

Evaluation of Patients with Gout Acute Arthritis In Terms Of Demographic, Clinical and Laboratory Parameters

Elanur Karaman
Department of Medical Oncology
Recep Tayyip Erdogan University, Training and Research Hospital, Rize/Turkey
E-mail: drelanurkaraman@gmail.com

Timucin Kasifoglu
Department of Rheumatology
Eskisehir Osmangazi University, Medical Faculty Hospital, Eskisehir/Turkey
E-mail: timucinkasifoglu@hotmail.com

ABSTRACT

Gout arthritis is an acute inflammatory arthritis characterized by pain and storing of monosodium urate crystals in joints or tissues. In our study we aim to increase awareness of patients with gout arthritis. It was evaluated the demographic, clinical and laboratory features of 118 patients with acute gout arthritis who admitted to the Department of Rheumatology and Internal Medicine of Osmangazi University between November 2011 and October 2012. Standardized study form was completed for all of the patients. All data were analyzed with SPSS 20 and IBM Statistics. In our findings, mean age of patients was 57.79 years, %89 patients was male and %34.7 of the patients had obesity.

The most common comorbid disease was hypertension (53.4%) and the most common triggering factor was antihypertensive drug use (42.3%). It had been observed that the first episode occurred in the 1st metatarsophalangeal joint (78.8%), the patients were diagnosed with an average of 3.13 attacks, 82.7% of the patients had podagra, 23.7% of them had trophy and the attack clinic was severe. There was a statistically significant difference between the serum uric acid level and the presence of tofus ($p = 0.002$). The diagnosis was made most frequently in the presence of clinical findings and hyperuricemia (72.9%) and the compliance rate in ACR criteria was 87%. The serum uric acid level was found to be 8.41 ± 1.87 mg / dL. Increasing the awareness of gut arthritis, which is a common condition in the community, among physicians, is gaining importance in terms of preventing early complications and complications.

Key Words: Gout Arthrit, Hiperuricemia, Tophaceous, Podagra.

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INTRODUCTION

Gout arthrit is a metabolic disease which is defined as the accumulation of monosodium urate (MSU) crystals by passing through tissues from supersaturated extantcellular fluids, and creating different clinical manifestations such as recurrent acute inflammatory arthritis attacks, chronic arthropathy, formation of trophous deposits, uric acid nephrolithiasis, chronic nephropathy.

The word gout was derived from the Latin word "gutta" (drop) and was first used in the 13th century. It is the most common cause of inflammatory arthritis in men. It affects 1-2% of adults. Although its pathogenesis is known and effective treatment is used, gouty arthritis is usually skipped or diagnosed late. Chronic trophy gouty arthritis stage may develop in untreated cases and may lead to the development of various clinical manifestations by accumulation of tophaceous in tissues as well as joint damage.

AIM

It has been aimed in this study that evaluating clinical findings during attacks, comorbid diseases, laboratory values and demographic and dietary features of the patients with gout arthritis.

MATERIAL and METHOD

A total of 118 acute gout arthritis patients >18 age, admitted to the Department of Rheumatology and Internal Medicine of Osmangazi University between November 2011 and October 2012, were included.

The study was approved by the ethics committee decision of 22 November 2011 of the Faculty of Medicine of Eskişehir Osmangazi University. This is a prospective study performed by giving a standardized study form to all patients. The standard form included demographic features, clinical and radiological findings during the attack, accompanying diseases, dietary characteristics and laboratory parameters. Sensitivity, swelling, erythema and presence of podagra in the joint during attack and the clinical findings during the attack were learned with using the degree of VAS scale index were investigated. All data were analyzed with SPSS 20 and IBM Statistics. T-test, Kruskal-Wallis, Mann-Whitney U test, One Way ANOVA and Chi-square tests were used.

RESULTS

The mean age of the patients was 57.79 years (23 to 83 years); Of the 118 patients, 105 were male (89%) and 13 were female (11%), so the incidence was 8 times higher in males than in females. The age of women was founded higher than men ($p < 0.001$). %34.7 of the patients had obesity; more common comorbid disease was hypertension (%53.4) and the most common triggering factor was antihypertensive drugs (%42.3). 14% of the patients were diagnosed with Romatoid Arthritis before diagnosis of gout. High consumption of meat, seafood and alcohol ($> 10\text{gr} / \text{day}$) consumption were respectively observed in 30.5%, 6.8% and 28.9% of patients. No significant difference was found between meat, seafood or alcohol consumption and annual number of attacks. Initial attack generally involve in metatarsophalangeal joints; after a mean of 3.13 attacks an accurate diagnosis can be made. %82.7 of the patients has podagra and %87,3 has erythema. Episodes of attacks are observed as severe. In the acute period, balloon-like swelling and severe pain were found to prevent passive movements of the joint. The time between the first two attacks ranged from a minimum of 15 days to a maximum of 42 years. And most of patients had less than two years between the first two attacks (%86,1). Tophaceous was found in 23.7% of the patients. There was a statistically significant difference between the serum uric acid level and the presence of tophaceous ($p = 0.002$). 97% of patients had monoarthritis attack. In the study, the diagnosis of gout was mostly made with the presence of clinical findings and hyperuricemia. (72.9%) and compliance with ACR criteria were determined as 87%. Serum uric acid levels were found to be high in laboratory tests ($8.41 \pm 1.87 \text{ mg} / \text{dL}$).

DISCUSSION

Gout arthritis is one of the major public health problems. The prevalence is estimated %0.38 in 2002 İzmir Turkey⁸. It can lead recurrent acute inflammatory arthritis attacks, chronic arthropathy, formation of tophaceous deposits, uric acid nephrolithiasis and chronic nephropathy. There are two important risk factors such as obesity and aging in the development of gout arthritis and hyperuricemia. It is more common in men than in premenopausal women, and the prevalence in advanced age is increasing in both sexes. In our study, incidence was detected 8 time higher in male and 64.6% of the patients were older than 45 years of age. BMI > 30 (obesity rate) of the patients was found 34.7% and was higher in women than the men ($p < 0.001$). These results were consistent with the literature.

Insulin resistance and type 2 diabetes mellitus, hyperglycemia, hypertriglyceridemia, low HDL levels, hypertension, coronary artery disease and chronic kidney disease are associated with hyperuricemia and gouty arthritis. In our study, more common comorbid disease was hypertension (%53.4) and the most common triggering factor was antihypertensive drugs (%42.3). Similar to the literature, the most common joint involvement was metatarsophalangeal joint involvement (78.8%). In the series of Gutman et al. shown that 62% of patients has developed the second attack in the first year. In our study, the time between first two attacks was less than two years, similar to literature. Because of the clinical manifestations that may be confused with other diseases, it should be considered in the differential diagnosis of patients with acute monoarthritis. We found that, 14% of the patients, were diagnosed with Romatoid Arthritis before diagnosis of gout.

Although purine-rich diet (offal, seafood, high meat) and high alcohol consumption are the important risk factors to development development of gout and hyperuricemia, we couldnt find these as high rates risk factors in our study.

This may be due to the fact that the patients evaluated may have knowledge about diet and treatment. Tophaceous formation is proportional to the degree of hyperuricemia and the duration of its formation. Tophaceous are located on mostly 1. MTF then on the dorsal side of the fingers, elbows, olecranon and earhubs. In our study 23.6% of the patients had tophaceous, and major of them were located on the first metatarsophalangeal joint. The EULAR study group indicated that the presence of tophaceous is important for the diagnosis of gout, and that the diagnosis of definitive gouty arthritis is possible with the demonstration of MSU crystals in tophaceous aspirates. In the study of Nakayama et al. were shown that tophaceous formation is proportional to the degree of hyperuricemia and the duration of formation. In our

study, serum uric acid level was found to be increased in patients with tophaceous, and there was a significant relationship between the presence of tophaceous and serum uric acid levels ($p = 0.002$). Several diagnostic criteria have been developed for the diagnosis of gout (Roman criteria, New York Criteria, ACR criteria and EULAR), because of the arthrosynthesis to the first metatarsophalangeal joint was difficult and also polarized light microscopy was not present everywhere. The American Rheumatism Association (ACR) developed the criteria for the diagnosis of acute arthritis of the primary gout in 1977. These criteria, in which six of the 12 criteria were diagnosed with gout, were evaluated in our patients. The rate of ACR criteria compliance was determined as %87 in our study, that is similar to literature.

CONCLUSION

Gout arthritis, common in the community, frequently overlooked by physicians. Early diagnosis is important for the gout, which is known to be a clinical condition leading to renal failure. Increasing of awareness of gout disease among physicians, early diagnosis and early management of gout to prevent further complications are so important because prevalence of gout is high in populations.

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