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CHARACTERISTICS OF HEART VESSEL INJURY AND JOINT SYNDROME IN GOD DISEASE

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ANNOTATION

In our study, we studied a total of 50 patients with gout. Among them, patients with arterial hypertension were observed in 36 (72%) of the patients. In our study, patients were divided into 2 major groups according to the course of gout: recurrent patients in group I (n = 27) and patients with chronic disease in group II (n = 23). In both groups, the frequency and characteristics of cardiovascular lesions in patients were studied, as well as joint syndrome. A comparative analysis of arthritis syndrome was performed in patients with gout with arterial hypertension, ischemic heart disease, and chronic heart failure. The number of affected joints and the severity index of the disease in patients with arterial hypertension, coronary heart disease, and chronic heart failure with gout were also found to be higher than in patients without these diseases.

Keywords: chronic heart failure, arthritis, arterial hypertension, coronary heart disease, cholesterol, cardiovascular damage, myocardial infarction, diabetes.

RELEVANCE OF THE TOPIC

The relevance of the study of gout is also explained by the fact that its incidence as a medical and social problem is increasing from year to year and people's ability to work is declining. According to various authors, the incidence of gout is 1% of the male population in European countries. The disease is one of the leading causes of arthritis in middle-aged men. Another reason for the growing interest in the study of gout is also explained by the fact that the disease is closely associated with disorders of metabolic processes in the body. According to the World Health Organization, gout is associated with obesity, hypertension, type 2 diabetes, and metabolic syndrome. This suggests that the increased risk of cardiovascular damage in gout is high. In this case, atherosclerotic changes on the basis of cardiovascular complications play a key role. Given these circumstances, it can be said that the combined development of cardiovascular damage, metabolic syndrome, and gout leads to premature disability in a particular patient and early death due to various complications. The high incidence of cardiovascular lesions in patients with gout indicates the importance of a comprehensive study of the disease.

OBJECTIVE

To improve diagnostic and therapeutic interventions by studying the clinical course of cardiac lesions in gout, comparative analysis of joint syndrome and cardiovascular lesions in gout, and assessing the dependence of cardiovascular lesions on the severity index of gout.

Materials and Methods of Examination

Examination and treatment of patients were carried out in the departments of cardiology, rheumatology, consulting clinic of the 1st clinic of the Samarkand State Medical Institute. Of the examinations, 50 were diagnosed with gout patients. American College of Rheumatology (ACR, 1977) criteria were used to diagnose patients. The mean age of the patients was 54.7 ± 9 years (32 to 78 years). Patients aged 44 years - 14.38%, 45 to 59 years - 56.3%, 60 to 74 years - 27.7% and over 75 years - 1.8%. The mean age of patients at the onset of the disease was 46.9 ± 9 years. In the majority of patients (71.4%), the onset of the disease was observed between the ages of 36-55 years. The average duration of the disease at the time of application was 7.7 (1.0; 24.0) years. Patients with severe renal insufficiency, patients with severe pulmonary heart disease and heart failure, patients with oncological diseases, who were taking diuretics for examination were not included. In addition to general clinical examinations, anthropometric examinations were also performed on the patients. In patients, waist circumference (WC) and hip circumference (HC), their ratio (Waist-to-Hip Ratio), height and weight were determined. Body mass index (Kettle index) was calculated in kg / m2.

RESULTS

In the majority of patients, the disease began with damage to the ankle joints: in 38 (76%) patients the disease was caused by damage to the toe, in 8 (16%) patients the compensation was from the ankle joint, 3 (6%) in the patient with knee joint and 1 (2%) in the patient with damage to the small joints of the foot.

30 of the patients developed polyarthritis. Mono arthritis and oligo arthritis were rare among patients, accounting for 28 and 12%, respectively. During the initial examination, 14 (28%) patients were diagnosed with acute gouty arthritis, 6 (12%) patients had prolonged arthritis symptoms (3 weeks to 3 months), and chronic arthritis was reported in 13 (26%) patients (more than 3 months), while 17 (34%) patients were reported to be in the inter-attack period. Patients with gout have had an average of 3.0 attacks in the past year. In 47 (94%) patients, the number of recurrent attacks in the last year was found to be 1 to 6 times, and in 4 (8%) patients, these attacks were found to be 6 to 9 times. The number of swollen joints averaged 3 (1;6) joints among patients, overall, the incidence ranged from 1 joint to 28 joints. The duration of the disease and the affected joints were studied by comparative analysis. The average number of joints affected during the course of the disease was 9 (5; 13), and in total, we found that this number ranged from 1 joint to 28 joints. All patients were studied in 3 subgroups: group I patients with a disease duration of up to 5 years (n = 21); group II included patients with a disease duration of 5 to 10 years (n = 16) and group III patients with a disease duration of more than 10 years (n = 13).

Figure 1 shows the number of affected joints according to the duration of the disease.

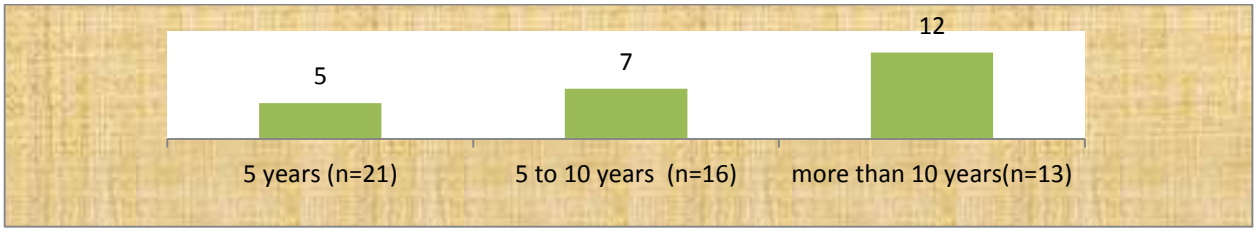

Figure 1: Number of affected joints according to disease duration

Figure 1 shows that the number of affected joints in patients with a disease duration of up to 5 years is 5 (3; 8), and the number of affected joints in a disease lasting 5-10 years is 7 (6; 12). and when the disease lasted more than 10 years, the figure was 12 (9; 19) ($p < 0.001$ in both groups).

It can be stressed that there is a direct correlation between the duration of the disease and the affected joints. The longer the disease lasts, the greater the number of affected joints.

Among the patients examined, 27(54%) of them had recurrent disease. In 23 (46%) patients, chronic arthritis was observed.

Recurrent gout occurred in relatively young patients, with an average age of 52.7 ± 8.9 years, and a mean age of chronically ill patients was 57.1 ± 8.6 years ($p < 0.05$). The average duration of the disease was 3.0 (1.0; 6.0) years in patients with recurrent disease, and an average of 8.0 (5.0; 10.0) years in patients with chronic disease. It should be mentioned that the number of affected joints was 1.2 times higher in patients with chronic disease than in patients with recurrence, and the number of gout attacks was similar in both groups. The content of uric acid in the blood plasma was higher in patients with recurrent disease than in patients with chronic disease (594 ± 107.8 µmol / l in the first group, 577 ± 117.7 µmol / l in the second group, respectively, $p < 0.05$). In both groups, hyperuricemia was observed.

Subcutaneous tophi were observed in 22 (44%) of the patients examined, with an average number of 7 (4; 10). On x-ray examination, intraosseous tophi "proboynik" symptom was observed in 37 (74%) patients.

The cardiovascular disease and co-morbidities were studied in 27 patients with recurrent disease and 23 patients with chronic disease (Table 1).

Table 1 Additional diseases in patients with gout

Indicators	The course of the disease			
	Recurrent (n=27)		Chronic (n=23)	
	N	%	N	%
Arterial hypertension	16	59,2	20	86,95
IHD Anamnesis MI	8 (2)	29,62 (7,4)	11 (3)	47,82 (11,1)
Type 2 diabetes	4	14,8	6	26,08
Metabolic syndrome	11	40,74	15	65,2
CHF	5	18,5	6	26,08
CRF	6	22,2	7	30,4

Our analysis of arthritis syndrome in gout revealed a number of differences in patients with and without cardiovascular damage. In patients with AH, IHD, CHF, the number of joints affected during the disease and the severity index of the disease was found to be high ($p = 0.05$).

Table 2 A link between a number of laboratory parameters in gout and arterial hypertension

Indicators	Arterial hypertension		
	Exist (n=36)	Does not exist (n=14)	P
Uric acid, µmol / l	589 (436;625)	565 (422; 613)	<0,01
S reactive protein, mg/l	9,8±5,1	8,8±4,2	<0,05
Cholesterol, mol/l	6,83±1,10	6,49±1,41	<0,05
HDL cholesterol mmol/l	1,59±0,47	1,91±0,73	<0,05
LDL cholesterol mmol/l	4,89±1,11	4,35±1,34	<0,05
Triglycerides, mmol/l	2,85±1,05	2,66±0,88	<0,001
Urea, mmol/l	5,7±1,6	5,8±1,39	<0,001
Creatinine, µmol / l	93,0±15,6	91,0±14,2	<0,001

It is visible from Table 2 that in patients with gout with AH, the plasma content of uric acid ($p < 0.05$), total cholesterol ($p < 0.05$), LDL cholesterol ($p < 0.05$), triglycerides ($p < 0.001$) showed higher rates than patients without AH. The number of HDL cholesterols in this group of patients was low ($p < 0.05$). Plasma urea and creatinine levels in patients with and without gout with AH showed almost no significant difference in both groups ($p < 0.001$).

Table 3 below provides a comparative analysis of patients with and without IHD with clinical signs of gout. In patients with and without IHD with gout, the disease began at almost the same age (46.9 ± 8.6 and 46.5 ± 9.6 years, respectively, $p < 0.001$). Patients with IHD had a much earlier onset of gout and a higher number of affected joints ($p < 0.001$ and $p < 0.05$, respectively). The incidence of gouty arthritis in both groups of patients was almost equal over the past year ($p < 0.01$).

Table 3 Clinical features of patients with gout depending on the presence or absence of IHD

Indicators	IHD		P
	Exist (n=19)	Does not exist (n=31)	
Duration of illness, years	9,4(4;13,2)	6,2(2;7,5)	<0,001
Age at the onset of the disease	46,9±8,6	46,5±9,6	<0,001
The number of joints affected during the course of the disease	12(8;14)	7(5;10)	<0,05
The frequency of arthritis throughout the year	3(2;5)	3(1;4)	<0,01

The severity of joint syndrome was studied in patients with and without chronic heart failure. Table 4 below shows the characteristics of arthritis syndrome in patients with or without CHF.

Table 4 Correlation features of CHF and joint syndrome in patients with gout

Indicators	CHF		P
	Exist (n=11)	Does not exist (n=39)	
Number of joints affected during the disease, n	12,0 (5,0; 15)	10,0 (4,0; 3,0)	<0,001
Number of joints damaged during inspection, n	5,0(5,0; 9,0)	4,0(2,0; 8,0)	<0,01
Duration of the last attack of the disease, weeks	6,0(1,0; 9,0)	6,0(1,0; 10,0)	<0,001
Frequency of arthritis throughout the year, n	3,0(2,0; 7,0)	3,0(1,0; 6,0)	<0,01
Tophi, %	48	32	<0,01
Uric acid, μmol / l	570 (428; 623)	590 (430; 625)	<0,01
Weight index, points	3,3(2,9; 4,2)	2,8(2,2; 3,8)	<0,05

CONCLUSION

The patients with gout have a high incidence of cardiovascular damage such as arterial hypertension and ischemic heart disease. The severity and nature of these lesions depend on the clinical course of the disease. The combination of gout and cardiovascular injury (that is arterial hypertension, ischemic heart disease and chronic heart failure) in patients is characterized by severe joint syndrome, multiple joint damage, and a high severity index of the disease.

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