

Gout in the Republic of Sakha: Risk Factors, and Comorbidities

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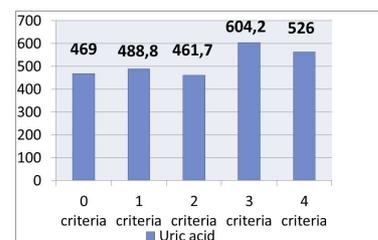
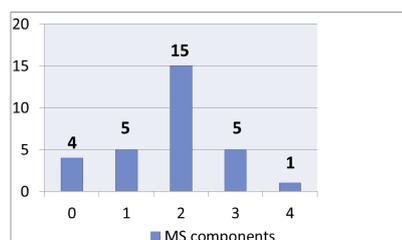
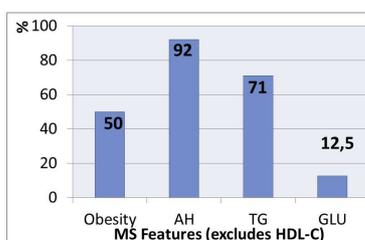
Background. Gout is considered a metabolic disease and ranked among the diseases connected with obesity, such as an arterial hypertension (AH), coronary artery disease (CAD), stroke, and type 2 diabetes mellitus (WHO, 2000). It has been proven that intake of a considerable quantity of meat products is predictor of acute gouty arthritis. For this reason there is great interest in studying the prevalence of gout among inhabitants of the Republic of Sakha (Yakutia) where a lipid-protein diet prevails. Though it is reasonable to assume wide spread prevalence of gout, official data on gout in Yakutia are absent.

Objectives. A research project has been initiated to determine the incidence and characteristics of gout in Yakutia from 2007-2012. Patients hospitalized in the department of rheumatology of Yakut City Hospital with gouty arthritis were studied.

Methods. Patients are being studied by means of a questionnaire developed by the Institute of Rheumatology (Moscow), which includes questions on anamnesis, form of gout, and specifics of treatment. Data also being collected include: laboratory measures (glucose, HDL-C, LDL-C, TC, TG, creatinine, urea, uric acid, TP, bilirubin, ALT, AST, GGTP, alkaline phosphatase, creatine kinase); urinalysis, on admission plus daily analysis of urine (creatinine, protein, uric acid); radiographic assessment of feet and wrists; ultrasound of kidneys.

Results. In 2006-2011 years 44 patients were registered, including 42 men and 2 women. The majority of patients (n=35) are inhabitants of Yakutsk City; the remaining 9 are from various other areas of the Republic. Median age of the subjects is 56 years, with a range of 35-76 years; 4 patients are over 65. Secondary forms of gout and relapses of disease are common. Forms of arthritis include: acute in 3 patients, prolonged in 8 patients, chronic in 2 patients. The tophaceous form was observed at 10 patients. Accompanying pathology includes: AH in 22 patients, CAD in 7 patient, type 2 DM in 4 patients, glucose intolerance + obesity in 1 patient, metabolic syndrome + obesity in 1 patient, uncomplicated obesity in 1 patient, metabolic syndrome without obesity in 1 patient, chronic renal insufficiency in 1 patient, and cardiovascular accidents in 3 patients. Median BMI of the patients is 32, 05 [24; 49]. Normal BMI (16%); preobesity (32%); 1st degree obesity (26%); 2nd degrees obesity (10%); morbid obesity (16%). Waist/hip ratio is 1,094 [0,9-1,46].

Metabolic syndrome (MS) features in patients with gout: obesity-50%; AH ($\geq 130/85$ mm.Hg)-92%; TG ($\geq 1,7$ mmol/l) - 71% ; Glucose ($>6,1$ mmol/l) – 12,5% (HDL-C was unavailable).



Clinical case: 35-year old man with secondary gout was included in the study in 2007. He had 5 episodes of acute arthritis during the year before his first hospitalization. His second hospitalization was in 2010. His father suffers from DM 2 type. This patient has multiple risk factors: obesity (BMI 44 kg/m²), waist/hip ratio 1,46, AH with blood pressure 130/90 and 180/120 mmHg in 2007 and 2010, respectively. Also he has significant liver function elevation, chronic pancreatitis by ultrasound data, and left (59 mm) and right (35 mm) ventricular dilatation, atriomegaly (RA = 50x37 mm), and LV hypertrophy by echocardiography. During his second hospitalization type 2 DM was diagnosed (glucose ranging from 6,34 to 13,8 mmol/L) along with bilateral nephrolithiasis. Other laboratory data in 2007 and 2010 included: TC 3,6 and 5,03 mmol/L; uric acid 787 and 288 - 308 mkmol/L; ALT 40 and 94,1 IU/L; and AST 75,9 and 58,2 IU/L.

Conclusion. Thus, we observed gout in both elderly patients, predominately men, and some young men, among them there were repeated hospitalizations and multiple risk factors. Features of MS were common in patients with gout. AH was most common feature, followed by high TG and obesity. Preobesity and 1st degree obesity are common. This association suggests that lifestyle – diet, lack of regular exercise, obesity – may contribute to gout risk.

The research proceeds. Results will be used for characterization of the incidence and diagnostic features of gout in the Republic of Sakha (Yakutia) with the goal of standardizing guidelines for diagnosis and treatment of gout, assuring optimal care for these patients, especially among young patients with accompanying metabolic abnormalities.

References.

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