МЕДИЦИНА, ПЕДАГОГИКА И ТЕХНОЛОГИЯ: ТЕОРИЯ И ПРАКТИКА
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CLINICAL FEATURES OF THE COURSE OF GOUT

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Abstract

To identify the frequency and nature of clinical and laboratory signs of metabolic syndrome in patients with gout. 49 male gout patients were examined in the rheumatology department. Thus, the acute variant of gouty arthritis was noted in 42.9%, prolonged – in 22.4% and chronic – in 34.7% of patients. Tofuses were found in 26.5% of patients. Very often, the comorbid course of gout and metabolic syndrome is due to a hereditary predisposition, the methods of prevention of which in gout can be the preservation of motor activity, dietary correction of body weight, as well as timely basic treatment.

Key words: gouty arthritis, metabolic syndrome, obesity.

КЛИНИЧЕСКИЕ ОСОБЕННОСТИ ТЕЧЕНИЯ ПОДАГРЫ

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Аннотация

Выявить частоту и характер клинических и лабораторных признаков метаболического синдрома у больных подагрой. В ревматологическом отделении были обследованы 49 больных подагрой мужского пола. Так, острый вариант подагрического артрита был отмечен у 42,9%, затяжной – у 22,4% и хронический – у 34,7% пациентов. Тофусы были обнаружены у 26,5% больных. Очень часто коморбидное течение подагры и метаболического синдрома обусловлено наследственной предрасположенностью, методами профилактики которого при подагре могут служить сохранение двигательной активности, диетическая коррекция массы тела, а также своевременное проведение базисного лечения.

Ключевые слова: подагрический артрит, метаболический синдром, ожирение.

PODAGRA KASALLIGINING KLINIK KO'RINISHLARI

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Annotatsiya

Podagra bilan og'rigan bemorlarda metabolik sindromning klinik va laboratoriya belgilarining chastotasi va xarakterini aniqlash. Revmatologiya bo'limida podagra bilan og'rigan 49 nafar erkak bemor tekshirildi. Shunday qilib, podagra artritining o'tkir shakli bemorlarning 42,9 foizida, uzoq muddatli - 22,4 foizida va surunkali - 34,7 foizida qayd etilgan. Bemorlarning 26,5 foizida tofi topilgan. Ko'pincha podagra va metabolik sindromning komorbid kursi irsiy moyillik bilan bog'liq bo'lib, uning oldini olish usullari gut holatida jismoniy faollikni saqlash, tana vaznini dietani tuzatish, shuningdek, asosiy davolashni o'z vaqtida amalga oshirishni o'z ichiga olishi mumkin.

Kalit so'zlar: podagra artriti, metabolik sindrom, semizlik.

Gout is a systemic disease in which uric acid crystals (urates) are deposited in various tissues due to a violation of purine metabolism and hyperuricemia. The disease is also accompanied by the main clinical and laboratory signs of MS, most often hypercholesterolemia, hypertension, obesity and type 2 diabetes mellitus (DM) [1,2,5,6]. Disorders of purine, fat and carbohydrate metabolism in gout may be accompanied by pathological changes in the connective tissue of the joints, contributing to the development and chronization of the inflammatory process in joints. However, the peculiarities of changes in clinical, laboratory symptoms and functional parameters of joints in patients with gout with concomitant metabolic syndrome (MS) have not been sufficiently studied.

The aim of the study was to identify the frequency and nature of clinical and laboratory signs of metabolic syndrome in patients with gout and to assess their relationship with the age of patients, the duration of the disease, the severity index of the underlying disease and impaired function of the lower extremities.

Materials and methods of research. 49 male gout patients were examined in the rheumatology department. The average age of the patients was 50.6±1.6 years, the duration of the disease was 9.4±1.7 years. The diagnosis of the disease was established according to criteria developed by S.L. Wallace [6]. The examination included the determination of anthropometric indicators: body weight, body mass index (BMI), waist circumference (WC). Blood sampling for the study of the lipid spectrum was performed after a 14-hour fast. The content of total cholesterol (TCH), lipoprotein cholesterol and the method of kits from «Vital Diagnosticum», total lipids (TL) from «Lahema», low density lipoprotein cholesterol were calculated by W. Friedwald et. al., very low-density lipoprotein cholesterol according to the formula (TG/5 content). Statistical processing of the obtained data was carried out using the STATISTICA 6.0 application software package. Simple descriptive statistics and nonparametric correlation analysis using the Spearman method were used.

The results of the study and their discussion. At the time of inclusion in the study, all patients showed signs of arthritis, the variant of which was determined by the longest duration of the last exacerbation over the past year. Thus, the acute variant of gouty arthritis (duration of exacerbation no more than 3 weeks) was noted in 42.9%, prolonged (duration of exacerbation from 3 to 12 weeks) - in 22.4% and chronic (arthritis lasting more than 3 months) – in 34.7% of patients. Tofuses were found in 26.5% of patients. Lesions of the metatarsophalangeal joint of the big toe were found

in 51%, foot joints in 28.6%, ankle and knee joints in 24.5% of patients. In 30.6% of patients, joint damage was monoarticular in nature, in 69.4% – oligoarticular. I degree of joint functional insufficiency was found in 63.2% of patients, and II degree in 36.7% of patients. The incidence of urolithiasis in the examined patients was 65.3% (n=32), while clinical signs, including a history of renal colic, were noted in 10.2% (n=5) of them.

The body mass index in patients with gouty arthritis ranged from 19 to 38. According to WHO recommendations, in 14 (28.5%) patients, BMI corresponded to a normal indicator (18.5-24.9), in 20 (40.8%) – overweight (25-29.9, pre-obesity), in 9 (18.4%) – first degree obesity (30-34.9) and in 6 (12.2%) – obesity of the second degree (35-40).

To assess the severity of the dysfunction of the lower extremities, an integral indicator was used, which is calculated as an arithmetic mean of the value of 6 expert signs - movement, additional support, performing household functions, self-service, using public transport, performing professional duties. Severity of the dysfunction of the lower extremities more than 20% is regarded as severe and corresponds to III and more disability groups (in accordance with the expert estimates). According to the severity of the dysfunction of the lower extremities in 20 (40.8%) patients, it corresponded to 0-20%, in 19 (38.8%) patients – 21-40%, in 10 (10.4%) patients - 41-60%.

Among the patients of gouty arthritis, the main 3 clinical factors of MS (obesity, hypertension, diabetes mellitus) were diagnosed in 49.0% of patients (the first group): 30.6% - obesity of I and II degrees, 26.5% – hypertension and 12.2% - type 2 diabetes. In 32.6% of patients, one clinical form of MS was detected, in 12.2% - a combination of two forms (hypertension and obesity of the II degree - in 8.2%, hypertension and type 2 diabetes - in 4.1%), in 4.1% – three forms (hypertension, obesity of the II degree and type 2 diabetes). The second group consisted of patients (25 patients) without clinical forms of MS.

In gouty arthritis, there was an increase in lipid profile indicators - laboratory criteria of MS. Thus, in gouty arthritis patients, the total lipid content ranged from 4.8 to 10.6 g/l, the average content was 8.55±0.03 g/l. In 32.7% of patients, the total lipid level was in the range of 4.8-8.4 g/l (normal level), in 67.3% - above 8.4 mmol/l (elevated level). In patients of the first group, the level of total lipids (9.60±0.04 g/l) was 1.28 times higher than in patients of the second group (7.50±0.05 g/l, $P<0.02$). The

cholesterol content in gouty arthritis was 5.2-10.2 mmol/l (on average - 7.2±0.05 mmol/l): in 34.7% of patients - 5.2-6.5 mmol/l (borderline level), in 38.8% – 6.6-8.0 mmol/l (elevated level), in 26.5% – above 8.0 mmol/l (high risk of MS).

In patients with the main clinical factors of MS (obesity, hypertension and type 2 diabetes), the average cholesterol content was 8.6±0.7 mmol/l, which was significantly higher than in patients without clinical manifestations of MS (6.2±0.4 mmol/l, P<0.02). The degree of increase in total lipids and cholesterol in blood serum had a direct correlation with the degree of hyperuricemia (r=0.65; r=0.54) and the duration of the disease (r=0.72; r=0.62).

In gouty arthritis, the low-density lipoprotein cholesterol level averaged 4.40±0.01 mmol/l: in 38.8% of patients – from 1.8 to 3.6 mmol/l (normal level), in 40.0% of patients – from 3.6 to 4.5 mmol/l (elevated level), in 20.0% of patients – above 4.6 mmol/ll (high level). The average content of very low density lipoprotein cholesterol is 0.49± 0.01 mmol/l: in 36.7% of patients – from 0.2 to 1.6 mmol/ l (normal level), in 61.2% of patients – above 1.6 mmol/ l (elevated level). In patients of the first group, the content of low-density lipoprotein cholesterol (4.80±0.02 mmol/l) and very low density lipoprotein cholesterol (0.54±0.03 mmol/l) was 1.20 and 1.22 times higher than in patients of the second group (P1 and P2<0.05).

The gout severity index (SI) was calculated using the following formula: tofuses (0-no, 1-yes) + number of tofuses /40 + number of affected joints during examination /28 + number of affected joints for the entire duration of the disease / 28 + number of exacerbations over the past year /12 + duration of the last exacerbation (in weeks)/52 + age of the patient (number of full years)/65 + uric acid level (mmol/l)/420 = IT (in points).

Patients with clinical indicators of MS were older in age (54.6±3.2 and 47.1±2.7 years, P<0.05) and had a greater number of affected joints (4.6±0.2 and 2.5±0.7, P<0.02). The number of subcutaneous tofuses (37.5 and 16.0%), the incidence of arthritis over the past year (3.8±0.3 and 2.2±0.1 times, P<0.02), the duration of the last exacerbation (3.6±0.2 and 1.2±0.1 weeks, P<0.02) and the gout severity index (3.7±0.2 and 2.3±0.2 b, P<0.02) in patients with MS were higher than in patients without MS.

Anamnestic examination of patients with hypercholesterolemia and concomitant clinical factors of MS most often revealed a hereditary predisposition (the presence of gout, hypertension, coronary heart disease, DM in parents), frequent errors in nutrition

and the absence of basic (allopurinol, uricosuric drugs) treatment of the underlying disease.

Conclusions. As is known, hyperlipidemia, hypercholesterolemia, hypertriglyceridemia, abdominal obesity, impaired glucose tolerance and insulin resistance combined with arterial hypertension (AH) constitute a metabolic syndrome [3,4,7,8,9]. Gout, a disease caused by impaired purine metabolism and hyperuricemia in 49.0% of patients, is accompanied by the main clinical forms of MS. Very often, the comorbid course of gout and MS is due to a hereditary predisposition. The inclusion of hyperuricemia among the factors of MS and the presence of a direct correlation between clinical and laboratory indicators of gout and MS determines the inclusion of gout in the clinical criteria of MS. It can be assumed that the methods of preventing MS in gout can be the preservation of motor activity, dietary correction of body weight by reducing the calorie content of food and reducing its volume, as well as timely basic treatment.

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