Andrusha A.B.

PECULIARITIES OF GOUTY ARTHRITIS IN SMOKERS

Kharkiv National Medical University, Kharkiv, Ukraine

Gout is a crystal-deposition disease that results from chronic elevation of uric acid levels above the saturation point for monosodium urate crystal formation. An attack of gout is extremely painful. Recurrent attacks of arthritis in one or more joints or tendon sheaths accompanied by intense pain are typical of this commonly occurring condition. Nowadays, factors associated with an increased risk of gout are well-studied. Many socio-economic and dietary factors, concomitant diseases and drugs can affect the levels of uric acid and contribute to exacerbation of gout. But in most patients, management of pain, risk assessment for future flares, and disability is not optimal and diagnostic and management approaches are applied inconsistently. Obtaining an accurate patient history, including lifestyle, habits, food preferences is important for optimal results.

The purpose of research - to study course peculiarities of gouty arthritis in smokers.

Materials and methods. For the diagnosis of gouty arthritis we used S.L. Wallace et al criteria. According to a history of gouty arthritis we estimated duration, frequency (last 12 months) and the duration of exacerbations, the number of affected joints, they location and the presence of tophi. All patients with gouty arthritis were divided into 2 groups according to smoking status: I group - 18 smokers and II group - 17 patients non-smokers. We examined the level of uric acid in the blood and in the daily urine. For smokers we calculated the smoking index such as: the average number of cigarettes smoked per day x duration of smoking, year/20. The results were statistically evaluated by standard statistical methods including mean, standard deviation (SD) range (minimum-maximum), Linear regression analysis (Pearson correlation coefficient r), student's t-test.

Results and they discussion. The study involved 35 patients with gouty arthritis (29 men and 6 women) 40-65 years. The average duration of the disease in both groups ranged from a year to 17 years. The patients had different clinical types of gout: intermittent gout (21 patients) and chronic gout (14 patients). The presence of tophi was found in 4 patients. Indicator of severity of the articular syndrome (which we evaluated on the number of damaged joints) was not significantly different in both groups of patients. Poliartritis, oligoartritis and monoartritis were observed with the same frequency both in smokers and non-smokers. We found a significant difference between the groups in the index of the frequency of exacerbations of gouty arthritis during the year. In all patients, attacks of acute gout was detected from two times to 8 times a year, but at the same time they occurred in 1,3 times more often in nonsmokers than in smokers. We did not found differences in the localization of the arthritis patients in the two groups: all patients had lesions metatarsophalangeal joints, ankle, knee and elbow joints, small joints of

hands with the same frequency. Hyperuricemia was observed in both groups of patients (360 - 731 mmol/l), but its value was significantly less ($P < 0.05$) in smokers than in nonsmokers. Uric acid level in daily urine ranged 4,7-7,2 mg/day without differences in groups. We found an inverse correlation between the level of uric acid in the blood and smoking index and a negative correlation between the index of smoking and frequency of gout attacks. We did not found correlation between smoking index and the concentration of uric acid in the daily urine.

Conclusions. Course of gouty arthritis has clinical and laboratory features, depending on the patient's smoking status. It can be assumed that smoking can reduce the frequency of attacks of gouty arthritis and reduce the concentration of uric acid in the blood, without affecting the urinary excretion of uric acid. Additional research is needed to understandand and to explaine mechanisms of this finding.