal function of the system, as well as ramifications of its dysfunction (overactivity) and potentials for therapeutic blockade, is provided below.

Keywords: *renin-angiotensin system, plasma renin activity, ACE-inhibitors, angiotensin II (Ang II) receptor blockers, microalbuminuria*

[Abstract:0158]

OXIDATIVE STRESS AND INFLAMMATION IN HAEMODIALYSIS (HD) PATIENTS WITH ADVANCED NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD)

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Summary: Increased oxidative stress and chronic inflammation are present in HD patients. They are associated with higher morbidity and mortality. Chronic inflammation and oxidative stress are also key factors in the pathogenesis and progression of NAFLD. Patients with advanced NAFLD have a higher risk of morbidity and mortality. The role of NAFLD and its association with oxidative stress and inflammation in HD patients is still unexplored.
Purpose: The aim of our study was to investigate the difference in oxidative stress and inflammatory markers in HD patients with or without advanced NAFLD evaluated by two-dimensional shear wave liver elastography (2D-SWE).
Methods: 77 HD patients were included (65.14±12.34 years, 59.2% male) and divided according to ultrasound and 2D-SWE measurements (Epiq 5, Philips Healthcare, USA) into two groups: 1) no NAFLD or no advanced NAFLD (2D-SWE < 9 kPa) and 2) advanced NAFLD (2D-SWE ≥9 kPa). Medical history data and blood results, including oxidative stress (8-hydroxy-2'-deoxyguanosine (8-OHdG)) and inflammatory markers (high-sensitivity C-reactive protein (hs-CRP), tumour necrosis factor alpha (TNF-α), interleukin 6 (IL-6), vascular cell adhesion molecule-1 (VCAM-1), intercellular adhesion molecule-1 (ICAM-1)) were collected.
Findings: HD patients with advanced NAFLD had significantly higher levels of 8-OHdG (p=0.025), TNF-α (p=0.023), and ICAM-1 (p=0.015) in comparison to HD patients without advanced NAFLD (Table 1). IL-6 was higher in the advanced NAFLD group, but the difference was of borderline significance (p=0.054). There was no significant difference in hs-CRP, and VCAM-1 between groups.
Conclusions: Higher oxidative stress and inflammation levels were present in HD patients with advanced NAFLD.

Keywords: *non-alcoholic fatty liver disease, haemodialysis, oxidative stress*

	No NAFLD or no advanced NAFLD (2D-SWE < 9kPa)	Advanced NAFLD (2D-SWE ≥ 9 kPa)	p-value
Number of patients (%)	66 (85.7%)	11 (14.3%)	/
Age (years)	65.45±12.48	63.27±11.84	0.590
Male sex (%)	59.1	63.6	0.777
Diabetes mellitus type 1 or 2 (%)	31.8	36.4	0.767
BMI (kg/m²)	27.42±4.99	26.39±7.20	0.555
Dialysis vintage (days)	2056.64±2321.88	2252.00±2804.97	0.803
hs-CRP (mg/L)	8.07±12.68	6.65±6.55	0.719
TNF-α (pg/mL)	20.83±16.02	35.33±33.00	0.023
IL-6 (pg/mL)	11.66±11.90	16.18±10.16	0.054
VCAM-1 (ng/mL)	1523.14±297.57	1866.73±752.14	0.134
ICAM-1 (ng/mL)	232.80±48.06	324.73±118.01	0.015
8-OHdG (ng/mL)	48.36±34.03	59.71±30.83	0.025

Table 1. *Data from 77 HD patients divided according to NAFLD stage measured by ultrasound and 2D-SWE.*
Values of p < 0.05 are considered statistically significant.

[Abstract:0203]

GLOMERULAR DISEASES AND RENAL BIOPSIES IN A HOSPITAL IN SOUTH-EASTERN MEXICO

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Summary: Present study represents the 1st registry in our hospital. We performed ultrasound-guided renal biopsies and trans-procedural confirmation. Syndrome haematuria-proteinuria was the most frequent syndrome and lupus-nephritis the most frequent disease.
Purpose: To describe the epidemiology of glomerulonephritis in a hospital in Mexico from March 2022-July 2023.
Methods: Descriptive, observational and prospective study. Demographic, clinical, biochemical and histopathological data were collected.
Findings: We obtained 13 biopsies, mean age was 31±9.3 years, 69% were women. Main clinical manifestations were oedema,

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haematuria and skin manifestations. The clinical syndromes were haematuria-proteinuria syndrome (23%), nephrotic syndrome (15.38%), nephritic syndrome (15.38%), isolated proteinuria (15.38%) and rapidly progressive glomerulonephritis (38.4%). Mean baseline parameters were: creatinine=4.8±7.3 mg/dl, GFR=54.9 ml/min/1.73m², CrCl from 24h-urine=47.87 ml/min, proteinuria=2.9±2.2 g/24h. Nobody had positive serology for infection diseases, one patient had P-ANCA+ and 2 had ANA+ by immunofluorescence-assay. Were found a media of 9±5.9 days from admission to the biopsy and 3.5 days from admission to immunosuppressive treatment; 30.8% had hematomas <2 cm and 30.7% required renal replacement therapy, 75% peritoneal dialysis (PD) and 25% haemodialysis (HD); 30% had Cr<1 mg/dl at 6 months; three deaths occurred, one for cerebrovascular event and two for sepsis. We found lupus nephritis in 23% and was the most frequent.

Conclusions: Glomerulonephritis increases the risk of chronic kidney disease, knowing the epidemiology allows us to improve management. This's 1st registry in our hospital, due to socioeconomic difficulties that for a long time have prevented their performance.

Keywords: glomerulonephritis, glomerular diseases, renal biopsy

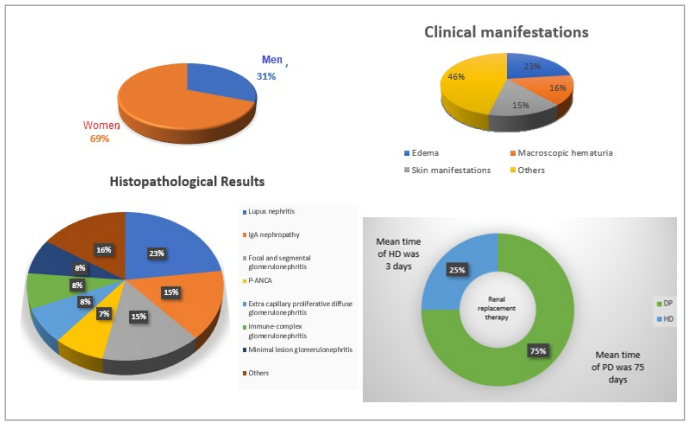

Figure 1. Results.

[Abstract:0280]

CHRONIC KIDNEY FAILURE RESULTING FROM AMYLOIDOSIS ASSOCIATED WITH PERIRECTAL FISTULA

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Amyloidosis, marked by the extracellular accumulation of amyloid protein fibrils, comprises primary and secondary subgroups. Secondary amyloidosis, a subtype, results from inflammation-induced accumulation of serum amyloid AA proteins in organs like the kidneys and heart. This case details a chronic kidney disease emerging from amyloidosis secondary to a perirectal fistula persisting for nearly 15 years.

Case: A 62-year-old male, devoid of systemic diseases, presented to the internal medicine outpatient clinic with symptoms of nausea, weakness, and recent weight loss. Physical examination revealed pretibial oedema and a 15 cm indurated, hyperpigmented plaque in the left gluteal region, existing for 15 years due to intramuscular injection without specific treatment.

Lab tests indicated elevated creatinine and urea levels (Table 1), diagnosing acute kidney injury over chronic kidney disease with a baseline creatinine of 2.5 mg/dL. Urinary ultrasound showed bilateral atrophic kidneys without postrenal pathology. Autoimmune markers for chronic kidney disease aetiology were negative (Table 2), while a 24-hour urine collection displayed 9724 mg/day protein (Table 3). Bone scintigraphy ruled out osteomyelitis but revealed a perirectal fistula on tomography. Colonoscopic biopsy from the rectum confirmed AA amyloidosis. The chronic kidney disease's aetiology was attributed to secondary amyloidosis from chronic gluteal inflammation.

Conclusions: This case highlights the potential of untreated perirectal fistula-related chronic inflammatory disease to result in severe systemic involvement, exemplified by secondary amyloidosis.

Keywords: amyloidosis, inflamation, chronic kidney disease, perirectal fistula

Parameter	Value	Unit
Urea	173	mg/dl
Creatine	9.03	mg/dl
GFR	6	-
Potassium	5.39	mmol/L
Sodium	142	mmol/L
Albumin	2.5	g/dL
CRP	42	mg/dl
WBC	10900	cells/µL
Haemoglobin	10.6	g/dL
Platelets	413000	cells/µL
pH	7.12	-
HCO3	11.1	mmol/L
pCO2	35.4	mmHg
Density	1012	
Glucose	+++	
Protein	+++	
Keton	negative	
Erythrocytes	2/HS	
Leukocyte	4/HS	

Table 1. Laboratory result of patient in first application WBC: White blood cells GFR: glomerular filtration rate CRP: C-reaktive protein.

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Parameters	Values	Units
ANA	negative	
P-ANCA	1.1	U/ml
C-ANCA	0.8	U/ml
anti-GBM ab	negative	

Table 2. *Autoimmunity markers ANA: anti-nuclear antibody P-ANCA: Myeloperoxidase Antineutrophil Cytoplasmic Antibodies C-ANCA: Proteinase-3 Antineutrophil Cytoplasmic Antibodies anti-GBM: Anti Glomerular Basement Membrane Antibody.*

Parameters	Values	Units
Protein (24-hours urine)	9724	mg/gun
Creatin (24-hours urine)	533.26	mg/gun

Table 3. *24-hours urine analysis.*

[Abstract:0309]

GITELMAN'S SYNDROME HYPONATREMIA: A RARE COMPLICATION OF DISEASE

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Gitelman's syndrome (GS) is a variant of classical Bartter's syndrome (BS) in adults characterized by hypokalaemia metabolic alkalosis, hypercalciuria (daily excretion <2.0 mg/kg body weight), hypomagnesaemia (<1.5 mg/dl), together with a normal to low blood pressure. It was reported complete linkage between the syndrome and the thiazide-sensitive sodium chloride coporter (TSC) on chromosome 16q13 (Human Gene Mapping Workshop-approved symbol: SLCA3). Other metabolic features of GS include normonatremia, hyperuricemia, normocalcemia, increased plasma renin and aldosterone/potassium ratio, and inappropriately high renal potassium, magnesium, and chloride excretion. In this paper, we describe two affected patients who developed severe hyponatremia and hypouricemia. To the best of our knowledge, this complication has not been described previously.

Keywords: *Gitelman's syndrome, hypomagnesemia, hyponatremia, hypouricemia, syndrome of inappropriate ADH release (SIADH), thiazides*

[Abstract:0352]

INVESTIGATION OF ANTIBIOTIC RESISTANCE PROFILES OF ENTEROCOCCUS SPECIES ISOLATED FROM HOSPITALIZED PATIENTS

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WHO reported pathogens including *Enterococcus* spp., *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, Pseudomonas aeruginosa and *Enterobacter* spp as bacteria for which new antibiotics are needed. In this study, antibiotic resistance patterns of *Enterococcus faecalis* and *Enterococcus faecium* isolates isolated from hospitalized patients were evaluated retrospectively. It was aimed to determine the antibiotic resistance rates of these isolates and the resistance change in the last 5 years.

In our study, total 1412 enterococcal isolates isolated from various clinical samples and sent to the medical microbiology laboratory between January 2018 and December 2022 were included in the study. Bacterial identification and antibiotic susceptibility tests were performed using traditional methods and automated systems.

Total 1412 enterococcal strains, 856 (60.6%) were identified as *E. faecium* and 556 (39.3%) were identified as *E. faecalis*. Antibiotic resistance rates were found to be higher in *E. faecium* isolates than in *E. faecalis* isolates. Ampicillin resistance rate in *E. faecium* isolates was determined as 92.1% (n: 789), high gentamicin resistance was 73.4% (n: 629), and high level streptomycin resistance was 66.3% (n: 568). Ampicillin resistance was detected in 4.1% of *E. faecalis* strains (n:23). Vancomycin and teicoplanin resistance were 68.1% (n: 583), 43.3% (n: 371) in *E. faecium* and 10.4% (n: 58), 13.9% in *E. faecalis*, respectively. Linezolid resistance was determined as 1.8% (n:16), 2.1% (n:12), respectively. As a result, the most sensitive antibiotic against both enterococcal species is linezolid. Cumulative antibiogram is very important to assist empirical treatment. Since the sensitivity of linezolid against enterococci is higher than others, it can be preferred in empirical treatment.

Keywords: *enterococcus, antibiotic resistance, linezolid, ampicillin, VRE*

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Years	Urinary	Urinary	Non-urinary	Non-urinary
	ICU n(%)	Service's n(%)	ICU n(%)	Service's n(%)
2018	146(21.5%)	56(19.7%)	67(21.2%)	26(18.1%)
2019	133(19.6%)	47(16.6%)	61(19.8%)	30(20.9%)
2020	108(15.9%)	39(13.7%)	48(15.5%)	32(22.3%)
2021	157(23.1%)	66(23.3%)	53(17.2%)	38(26.5%)
2022	134(19.7%)	75(26.5%)	79(25.6%)	17(11.8%)
Total	678	283	308	143

Table 1. *Distribution of enterococcus species isolated from samples coming from intensive care units and wards by years.*
ICU (intensive care units), Non-urine samples: (Blood, Wound culture, Stool (VRE) vancomycin resistant enterococcus screening, Respiratory samples, Cerebrospinal fluid, Abscess culture.

[Abstract:0425]

SERUM ENDOCAN LEVEL IS A RISK FACTOR FOR PERIPHERAL ARTERY DISEASE AS ASSESSED USING ANKLE-BRACHIAL INDEX IN PATIENTS WITH NON-DIALYSIS CHRONIC KIDNEY DISEASE STAGE 3 TO 5

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Purpose: Endocan is secreted by the activated endothelium and plays a surrogate marker for inflammation and endothelial dysfunction. Peripheral arterial disease (PAD) is commonly accompanied by microvascular disease. The present study aimed to determine the relationship between serum endocan level and PAD in non-dialysis patients with chronic kidney disease (CKD) stage 3–5.
Methods: Fasting blood samples and baseline characteristics were obtained from 164 non-dialysis patients with CKD stage 3–5. Ankle-brachial index (ABI) values were measured using an automated oscillometric method. An ABI value of <0.9 defined the low-ABI group. Serum endocan levels were measured using a commercial enzyme-linked immunosorbent assay.
Findings: In the study cohort, 24 of the 164 patients (14.6%) had low ABIs. The rates of diabetes mellitus (DM, p = 0.030), older age (p < 0.001), urine protein-to-creatine ratio (p = 0.031), as well as the serum levels of C-reactive protein (p = 0.037) and endocan (p < 0.001), were higher in the low ABI group compared with the normal ABI group. After adjusting for factors significantly associated with PAD by multivariate logistic regression analysis, age (odds ratio [OR]: 1.097, 95% confidence interval [CI]: 1.038–1.159, p = 0.001), DM (OR: 3.437, 95% CI: 1.053–11.225, p = 0.041), and serum endocan level (OR: 1.098, 95% CI: 1.042–1.157, p = 0.001) were independent predictors of PAD in patients with CKD stage 3–5.
Conclusions: A high serum endocan level is an independent predictor of PAD in non-dialysis CKD stage 3–5.

Keywords: *endocan, ankle-brachial index, chronic kidney disease*

[Abstract:0426]

LOW SERUM SELENOPROTEIN P LEVEL IS ASSOCIATED WITH AORTIC STIFFNESS MEASURED BY CAROTID-FEMORAL PULSE WAVE VELOCITY IN MAINTENANCE HAEMODIALYSIS PATIENTS

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Purpose: Selenoprotein P (SePP) is the major constituent of serum selenium, and functions as a selenium transport protein from the liver to the kidney. Low selenium concentrations are associated with inflammation. Aortic stiffness predicts cardiovascular disease and is associated with aging-associated vascular diseases. This study aimed to evaluate the relationship between serum SePP levels and carotid-femoral pulse wave velocity (cfPWV) in chronic haemodialysis (HD) patients.
Methods: A total of 138 patients with HD were enrolled in this study. cfPWV was measured using the SphygmoCor system. Patients with carotid-femoral pulse wave velocity (cfPWV) >10 m/s were defined as the aortic stiffness group. Serum SePP concentrations by using a commercial enzyme-linked immunosorbent assay.
Findings: 56 HD patients (40.6%) had aortic stiffness and higher percentages of diabetes (p = 0.034), hypertension (p = 0.006), were of older age (p = 0.037) and had higher systolic blood pressure (p = 0.005), serum glucose level (p = 0.021), C-reactive protein (CRP, p = 0.021), and lower serum SePP levels (p = 0.001) compared to control group. After adjusting for factors significantly associated with aortic stiffness by multivariate logistic regression analysis, serum SePP (odds ratio [OR]: 0.676, 95% confidence interval [CI]: 0.535–0.853, p = 0.001), age (OR: 1.038, 95% CI: 1.000–1.074, p = 0.036), and serum CRP levels (OR: 2.102, 95% CI: 1.010–4.376, p = 0.047) were independently associated with aortic stiffness in HD patients.
Conclusions: Serum SePP level is an independent marker of aortic stiffness and is negatively associated with cfPWV values in HD patients.

Keywords: *selenoprotein P, carotid-femoral pulse wave velocity, haemodialysis*

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[Abstract:0473]

THE CONCENTRATIONS OF CARDIAC TROPONINS IN PATIENTS ON HAEMODIALYSIS ARE DEPENDING ON HAEMODIALYSIS MODALITY– A RANDOMIZED CROSS-OVER TRIAL

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During haemodialysis (HD), diagnosis of acute myocardial infarction (AMI) is challenging, as patients less often present with typical symptoms or EKG changes, thus, the diagnosis relies on biomarker (cTn), the effect of HD modalities on cTn kinetics during HD, however, is not well described.

In this randomized, controlled cross-over study we determined intradialytic cTn concentrations during HD. Patients were randomized to a sequence of low-flux HD, high-flux HD, hemodiafiltration (HDF), and medium cut-off (MCO)-HD.

The primary outcome was the relative change of high-sensitivity cTn from baseline to after 1 hour of treatment for different modalities and secondary outcomes included absolute and relative changes.

Nineteen patients (47.4% female) with a mean age of 65.5±13.4 years and a median of 19 months (min.3, max.165) on dialysis were included. Relative changes of cTnT after 1h were greater with MCO-HD (LSM -21.9; 95% CI -27.3– -16.6%) than with low-flux (LSM +2.2; 95% CI -3.2–7.5%, p<0.001), high-flux (LSM -6.8; 95% CI -12.2– -1.5%, p<0.001) and HDF (LSM -21.2; 95% CI -26.6– -15.7%, p=0.81) (p-values referring to difference to MCO-HD). LSM for absolute changes with MCO-HD were -21.2 (95% CI -27.6– -14.8 pg/mL), -6.4 (95% CI -12.8– -0.0 pg/mL) for high-flux, -20.2 (95% CI -26.8– -13.7 pg/mL) for HDF and +2.3 (95% CI -4.1–8.6 pg/mL) for low-flux haemodialysis after one hour. There were no significant effects observed for cTnI.

Depending on modality, ΔcTnT in stable HD patients, exceeded guideline-recommended thresholds. The variability in kinetics of cTnI, questions its usefulness for diagnosis of AMI in this setting.

Keywords: haemodialysis, membrane, troponin

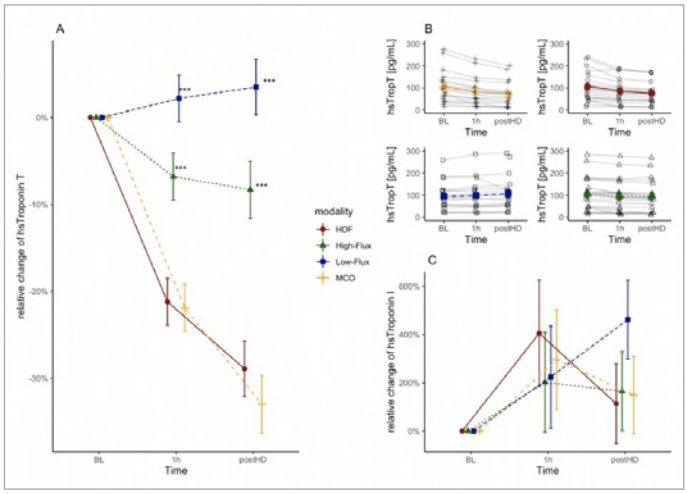

Figure 1. *Cardiac troponin levels depending on treatment modality*

[Abstract:0474]

RENAL TUBERCULOSIS STILL EXISTS

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Purpose: With this case presentation we want to highlight the fact that a pyelonephritis-like symptomatology can hide an endemic disease with a systemic impact.

Methods: We present a case of a 51-year male who came to the hospital with fever (39°C at home), chills, dysuria, pollakiuria, cloudy urine and left lumbar pain with no irradiation. A full blood test, urinanalysis were ordered and abdominal ultrasonography and an abdominal tomography were recommended.

Findings: From the blood samples were highlighted leucocytosis with neutrophilia and lymphopenia and biological inflammatory syndrome with high erythrocyte sedimentation rate, high C-reactive protein and high fibrinogen. In terms of urinalysis leucocytes and positive nitrites were documented.

Abdominal ultrasonography documented renal cysts in both renal parenchyma and the abdominal tomography, also, highlighted the

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renal cysts. Caverns suggestive of pulmonary tuberculosis were evident in the lung bases, although on a previous chest CT these lesions were not seen. The positive diagnosis of tuberculosis was made by bronchoscopy and lavage.

Conclusions: Even though you are or not in a country in which tuberculosis is endemic, you should consider this disease as a differential diagnosis for pyelonephritis-like symptomatology.

Keywords: *renal tuberculosis, pyelonephritis, pulmonary tuberculosis*

[Abstract:0509]

CD8+ T CELL PHENOTYPING REVEALS POTENTIAL PROGNOSTIC MARKERS FOR CMV DNAEMIA AFTER KIDNEY TRANSPLANTATION

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CMV viremia is associated with reduced graft survival in kidney transplant recipients, despite potential prevention by antiviral prophylaxis. Identification of patients at risk remains a key challenge in transplant nephrology. Here, we examined the predictive value of pretransplant CD8+ T cell subtype immunophenotyping on CMV viremia after transplantation.

Flow cytometric analysis of peripheral blood leukocytes and CD8+ T cell subpopulations was performed shortly before transplantation (timepoint T1) in 65 kidney transplant recipients. CMV viremia was defined as above 100 CMV copies/ml in at least one PCR during the first year of transplantation.

CMV viremia (CMV+) was frequent (n= 33, 50.8%) in our cohort. Particularly, intermediate risk constellation (Recipient CMV seropositive) conferred an increased risk for post-transplant CMV. After one year, eGFR was worse in CMV+ compared to CMV- patients (1.66 vs. 1.25ml/min/1.73m^2, p<0.001), underlining its detrimental effect on graft function.

Overall, pre-transplant frequencies of CD3+CD8+ in lymphocytes (19.7% vs. 15.4%, p=0.05) and FoxP3+CD25+ in CD3+CD8+ T cells (1.45% vs. 0.74%, p<0.01) were significantly higher in CMV+. Absolute numbers of leukocytes (4145/µl vs. 5249/µl, p=0.01), granulocytes (2576/µl vs. 3317/µl, p=0.01) and monocytes (222/µl vs. 315/µl, p=0.01) were lower in CMV+.

Pre-transplant predictors of CMV viremia within the peripheral leukocyte and CD8+ T cell pool may aid in selecting patients for antiviral prophylaxis. While CD8+ T cells are generally regarded as cytotoxic, expansion of regulatory subtypes like FoxP3+CD25+CD8+ T cells may render individuals susceptible to infections.

Keywords: *Kidney transplantation, CMV, CD8+ T cells*

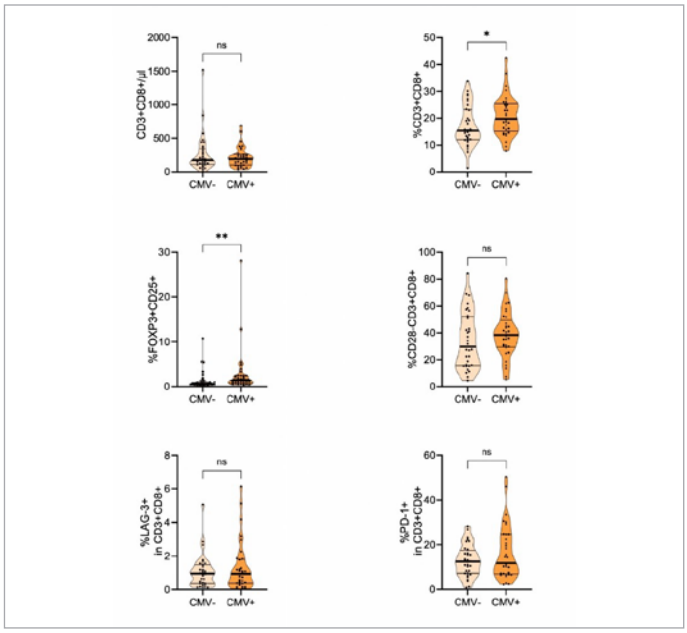

Figure 1. *CD8+ T cells at T1.*
Differences in CD8+ T cells at T1 between CMV+ and CMV- kidney transplant recipients.

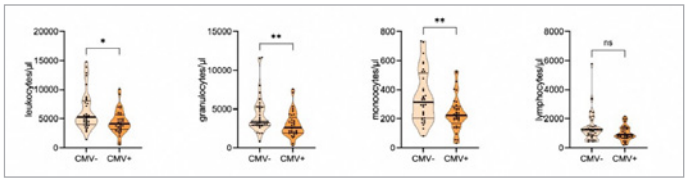

Figure 2. *Leukocytes at T1.*
Differences in leukocytes at T1 between CMV+ and CMV- kidney transplant recipients.

[Abstract:0596]

AN UNEXPECTED ETHOLOGY IN A PATIENT WITH ASCITES-AA AMILOIDOSIS

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Case Description: A 76-year- old male patient presented to the emergency department with swollen abdomen and oedema in both legs.

His medical history included Benign Prostate Hyperplasia and a recent hospitalisation due to high fever where he was diagnosed with a hydatid cyst. At admission he was afebrile and normotensive. In physical examination the abdomen was distended, and the examination was compatible with ascites. There was pretibial oedema on both legs. Initial bloodwork showed hypoalbuminemia.

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Urinary sediment revealed proteinuria. Abdomen-USG showed massive ascites.

Clinical Hypothesis: Ascites secondary to hypoalbuminemia.

Diagnostic Pathways: Biochemical analysis of the ascites revealed normal glucose, LDH and ADA levels and remarkably high total protein (28.8 g/L) and an albumin level of 0.8g/dL. Serum albumin level was 1.6 g/dL at the time of paracentesis which yielded a serum-ascites-albumin-gradient (SAAG) of 0.8 g/dL- non-portal ascites. 24 hour-urine protein showed 5.9 g proteinuria, in nephrotic range. Ascites secondary to nephrotic syndrome was considered after ruling out other causes of non-portal ascites. Possible causes for nephrotic syndrome. A rectum biopsy for AA amyloidosis was planned. At the same time renal biopsy was performed. Renal biopsy revealed AA amyloidosis and chronic tubulointerstitial nephritis. Rectum biopsy also revealed AA amyloidosis.

Discussion and Learning Points: The key part of assessing a patient with ascites is SAAG and non-portal ascites can be due to nephrotic syndrome. In patients with ascites and hypoalbuminemia, nephrotic syndrome must always be considered in differential diagnosis. Nephrotic syndrome has numerous different causes and AA amyloidosis can be the underlying aetiology, as an unusual cause.

Keywords: *ascites, amiloidosis, nephrotic syndrome*

[Abstract:0600]

INVESTIGATING THE CORRELATION BETWEEN HAEMOGLOBIN CONCENTRATION AND UREMIC & INFLAMMATORY BIOMARKERS IN PATIENTS WITH STAGE 3-5 CHRONIC KIDNEY DISEASE

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Objectives: Chronic kidney disease (CKD), a condition marked by persistent kidney damage or diminished glomerular filtration rate (GFR), frequently leads to anaemia, adversely affecting life quality and increasing morbidity and mortality. This study investigates the relationship between haemoglobin levels, anaemia parameters, and uremic and inflammatory markers in non-dialysis patients with stages 3-5 CKD.

Materials and Methods: Conducted at SBU Gulhane Education and Research Hospital's Nephrology Clinic, this cross-sectional study involved 271 patients aged 18-80 with stages 3-5 CKD, not undergoing dialysis. Participants, selected based on defined criteria and consent, provided demographic and clinical data. Biochemical data from recent tests were also incorporated. The study was observational, with no invasive procedures or additional sample collections.

Results: The study spanned May 1, 2022, to June 1, 2023. The patient distribution was 28.8% in stage 3A, 36.5% in 3B, 27.3% in stage 4, and 7.4% in stage 5 CKD. Analysis revealed a positive correlation of haemoglobin with albumin, bicarbonate, and calcium, and a negative correlation with CRP (C-reactive protein), PTH (parathyroid hormone), and phosphorus. Linear regression identified phosphorus, PTH, and albumin as significant predictors of haemoglobin levels across all patients, with additional factors like calcium, phosphorus, CRP, and SII (systemic immune-inflammation index) being significant in stage 3 CKD.

Conclusions: The study underscores the importance of inflammatory markers (CRP, SII) and markers of mineral and bone disorder (Ca, P, PTH) in predicting haemoglobin levels in stages 3-5 CKD. These insights are vital for managing anaemia and reducing associated risks in CKD patients.

Keywords: *anaemia, phosphorus, inflammation, chronic kidney disease, SII*

[Abstract:0607]

NOT EVERYTHING IS URINARY TRACT INFECTIONS

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Case Description: A 38-year-old man was admitted because of pain in the right renal fossa irradiating to right groin since 5 days ago. The patient referred fever and nausea without urinary symptoms. He was an active smoker and suffers from von Willebrand disease and chronic urticaria treated with Omalizumab. At arrival he had positive right renal fist-percussion on physical examination. A blood test revealed leucocytosis with neutrophilia and increased both acute phase reactants and LDH (856 U/L), with preserved renal function. Urine exam didn´t show anomalies.

Clinical Hypothesis: Renal infarction.

Diagnostic Pathways: An abdominal-CT was carried out, showing enhancement defects in the upper half of the right kidney, with a thickening of the wall of the ipsilateral superior polar artery.

An electrocardiogram and Holter were performed to rule out cardioembolic disease, both with sinus rhythm. A foramen ovale without passage of bubbles was observed in the transoesophageal echocardiogram.

Furthermore, vasculitis was unlikely because autoimmunity was negative and a PET-CT didn´t show pathological uptake. No proteinuria was observed in 24-h urine.

The suspicion was a hypercoagulable state, so antiphospholipid antibodies were requested, presenting positive results for anti

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Cardiolipin-IgM and anti Beta2GlycoproteinI-IgM, with a positive determination of lupus anticoagulant at 3 months.
The final diagnosis was right renal infarction secondary to antiphospholipid syndrome, initiating treatment with acenocumarol.
Discussion and Learning Points: Renal infarctions are frequently underdiagnosed due to their similar presentation to nephrolithiasis and pyelonephritis. Cardioembolic disease, renal artery injury and hypercoagulable states are the main responsible aetiologies. Non-recognition can cause complications as chronic kidney disease.

Keywords: *renal infarction, antiphospolipid syndrome, hypercoagulable states*

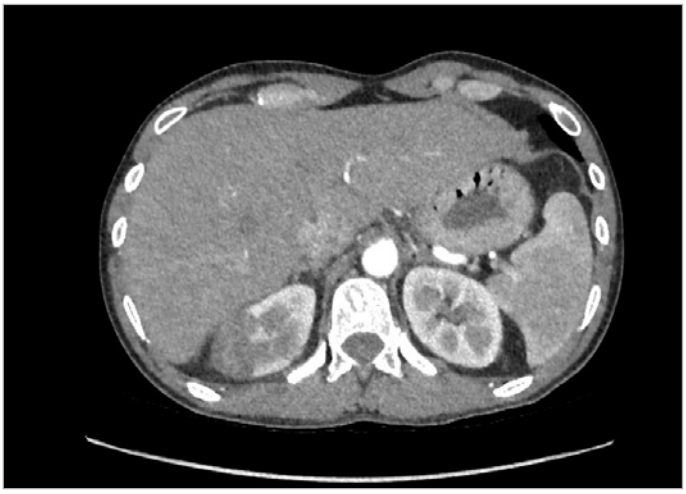

Figure 1. *Abdominal CT. Right renal infarction.*

[Abstract:0637]

REAL-WORLD EXPERIENCE OF USING A NOVEL MINERALOCORTICOID RECEPTOR ANTAGONIST, FINERENONE, FOR DIABETIC KIDNEY DISEASE

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Summary: DKD (diabetic kidney disease) is the most common type of chronic kidney injury, which exposes patients to cardiovascular and kidney complications. Along with the established therapy, non-steroidal mineralocorticoid receptor antagonists are now recommended in the presence of persistent albuminuria.
Purpose: To evaluate the real-world experience of finerenone (10 mg or 20 mg once daily) initiation and its effect on eGFR (estimated glomerular filtration rate), UACR (urine albumin-to-creatinine ratio), and serum potassium levels.
Methods: We have prescribed the medication to 28 patients with DKD since June 2023. Their median age was 66.5 years, 67.9% were male, and the median body mass index was 33.3 kg/m². Most (92.3%) were treated with renin-angiotensin system inhibition, and 61.5% had gliflozins prescribed. One- and three-month check-ups after prescription were done with laboratory analysis, and paired-sample statistical tests were performed.
Findings: At baseline, median eGFR, serum potassium, and UACR at baseline were 64 [IQR 37] ml/min/1.73m², 4.12 [IQR 0.8] mmol/l, and 193 [IQR 570] mg/g, respectively. Nineteen patients had already one-month check-ups with values: eGFR 66 [IQR 27], serum potassium 4.36 [IQR 0.62] (p=0.020), and UACR 136 [IQR 321] (p=0.009), respectively. Fifteen patients had three-month check-ups with values of 65 [IQR 29], 4.38 [IQR 0.47] (p=0.004), and 152 [IQR 553] (p=0.638), respectively. No cases of hyperkalaemia (above 5.3) were observed.
Conclusions: Finerenone treatment of patients with DKD in a real-world setting is effective and safe, but longer-term data on larger groups are needed.

Keywords: *diabetic kidney disease, mineralocorticoid receptor antagonist, albuminuria, potassium, kidney function*

[Abstract:0658]

A CASE REPORT OF RAPIDLY PROGRESSIVE GLOMERULONEPHRITIS: TREATMENT EXPERIENCE OF DOUBLE-SEROPOSITIVE VASCULITIS

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Case Description: A 70-year-old woman was hospitalized for syncopal episodes. Over 6 months, patient experienced recurrent hypertensive crises, with lower extremity swelling, low-grade fever and cough appearing 1.5 months before admission. Initial

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blood tests showed haemoglobin 69g/L, creatinine 641.6 µmol/L, urea 27.3 mmol/L, C-reactive protein 16 mg/L. Urinalysis revealed haematuria, leukocyturia, and 2.6 g/L of 24-hour urine protein. Chest computed tomography (CT) scan indicated infiltrates amid fibrotic lung changes and bilateral hydrothorax (Fig. 1).

Clinical Hypothesis: Rapidly progressive glomerulonephritis and lung involvement led to suspicion of systemic vasculitis.

Diagnostic Pathways: Tests included antinuclear antibody, C3, C4, anti-dsDNA, which were negative, anti-neutrophil cytoplasmic antibodies (ANCA) (anti-myeloperoxidase >200 U/mL, anti-proteinase-3 <0.6 U/mL) and anti-glomerular basement membrane (anti-GBM) antibodies (35.1U/mL). Renal biopsy revealed extracapillary glomerulonephritis with fibrous crescents in 93% of glomeruli (Fig. 2). Immunofluorescence showed mild accentuation of IgG along basement membranes (Fig. 3). Morphology favoured ANCA-associated vasculitis; however, coexistence with anti-GBM nephritis couldn't be ruled out. Diagnosis: microscopic polyangiitis and anti-GBM disease. Hospitalization involved 8 haemodialysis sessions, 5 transfusions, 5 plasma exchanges and methylprednisolone therapy. Post-discharge, haemodialysis continued, followed by 5 cyclophosphamide cycles and rituximab biologic therapy. Clinical improvement was confirmed by CT scan (absence of infiltrates) (Fig.4).

Discussion and Learning Points: ANCA-associated vasculitis and anti-GBM disease are rare; their double seropositivity is exceptionally rare, requiring attention to each identified case. Prognosis of this phenomenon has not been fully studied. This clinical case showed significance of RB and complex treatment.

Keywords: *ANCA-associated vasculitis, anti-GBM disease, double-seropositivity*

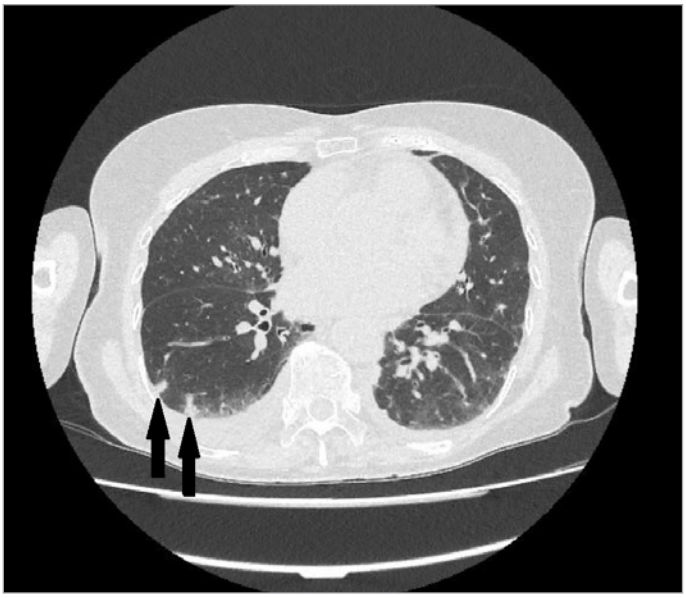

Figure 1. *Chest computed tomography before treatment.*

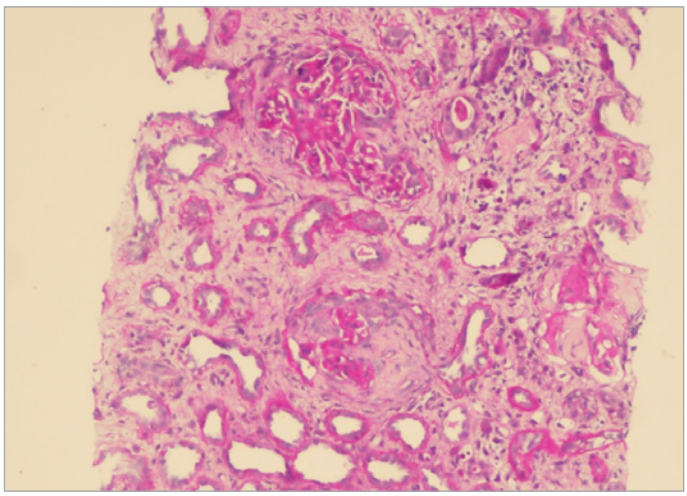

Figure 2. *Renal biopsy, haematoxylin-eosin staining.*

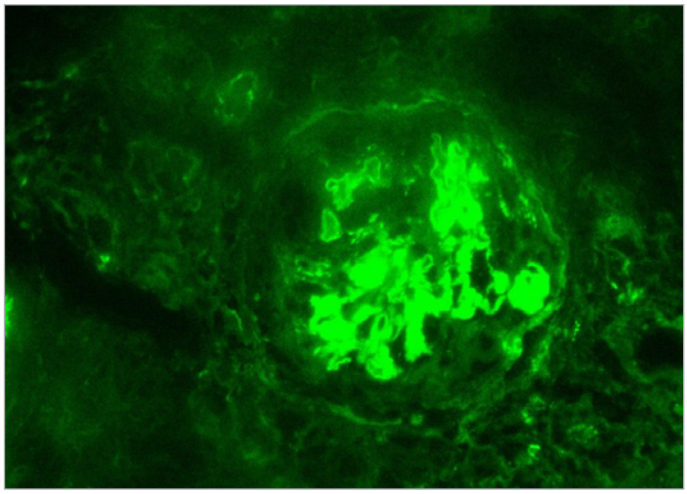

Figure 3. *Renal biopsy, immunofluorescence.*

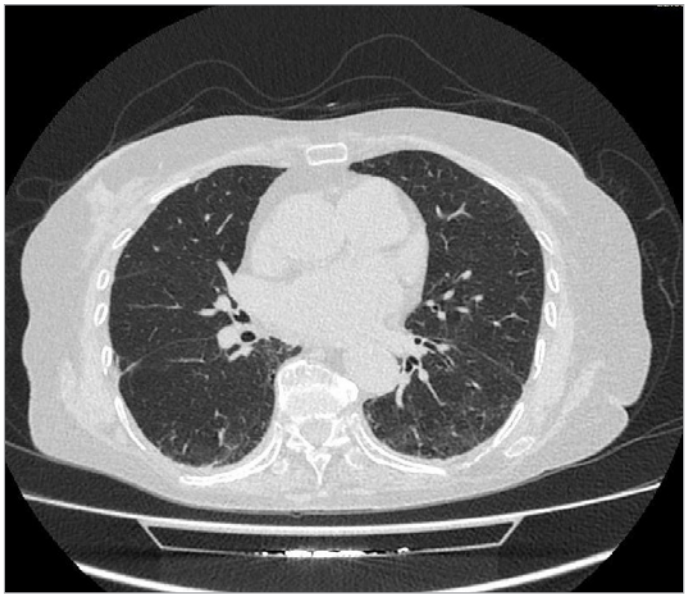

Figure 4. *Chest computed tomography after treatment.*

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[Abstract:0724]

EPIDEMIOLOGY AND OUTCOMES OF ACUTE KIDNEY DISEASE IN ACUTELY HOSPITALIZED GERIATRIC PATIENTS IN AN INTERNAL MEDICINE DEPARTMENT: A SINGLE-CENTER RETROSPECTIVE COHORT STUDY

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Background: The presence of acute kidney disease (AKD) worsens the short- and long-term prognosis of patients, increases the risk of chronic renal failure, prolongs the length of hospital stay and has a significant impact on the management of patients during hospitalization and in follow-up care.

Materials and Methods: We retrospectively analysed data of all patients over 64 years of age who were acutely hospitalized in standard wards of the Internal Medicine Department of the University Hospital Ostrava in 2022. In all included patients, renal function was evaluated throughout the hospitalization, AKD diagnosis was according to KDIGO 2012 criteria and its cause according to the discharge report.

Results: In 2022, a total of 1550 patients aged 65 years and older were acutely hospitalized. The prevalence of AKD on admission was 33.0% and was higher in men than in women and in patients with a history of chronic kidney disease (CKD). Patients with AKD had a significantly higher mortality rate and longer hospital stay. In 66.5% of cases, renal function normalized by discharge. The predominant cause of AKD in the whole cohort was prerenal (90.4%).

Conclusions: Our results show that the presence of AKD in geriatric patients significantly increases in-hospital mortality and prolongs the length of hospital stay. In terms of cause, prerenal aetiology dominates and up to one third of patients go home without restitution of renal function. Proper assessment of renal function, hydration status and volume status are an integral part of the care of acutely ill geriatric patients.

Keywords: *acute kidney disease, geriatric patient, prerenal*

[Abstract:0764]

DECREASED SERUM DECORIN LEVEL ASSOCIATED WITH AORTIC STIFFNESS IN PATIENTS WITH NON-DIALYSIS ADVANCED CHRONIC KIDNEY DISEASE

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Purpose: Decorin suppresses extracellular matrix accumulation, stimulates angiogenesis and reparation, and negatively regulates inflammation, oxidative stress, and apoptosis. Chronic kidney disease (CKD) accelerates atherosclerosis via augmentation of inflammation and perturbation of lipid metabolism. In this study, we explored the relationship between serum decorin levels and carotid-femoral pulse wave velocity (cfPWV) values in non-dialysis-dependent stage 4–5 CKD patients.

Methods: Fasting blood samples and baseline characteristics were obtained from 120 CKD patients. Serum decorin concentrations were determined by an enzyme immunoassay kit. Aortic stiffness was defined as carotid-femoral pulse wave velocity (cfPWV) values >10 m/s according to the ESH-ESC guidelines.

Findings: 52 CKD patients had been defined as an aortic stiffness group. The CKD patients with DM had a higher prevalence of aortic stiffness. CKD patients in the aortic stiffness group had older age, higher systolic blood pressure, UPCR, and lower serum albumin and decorin levels compared to those in the control group. After adjusting factors significantly related to aortic stiffness by multivariable logistic regression analysis, the results demonstrated that lower serum decorin levels, DM, and age were the independent predictors of aortic stiffness in CKD patients. Multivariable forward stepwise linear regression analysis of the factors significantly associated with cfPWV values showed that DM ($\beta = 0.184$), age ($\beta = 0.305$), log-UPCR ($\beta = 0.211$), and decorin level ($\beta = -0.279$) were the independent predictors of cfPWV values in non-dialysis-dependent stage 4–5 CKD patients.

Conclusions: Serum decorin level is negatively correlated with aortic stiffness among patients with CKD stage 4–5.

Keywords: *decorin, carotid-femoral pulse wave velocity, chronic kidney disease*

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[Abstract:0803]

COEXISTENCE OF BULLOUS PEMPHIGOID AND MEMBRANOUS GLOMERULONEPHRITIS: EARLY MANIFESTATIONS OF ANOTHER AUTOIMMUNE DISEASE?

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Bullous pemphigoid (BP) is an autoimmune disease of the skin and mucous membranes. The coexistence of BP with membranous glomerulonephritis (MGN), a disorder leading to nephrotic syndrome, is rare and, the optimal management of this uncommon condition is not well-defined.

A 49-year-old man was presented with foamy urine and swelling of lower limbs for three weeks. He had widespread multiple blistering skin lesions and nephrotic syndrome with a serum creatinine:1.1 mg/dL, serum albumin: 2.4 g/dL, and proteinuria: 9.2 g/day. A skin-punch and kidney biopsy revealed BP and MGN, respectively. Subsequent workup revealed no secondary cause for MGN. A diagnosis of BP associated MGN was made and the patients was treated with rituximab two-1000 mg i.v infusions separated by two weeks and methylprednisolone. On the latest follow-up at 12th month, his skin lesions and renal disease resolved completely. However, he complained of morning stiffness, pain and swelling involving wrists, metacarpophalangeal and proximal interphalangeal joints bilaterally for two months after disease remission. Tests for RF and anti-CCP were 51.6 U/mL and >1000U/mL respectively. The patient was diagnosed with rheumatoid arthritis (RA). Methotrexate and glucocorticoid treatment were started yielding a complete recovery of his joint complaints.

Although coexistence of BP and MGN is rarely reported, both diseases may be concurrent and early manifestations of another autoimmune disease like RA as in the present case. Treatment with rituximab and methylprednisolone followed by methotrexate may be a potentially effective option for management of RA initially presented with BP and MGN.

Keywords: *bullous pemphigoid, membranous glomerulonephritis, methylprednisolone, rituximab, rheumatoid arthritis*

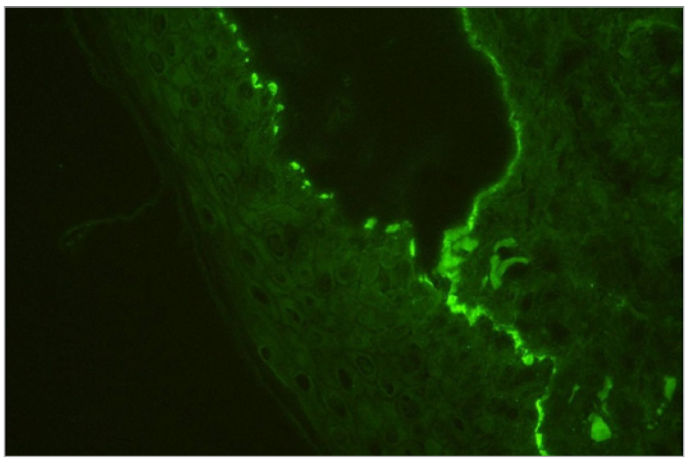

Figure 1. *Linear staining with IgG in the basal layer of the epidermis in immunofluorescence examination of the skin sample pattern. (IgGx200).*

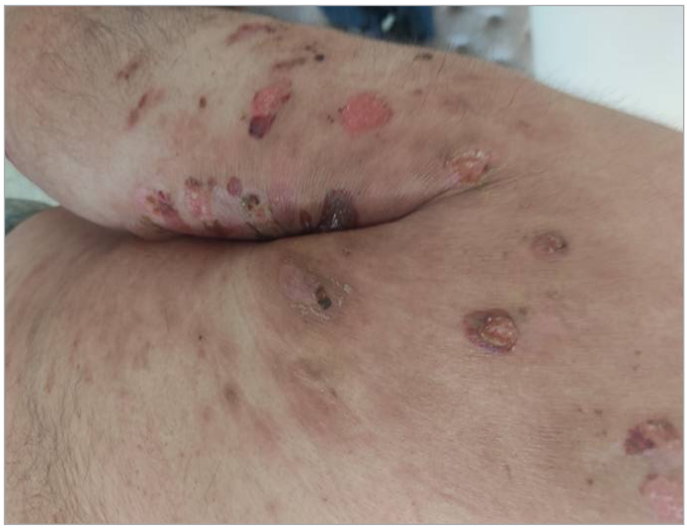

Figure 2. *Photograph of the patient's left side showing multiple blistering skin eruptions secondary to bullous pemphigoid.*

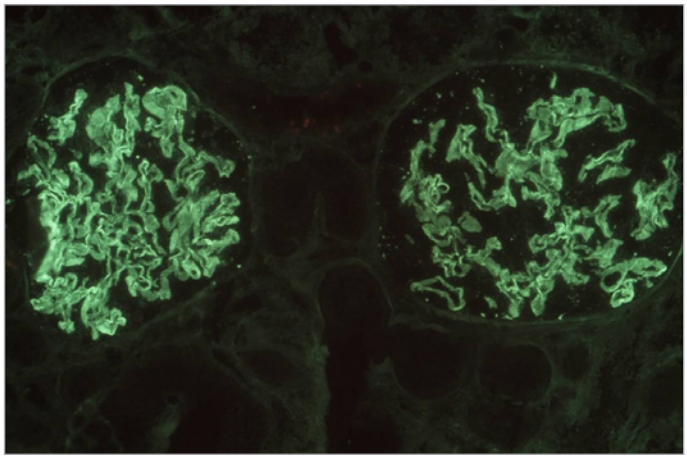

Figure 3. *Strong linear and granular IgG staining pattern in glomerular basement membranes in immunofluorescence examination (IgGx200).*

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[Abstract:0807]

A DIVE THROUGH BREATH-HOLD DIVING: A CASE STUDY

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Breath-hold diving is a popularity increasing activity that requires submerging while in apnoea during ordinarily short periods of time, and can be performed as recreation, sustenance, military, and sport. The physiology required to adapt to diving is complex considering that it varies with diverse elements as for, within others, the depth achieved, and individual athlete variations. Present literature reveals that with the sophisticated human body acclimatization to the immersion associated with this practice there are critical risks that need to be acknowledge and considered before initiating a session, and the most preeminent ones are gas embolism and decompression syndrome. In this case study, we discuss an individual with 5 consecutive years of recreational apnoea diving that presented in the emergency room with an on-and-off lower back pain and a present Murphy sign immediately after the end of a diving session. No urinary tract symptoms or signs, neurological deficits, abdominal pain and constitutional symptoms were present. Imaging done a few days after the onset of symptoms showed a kidney infarction. Diagnostic investigation failed to identify other possible aetiologies besides renal ischemia as a result of a gas embolism. With this work we aspire to empathize the imperativeness of medical team awareness and a quality clinical history in the process of preventing, and prompt diagnostic and treatment.

Keywords: *breath-hold diving, apnoea diving, gas embolism, renal ischemia*

[Abstract:0833]

EFFECT OF HEART FAILURE ON TIME TO INITIATION OF HAEMODIALYSIS IN PATIENTS WITH STAGE 5 CHRONIC KIDNEY DISEASE

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Summary: Chronic kidney disease (CKD) and heart failure (HF) are increasingly common and often coexist. We studied whether patients with stage 5 CKD and HF initiated haemodialysis (HD) earlier.

Purpose: The rationale is the interplay between the heart and kidney, including hemodynamic and non-hemodynamic factors. Additionally, HF patients may have earlier HD onset due to volume problems.

Methods: Our retrospective study included 91 HD patients from our dialysis centre who had been followed since stage 5 of CKD. Patients with HF were divided into three groups based on their left ventricular ejection fraction (LVEF): HFpEF (LVEF ≥50%), HFmrEF (LVEF 41-49%), and HFrEF (LVEF ≤40%). We compared the time between CKD stage 5 and initiation of HD treatment.

Findings: Most (64.8%) of the included patients were male, averaging 64±15 years. Hypertensive nephropathy caused CKD in 37%, diabetic nephropathy in 32%, and other causes in 31%. Only 34.0% were diagnosed with HF, with 74.2% having HFrEF, 6.4% having HFmrEF, and 19.3% having HFpEF. The average time for patients to progress to HD treatment was 534±704 days. While patients with HF tended to start HD earlier (536±682 days vs. 575±754 days; p=0.953), the difference was not statistically significant.

Conclusions: HF is associated with faster progression of kidney disease, but our study did not confirm that individuals with stage 5 CKD and HF begin HD earlier.

Keywords: *heart failure, haemodialysis, chronic kidney disease*

[Abstract:0843]

A FORGOTTEN DIAGNOSIS

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Shunt nephritis is a very rare immunologic phenomenon that can occur in patients with a cerebral shunt. We herein present a patient with a ventriculoperitoneal (VP) shunt who developed shunt nephritis at an unexpectedly late time.

40 years old female patient applied to emergency department (ED) with fever and chills. Her medical history included epilepsy, hypertension and chronic kidney disease (CKD). The patient was on lamotrigine, levetiracetam, valsartan and ramipril. Physical examination on admission was unremarkable. Laboratory results can be seen in the table. She was prescribed empirical antibiotic treatment and referred to nephrology clinic because of hyperkalaemia, acidosis and CKD.

In detailed history, she had ventriculoperitoneal (VP) shunt inserted after meningitis when she was 3 months old. Thirty-four years after this procedure, the patient underwent kidney biopsy at another centre because of proteinuria and worsening kidney function, which revealed shunt-nephritis. VP shunt was not removed, because infection could be managed by antibiotics. At nephrology clinic, ramipril and valsartan were discontinued. Sodium-bicarbonate and polystyrene sulphonate were initiated.

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Spot urine protein-to-creatinine was 2.6 mg/mg. After potassium level was normalized, ramipril was re-initiated. Neurosurgery consultation advice to keep the shunt and to follow-up the patient. We here reported a very rare kidney pathology that occurred lately after VP insertion (34 years). In addition, although the shunt was not removed, renal functions didn't deteriorate in six years. These two features make this case additionally exceptional. Management of this disease includes, infection control, revisions or removal of the shunt and relevant CKD treatments.

Keywords: *shunt nephritis, proteinuria, ventriculoperitoneal shunt*

	2016	2017	2018	2019	2020	2021	2022	2023
Urea (mg/dL)	13	25	32	68	28	55	62	114
Creatinine (mg/dL)	0.4	0.74	0.9	1.1	0.8	1	1.33	1.54
Uric acid (mg/dL)	4.6	4.3	7.2	8	7.5	7.2	9.1	9
T. Protein (g/dL)		4.3	5.6	5.4	5	5.6	5.5	5.4
Albumin (g/dL)		2.55	2.8	2.7	2.7	3.3	3.4	3
LDH (U/L)		196		400	320		213	178
Hemoglobin (g/dL)	11.3	10.3	8.5	9	9.5	9.6	8.9	8.1
WBC (1/uL)	6100	9250	6400	4600	5460	5900	7160	3840
Platelet (1/uL)	314000	299000	292000	226000	334000	241000	229000	145000
Sodium (mmol/L)	143	144	138	140	140	141	137	138
Potassium (mmol/L)	4.5	5.1	5.5	5.5	4.2	5.9	6	6.8
Phosphorus (mg/dL)		3.6	5	4.9	4.6	5.7	5.8	5.6
Calcium (mg/dL)	8.7	8.7	8	8.4	8.3	8.4	8.2	8.5
CRP (mg/L)	20	3	3	63	8	12	30	61
Sedimentation (mm)		126	134	93	84	17		24
Procalcitonin (ng/mL)					0.1			8.9
Spot urine protein to creatinine ratio (mg/g)		12000	7380	3785		6800	3894	3470
Spot urine albumin to creatinine ratio (mg/g)		4706		2886		5400	3500	1570
Ferritin (ng/mL)	26	37	42	68	182	240	143	363
B12 (ng/L)	297	310	675	884	340	635	545	467
Parathormone (pg/mL)				34	77			136
RF (IU/mL)		39						75
ANTİ CCP		negative						
ANTİ RO		negative						
ANTİ LA		negative						
ANA		negative					negative	negative
ANTİ Ds DNA (IU/mL)		+,1/32	negative				negative	negative
IG G (N 700-1600) (g/L)		838					643	752
IG A (N 70-400) (g/L)		1.2						<1
IG M (N 40-230) (g/L)		262					112	127
C3 (N 90-180) (g/L)		50					38	32
C4 (N 10-40) (g/L)		3.6					3	2

Table 1.

[Abstract:0869]

THE COEXISTENCE OF CLASSICAL AND ALTERNATIVE COMPLEMENT PATHWAY ABNORMALITIES IN THE SAME PATIENT: HOW DOES THIS HAPPEN?

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Purpose: The complement complex is a set of proteins involved in the host's natural defense mechanisms against infection and in the elimination of immune complexes. Its detection is crucial in systemic diseases and recurrent infections.

Methods: We report the case of a family whose members present a homozygous C4 deficiency, with systemic lupus erythematosus (SLE) associated with atypical HUS (haemolytic and uremic syndrome) in one case.

Results: These were descendants (4 boys and a girl) of a 2nd-degree consanguineous marriage. Case 1 was a 22-year-old man admitted for investigations of severe renal failure with proteinuria and haematuria. The diagnosis adopted was a lupus erythematosus lichen planus overlap syndrome due to C4 deficiency associated with an atypical haemolytic uremic syndrome secondary to the presence of anti-factor H antibody. Further investigations of the other family members showed that the other 3 boys had homozygous C4 deficiency with collapsed CH50 levels. One of them is asymptomatic, but the other two are not. Patient n°2 presented an isolated acute pericarditis with normal renal function, and patient n°3 presented an episode of macroscopic haematuria. Other family members were completely unaffected.

Conclusions: As complement is a very important component of innate immunity, the clinical applications of complement testing will diversify in the future, which holds great promise for research.

Keywords: *complement pathways, systemic lupus erythematosus, atypical haemolytic uremic syndrome*

[Abstract:0874]

AI GUIDED SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS: FINERENONE AND SGLT2 INHIBITOR COMBINATION'S POSSIBLE SYNERJISTIC EFFECT ON CHRONIC KIDNEY DISEASE OR DIABETIC KIDNEY DISEASE

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Introduction: Finerenone is a mineralocorticoid receptor antagonist effective in the treatment of diabetic chronic kidney disease. However, definitive data regarding the combined use of SGLT2 inhibitors and aldosterone antagonists are controversial. We conducted a semi-automatic systematic screening of the combination of two mortality-reducing drugs using the AI tools 'ASReview and Coevidence' which works with machine learning mechanics.

Methods: Data from completed randomized clinical trials on patients using combination finerenone and SGLT2 inhibitors concomitantly in people were used. Two researchers (M. B and E, S) independently screened records for eligibility. Finally, articles meeting the following inclusion criteria were selected for systematic analysis: (i) studies published in English; (ii) randomized controlled trials; (iii) with combination with patients both finerenone and sglt2 inhibitor using. This systematic review was conducted following preferred reporting elements for systematic reviews and meta-analysis (PRISMA) recommendations. We conducted a Pubmed, Google Scholar, and CINAHL, for available studies comparing data on cardiovascular outcomes, and renal

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outcomes. A combination of the following terms or their synonyms was used in the search strategy: (((finerenone) AND ((gliflozins) OR (SGLT2))) AND (((diabetic kidney disease)) OR ((diabetes mellitus) AND (chronic kidney disease)) OR diabetic nephropathy))) CREDENCE (N = 4401) and FIDELIO (N = 5734),FIGARO-DKD clinical trials (N: 877) (FIDELITY Analysis), an randomized clinical trial Frederik Husum Mårup et al, (N: 20) studies are included.

Conclusions: Disease-modifying therapy combined with SGLT2 inhibitors, MRAs significantly improve health outcomes, including hospitalization for renal failure and heart failure, overall survival in patients compared with conventional treatment.

Keywords: *finerenone, SGLT2 inhibitor, canagliflozin*

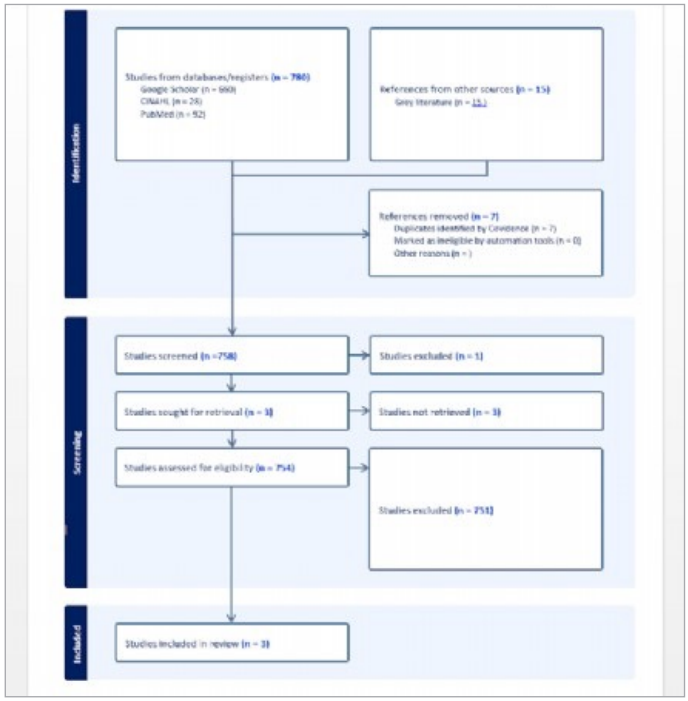

Figure 1. *AI guided systemic review, algorithm.*

[Abstract:0880]

CORRELATION BETWEEN THE SEVERITY OF ANAEMIA AND ANXIETY-DEPRESSIVE SYMPTOMS IN CHRONIC HAEMODIALYSIS PATIENTS IN MAHDIA HOSPITAL: ABOUT 80 PATIENTS

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Purpose: Anaemia is a common complication of CKD (chronic kidney disease) in chronic haemodialysis patients. Depression in chronic haemodialysis patients is associated with a high risk of treatment non-adherence [5]. Could it therefore be indirectly responsible for an increase in morbidity and mortality in these patients?

Methods: This is a cross-sectional observational study, which included 80 chronic haemodialysis patients. In order to determine the prevalence of anaemia in chronic haemodialysis patients at Mahdia hospital, and to search for a correlation between the severity of anaemia and anxiety-depressive symptoms, which were studied by defining the level of the Hamilton score (after their consent).

Results: The study included 80 patients, 41 men and 39 women. The mean age of the patients was 56.5 years. Among the patients, 58 (72.5%) had haemoglobin levels below 10 g/dl. 27 of our patients (33.75%) had anxiety-depressive symptoms of varying severity. There was no correlation between anaemia severity and anxiety-depressive disorders (correlation coefficient 0.07, close to zero). A more in-depth study is underway to investigate factors associated with anxiety-depressive disorders in this particular population.

Conclusions: To contribute to the prevention of depressive symptomatology in our haemodialysis unit, we should provide psychological support, and improve treatment conditions in the unit.

Keywords: *haemodialysis, depression, anaemia*

[Abstract:0882]

THE PROGNOSIS OF MACROPHAGIC ACTIVATION SYNDROME IN IMMUNOCOMPROMISED PATIENTS: A REPORT OF TWO OBSERVATIONS

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Purpose: Macrophagic activation syndrome (MAS) is caused by inappropriate stimulation of macrophagic cells in the bone marrow and associated phagocytosis of blood components. This condition is associated with a high mortality rate, especially in immunocompromised patients.

Methods: We report two cases of MAS in adult patients with impaired immune status, and describe the prognosis associated with this condition.

Results: Observation 1: 69-year-old female with a history of multiple myeloma on dexamethasone, Melphalan, Thalidomide protocol with normal renal function a few days prior to admission. The patient presented to the emergency department with acute renal failure, hyperkalaemia and pancytopenia with fever at 38.5°C. Further investigations revealed MAS in an immunocompromised patient undergoing chemotherapy for relapsed multiple myeloma. Despite treatment, the patient died of multivisceral failure.

Observation 2: A 71-year-old patient, hypertensive on treatment and with chronic renal failure (CKD), was referred to hospital for investigation of spinal pain associated with infectious spondilodiscitis, with suspicion of tuberculosis. During her hospitalization, she developed febrile pancytopenia

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and splenomegaly. The myelogram showed the presence of hemophagocytes. This was a MAS complicating an infection in a context of immunodepression linked to CKD, the evolution was rapidly fatal in a context of multivisceral failure despite treatment.
Conclusions: MAS remains an under-diagnosed pathology with a fatal outcome in the absence of treatment, which should be initiated as soon as possible.

Keywords: *macrophage activations, syndrome, immunosuppression*

[Abstract:0936]

A SINGLE CENTER EXPERIENCE ON THE UTILITY AND DIAGNOSTIC YIELD OF ULTRASOUND-GUIDED PERCUTANEOUS RENAL BIOPSY

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Summary: Renal biopsy is one of the invasive and essential diagnostic tests that can guide nephrologists on the further diagnosis and management plans in their routine practice. In addition to procedure related complications such as hematoma, the test may not always provide adequate information.
Purpose: In this study, we aim to test the success rate of percutaneous ultrasound-guided renal biopsy in providing clinically valuable information that guides patients' management and prognostic plans.
Methods: A retrospective single centre chart review study conducted to review all percutaneous ultrasound-guided renal biopsies done at Prince Mohammed bin Abdulaziz Hospital, Riyadh, Saudi Arabia, between January 2021 to September 2023.
Findings: During the study period, a total of one hundred and twenty-seven percutaneous ultrasound-guided renal biopsies were performed. The diagnosis was confirmed on one hundred twelve of the cases, and the results were non-conclusive and suboptimal on fifteen cases.
Conclusions: The use of ultrasound-guided percutaneous renal biopsy was successful in clarifying the diagnosis and guiding the treatment in most of the cases. To overcome the challenge of limited and non-conclusive biopsy results, a unified pre-requisite pre-procedural renal biopsy request form can be filled by the primary physician which includes relative information such as clinical history, suspected pre-procedural diagnosis, indication for biopsy, Estimated Glomerular Filtration Rate (eGFR), the presence of haematuria and proteinuria, that can guide clinical histopathologists in reaching a conclusion on the biopsy result. Moreover, transjugular renal biopsy can be introduced as an alternative when percutaneous ultrasound-guided renal biopsy is non-conclusive or contraindicated.

Keywords: *renal, biopsy, ultrasound-guided, percutaneous*

[Abstract:0939]

HAEMODIALYSIS IN PATIENTS WITH ACUTE KIDNEY FAILURE COMPLICATING COVID-19 INFECTION, OUTCOMES AND INCIDENTS: ABOUT 50 CASES

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Introduction: Since the early months of the COVID-19 pandemic, renal impairment has been described among the clinical signs, sometimes requiring the use of haemodialysis. The aim of this study is to outline the course of haemodialysis treatment sessions in Covid-positive patients.
Materials and Methods: This is a retrospective study carried out over the period from December 2020 to September 2021. We enrolled a series of 50 patients with COVID-19 infection complicated by acute renal failure who required haemodialysis.
Results: The average session duration was 2 hours and 41 minutes, and ultrafiltration was 2.1 kg. Heparin therapy was used in 100% of cases, at a dose of 20 to 30 mg to prevent circuit thrombosis. The dialysis session was well tolerated and uneventful in 64% of cases. The incidents that occurred during the session were: cardiac rhythm disorders (2% of cases), arterial hypotension unresponsive to treatment (10%), desaturated oxygen (14%) and neurological disorders (6%). Two cases of death occurred during the session, with a mortality rate of around 4%.
Conclusions: COVID-19 infection has a major effect on patients with renal failure, who represent a vulnerable population requiring particular care during haemodialysis treatment.

Keywords: *acute kidney failure, renal dialysis, COVID-19*

[Abstract:0952]

IGG4 DISEASE WITH UVEITIS IN A 15-YEAR-OLD GIRL WITH NITU SYNDROME: A CASE REPORT

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Purpose: IgG4 disease is a systemic disorder characterized by the presence of one or more fibroinflammatory organ disorders with a lymphocytic and plasma cell infiltrate dominated by IgG4+ plasma cells, usually associated with elevated serum IgG4 or circulating IgG4+ plasmablasts. Sclerosing pancreatitis, retroperitoneal fibrosis and rare cases of interstitial nephropathy have been reported.
Methods: We report a case of interstitial nephritis with uveitis (NITU syndrome) in a 15-year-old girl with IgG4 disease.
Results: The patient was 15 years old, with no previous history other than two episodes of COVID-19 pneumonitis. Admitted for investigation of acute renal failure in a context of weight loss. The

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patient presented with interstitial nephropathy (normal blood pressure, no glomerular haematuria, preserved diuresis, minimal proteinuria at 0.7 g/24 h), associated with previous uveitis. The etiological investigation of this NITU syndrome did not reveal any infectious causes (RBK, negative viral serologies). Plasma protein electrophoresis showed polyclonal hyper-Gamma globulin, the immunological work-up was negative, and was completed by conversion enzyme assay, which was normal, and accessory salivary gland biopsy, which showed no infiltrate. However, IgG 4 levels came back significantly elevated, and thyroid and pancreatic tests were normal, as were imaging studies. Given the strong suspicion of IgG 4 disease syndrome, the patient was treated with corticosteroids, which led to a rapid improvement in renal function.

Conclusions: IgG4 disease is a recently described rare disorder, and it is important for the practitioner to be aware of its clinical spectrum, and in particular its nephrological and ophthalmological implications.

Keywords: *anterior uveitis, acute kidney failure, syndrome*

[Abstract:0981]

A CASE OF ESSENTIAL CRYOGLOBULINEMIA IN A PATIENT WITH ACUTE KIDNEY INJURY

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Cryoglobulin is an Ig protein found in serum that precipitates in cold and dissolves in hot temperatures, and its presence in serum is called cryoglobulinemia. There are 3 types of cryoglobulinemia, type2 and 3 are usually HCV-related types causing mixed cryoglobulinemia syndrome, while type1 is almost exclusively associated with lymphoproliferative disorders. Essential cryoglobulinemia is a mixed cryoglobulinemia syndrome without underlying disease.

A 68-year-old male patient presented with complaints of nausea, vomiting and haematuria. He had a history of cerebrovascular disease and hypertension. It was learned that he had nausea, vomiting and haematuria for the last 3 days, weight loss of more than 10% in 3-6 months, hypertensive attacks and arthralgia. Physical examination revealed a palpable lymphadenomegaly in front of the left sternocleidomastoid muscle with approximately 1 cm smooth mobile hard consistency with smooth borders and bilateral bibasilar rales in respiratory sounds. Laboratory tests revealed hb: 10.2 g/dl, mcv: 82 um^3, wbc: 14550 u/l, plt: 331000 u/L, urea: 70 mg/dl, creatinine: 2.52 mg/dl, albumin 27 g/L, urine analysis revealed 2+ protein and 3+ haemoglobin and 6916 g proteinuria in 24-hour urine. ANA, antidsDNA, ENA panel was negative and c3:0.83, c4:0.001 were both decreased. After HCV, HBV and HIV infections were excluded, renal biopsy was performed and cryoglobulin was studied. The cryoglobulin result was positive and renal biopsy was consistent with myeloproliferative glomerulonephritis and cryoglobulinemia. Bone marrow biopsy performed to exclude type 1 cryoglobulinemia showed hypocellular bone marrow findings. In conclusion, the patient was diagnosed with essential cryoglobulinemia.

Keywords: *cryoglobulinemia, acute kidney injury, proteinuria*

[Abstract:1001]

ACUTE KIDNEY INJURY AS THE FIRST DIAGNOSTIC KEY OF SARCOIDOSIS

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Sarcoidosis is primarily a disease of the lungs and reticuloendothelial system, however the prevalence of renal involvement with sarcoidosis may be under-recognised. Acute kidney injury is rarely the presenting feature of sarcoidosis, occurring in <4% of patients.

The patient E.S. 54 years old presented to the nephrologist on an outpatient basis due to increased values of arterial blood pressure, frequent urination, sever physical weakness, loss of appetite, nausea. From the laboratory data, there was an alteration of the renal function, respectively creatinine 3.12 mg/dl, urea 90 mg/dl and calcium 14.7 mg/dl. Liver tests, hemogram, sodium, potassium, albuminemia, total protein, urine test, were normal. A decrease in parathormone values was also evident, PTH 9.9 pg/ml. In the abdominal ultrasound, renal parenchyma was preserved and X-ray of the lungs was normal. Due to the increased values of calcaemic, the patient performed thoraco-abdominal CT scan with contrast to rule out the possibility of a malignant pathology. It was also completed with protein electrophoresis and immunoelectrophoresis. CT scan revealed increased lymph nodes with mediastinal, retro pectoral, axillary localization, micronodular images in pulmonary parenchyma and splenomegaly. These scan images suggested the diagnosis of sarcoidosis. Then ACE was further requested and it turned out to be elevated 173 U/L. After performing a biopsy of the lymph nodes, the diagnosis of sarcoidosis was confirmed.

The diagnosis of sarcoidosis was only brought to light by the development of renal impairment. The patient experienced a significant and rapid improvement in both renal function and hypercalcemia in response to therapy with prednisolone.

Keywords: *acute kidney injury, sarcoidosis, hypercalcemia*

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[Abstract:1043]

A RARE CAUSE OF END-STAGE RENAL FAILURE: SARCOIDOSIS

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Introduction: Sarcoidosis is a systemic disease of unknown aetiology characterized by non-caseous granulomas. In our case, the patient experienced renal failure attributed to sarcoidosis, leading to her enrolment in a haemodialysis program. Upon identifying the underlying cause of chronic kidney damage, we successfully eliminated the need for haemodialysis through immunosuppressive treatment.

Case: A 55-year-old woman presented with a history of malaise, leg swelling, and weight loss over the past three months. Laboratory tests unveiled anaemia, renal failure, hypercalcemia, elevated acute phase markers, glucosuria, non-nephrotic proteinuria. Imaging studies were conducted, revealing multiple mediastinal, hilar lymphadenopathies of pathological size. Histopathological examination of the mediastinal lymph node confirmed the presence of non-caseous granulomas. As chronic renal failure was evident, haemodialysis treatment was initiated. Considering a potential diagnosis of renal sarcoidosis, a renal biopsy was scheduled. However, the biopsy could not be performed due to the thinness of the renal parenchyma. The patient commenced immunosuppressive treatment, receiving Methylprednisolone and Azathioprine. Subsequent monitoring revealed a decline in serum creatinine levels, an increase in urination frequency, and the cessation of the need for haemodialysis.

Discussion: In our case, uncovering the aetiology of end-stage renal failure eliminated the necessity for continued chronic haemodialysis treatment.

Therefore, we consider our patient, initially diagnosed with end-stage renal failure, and enrolled in a routine haemodialysis program, as a noteworthy case. This underscores the significance of persistent efforts in elucidating the aetiology of chronic kidney damage, especially in situations where renal biopsy may not be feasible.

Keywords: *renal failure, sarcoidosis, haemodialysis treatment*

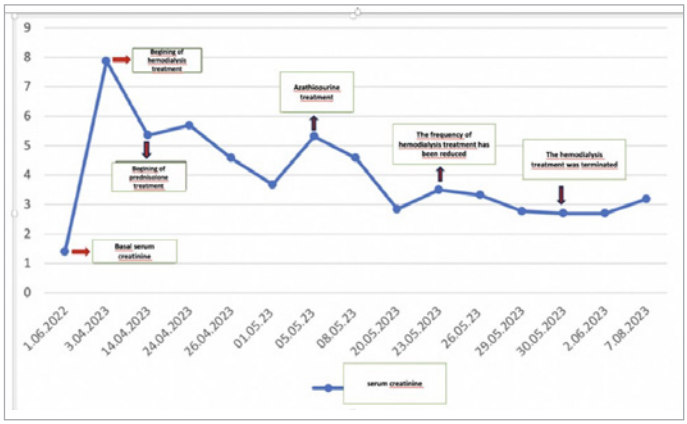

Figure 1. Monitoring of serum creatinine throughout patient's treatment.

Serum creatinine	7.87 mg/dl (eGFR 8 ml/dk/1.73 m²)
Haemoglobin	10.3 g/dl
MCV (Mean Corpuscular Volume)	84.8 fL
CRP (C-reactive Protein)	19.1 mg/L
Serum Calcium	12.4 g/dl
Urine density	1006
Urine pH	8.5
Urine glucose	250 mg/dl
Spot urine protein/creatinine	1.5 g/dl
Serum ACE (Angiotensin Converting Enzyme) level	97 microgram/L

Table 1. Tests performed on the patient at the time of admission.

[Abstract:1081]

GITELMAN'S SYNDROME: A RARE CAUSE OF RHABDOMYOLYSIS OR AN EVEN RARER ASSOCIATION WITH AN INFLAMMATORY MYOPATHY?

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Introduction: Gitelman syndrome is a rare, autosomal recessive disorder characterised by hypokalaemia, metabolic alkalosis, hypomagnesaemia, hypocalciuria and hypertension.

Observation: A 37-year-old female patient, presented with general muscle weakness with oedema and rhabdomyolysis.

Biology showed hyponatremia with hyperkalaemia without renal failure. An inflammatory myopathy was suspected and the patient had corticosteroids and plasma exchange. rhabdomyolysis disappeared but a persistent refractory hypokalaemia appeared.

Gitelman's syndrome was diagnosed. Immunology tests and muscle biopsy were normal. On tapering, she presented swallowing problems with abnormal oesophageal manometry and dysphonia with normal ENT examination, a spike in rhabdomyolysis despite potassium supplementation.

Discussion: Gitelman's syndrome is an inherited tubulopathy, consisting of a mutations in the gene coding for the thiazide-sensitive Na-Cl transporter in the distal tubule.

It is revealed by cramps in the arms and legs, fatigue ranging

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from mild to severe, epileptic seizures, polyuria and nocturia, chondrocalcinosis.
The prognosis is generally good. A potassium and magnesium supplementation, or even treatment with spironolactone if blood pressure permits is indicated.
The association with inflammatory myopathy has never been reported in the literature, to the best of our knowledge. What argues in favour of this association is the improvement of myolysis with corticosteroids and relapse following the tapering and elevated muscle enzymes despite normal potassium levels.
Conclusions: Gitelman's syndrome should be considered in the differential diagnosis of hypokalaemic rhabdomyolysis, although it is a rare condition. An even rarer association seems possible in our patient and we are awaiting the results of a second muscle biopsy in a referral centre.

Keywords: *Gitelman's syndrome, rhabdomyolysis, inflammatory myopathy*

[Abstract:1150]

DUAL DECEPTION: UNMASKING VASCULITIS MASQUERADING AS BILATERAL RENAL MASSES

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Various renal masses, both benign and malignant, can affect kidneys bilaterally. Common causes include metastasis, lymphoproliferative disorders, polycystic kidney disease, angiomyolipomas, and renal infarcts. Rarely, transitional cell carcinomas, oncocytomas, hematomas, infections, and vasculitis may present with bilateral involvement.
This case highlights granulomatosis with polyangiitis (GPA), formerly Wegener's granulomatosis, posing as bilateral renal masses, adding to the spectrum of atypical presentations.
A 33-year-old female, referred after a one-month hospitalization for fever and fatigue, initially diagnosed with a presumed UTI due to pyuria. CT revealed bilateral renal lesions. Transferred to our hospital, she reported abdominal and eye pain, nasal discharge, and joint arthralgia. Physical examination showed left eye redness, bilateral MCP tenderness. Elevated inflammatory markers, positive ANA, C-ANCA, and PR-3, were noted. Abdominal MRI displayed infiltrative renal and splenic lesions. Kidney biopsy suggested an unusual form of ANCA vasculitis, confirmed by repeated biopsy showing diffuse necrotizing crescentic glomerulonephritis. A multidisciplinary team decision-initiated treatment with methylprednisolone, three doses of Rituximab, and a tapering dose of Prednisolone upon discharge.
This case presents a diagnostic challenge, initially mimicking a UTI. Subsequent findings of bilateral renal lesions, systemic symptoms, and positive autoantibodies revealed an unusual form of ANCA vasculitis. The histopathological evidence of necrotizing crescentic glomerulonephritis further supported this diagnosis. Prompt initiation of immunosuppressive therapy, including Rituximab and corticosteroids, reflects the critical role of multidisciplinary decision-making in managing this atypical presentation of ANCA vasculitis.

References:
1. Common and uncommon bilateral adult renal masses: Anjali Roy,a Ott Le,b Paul M. Silverman,b and Vikas Kundrab Cancer Imaging. 2012; 12(1): 205–211.

Keywords: *vasculitis, Renal mass, bilateral renal mass*

[Abstract:1361]

A RARE CAUSE OF HYPERTENSION IN YOUNG PEOPLE

Catarina Pinto Silva[1], *Flávia Fundora Ramos*[1], *Flávia Freitas*[1], *Susana Pereira*[1], *Clara Almeida*[1]

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

Clinical Case: Female, 44 years old, with a history of high blood pressure for about 1 year. Sent for consultation to study the aetiology of high blood pressure. From the study, the abdominal pelvic computed tomography highlights a renal cyst measuring 14.7x12.7x9.9 cm on the left kidney that pushes the left kidney in an inferior and medial direction. In this sense, it also performs CT angiography without arterial compromise of the renal arteries. From the point of view of a negative immunological study, renal function was unchanged, urinary and blood levels of catecholamines/metanephrines were normal, with normal PTH and no hypercholesterolemia. Regarding urinary sediment, without hematoproteinuria in occasional urine. Regarding the renin study value, it showed an increased value. Therapy was started with amlodipine 5 mg and candesartan 16 mg once a day, with partial control of hypertension. Therefore, it is decided to maintain imaging and symptom surveillance and if it worsens, it will be necessary to intervene from a surgical point of view. The clinical case proves to be relevant from an imaging point of view, due to the exuberant size of the simple renal cyst, and the possibility that this was the cause of the patient's hypertension.

Keywords: *high blood pressure, young, large renal cyst*

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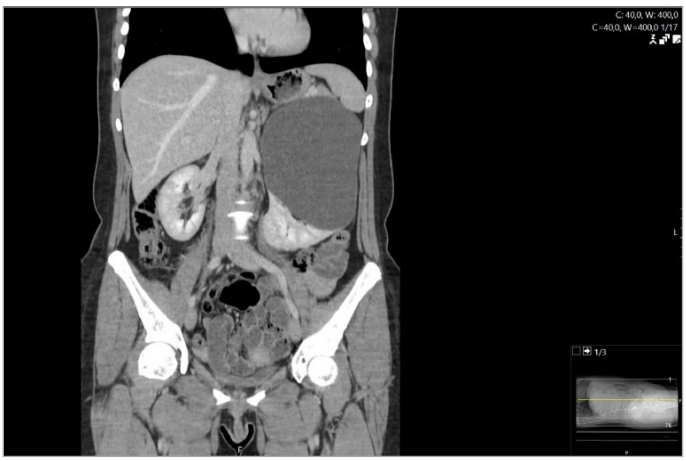

Figure 1. Renal cyst_1.

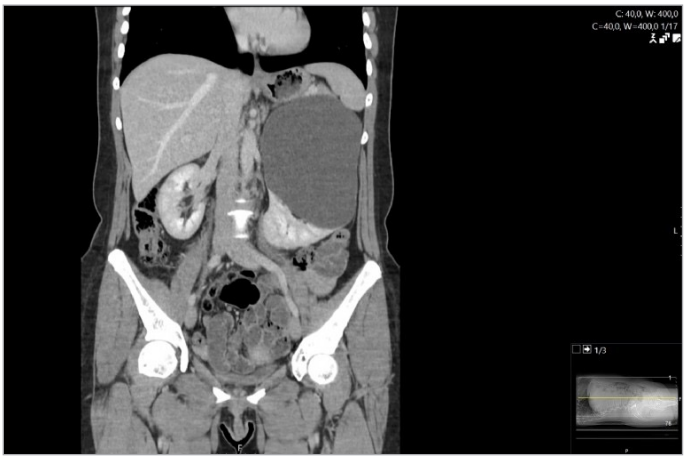

Figure 2. Renal cyst_2.

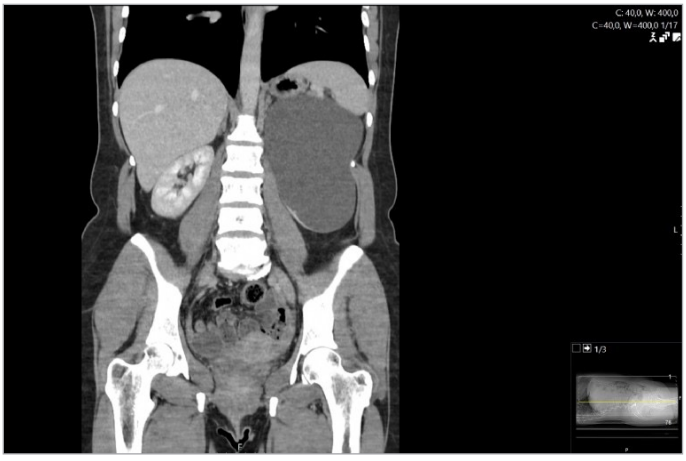

Figure 3. Renal cyst_3.

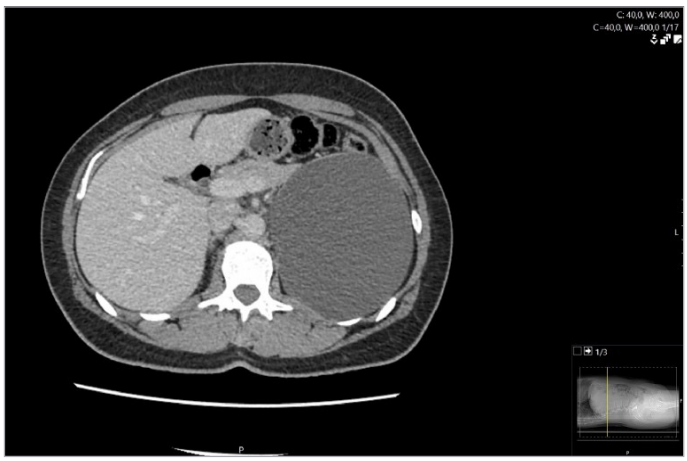

Figure 4. Renal cyst_4.

[Abstract:1395]

NOT SO BENIGN KIDNEY CYST

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Simple kidney cysts are the most common lesions of the kidney. Its physiopathology is not yet fully understood. The majority of simple kidney cysts are benign and do not affect the quality of life of patients who have them. However, some kidney cysts may cause severe life-threatening complications. This case report is about a 79-year-old man suffering from chronic heart failure and a left kidney cyst, previously known and monitored by the family doctor, which measured 20 cm in the last imaging evaluation. The patient came to hospital complaining of dyspnoea and progressive worsening of leg oedema, with two weeks of evolution. New abdominal CAT scan revealed a heterogeneous 25x23x37 cm cyst, compressing the surrounding structures, which aggravated congestive heart failure. Given the risk of significant enlarging over the years, therefore interfering with other organs and with the management of chronic diseases, kidney cysts should be monitored closely.

Keywords: *kidney cyst, heart failure, oedema*

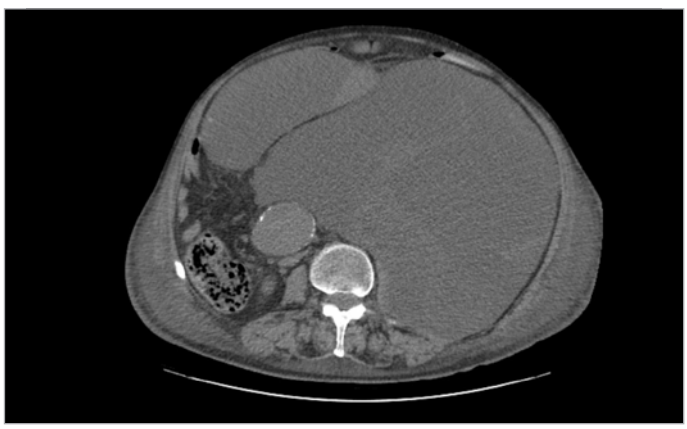

Figure 1. Large simple kidney cyst.

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[Abstract:1404]

AN EXTREMELY RARE CAUSE OF RHABDOMYOLYSIS: EMERY DREIFUSS SYNDROME

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[2] Health Sciences University, Istanbul Research and Training Hospital, Department of Family Medicine, Istanbul, Turkey

Introduction: Intense physical activity, medications and trauma are common causes of rhabdomyolysis. However, etiologic factor of rhabdomyolysis cannot be determined in a remarkable proportion of the cases. Here, we present a rare case of muscular dystrophy related rhabdomyolysis.

Case: A 32-year-old male admitted to emergency department with myalgia, lasting for 3 days. He had no history of excessive exercise or medication, whereas had the same clinical situation in the last few months, after upper airway tract infection. On laboratory examination, he had elevated creatinine kinase, exceeding 7000 U/L and acute kidney failure. On admission, creatinine levels were 3.9 mg/dl and hyperphosphatemia (P: 5.4 mg/dl). Furthermore, liver function tests including ALT (240 IU/L) and AST (300 IU/L) were higher.

Ultrasonographic studies showed no signs of abnormality, except renal parenchymal disease. He required no session of haemodialysis, and acute renal injury was resolved with fluid resuscitation. On the 3rd day of hospitalization, his symptoms were recovered, and laboratory abnormalities turned to normal range.

Genetical analysis indicated muscular dystrophy of Emery Dreifuss syndrome (EMD). He was discharged with the recommendation of regular nephrology outpatient service visits.

Conclusions: EMD should be considered in patients presented with rhabdomyolysis that has no apparent risk factor and lasting muscle and cardiac symptoms that can be confirmed by muscle biopsy. After the diagnosis of EMD, routine cardiac screening has crucial importance to establish the development of cardiomyopathy and arrythmias in the long term.

Keywords: *rhabdomyolysis, muscular dystrophy, Emery Dreifuss syndrome*

[Abstract:1419]

A RARE CAUSE OF ACUTE KIDNEY INJURY: CHOLESTEROL CRYSTAL EMBOLUS

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Introduction: Cholesterol crystal embolus (CCE) is characterized by atheroembolization of small vessels of kidney, skin, brain, eye, gastrointestinal system and extremities with crystals embolus originated from atherosclerotic plaques of aorta. It may develop either spontaneously or after a cardiovascular intervention, other invasive procedures or subsequent to anticoagulant or thrombolytic therapy. Subacute renal injury is the most common clinic presentation, and skin involvement is the most frequent extrarenal manifestation. We present a case of CCE which occurred subsequent to coronary angiography.

Case: A 59-year-old smoker male who has a history of diabetes mellitus, coronary artery disease and hypertension, admitted with dyspnoea to emergency service of our hospital. Three weeks before his admission, he underwent two consecutive coronary angiographies Additionally, laboratory examination revealed out an acute kidney injury and hyponatremia (urea: 165 mg/dl, creatinine: 5.6 mg/dl, sodium: 126 mmol/l).

On the 3rd day of his hospitalization, blue colorization on his fingernails was examined, suggesting CCE-associated blue toe syndrome (BTS) (Figure 1a). He underwent a fundoscopc examination that showed Hollenhorst plaques (Figure 1b). Because he was receiving clopidogrel for coronary artery disease, kidney biopsy to determine the presence of CCE, was contraindicated. Despite the initiation of dialysis therapy, the patient whose renal functions did not remarkably improved, was discharged with dialysis maintenance therapy recommendation.

Conclusions: In conclusion, physicians should consider the development of CCE in patients who has a recent history of cardiovascular surgery or radiologic intervention and admitted with kidney injury accompanying to characteristic clinical findings such as BTS and Hollenhorst plaques.

Keywords: *acute kidney injury, atheroembolic kidney disease, cholesterol crystal embolus*

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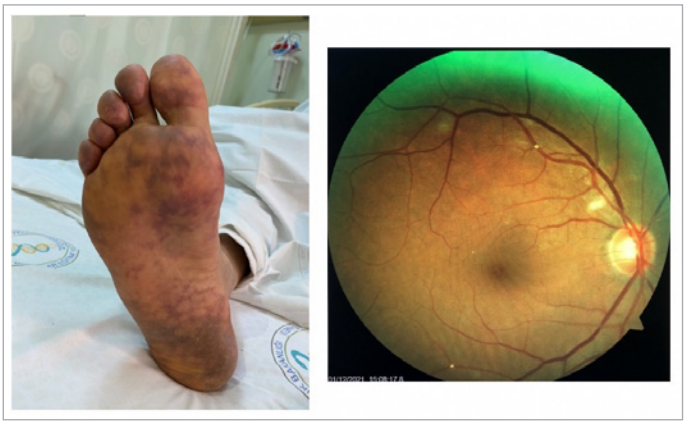

Figure 1a. "Blue toe syndrome" appearance.
Figure 1b. Hollenhorst plaques.

[Abstract:1453]

A CASE OF FIBROMUSCULAR DYSPLASIA PRESENTING WITH HYPERTENSIVE URGENCY AND HYPOKALEMIA

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Background: Fibromuscular dysplasia affects small to medium-sized arteries, predominantly in middle-aged women, with genetic and environmental factors contributing to its cause. Diagnosis involves conventional angiography, and treatment options, such as medication, intervention, or surgery, depend on symptoms and artery location.

Case: 24-year-old woman with newly diagnosed hypertension presented with dizziness and fainting, displaying a blood pressure of 220/120 mmHg and serum potassium at 2.8 mmol/L. The patient was admitted for further evaluation. Potential causes of secondary hypertension were considered, plasma aldosterone-to-renin ratio was found 3.2. Apart from hypokalaemia, no other abnormalities were found. Renal Doppler ultrasound showed no signs of parenchymal damage but suspicion of renovascular issues persisted. Therefore, a CT angiography was performed, revealing a narrowing and thickening of the left renal artery, consistent with fibromuscular dysplasia. Percutaneous transluminal angioplasty was performed. The patients blood pressure was well-controlled with ramipril and amlodipine.

Conclusions: Recognizing renovascular diseases in young females with secondary hypertension is crucial. Despite inconclusive initial imaging, clinical suspicion should drive additional tests for a definitive diagnosis, enabling early recognition and proper management to optimize outcomes and prevent complications.

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Keywords: *fibromuscular dysplasia, renovascular diseases, secondary hypertension*

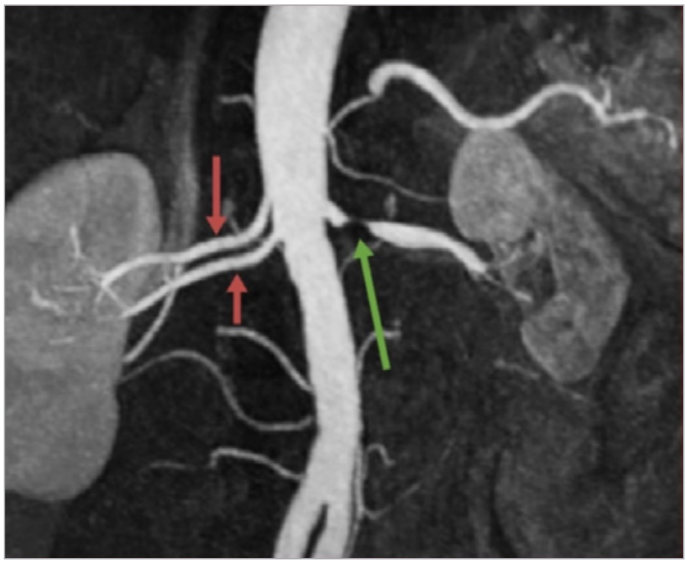

Figure 1. Narrowing and minimal thickening of the left renal artery.

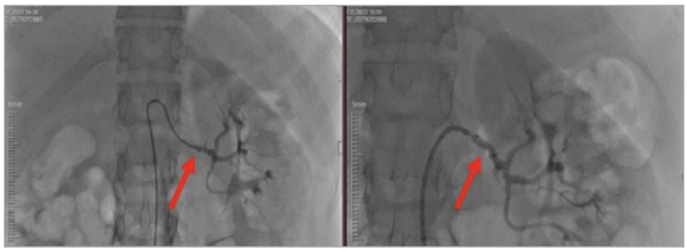

Figure 2. Image before and after baloon angioplasty.

121/82 mmHg
120/78 mmHg
125/79 mmHg
125/80 mmHg
123/79 mmHg
124/80 mmHg
122/78 mmHg

Table 1. The follow-up of blood pressure measurements in the first week.

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[Abstract:1471]

A PELVIC CYSTIC MASS IN A YOUNG MALE: A DIAGNOSTIC AND THERAPEUTIC CHALLENGE

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Introduction: Hydatid cyst is a zoonotic disease seen in endemic areas. It is an important health problem in our country, especially in S-SE areas. Involvement of isolated seminal vesicle tissue is very rare in hydatid cyst disease.

Case: We report a case of a 40-year-old male with no medical history, who presented for intermittent headache, nausea, vomiting, weight loss and marked fatigability progressively worsening in the last 6 months. He is a non-smoker, occasional alcohol drinker, lives in Galati city, but he used to live on his father' s sheepfold up to his 20s. He reportedly works in constructions. On clinical examination, just a doughy hypogastric area on palpation and nothing abnormal in rest. Laboratory exams in normal limits. Ultrasound was performed, followed by computed tomography and magnetic resonance imaging, which revealed a retro vesical cystic mass of 7 x 8 x 10 cm arising from the right seminal vesicle. Anti-*Echinococcus granulosus* IgG were positive. Surgical excision of the lesion was carried leaving half of the right seminal vesicle preserved. Histopathological report confirmed hydatid cyst of the seminal vesicle.

Conclusions: A hydatid cyst should be considered, particularly in endemic regions, in the differential diagnosis of cystic masses.

Keywords: *seminal, vesicle, hydatid cyst, histopathological*

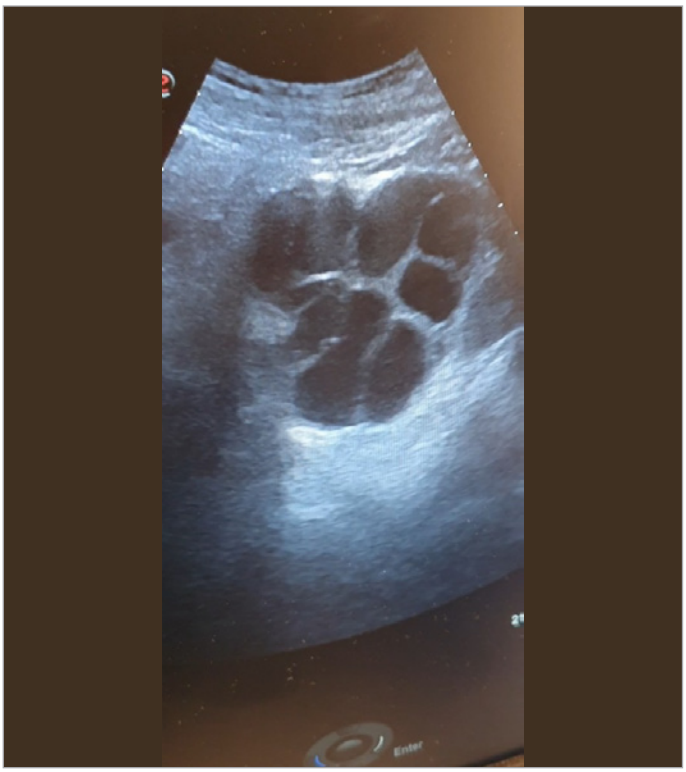

Figure 1. *Cystic multiloculated pelvic mass.*

[Abstract:1499]

XANTHOGRANULOMATOUS PYELONEPHRITIS IN AN ELDERLY WOMAN

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Case Description: A 79 year-old female presented with fever and right flank pain over the last week. Past medical history included right kidney stones. She was febrile, haemodynamically stable, with positive right Giordano sign. Blood tests showed elevated inflammatory markers and anaemia with normal renal function. Urinalysis showed pyuria.

Clinical Hypothesis: Based on clinical presentation and past medical history, our initial assumption was complicated urinary tract infection.

Diagnostic Pathways: Urinary tract ultrasound showed right kidney stones without hydronephrosis. Broad spectrum antibiotics were administered, with no clinical or laboratory tests improvement after a week. Blood and urine cultures were sterile. An abdominal CT with intravenous contrast agent was performed, showing a non-functional enlarged right kidney with multiloculated appearance ("bear's paw sign") containing a staghorn calculus, hinting towards the diagnosis of xanthogranulomatous pyelonephritis. Right nephrectomy was performed and intraoperative cultures were obtained, isolating *P.mirabilis*. Fever subdued and the patient was discharged 5 days later.

Discussion and Learning Points: Xanthogranulomatous pyelonephritis is a rare variant of chronic pyelonephritis, resulting from obstruction usually due to infected renal stones. It is usually unilateral. Presenting symptoms include fever, flank pain and malaise, with blood tests showing elevated inflammatory markers, anaemia and liver function abnormalities, with pyuria in the urinalysis. Urine cultures usually demonstrate Enterobacteriaceae, although a sterile culture is found in 25% of cases. The "bear's paw sign" is the characteristic finding in the CT scan. In most cases the kidney is non-functional and treatment is nephrectomy. Biopsy is important in order to exclude renal carcinoma.

Keywords: *xanthogranulomatous pyelonephritis, renal stones, bear's paw sign, urinary tract infection*

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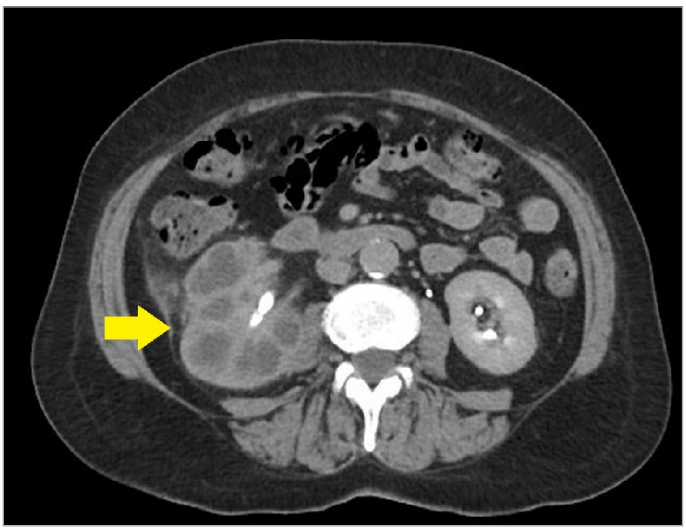

Figure 1. Abdominal CT scan showing typical "bear's paw sign" of the right kidney.

[Abstract:1594]

THE ROLE OF NEUTROPHIL-LYMPHOCYTE RATIO IN PREDICTING CONTRAST-INDUCED NEPHROPATHY

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Objectives: With the increasing use of contrast agents in medical imaging, contrast-induced nephropathy (CIN) has emerged as a leading cause of iatrogenic kidney failure. Renal medullary hypoxia, direct toxicity of contrast agents, oxidative stress, apoptosis, and immune inflammation are involved in the pathophysiology of CIN. Studies have also shown an increase in inflammatory markers in CIN. This study investigated the role of neutrophil-lymphocyte ratio (NLR) in predicting the risk of CIN development.

Materials and Methods: We retrospectively included patients who underwent imaging with contrast agents between December 2018 and December 2022 using the medical records. CIN was defined as a 25% or >0.5 mg/dl increase in plasma creatinine on the third day after imaging. NLR was calculated by dividing the neutrophil count by the lymphocyte level.

Results: The analysis included 117 patients (mean age: 71.9 years, women: 41%), of whom 62 (53%) had developed CIN. The prevalence of diabetes mellitus was 43.6%. Mean baseline NLR was 5.23 in the whole sample. Patients with CIN had significantly higher NLR than patients without CIN (6.24 vs. 4.09, p<0.05).

Conclusions: This study showed increased NLR in CIN. Further studies are warranted to assess the potential role of NLR in the prediction of CIN development in specific patient populations.

Keywords: acute kidney injury, neutrophil, lymphocyte, contrast-induced nephropathy

[Abstract:1597]

GLUE SNIFFING ASSOCIATED ACUTE KIDNEY INJURY: CASE REPORT

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Introduction: Glue-sniffing, prevalent in developing nations, involves toxic toluene exposure. Toluene elicits a biphasic response: initial euphoria followed by central nervous system depression, cardiac arrhythmias, and renal failure. Our case involves a patient admitted to the emergency department (ED) twice for acute kidney injury (AKI) due to this hazardous practice.

Case Presentation: A 51-year-old male with a history of chronic kidney disease (CKD) was initially admitted on October 17, 2020, due to decreased oral intake, nausea, myalgia, and oliguria. ED lab results showed severe renal impairment, prompting immediate haemodialysis (HD) (Table-1). There was neither postrenal pathology on abdominal imaging nor any signs of hypervolemia or dehydration on physical examination. Subsequent evaluations revealed no apparent cause for AKI. Despite two haemodialysis sessions, the patient's condition was attributed to an acute exacerbation of CKD, leading to discharge.

On November 16, 2020, the patient returned with similar symptoms. Noteworthy lab findings included elevated creatinine, metabolic acidosis, and hypokalemia (Table-1). HD was not administered due to a urine output of 15 cc/h and the subsequent increase facilitated by intravenous fluid therapy. It was observed that the patient's kidney functions decreased after supportive treatments. Upon further inquiry during the second visit, the patient disclosed a 30-year history of glue-sniffing, reaching a daily consumption of 20 cans post-Izmir earthquake on October 30, 2020. So, the patient was discharged to an addiction centre.

Conclusions: Toluene, widely employed in industry, was abused in our case, leading to severe metabolic acidosis and hypokalemic AKI. The recurrent AKI episodes underscore the impact of long-term glue-sniffing on renal health, necessitating comprehensive addiction management.

Keywords: acute kidney injury, toluene, haemodialysis

	First Admission	Second Admission
Creatinine (mg/dL)	12.3	9.88
pH	7.07	7.25
pCO2 (mmHg)	20	34
HCO3 (mEq/L)	8.3	14.6
Potassium (mmol/L)	4	2.7

Table 1. Lab findings at admissions.

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[Abstract:1649]

55-YEAR-OLD WOMAN WITH EDEMA IN LOWER LIMBS

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A 55-year-old woman without important medical history consulted emergency department because appeared oedema in lower limbs with fovea without semiology of heart failure. She admitted having repeated urinary tract infections since her was youth and last few days she had presented dysuria and foul-smelling urine.

On examination highlight 4 cm-painless hepatomegaly and oedema described in anamnesis.

Complementary tests done including an abdominal X-ray showing a coralliform lithiasis along the right flank and an abdominal TC scan with contrast in which it was atrophic right kidney and had several lithiasis. The largest was 4 cm coralliform lithiasis with dilatation of some calyces of multiloculated appearance and inflammatory changes of perirenal fat that displaced rest of intra-abdominal structures, leading to compression of inferior cava vein. In addition, in the segment 6 of liver there was hepatic abscess, which was drained and Escherichia coli was isolated. So the diagnosis of xanthogranulomatous pyelonephritis was highly suggestive.

After diagnosis and treatment, patient was included in the waiting list for right nephrectomy.

Xanthogranulomatous pyelonephritis is a rare pathology, which consists of the destruction of the renal parenchyma, which is replaced by nodules of granulomatous tissue. It is usually associated with middle-aged women with recurrent urinary tract infections. The most common microorganisms are *Escherichia coli* and *Proteus mirabilis*. The symptoms are usually abdominal pain, urinary discomfort and mass. Diagnosis is mainly radiological and treatment consists of antibiotic therapy and partial or total nephrectomy.

Keywords: *oedema, coralliform lithiasis, xanthogranulomatous pyelonephritis*

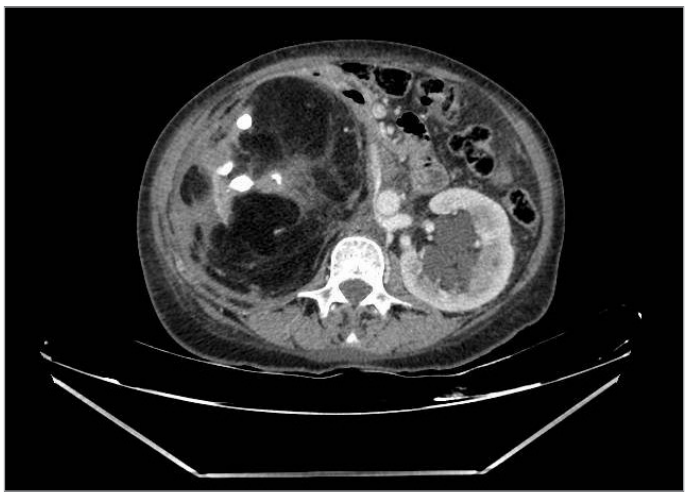

Figure 1. *Axial section in TC scan.*

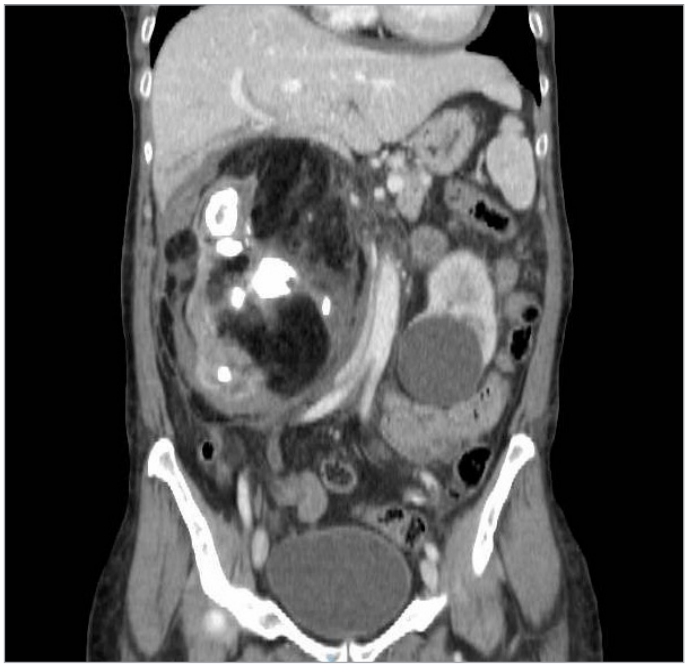

Figure 2. *Coronal section in TC scan.*

[Abstract:1701]

FOKAL SEGMENTAL GLOMERULOSCLEROSIS IN ADULTS USING BODYBUILDING PRODUCTS: CASE REPORTS

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Objectives: Focal segmental glomerulosclerosis (FSGS) is one of the leading causes of kidney diseases and can progress to end-stage renal failure. Diagnosis is made by kidney biopsy performed after admission with nephrotic syndrome findings. FSGS occurs due to primary and secondary reasons. The aetiology of secondary FSGS includes drugs, obesity, diabetes mellitus etc. We will present you

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three cases diagnosed with FSGS secondary to the use of protein powder and anabolic steroids for bodybuilding purposes.

Case: Our first case presented with swelling in his legs and hypoalbuminemia and proteinuria were detected. Creatine value was normal. Our second case was admitted with side pain, decreased urine output, elevated creatinine, hyperkalaemia, and acidosis, and urgent dialysis treatment was initiated. In our third case, 6 grams of proteinuria and a moderate increase in creatinine were detected during routine check-ups. Renal biopsies of these three cases were compatible with FSGS. All three of our cases had a history of using products such as protein powder and anabolic steroids (Table 1).

Conclusions: Although our 3 cases had different complaints and different laboratory findings, their common point was that they used products such as protein powder and anabolic steroids for bodybuilding purposes and were diagnosed with FSGS. As a result, the use of these products may lead to secondary renal diseases, and there is a need to plan the necessary information for people who prefer these products.

Keywords: *FSGS, anabolic steroid, bodybuilding*

PATIENTS	LABORATORY	SUPPORT PRODUCT USE
Patient 1/ 24 Age/ Male	Creatine: 0.5 mg/dL Albumin: 2.7 g/dL 24-hour urine protein: 730 mg/gun	Use of 4500 g protein powder and anabolic steroids in the last month
Patient 2/ 22 Age/ Male	Creatine: 10.45 mg/dL Albumin: 4.5 g/dL 24-hour urine protein: 400 mg/gun	Use of 1000 g protein powder and anabolic steroids in the last month
Patient 3/ 42 Age/ Male	Creatine: 2.06 mg/dL Albumin: 3.8 g/dL 24-hour urine protein: 6000 mg/gun	Use of protein powder and anabolic steroids of unknown dosage for 20 years

Table 1. *Clinical and laboratory characteristics of patients and supplement doses.*

[Abstract:1736]

A CASE REPORT OF RETROPERITONEAL FIBROSIS PRESENTING WITH POSTRENAL ACUTE KIDNEY INJURY

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Introduction: Acute kidney injury is a pathology requiring frequent hospitalisation in internal medicine clinic and can be seen due to prerenal, renal and postrenal causes.

Case Presentation: A 49-year-old male patient with no known history of chronic disease presented with low back pain for 5 months. In the tests performed: urea: 94 mg/dl, cre: 4.47 mg/dl, basal creatine: 0,7 mg/dl, and non-steroid drug use 3 times a day. The patient was hospitalised in the internal medicine ward with a prediagnosis of drug-related acute kidney injury. Renal and doppler ultrasound were ordered.

In the ultrasound report of the patient, grade 2-3 pelvicalectasia was observed in both kidneys and showed suspected renal artery stenosis. Abdominal MRI showed that: there is a soft tissue mass lesion distal to the abdominal aorta and adjacent to both iliac arteries (retroperitoneal fibrosis?). A biopsy was taken from the mass in the retroperitoneum. The biopsy result was compatible with idiopathic retroperitoneal fibrosis.

Discussion: The distinctive feature of our case is that although we think that the patient's acute kidney injury was due to non-steroid use, it is necessary to exclude postrenal events in every patient presenting with acute kidney injury.

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Keywords: *acute kidney injury, retroperitoneal fibrosis, obstruction*

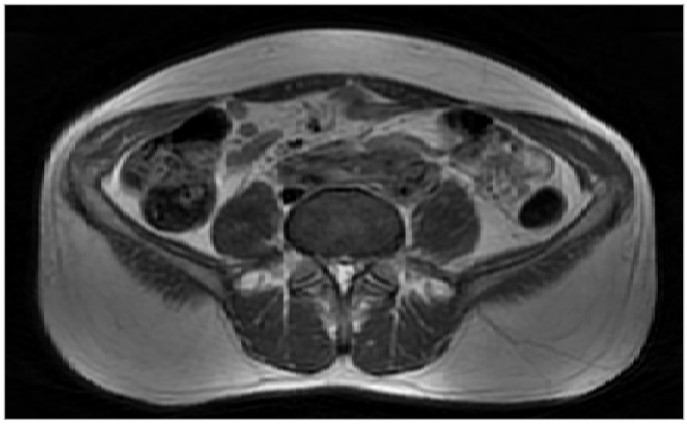

Figure 1. *Image of Retroperiotoneal Fibrosis surrounding the Aorta.*

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[Abstract:1779]

ANALYSES OF PATIENTS WITH CRUSH SYNDROME WITH AND WITHOUT THE HAEMODIALYSIS NEED IN THE 2023 KAHRAMANMARAS EARTHQUAKE: EXPERIENCE OF MERSIN UNIVERSITY

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Introduction: In crush syndrome patients, hyperkalaemia, hypercatabolic conditions and hypervolemia due to high catabolism require haemodialysis. The aim of this study is to compare the clinical and laboratory findings of crush syndrome patients with and without the need for haemodialysis, and to identify risk factors for the necessity of haemodialysis.

Findings: Group 1: Those needing haemodialysis (HD), Group 2: Those not needing HD. Comparisons of laboratory and biochemical parameters between the groups are shown in Table 1. The need for intensive care (group 1 43.8%, group 2 16.5%), sepsis (group 1 40.6%, group 2 19%), and acute kidney injury (AKI) (group 1 100%, group 2 19.8%) were significantly higher ($p < 0.01$).

Risk analysis for patients needing haemodialysis is shown in Table 2. In patients requiring haemodialysis, the need for intensive care (OR; 3.412, $p < 0.001$), sepsis (OR; 1.549, $p < 0.001$), AKI (OR; 3.584, $p < 0.001$), CK, creatinine, potassium, and phosphorus (respectively OR; 4.582, 1.211, 1.549, 1.000, $p < 0.001$) were identified as risk factors.

In patients requiring haemodialysis (HD), the mortality rate was significantly higher compared to those not requiring HD ($p < 0.001$).

Conclusions: In patients requiring haemodialysis (HD), the need for intensive care, sepsis, acute kidney injury, CK levels, creatinine, potassium, and phosphorus are more frequently observed, and the mortality rate in this patient group is higher. The risk factors for patients requiring HD have been identified as the need for intensive care, sepsis, acute kidney injury, CK levels, creatinine, potassium, and phosphorus.

Keywords: crush syndrome, earthquake, haemodialysis

Variables	Haemodialysis	Without Haemodialysis	P-value
Gender			0.086
Age	38.50 (18-81)	44 (18-95)	0.124
Time Spent Under the Ruin	10.50 (4-72)	10 (0-96)	0.951
Icu	43.8% yes	16.5% yes	0.001
Sepsis	40.6% present	19% yes	0.01
AKI	100% present	19.8% present	<0.001
Ck	83568 (1364-639566)	4113 (736-558554)	<0.001
Myoglobin	4007 (1251-4181)	639 (13-34968)	<0.001
Urea	110.50 (40-235)	37 (3-4007)	<0.001
Creatinine	4.15±2.06	1.01±0.89	<0.001
Sodium	129 (120-144)	136 (121-152)	<0.001
Potassium	5.72±0.93	4.08±0.53	<0.001
Phosphorus	5.91±1.75	3.18±1.17	<0.001
Alt	419 (67-5153)	74 (11-894)	<0.001
AST	935 (133-5662)	116 (4-1293)	<0.001
LDH	2054 (399-15217)	452 (3-2711)	<0.001
CRP	171.23±79.69	109.67±79.43	<0.001
Albumin	2.5 (1.8-4.7)	2.7 (1.6-4.3)	0.025
WBC	19.98 (7.06-75)	12.3 (2.66-37)	<0.001
Haemoglobin	13.74±2.95	11.73±2.43	0.001
platelet	248 (104-647)	245 (112-560)	0.587
Compartment	% 25 present	% 14.9 present	0.175
Fasciotomy	% 12. 5 present	% 14 present	0.821
Amputation	% 21.9 present	% 11.6 present	0.132
Comorbidity	% 18.8 present	% 36. 4 present	0.059

Table 1. *Group 1: Those needing haemodialysis (HD), Group 2: Those not needing HD. Comparisons of laboratory and biochemical parameters between the groups.*
P values expressing statistically significant differences Values of P<0.005 were considered significant.

Parameters	P-value	HD need estimation rate	Relationship level with HD presence
ICU	<0.001	3.412	Positive
Sepsis	<0.001	1.549	Positive
AKI	<0.001	3.584	Positive
CK	<0.001	4.582	Positive
Creatinin	<0.001	1.211	Positive
potassium	<0.001	1.549	Positive
phosphorus	<0.001	1.000	Positive
Alt	<0.001	0.993	Negative
Ast	<0.001	0.995	Negative
Crpldh	<0.001	0.998	Negative
Crp	<0.001	0.991	Negative
Albumin	Meaningless		
WBC	<0.001	0.865	Negative
Mortality	<0.001	10.568	Positive

Table 2. *Risk analysis in patients with/without HD need.*

[Abstract:1889]

PSYCHOEMOTIONAL FACTORS OF CARDIOVASCULAR RISK IN KIDNEY TRANSPLANT RECIPIENTS

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Cardiovascular disease is one of the leading causes of mortality in kidney transplant recipients. Poor psychological state has a negative impact on the course of cardiovascular disease in the general population.

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Purpose: Study of quality of life and levels of anxiety in kidney transplant recipients with adverse cardiovascular events in the late postoperative period.
Methods: 154 recipients on six months after kidney transplantation were included in the study. 54 (33.3%) of them had adverse cardiovascular events during three years of observation. Other patients hadn't cardiovascular complications. The study groups were comparable by gender, age and traditional cardiovascular risk factors.
Findings: We asked recipients to rate their quality of life on a scale of 1 to 10. Recipients with subsequent adverse cardiovascular events had a lower subjective quality of life than patients without cardiovascular complications – 7 (6-8) versus 8 (7-8), p<0.01.
The average level of situational anxiety in kidney transplant recipients was 39±7, personal anxiety – 43±8. The structure was dominated by recipients with moderate situational anxiety – 66.9% (n=103) and moderate personal anxiety – 55.2% (n=85). However, the proportion of high personal anxiety was quite high – 40.9% (n=63). The structure of anxiety levels had no significant differences between study groups. Nevertheless, kidney transplant recipients with subsequent adverse cardiovascular events had higher level of situational anxiety than recipients without cardiovascular complications – 41±7 versus 38±7, p<0.05
Conclusions: Kidney transplant recipients with adverse cardiovascular events have a previous lower quality of life and a higher level of situational anxiety.

Keywords: kidney transplant recipients, cardiovascular disease, quality of life, anxiety

[Abstract:2120]

EPIDEMIOLOGY OF CHRONIC KIDNEY DISEASE IN OLDER PATIENTS WITH HIGH CARDIOVASCULAR COMORBIDITY

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Background and Aims: Chronic kidney disease (CKD) is an important component in structure of comorbidity in patients with cardiovascular diseases. The aim of this study was to investigate the prevalence, severity and structure CKD in older patients with cardiovascular comorbidity.
Methods: 472 older patients with cardiovascular disease (241 females, mean age 69.6±7.3 years) were examined. Arterial hypertension was observed in 452 (95.8%), coronary heart disease - in 349 (74%), chronic heart failure - in 335 (70.1%), diabetes mellitus type 2- in 129 (27.3%) patients.CKD was diagnosed and classified according to the KDIGO guidelines (2012). eGFR was determined using CKD-EPI equation (2011).
Results: CKD was observed in 302 (63.9%) elderly and senile patients. Most often CKD diagnosed by GFR less than 60 ml/min/1.73 m^2 - in 277 (91.7%) patients. Structural kidney's changes were observed in 67 (22.2%) patients, albuminuria/proteinuria - in 62 (20.5%) patients. There were not patients with stage 1 CKD. CKD stage 2 was diagnosed in 25 (8.3%) patients, stage 3a - in 185 (61.2%), 3b - in 83 (27.5%), stage 4 - in 9 (2.9%) older patients. Patients with CKD were older in age than patients without CKD: 71.2 ± 7.3 and 67.0 ± 6.4 years, resp., p <0.0001. CKD with GFR less than 60 ml / min / 1.73 m^2 was more often observed in women than in men ($\chi 2 = 31.31$, p <0.0001).
Conclusions: CKD is observed in 63.9% older patients with stable cardiovascular pathology and diagnosed mainly by decrease in GFR less than 60 ml/min/1.73 m^2.

Keywords: chronic kidney disease, cardiovascular comorbidity, older patients

[Abstract:2269]

COEXISTENCE OF NON-LUPUS FULL-HOUSE NEPHROPATHY AND PRIMARY BILIARY CHOLANGITIS IN TYPE 2 DIABETES: CASE REPORT

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Case Description: A 67-year-old male patient applied with complaints of oedema and weakness in his legs. Diagnosed with Type 2DM for 10 years, no smoking or alcohol use. His father had cryptogenic liver cirrhosis. Physical examination was not notable except generalized oedema and splenomegaly. Initial bloodwork showed mild thrombocytopenia (112 x10^3/μL) and normocytic anaemia. Serum albumin was 3.6 mg/dl, serum creatinine was 1.2 mg/dl. Urinary sediment revealed nephrotic range proteinuria (9.1 g/d). Patient hospitalized for differential diagnosis for chronic liver disease and proteinuria.
Clinical Hypothesis: Coexistence of non-diabetic causes of proteinuria and chronic liver disease in the presence of diabetes.
Diagnostic Pathways: Serum protein electrophoresis was not notable. C3 and C4 were normal, cANCA and pANCA were negative, ANA1/320-1/1000 was positive, and Anti-dsDNA was negative. A kidney biopsy was revealed non-lupus full-house nephropathy.
AST 37 u/l, ALT 27 u/l, ALP 78 u/l, GGT 189 u/l, viral hepatitis serology was negative. Gastroscopy revealed grade I-II oesophageal varices and portal hypertensive gastropathy. AMA was positive at 1/1000-1/3200, and ASMA and Anti-LKM antibodies were negative. Liver biopsy revealed primary biliary cholangitis.
Discussion and Learning Points: Secondary non-lupus full-house nephropathy is an umbrella term for cases that do not meet the diagnostic criteria for SLE but have a staining pattern of IgG, IgA, IgM, C3 and C1q. Primary biliary cholangitis is an autoimmune

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disease characterized by predominantly T lymphocyte-mediated inflammation of the intrahepatic bile ducts. In addition to the chronic complications common in diabetic patients, secondary causes of both nephrotic syndrome and chronic liver disease should not be ignored.

Keywords: *proteinuria, type 2 diabetes, primary biliary cholangitis*

[Abstract:2273]

THE EVALUATION OF LEPTIN-ADIPONECTIN WITH TRADITIONAL CARDIOVASCULAR DISEASE RISK FACTORS AND EPICARDIAL ADIPOSE TISSUE IN CHRONIC KIDNEY DISEASE PATIENTS WITHOUT OBESITY

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Introduction: This study aimed to examine the relationship between adiponectin/leptin levels with cardiovascular disease risk and epicardial adipose tissue in CKD patients without obesity.
Methods: Patients from nephrology/internal medicine clinics were included according to inclusion(BMI<30kg/m^2/no cardiac disease/no dialysis) and exclusion criteria (being<40 and >59-years-old, having a serious accompanying disease, immunosuppressive usage) as case group and healthy individuals as control group. Age, gender, presence of diabetes/hypertension, smoking history, medications were recorded. Antropometric measurements were made.
Laboratory and TTE results were recorded. Cardiovascular disease risk scores were calculated (ACC/AHA). Results were evaluated using SPSS.
Results: 56 patients as case group and 30 patients as control group, totally 86 patients were included. In case group: Mean age was 50.7±6.6 years and BMI 26.2±2.6 kg/m^2. In control group: 50.7±5.9 years and 27.1±2.5 kg/m^2 respectively. There was no statistically significant difference between case and control groups for age, BMI, smoking status, HT, DM, BP, LVDF, FBG, HbA1c, LDL, HDL triglyceride, CRP, leptin or adinopektin. In case group, total cholesterol, GFR was lower and urea, creatinine, ferritin IL-6,homosistein were higher than control group. The mean 10-year- ASCVD-risk-score and the-lifetime-ASCVD-risk-score weren't different between groups.
EAT thickness, LV-mass-index and LA- index were higher in case group than control group. Leptin level didn't have a significant relationship with 10-year-ASKVH-score, lifetime-ASKVH-score, EAT thickness, LV-mass-index or LAV-index. Adinopectin had a negative correlation with 10-year-ASCVD score,
Conclusions: In our study, leptin didn't have a significant effect on CVD risk in CKD patients and there was a limited relationship between adiponectin and CVD risk. Therefore, it doesn't seem possible to use leptin and adiponectin as an independent CVD risk factor in CKD. However, EAT thickness seems to be an important cardiac disease risk factor in CKD.

Keywords: *Chronic kidney disease, cardiovascular risk factors, leptin, adiponectin, epicardial adipose tissue*

[Abstract:2338]

ADPKD AND PYELONEPHRITIS-DOUBLE TROUBLE

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We present the case of a 40-year-old woman with autosomal dominant polycystic liver and kidney disease, who sought assistance at the emergency department for right lower back pain irradiating to the right flank, fever, chills and nausea. Analysis revealed leukocytosis, inflammatory syndrome and a urine examination with haematuria and proteinuria. Kidney function was normal. Acute pyelonephritis was suspected, and the patient was referred to our department, where we started empiric antibiotic treatment with Ceftriaxone. Further microbiology tests showed a urine culture positive for *E coli*, thus we continued ceftriaxone (haemocultures were negative). For the next two days there was improvement of the patient's symptoms, as well as decreasing inflammation markers and leukocyte values. However, on the third day, CRP, procalcitonin and leukocytes began increasing again. We repeated the abdominal ultrasound, which revealed a cyst at the upper pole of the right kidney containing millimetric hyperechogenic images. We considered it an infected cyst and changed the antibiotic to ciprofloxacin. The evolution was favourable, being able to discharge the patient in a good status and normal lab work.
In conclusion, when dealing with pyelonephritis in an ADPKD patient, one must choose an antibiotic with good penetrability in the cysts to avoid their infection.

Keywords: *ADPKD, pyelonephritis, cyst infection, antibiotic therapy*

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[Abstract:2397]

RAPIDLY PROGRESSIVE RENAL FAILURE DUE TO MULTIPLE MYELOMA: A CASE REPORT

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A 66-year-old male patient with a known history of hypertension, chronic kidney disease, coronary artery disease, subtotal thyroidectomy due to multinodular goitre, right nephrectomy due to renal cell carcinoma, and tuberculosis (27 years ago) had creatinine levels of 1.44 mg/dL and 6.17 mg/dL at 3-month intervals, while creatinine levels had been around 1.4-1.7 mg/dL for about 10 years. The patient was hospitalized in the nephrology ward for investigation of aetiology and treatment of acute renal failure. Serum protein electrophoresis was planned for the patient whose creatinine levels increased up to 8.34 mg/dL, who had diffuse bone pain, anaemia and rapidly progressive renal failure.
Serum protein electrophoresis showed an increase in alpha 2 fraction with a weak peak and hypogammaglobulinemia. Serum immunofixation electrophoresis showed a weak M-protein band in Lambda. Urine immunofixation electrophoresis showed a free monoclonal lambda band.
Total Kappa/Total Lambda (24-hour urine) - 0.01. Free Kappa/Free Lambda (Serum) - 0.015, bone marrow biopsy was planned.
Bone marrow biopsy pathology report: Cell/fat ratio 80/20, 50% atypical plasma cells, CD138+, CD 38 weakly positive, CD56 negative. Kappa positive in 1% of plasma cells, lambda positive in 99% of plasma cells. The results were reported as compatible with multiple myeloma (lambda monoclonal).
The patient was treated with bortezomib + cyclophosphamide + dexamethasone after the diagnosis of multiple myeloma. Autologous bone marrow transplantation was performed. After treatment, creatine values decreased to 2.85 mg/dL without haemodialysis. The patient is currently in remission and is being followed up without haemodialysis.

Keywords: *multiple myeloma, acute kidney failure, dialysis*

[Abstract:2459]

YOUNG WOMAN WITH REFRACTORY ABDOMINAL PAIN AND ACUTE KIDNEY INJURY

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A 31-year-old woman with abdominal pain of abrupt onset was admitted for examination. The admission blood test showed Hgb 10.6g/dl, with no other abnormalities. An abdominal CT scan was performed showing signs of ischaemic colitis and signs of cortical renal ischaemia. After 48 hours, Hgb fell to 8.1 g/dL with haemolysis and platelets to 50.000. Also, AKI. Given the findings of thrombotic microangiopathy (TMA) and AKI, we suspected Haemolytic Uremic Syndrome (HUS), so urgent treatment was started with Eculizumab. Also she required haemodialysis sessions due to anuria. After the second dose of Eculizumab, diuresis began to recover, and renal function improved. The ischaemic colitis also improved and was treated with empirical antibiotherapy. ADAMTS13 activity study was normal (ruling out PTT), Shiga toxin analysis in faeces was negative, and genetic study of the complement, which showed a risk polymorphism for atypical HUS in MCP. Subsequently, the patient was followed up in consultation, and a total of 14 doses of eculizumab administered, with complete recovery of renal function.
HUS's a rare disease characterised by the presence of TMA, which mainly affects intrarenal vessels, producing AKI. Most cases are caused by enteric infection with Shiga toxin-producing E. coli. In approximately 10% of cases, HUS occurs as a consequence of dysregulation of the alternative pathway of the complement system, in this case atypical HUS (aHUS). This dysregulation may be primary, due to genetic or acquired causes (autoantibodies), or secondary, related to diseases, infections or conditions that may damage the endothelial cell through this pathway.

Keywords: *AKI, thrombotic microangiopathy, haemolytic uremic syndrome*

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[Abstract:2470]

RENAL HYPOURICEMIA AS THE CAUSE OF ACUTE KIDNEY INJURY, A CASE REPORT

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Renal hypouricemia (RHUC) is associated with increased renal urate excretion due to genetic mutation in urate transporters. This puts the patients at increased risk to develop acute kidney injury and urolithiasis.

A 27-year-old male soldier with no history of any chronic disease came to the hospital to have his annual physical check-ups done. His laboratory tests showed sever kidney function impairment (serum creatinine: 7.26 mg/dl BUN: 51.8 mg/dL). Patient was admitted to nephrology clinic.

He reported doing some strenuous exercises a couple of weeks ago. He had a history of one previous acute kidney injury two years ago.

A diagnosis of familial hypouricemia is made with decreased serum uric acid levels and increased fractional excretion of uric acid (>10%).

On admission patient's serum uric acid level was 2 mg/dl. 10 days later his creatinine level had regressed to their normal baseline (0.78 mg/dl). Serum uric acid gradually decreased until it became too low to be detectable on repeated testing. fractional excretion of uric acid was 111.58%.

RHUC should be considered especially in young patients with low urate and no apparent cause of the kidney injury. Most renal hypouricemia patients are asymptomatic. Our patient's acute kidney injury was only incidentally caught due to his required annual check-ups. This shows the importance of diagnosing and following up these patients. Diagnosing the disease early on could help cut down on unnecessary testing.

Genetic testing should be considered to obtain a conclusive diagnosis. The currently known genes for RHUC are SLC22A12 and SLC2A9

Keywords: *renal hypouricemia, acute kidney injury, uric acid*

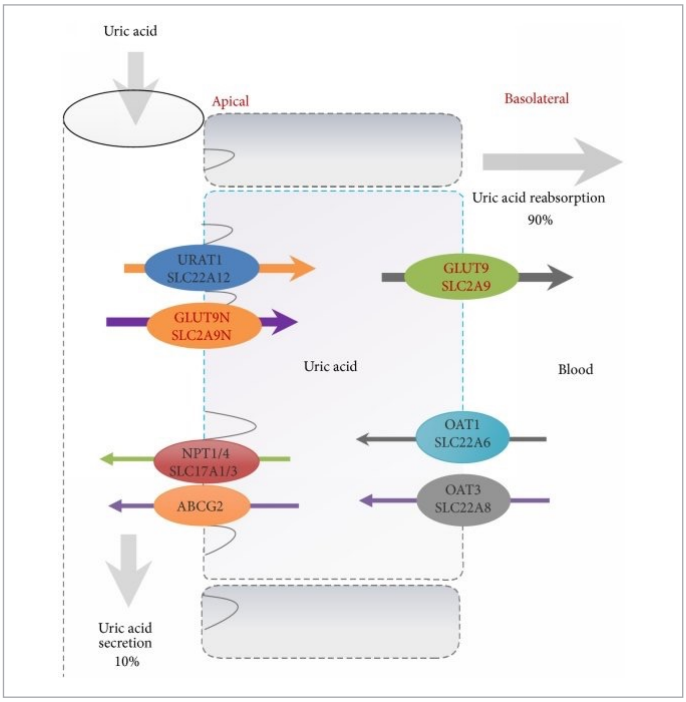

Figure 1. *Uric acid reabsorption.*

[Abstract:2544]

NO BIOPSY? NO PROBLEM!

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We present the case of a young patient (female, 26 years old), with a family history of unilateral kidney hypoplasia (paternal grandmother) and a personal history of recent arterial hypertension. She was admitted to our department because of worsening renal function (creatinine 4 mg/dl, urea 145 mg/dl), microscopic haematuria, nephrotic range proteinuria, to establish the aetiology of kidney failure. Unable to perform biopsy (very small kidneys-approx. 7 cm each, with lot of scarring at ultrasound) we decided to do a whole exome sequencing. The result showed that the patient is heterozygote for BAZ1 gene, unfortunately not yet associated with disease.

As such we decided to approach the case as an IgA Nephropathy (considering age, hypertension and haematuria) and started the patient on oral corticosteroids (methylprednisolone) and later on oral Budesonide. The evolution was favourable, with remission of haematuria, decreasing of proteinuria to subnephrotic range and improvement of kidney function (creatinine around 3 mg/dl, urea around 70 mg/dl).

In conclusion, if kidney biopsy cannot be performed for various reasons and other investigations are inconclusive, a therapeutic approach can be beneficial for the patient with kidney failure.

Keywords: *kidney biopsy, IgA nephropathy, therapeutic approach*

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[Abstract:2564]

CRESENTIC IG A NEPHROPATHY & PLASMAFERESIS TREATMENT

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A 67-year-old male patient was evaluated in the nephrology polyclinic because of haematuria and petechiae on the legs. There were no other pathological findings on physical examination. Laboratory results were as follows: Urea; 260 mg / dl, creatinine: 8.9 mg / dl, erythrocyte sedimentation rate (ESR): 85mm / h, ANA (-), Anti dsDNA (-), p-ANCA (-) (Anti MPO) (-), c-ANCA (Anti PR3) (+).

ANCA glomeulonephritis complicated by crescent was reported in renal biopsy. At this stage, three doses of pulse steroid treatment and maintenance prednisolone treatment were planned, as well as six doses of cyclophosphamide and maintenance azathioprine. Relapse developed in the 8th month of treatment and plasmapheresis, cyclophosphamide and steroid combination were started again. After cyclophosamide treatment, maintenance azatioprine treatment was started. In the 8th month of maintenance therapy, the patient presented to the outpatient clinic with haematuria and hemoptysis. Urea: 38 mg / dl, creatinine: 1.75 mg / dl, strip erythrocyte: 9, p-ANCA:> 100, the patient was presumed relapse and rituximab treatment was planned. A total of four doses of rituximab was administered and maintenance of rituximab was planned at intervals of six months. During the follow-up period, relapse was not seen in more than two years. As a result, relapses can be observed in AIV cases with standard cyclophosphamide treatment regimen. We concluded that the remission period was prolonged with Rituximab treatment in the patient with frequent relapses with standard treatment

Keywords: *crescentic Ig A nephropathy, plasmaferesis treatment, ANCA related vasculitis*

[Abstract:2772]

ACUTE HEMOLYTIC UREMIC SYNDROME BROUGHT ON BY CALCINEURIN INHIBITORS, FOLLOWED BY ANTIBODY MEDIATED-REJECTION IN A RENAL TRANSPLANT PATIENT

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Acute kidney damage, microangiopathic haemolytic anaemia, and thrombocytopenia are the hallmarks of haemolytic uremic syndrome (HUS), a thrombotic microangiopathy (TMA). The most prevalent causes of HUS are Shiga toxin (typical HUS) or, less frequently, infections or genetic disorders that trigger the alternate complement pathway (atypical HUS). Malignancies, autoimmune diseases, genetic abnormalities, and drug usage can lead to secondary HUS.

A 66-year-old female renal transplant patient whose creatinine levels were regressed after the transplant presented with high creatinine and LDH levels, low platelet levels, and the presence of schistocytes on a peripheral blood smear. She was transferred to our nephrology service on the tenth day of the transplant. ADAMTS13 activity was measured as normal. Haemolytic uremic syndrome due to tacrolimus (a calcineurin inhibitor) was considered. Tacrolimus treatment was stopped immediately, and the patient underwent therapeutic plasmapheresis. A kidney biopsy was conducted on the patient as the creatinine level rose, and the results were consistent with humoral rejection. The patient was treated with methylprednisolone and rituximab; evorilimus treatment was started to avoid rejection. The patient's creatinine level successfully decreased to the normal range, and her kidney was saved.

Keywords: *haemolytic uremic syndrome, renal transplant, calcineurin inhibitors, antibody-mediated rejection*

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[Abstract:2815]

DOCTOR, I'M PUFFED UP!

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19-year-old man, with smoking habits, was referred to the emergency room for progressive oedema in the last two weeks, initially in the lower limbs and in 7 days periorbitary and weight gain. On examination peripheral oedema. Laboratory creatinine – 1.53 mg/dL, total cholesterol – 550 mg/dL and hypoalbuminemia (1,6 g/dL), urinary exam revealed proteinuria, albuminuria without cells or casts and protein/creatinine ratio 15,6 g/g. Abdominal/renal ultrasound showed moderate amount of ascetic liquid throughout all abdominal quadrants. The patient was admitted with nephrotic syndrome. Prednisolone was initiated.

The investigation carried out highlighted hepatic function and coagulation study within normal values, autoimmunity negative, hepatitis B, C and human immunodeficiency virus tests negative, serum free light chains and immunofixation with no alterations. Without suspicion of drugs, neoplasms, infections, and allergy. On kidney biopsy the glomeruli appear normal by light microscopy, amyloid substance by Congo's Red method was negative and there are no complement or immunoglobulin deposits on immunofluorescence microscopy. The aspects favour minimal change disease (MCD).

MCD is a major cause of nephrotic syndrome in children (approximately 90 percent) and in a minority of adults (approximately 10 percent). All patients presenting with nephrotic syndrome should undergo a thorough evaluation for glomerular disease and other disorders, which generally involves laboratory testing and, in most patients, a kidney biopsy to obtain a definitive diagnosis. MCD should be suspected in any adult presenting with symptoms and signs of nephrotic syndrome.

Keywords: *oedema, nephrotic syndrome, minimal change disease*

[Abstract:2953]

VALUE OF DOPPLER ULTRASOUND IN THE DIAGNOSIS OF DIALYSIS FISTULA-RELATED VASCULAR COMPLICATIONS AND IN THE QUALIFICATION PATIENTS FOR ENDOVASCULAR TREATMENT

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Objectives: The aim of this study was to assess the value of doppler ultrasound in the diagnosis of vascular complications of arteriovenous (AV) fistulae in dialysis patients and in the qualification patients for endovascular treatment.

Materials and Methods: 79 patients were referred during 12-month period to the Department of Interventional Radiology and Neuroradiology, Medical University of Lublin for the ultrasound examination of the AV dialysis fistulae. There were distinguished two types of anastomoses within the group of examined patients. 46 subjects presented with end-to-side fistulae, whereas the remaining patients had side-to-side anastomoses. All dialysis fistulae were localized in the distal part of the forearm. Each examination was performed using LOGIQ 7, GE ultrasound scanner with 6-12 MHz linear probe. In every patient, who was qualified for endovascular treatment, after procedure control usg exam was performed.

Results: 21 cases of vascular complications were diagnosed among the study group including: 4 cephalic vein thromboses, 5 cephalic vein stenoses, 4 radial artery stenoses and 8 cases of the steal syndrome. All the patients diagnosed with either venous or arterial stenosis based on ultrasound examination were further qualified for PTA procedures. After procedures control ultrasound exam confirmed the good results of endovascular treatment in every patients.

Conclusions: Doppler ultrasound examination is the method of choice in the monitoring and diagnosing vascular complications of dialysis fistulas and for qualification patients for endovascular treatment of complications. Doppler ultrasound is a method of choice in monitoring patients after endovascular procedures.

Keywords: *Doppler ultrasound, haemodialysis, arteriovenous fistula, endovascular treatment*

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[Abstract:2973]

A RARE CAUSE OF CHRONIC KIDNEY DISEASE

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Introduction: Urinary lithiasis is an uncommon cause of chronic renal failure.

Case: A 44-year-old female patient with a history of renal lithiasis was referred to the Emergency Department by her Family Doctor due to acute kidney injury versus exacerbated chronic kidney disease (Creatinine 2.68 mg/dL/urea 126 mg/dL). Additionally, the patient reported a weight loss of 24 kg over 2 years, fatigue with progressively reduced effort tolerance, dizziness and fever. Investigation in the Emergency Department revealed microcytic hypochromic anaemia (Hb 8.5 g/dL, MCV 70.7ft, MCHC 23.1 g/dL), urinalysis with leukocyturia (833/µL) and erythrocyturia (576/µL), and a renal ultrasound showing findings suggestive of nephrocalcinosis with stone formation.

Noteworthy findings from the complementary study included a renal CT scan showing signs of hydronephrosis, particularly affecting the peripheral calyces. The appearance was consistent with staghorn calculi "drawing" the complete excretory system of both kidneys.

Conclusions: After completing the study to rule out other aetiologies, it was determined to be chronic kidney disease of lithiasic origin. The staghorn renal calculi in both kidneys were causing impairment to the majority of the bilateral renal parenchyma. Therefore, the patient was recommended for a surgical treatment that was anticipated to be highly complex, with a high probability of requiring short-term dialysis.

Keywords: *nephrolithiasis, kidney, injury*

[Abstract:2994]

WUNDERLICH SYNDROME, A RARE CAUSE OF ABDOMINAL PAIN

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Introduction: Wunderlich syndrome refers to spontaneous renal or perinephric haemorrhage occurring in the absence of known trauma.

Case: A 36-year-old man with a history of hemorrhoidal disease presented to the Emergency Department with left-sided lower back pain radiating anteriorly (upper abdominal girdle) that woke him up at night. No fever was reported, and there was no history of falls or trauma to the lumbar or abdominal region. He experienced a single episode of vomiting without other gastrointestinal symptoms. No genitourinary complaints were noted. Abdominal palpation revealed tenderness on deep palpation of the left iliac fossa, with no signs of peritoneal irritation. Investigations showed neutrophilic leucocytosis (white blood cells 13 x 10^9/L), C-reactive protein 0.5 mg/L; mild renal dysfunction - creatinine 1.15 mg/dL/urea 56 mg/dL; urinalysis with erythrocyturia. Renovesical ultrasound revealed a small volume of free perirenal fluid on the left. An abdominopelvic CT angiography was performed, revealing "left-sided hydronephrosis secondary to a 4 mm calculus located approximately 7 mm from the vesicoureteral junction. Dense perirenal adipose tissue densification, suggestive of perirenal hematoma. Small volume of free fluid in the left flank, possibly related to hemoperitoneum."

Conclusions: Given the findings, Wunderlich Syndrome was presumed in a patient with mild hydronephrosis secondary to renal lithiasis, leading to urgent urinary drainage. As a majority of patients present only with isolated flank pain, a high level of suspicion is required to make this diagnosis.

Keywords: *Wunderlich syndrome, perinephric haemorrhage, abdominal pain*

[Abstract:3023]

HISTIOCYTES PLUGGING THE GLOMERULAR CAPILLARIES: A RARE MANIFESTATION OF MONOCLONAL GAMMOPATHY

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Crystal-storing histiocytosis (CSH) is a rare manifestation linked to monoclonal gammopathy, characterized by histiocytes containing monoclonal proteins in crystaloid form. In kidney biopsies these histiocytes are typically found in the interstitium, occurrences within the glomerular capillary lumina are less common. We present a case of multiple myeloma initially diagnosed via a kidney biopsy, characterized by CSH prominently affecting glomerular capillaries and needle-like crystalloid casts in the tubule lumens. Existing literature describes only a few cases detailing CSH within glomerular structures. The case involves a 51-year-old woman with diabetes mellitus and ankylosing spondylitis, presenting with nausea, vomiting, and leg cramps in May 2023. Initial tests revealed anaemia (Hb 10 g/dL) and a creatinine level of 1.14 mg/dL, escalating to 3.8 mg/dL a few days later, necessitating hospitalization for acute kidney injury. Urinary ultrasonography showed no abnormalities. Table 1 details significant laboratory findings, notably nephrotic-range proteinuria, prompting a renal biopsy. The biopsy revealed intracapillary histiocytes within which intracytoplasmic globoid crystalloid structures could be identified with the trichrome staining revealed. Furthermore needle-like

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crystalloid casts could be eyed within the tubular lumina. The patient declined a recommended bone marrow biopsy andre-presented in November 2023 with severe symptoms and elevated urea (251 mg/dL), creatinine (9.9 mg/dL), and metabolic acidosis, necessitating haemodialysis. Subsequent bone marrow biopsy confirmed kappa monotypic multiple myeloma (25% plasma cells), necessitating the VCD protocol. Haemodialysis continued until VCD's initiation. After the chemotherapy, a reduction in creatinine levels was observed. Weekly nephrology follow-ups were scheduled to monitor renal function post-chemotherapy, aiming for potential improvement and dialysis cessation.

Keywords: crystal storing histiositosis, monoclonal gammopathy, kidney biopsy, plasma cell dyscrasia

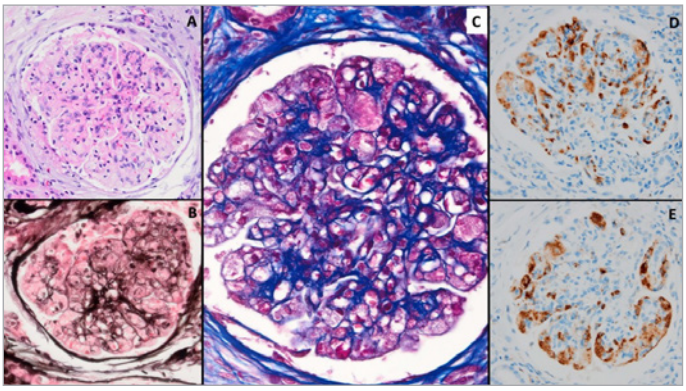

Figure 1. *Glomerulus displaying intracapillary histiocytes characterized by foamy cytoplasm (A: hematoxylin&eosin stain; B, Jones methenamine silver stain), the granularity of which is appreciated with the Masson trichorome stain (C). The histiocytes are highlighted with CD68 immunohistochemistry (D&E).*

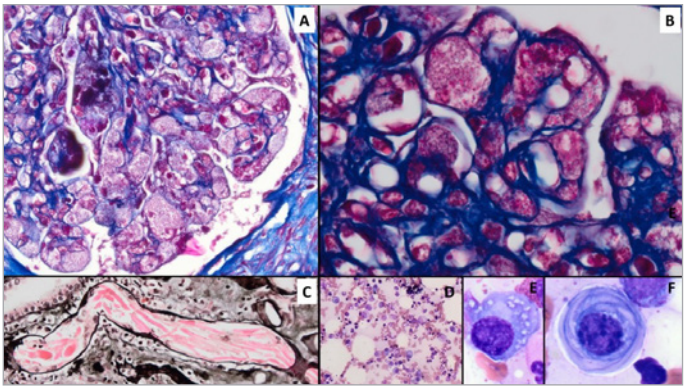

Figure 2. *High power magnification showing histiocytes congesting the glomerular capillaries (A, Masson trichorome stain). Oil immersion x100 magnification uncovers globular and angulated crystaloid structures within the cytoplasm of the histiocytes (B, Masson trichorome stain). Needle shaped crystaloid casts were also present within tubular lumina (C, Jones methenamine silver stain). Bone marrow aspiration revealed increased atypical plasma cells, some of which had globular and spiral shaped cytoplasmic inclusions (D, E and F, May grunwald giemsa stain).*

	First visit	Second visit	Third visit
White blood count (4–10 K/µL)	6	5.79	5.84
Haemoglobin (12–16 g/ dL)	10	7.8	7.3
Platelet count (150– 399 K/µL)	327	270	228
Serum creatinine (0.65–1.00 mg/dL)	1.14	3.8	9.9
Serum albumin (3.5–5.0 g/dL)	-	3.3	3.8
Urine protein/creatinine ratio (0.021–0.161 g/h)	-	7.677	
24 H Urine Protein Analysis (Mg/24h)	-	7987	4553
Urinalysis	-	pH:6.0 density:1014 protein:+++. E:178 L:27	hb:+++ Le:++ Pro:+++ E:305 L:35 Ph:5.5 density:1014
Renal biopsy	-	crystal-storing histiocytosis	-
ANA serologies	-	ANA negative	-
Anti ds DNA	-	Negative	-
C3 level (0.9-1.8 g/L)	-	0.77	-
C4 level (0.1-0.4 g/L)	-	0.13	-
Serum immunofixation electrophoresis	-	monoclonal IgG kappa	-
Serum protein electrophoresis	-	gamma peak was observed (28.2%) (normal range: 11.1-18.8)	-
Beta-2-Microglobulin (serum)	-	0.3 g/dL	-
Total IgG	-	19.1	-
serum free kappa (κ)	-	1160	-
serum free lambda (λ)	-	104	-
kappa/ lambda	-	11.5	-
kappa light chain mg/L	-	9725	-
lambda light chain mg/L	-	208.25	-

Table 1.

[Abstract:3051]

AN ADULT CASE OF NEPHROTIC SYNDROME PRESENTING WITH MULTIPLE COMPLICATIONS: A CASE REPORT

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Purpose: We aimed to present you a case that we followed up with nephrotic syndrome in our clinic, was diagnosed with multiple myeloma, and had an infection and CVA during the diagnosis period.

Findings: A 71-year-old female patient, was admitted to our clinic to investigate the aetiology of nephrotic syndrome. Kidney function tests, liver enzymes, TSH, electrolyte values were normal, serology for hepatitis B, C and HIV was negative; serum total protein: 4.7 g/dL, albumin: 2.1 g/dL, hb: 11.87 g/dL, MCV: 67 fl, INR: 1.4, aPTT: 43.8. In the 24-hour urine CrCl: 64.38 ml/min, protein:4836 mg/day. Abdominal USG showed free fluid in the abdomen and pleural effusion. Thoracentesis was performed, the fluid was transudate, cytology was benign. ANA, ASMA, LKMA, AMA, c-ANCA, p-ANCA, Anti phospholipid IgGM, IgG, antidsDNA were negative, C3 ve C4 were normal. Serum IgA, IgG, IgM were normal. During hospitalization she had urosepsis she treated with Vancomycin and ceftriaxone. And she developed CVA. There were acute ischemic foci in the right frontal and the temporal lobe. Enoxaparin and ASA were started. Kidney biopsy could not

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be performed due to poor general condition, infections and CVA. A rectal biopsy was performed, amyloidosis was revealed. Kappa light chain was found to be 2214 mg/day in the 24-hour urine. A 15% increase in atypical plasmocytes was observed in the bone marrow biopsy. The patient was transferred to haematology with the diagnosis of multiple myeloma.

Conclusions: Plasma dyscrasias should be considered in adults presenting with nephrotic syndrome. There may not always be immunoglobulin changes or protein elevation.

Keywords: *proteinuria, myeloma, amyloidosis*

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