# Relationship of Metabolic Syndrome with Clinical Manifestations of Gout

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**Annotation:** The relationship between the localization and amount of joint damage in gout in patients with metabolic syndrome was studied. In metabolic syndrome, it was found that in patients with gout, lesions of the joints of the lower girdle occur 2 times more often than lesions of the joints of the upper girdle.

**Key words:** metabolic syndrome, gout, joints.

**Objective.** To study the frequency of affected joints in patients with gout in combination with metabolic syndrome.

**Materials and methods.** Two samples were under observation: 1. A representative sample of the unorganized population aged 40 to 69 years in the amount of 1335 people.

2. A sample of patients with gout who were treated at the Department of the Republican Rheumatological Center TMA in the amount of 120 people aged 40 - 69 years.

**Results.** It was found that all the main components of MS in patients with gout were more common than in the general population, with the exception of hyperglycemia 1 hour after glucose loading. However, the differences in the frequency of occurrence of these components were ambiguous. Components of MS, such as hypercholesterolemia and fasting hyperglycemia, were slightly more common in gout than in the general population.

However, the differences in the frequency of occurrence of these components in the groups under consideration were not significant. In our study, arterial hypertension was detected in 4 out of 5 patients with gout (80.84%). In addition, according to the obtained data, blood pressure levels in patients with gout are significantly higher than in the general population. Thus, SBP and DBP in patients with gout (143.52±20.67 and 96.46±14.28) were significantly higher than in the general population (124.11±18.37 and 77.13±11.27). On the other hand, AH among patients with gout was 4.7 times more common, and BMI, obesity, IGT and hypertriglyceridemia were 3.8 times more common; 7.7; 2.6 and 3.9 times more often than in the general population.

The levels of the Quetelet index among patients with gout were also slightly higher than in the general population. These differences were also significant. Our data also indicate a high incidence of BMI and obesity in patients with gout. It was found that 70.59% of patients with gout with lesions of the metacarpophalangeal joints have a metabolic syndrome. (The differences are statistically significant.) The same pronounced and significant differences were found in groups of patients with lesions of the proximal interphalangeal, carpal, elbow and shoulder joints. On average, the frequency of cases of combined course of the metabolic syndrome with joint damage was 4 times higher than the frequency of cases of joint damage without metabolic syndrome. When analyzing the combination of the metabolic syndrome with damage to the joints of the lower girdle, it turned out that they are also significantly more often combined with the metabolic syndrome. The defeat of the hip joints and pelvic bones in 100% of cases is combined with metabolic syndrome.

Therefore, the number of affected joints of the upper girdle in absolute terms was 139 cases, and the damage to the joints of the lower girdle was 300 cases. That is, the frequency of damage to the joints of the upper was more than 2 times less than the frequency of damage to the joints of the lower girdle. However, the percentage differences indicating the incidence of metabolic syndrome in these groups were 82% and 82.33%, respectively. These results suggest that there is a direct relationship between joint lesions and metabolic syndrome in gout patients.

**Conclusions.** Thus, gout is closely related to the metabolic syndrome. The incidence of metabolic syndrome in gout is 83.33%. All the main components of MS in patients with gout are more common (AH - 17.3%, BMI - 14.03%, obesity - 4.11%, IGT - 34.15%, hypertriglyceridemia - 22.76%) than in the general population (AH - 80.84%, BMI - 53.33%, obesity - 31.67%, IGT - 89.17%, hypertriglyceridemia - 89.20%).

Consequently, there is a close relationship between the localization and amount of joint damage and the metabolic syndrome. In metabolic syndrome in patients with gout, lesions of the joints of the lower girdle occur 2 times more often than lesions of the joints of the upper girdle.