Background: Calcium pyrophosphate crystal deposition disease (CPPD) is associated with a high frequency of comorbidities and vascular calcification [1], but it is unknown whether these factors affect cardiovascular mortality.

Objectives: To study the structure of mortality in patients with CPPD and compare with the structure of mortality in the Russian Federation.

Methods: 217 patients with crystal-verified diagnosis of CPPD (McCarty criteria) were included in the prospective study, aged ≥18 years, mean age 59.2 ± 12.6 years, 82 (38%) men and 134 (62%) women. The median follow-up was 3.9 [1.9; 7.2] years, patients were followed up for at least a year. The exclusion criteria are the presence of other rheumatic diseases with arthritis symptoms. The examination of patients included the history taking, assessment of anthropometric parameters, the presence of comorbidity and the following laboratory tests: determination of serum creatinine level (with calculation of glomerular filtration rate (eGFR) using the MDRD formula), total cholesterol (TC), C-reactive protein (CRP). Statistica 12.0 package was used for statistical data processing.

Results: A total of 217 patients were included. Arterial hypertension was detected in 115 (53%) patients, coronary heart disease in 51 (24%) patients, diabetes mellitus in 26 (12%) patients, chronic renal failure in 17 (8%) patients, hyperparathyroidism in 18 (8%) patients, chronic heart failure in 22 (10%) patients. 65 (30%) patients had a family history for CVD, 31 (14%) patients were smokers. 122 (56%) patients had an increased level of total cholesterol> 5.0 mmol/L and 54 (25%) patients – the level of CRP>5 mg/L.

23 (11%) patients, 12 (52%) men and 11 (48%) women, died, the average age of the deceased being 62.7±9.2 years. In 15 (65%) cases out of 23, death occurred due to cardiovascular complications, which is higher than the cardiovascular mortality rate in the Russian Federation (53%). Among CVD, the distribution was as follows: acute myocardial infarction - 6 (40%) patients,apoplectic attack - 5 (33) patients, thrombosis - 2 (13%) patients, rhythm disturbances – 1 (7%) patient and decompensation of chronic heart failure - 1 (7%) patient.

Conclusion: CVD is the main cause of death in patients with CPPD and the total frequency of mortality from CVD exceeds the population one. Further research is needed, including studies of the risk factors for overall and cardiovascular mortality in patients with CPPD.

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AB0641 | **EFFECT OF AGE ON PARATHYROID HORMONE RESPONSE TO VITAMIN D INSUFFICIENCY IN PRIMARY HYPERPARATHYROIDISM**

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Background: Primary hyperparathyroidism (PHPT) is a common endocrine condition, commonly seen with increasing age. In vast majority, it is diagnosed incidentally and causes no particular symptoms. Symptoms are usually related to acute hypercalcaemia or the complications of chronically elevated serum calcium level. Vitamin D deficiency is common among general population and in patients with PHPT. Studies in secondary hyperparathyroidism (SHPT) have shown that parathyroid hormone (PTH) response is affected by age, with those over 80 showing greater rise in PTH levels. We wanted to see if age has a similar impact on PTH response to vitamin D in those with PHPT.

Objectives: To evaluate the impact of age on PTH response to vitamin D insufficiency in those with PHPT.

Methods: Patients with primary hyperparathyroidism (PHPT), attending general endocrine clinic of a district general hospital, were divided into two groups based on age; less than 70 (n=73) and 70 and above (n=61).Each group was subdivided into vitamin D insufficient (VDI) and vitamin D sufficient (VDS) subgroups. We compared calcium and parathyroid hormone levels and forearm BMD (presented as T score) in VDI and VDS subgroups in the two age groups, at the time of diagnosis. Data were analyzed using unpaired t-test and presented as mean ± SEM, using Graphpad Prism 9.0.1.

Results: There was significant difference in Vitamin D levels in VDI and VDS subgroups, in both age groups (<70; mean vitamin D 27.98 vs. 68.44, p<0.0001; ≥70; mean vitamin D 34.44 vs. 75.74, p<0.0001).The two groups were significantly different in terms of age (mean age 58 vs. 76, p<0.0001). Although there was no difference in calcium and forearm BMD in VDI and VDS, in both age groups, those under 70 showed a greater PTH response to vitamin D insufficiency (mean PTH 19.29 vs. 12.91 respectively, p<0.001).

Conclusion: While in SHPT, those with increasing age show greater rise in PTH levels, our data show that in PHPT, younger patients show a greater PTH rise in response to vitamin D insufficiency. Further work is needed to elucidate the underlying mechanisms.

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AB0642 | **CLINICAL CHARACTERISTICS AND FACTORS ASSOCIATED WITH BONE EROSION IN GOUT PATIENTS WITH TOPHI**

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Background: Bone erosion is a frequent complication of gout patients with tophi and can lead to joint damage, deformity and musculoskeletal disability. Few studies have focused on clinical characteristics and factors associated with bone erosion in gout patients with tophi.

Objectives: The aim of this study was to describe clinical characteristics of bone erosion in gout patients with tophi.

Methods: Bone erosion was detected by X-ray. Gout patients with tophi were divided into bone erosion group and non bone erosion group. The clinical characteristics were recorded. Comparison of clinical characteristics and risk factors for bone erosion were analyzed between two groups. Multivariate logistic regression analysis was conducted.

Results: A total of 171 gout patients with tophi were enrolled, 121 patients with bone erosion and 50 patients without bone erosion. Bone erosion group were older, with prolonged duration with gout and tophi, higher levels of serum creatinine, lower levels of glomerular filtration rate (GFR), C-reactive protein and BMI. In univariate regression analysis, age, gout duration, tophi duration, GFR were associated with bone erosion. In multivariable logistic regression analysis, tophi duration was independently associated with bone erosion.

Conclusion: Gout patients with bone erosion present different clinical characteristics compared with those without bone erosion. Tophi duration was strongly associated with bone erosion in patients with gout.

Table 1. Comparison of clinical characteristics between bone erosion patients and non bone erosion patients.

	Non Bone erosion	Bone erosion	*P* Value
N(male)	50(47)	121(118)	0.255
Age(year)	45.82±14.15	53.74±14.88	0.002
BMI (kg/m2)	26.01±4.58	24.18±4.72	0.027
WBC(10⁹/mL)	9.73±3.40	11.37±13.26	0.404
PLT(10⁹/mL)	329.86±96.22	328.31±124.02	0.938
HGB(g/L)	86.58±63.78	102.75±51.16	0.201
ALT(U/L)	37.74 ±26.56	34.26±35.26	0.561
sUA(umol/L)	540.16±121.79	539.00±121.46	0.962
sCr(umol/L)	111.47±25.26	135.77±52.43	<0.001
GFR	74.01±27.94	56.68±22.84	0.003
(ml/min/1.73m²)			
ESR(mm/h)	61.78±37.32	53.08±36.70	0.181
CRP(mg/L)	60.00±58.26	36.45±42.62	0.014
Gout duration (year)	9.22±5.46	12.63±7.59	0.001
Tophi duration(year)	3.77±3.22	6.64±4.81	0.001
Hypertension, n	17	52	0.277
Diabetes, n	9	12	0.143
Smoking history, n	20	55	0.513
Drinking history, n	14	37	0.737
Ulceration, n	10	35	0.228

AB0643 | **IL-1 BLOCKAGE WITH ANAKINRA IN GOUT PATIENTS. SCOPING REVIEW OF THE PUBLISHED LITERATUR.**

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Background: Gout is the most common inflammatory arthritis in adults. It is caused by the chronic deposition of monosodium urate crystals in joints. Hypertension, diabetes mellitus, chronic kidney disease (CKD) and cardiovascular disease are highly prevalent in gout patients.

Nonsteroidal anti-inflammatory drugs (NSAIDs), corticosteroids or colchicine are the first line therapeutic agents for flares. These drugs can be contraindicated in a large group of gout patients. Off label prescription of IL-1 receptor blockage with anakinra can be an alternative for this complex patients.

Objectives: The main objective of this study is to perform a scoping review about patient characteristics, comorbidity, effectivity and safety profile of patients with gout treated with anakinra.

Methods: A total of 1119 citations were screened. The reviewers performed a two-stage screening by title/abstract and full-text screening. Thirty six articles that finally met selection criteria, were included for data extraction and synthesis. Treatment duration of ≥12 weeks was considered chronic.

Results: Four hundred forty three patients were included in the study. 20 patients (4,5%) received chronic treatment and 423 (95,5%) flare treatment. Outcomes from 496 flares were finally analyzed.

The mean age of the patients was 63.6 years and 84% were men. The clinical presentation was polyarticular in 47.9% and tophaceous gout in 66.5%. Some of these patients presented atypical forms of the disease such as spinal gout, autoinflammatory syndromes or sternoclavicular joint arthritis.

Most of the patients presented comorbidities, the most prevalent being arterial hypertension in 127 (70.5%) and chronic kidney disease (≥ 3 stage) in 220 (51.8%). History of transplant in 37 (14.6%) with stem cell, kidney, heart, and liver transplant. More than half of patients had more than one associated comorbidity. Demographic and clinical characteristics of gouty arthritis patients are presented in Table 1. Flare was present in admitted patients in 260 (57.5%). Anakinra was administered in 52 patients with an active infection.

Different treatment regimens were described. Daily administration was used in 98% of the patients. 92.8% of the flares were treated seven days or less, being the three days regimen the most prevalent. In the chronic group the longest treatment reported was 5 years.

Efficacy of treatment with anakinra was evidenced, in flare 426 patients (93%) and chronic 19 patients (91%). Overall, anakinra was well tolerated. In the case of flares, thirty-three (7.9%) adverse effects related to anakinra administration were registered: seven (1.6%) site injection reactions, five (1.1%) reversible hematological alterations and five acute infections (H1N1, herpes zoster, severe cold, pulmonary abscess and nosocomial pyelonephritis). In chronic treated patients, adverse infectious events were more prevalent, seven (32%) infections (*Staphylococcus aureus* tophus (2), *Staphylococcus aureus* lung abscess, erysipela of the leg, S*treptococcus B* urinary tract infection, S*taphylococcus aureus* knee arthritis and tuberculous cervical lymphadenitis).

Conclusion: Anakinra has been shown to be effective and safe in treatment for flares in gout complex or resistant patients. It has been shown in multiples scenarios like active infections, dialysis, transplants, chronic kidney disease, tophi and polyarticular disease refractory to standard treatment. It has also shown its effectiveness as chronic treatment, but there are more concerns about its safety. These findings need to be confirmed with controlled clinical trials for anakinra inclusion in treatment recommendations in special situations of flares in complex or resistant gout patients.

Disclosure of Interests: None declared.
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AB0644   **EVALUATION OF MONOCYTE TO HIGH-DENSITY LIPOPROTEIN RATIO AND CAROTID INTIMA MEDIA THICKNESS IN GOUT PATIENTS**

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Background: The aim of this study is to investigate, evaluation of monocyte to high density liporotein ratio and carotid intima media thickness in gout patients.

Objectives: Gout disease is an autoinflammatory disease caused by the accumulation of monosodium urate crystals (MSU) in tissues and organs due to hyperuricemia (1). It is a common cause of arthritis due to the changes in lifestyle and eating habits. The effects of the inflammatory process and hyperuricemia in gout are not limited to the joints, but are associated with increased atherosclerosis and cardiovascular disease (1,2) Monocyte to high-density lipoprotein cholesterol ratio (MHR) is a systemic inflammatory marker and has recently been used quite widely for the evaluation of inflammation in cardiovascular disorders (3,4).

Methods: Fourty eight patients who were evaluated in the rheumatology clinic with an arthritis attack and diagnosed with Gout, and 48 healthy individuals whose age, gender and body mass index were matched were included in our study. Basic laboratory and biochemical parameters of the period when gout patients were asymptomatic were examined. Carotid intima-media thickness (CIMT), which is a non-invasive procedure due to its widespread use, was used as a marker.

Results: MHR and CIMT values were 18.22 ± 9.01 and 0.76 ± 0.11 mm in patients with gout. In the control group, it was 13.62 ± 4.48 and 0.65 ± 0.13 (p = 0.002, p <0.0001, respectively). When evaluated within the study group, it was found that there was a positive correlation between MHR and CIMT (r = 0.253, p = 0.013), and according to linear regression analysis, there was an independent relationship between MHR and CIMT (beta [β] = 0.293, p = 0.049). When assessing Gout patients in the study population, a cutoff value of 13.85 with sensitivity of 66 %, specificity of 53 %, and p = 0.011 (area under curve: 0.650, 95% confidence interval 0.540-0.760), was observed according to receiver-operating characteristic curve analysis (Figure 1).
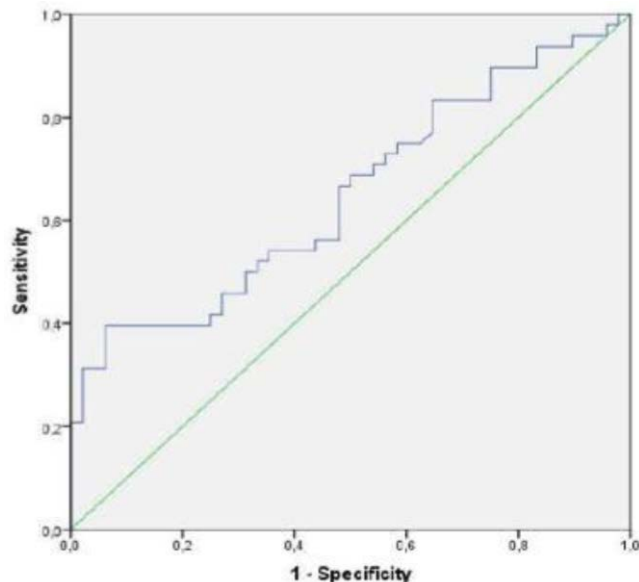

Figure 1. Receiver-operating characteristic curve analysis.

Conclusion: This study showed us that MHR can be an inexpensive and easily accessible marker that can be used in the evaluation of atherosclerotic lesions. We think that studies with larger number of patients are needed on this subject.

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AB0645   **CLINCAL CHARACTERISTICS OF GOUT PATIENTS WITH RENAL CYSTS**

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Background: Gout is a crystal-related arthropathy caused by monosodium urate deposition, which is a common and treatable form of inflammatory arthritis and becoming more prevalent[1]. A few studies have found that gout patients have an increased prevalence of simple renal cysts[2, 3]. The relationship between gout and renal cysts is still insufficient.

Objectives: Compare the difference between gout with renal cyst and without renal cyst.

Methods: We retrospectively collected data on 200 gout patients. The data includes age, gender, uric acid, creatinine, glomerular filtration rate, 24-hour urine collection, and whether they have kidney stones, renal cysts, coronary heart disease, hypertension, and diabetes. Chi-square and exact Fisher's tests were utilized, while continuous variables were assessed by Student's t-test. A P value of less than 0.05 was considered statistically significant.

Results: Of the 200 gout patients, 56 have kidney cysts(28%). In gout patients who had a renal cyst, were significantly older than patients without renal cysts