

**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  $\geq 12$  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 ( $\geq 3$  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, *Streptococcus B* urinary tract infection, *Staphylococcus 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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#### EVALUATION OF MONOCYTE TO HIGH-DENSITY LIPOPROTEIN RATIO AND CAROTID INTIMA MEDIA THICKNESS IN GOUT PATIENTS

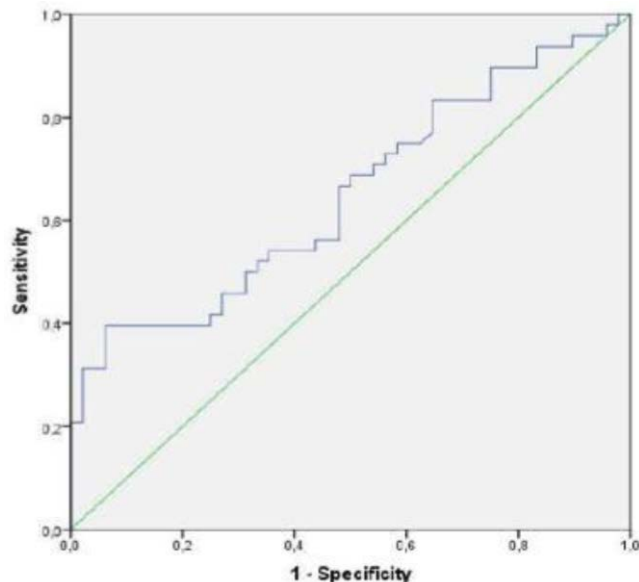
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**Background:** The aim of this study is to investigate, evaluation of monocyte to high density lipoprotein ratio and carotid intima media thickness in gout patients.

**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:** Forty 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  $18.22 \pm 9.01$  and  $0.76 \pm 0.11$  mm in patients with gout. In the control group, it was  $13.62 \pm 4.48$  and  $0.65 \pm 0.13$  ( $p = 0.002$ ,  $p < 0.0001$ , 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 ( $\beta = 0.293$ ,  $p = 0.049$ ). 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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#### CLINICAL 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