

# Hyperuricemia in Patients of Different Age

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**Abstract:** Aim of research: To determine uric acid level in blood serum and incidents of hyperuricemia among women and men of different age and their relation with some components of metabolic syndrome and bone mineral density (BMD).

Object of research: women (n=450) and men (n=120), age of examined patients was from 20 to 89 years old. They were divided in following groups: I group (BMI=18,5-24,9), II group (BMI=25,0-29,9), III group (BMI=30,0-34,9), IV group (BMI>35). Average age of examined patients was  $60,4 \pm 0,7$  years.

Methods of research: Patients were examined in clinic of physiology and pathology of bone and joint diseases, Institute of Gerontology AMS of Ukraine. Uric acid level in blood plasma was determined by uricase-peroxidase method, statistic analysis - by Statistica 6.0.

Results: The level of uric acid increased with age in women and had a significant difference in women of 80-89 years ( $r=0,18$ ,  $p<0,05$ ). In men, the maximal level of uric acid was in the group 60-69 yrs. Incidence of hyperuricemia among women was 17% (in group 20-29 years – 12,5%, 30-39 yrs. – 15,0%, 40-49 yrs. – 11,9%, 50-59 yrs. – 16,3%, 60-69 yrs. – 19,2%, 70-79 yrs. – 18,7%), in men – 30% (in group 20-29 years – 55,6%, 30-39 yrs. – 53,3%, 40-49 yrs. – 12,5%, 50-59 yrs. – 26,1%, 60-69 yrs. – 61,9%, 70-79 yrs. – 30,8%). We determined that the highest level of triglyceride, cholesterol, systolic and diastolic pressure was among patients with hyperuricemia. The higher level of uric acid was found among women in postmenopausal period with maximal body mass index (BMI>35). Incidence of hyperuricemia among women in the I group was 10,2%, in II group – 15,9%; in III group – 21,2%, in IV group – 34,2%. Significant correlation was determined between uric acid and triglyceride ( $r=0,43$ ,  $p<0,05$ ), atherogenic coefficient ( $r=0,24$ ,  $p<0,05$ ) and BMD at the trochanter level ( $r =0,31$ ,  $p<0,05$ ) among women in postmenopausal period.

Conclusions: It was determined that the level of uric acid was increasing with age and the highest level of some components of metabolic syndrome (triglyceride, cholesterol, systolic and diastolic pressure) was among patients with hyperuricemia.

**Key words:** hyperuricemia, age