

Lahno. O.V., Bardinov D.V., Kirilovich E.I.

STATE OF CARDIOVASCULAR AND LIPID METABOLISM IN PATIENTS WITH THYROID DISEASE

Kharkiv National Medical University (Department of Internal Medicine №2)Kharkiv, Ukraine

Purpose. To examine the metabolic and hemodynamic characteristics of patients with different thyroid function.

Materials and methods. The research involved 30 patients with primary hypothyroidism of different etiology (mean age $47,3 \pm 11,9$ years, mean disease duration was $5,18 \pm 3,76$ years), 40 patients with diffuse toxic goiter (mean age $47,31 \pm 10,74$ let, the average duration of the disease $4,52 \pm 3,05$ years). Verification of the diagnosis was carried out on the basis of clinical, laboratory and instrumental investigations. At the time of the survey, patients were uncompensated: thyroid stimulating hormone (TSH) in the blood of patients with thyrotoxicosis was <0.005 mIU / L , free T4 (St. T4) $5,35 \pm 2,71$ ng / dL in the blood of patients with hypothyroidism TSH was $32,895 \pm 12,54$ mIU / L, St. T4 $0,91 \pm 0,23$ ng / dl. To assess the metabolic changes there was used biochemical analysis of blood lipid determination, hemodynamic parameters were assessed by ambulatory blood pressure monitoring (ABPM).The program Statistics 6.1 was used for processing the results.

Results. When estimating expected lipid hypercholesterolemia was detected in patients with hypothyroidism, but in the program - Statistics 6.1 the blood of these patients the level of cholesterol in high density lipoprotein (HDL - cholesterol) remained within the normal range. There were detected correlation of levels TRG and cholesterol of low density lipoproteins (LDL - cholesterol) ($r = 0,606, p = 0,012$). In the blood of patients with thyrotoxicosis levels of lipid fractions were within target values, there was positive correlation between TSH and HDL cholesterol ($r = 0,473, p = 0,030$). These figures reflect the probability of atherogenic changes during prolonged disease decompensation. There was noted the relationship between the levels of atherogenic lipoprotein fractions and the age of patients. So in the blood of patients with diffuse toxic goiter VLDL - cholesterol concentrations ($r = 0,278, p = 0,024$), LDL-cholesterol ($r = 0,738, p = 0,0003$) and patients with hypothyroidism, where the level holestrin - VLDL and triglycerides ($r = 1,0, p = 0.014$) correlated with the age of the data groups. ABPM parameters in both groups were within the normal range as well. However, with equal systolic blood pressure in patients with thyrotoxicosis (average daytime SBP was $123,7 \pm 12,66$ mm Hg. Art., Average SBP night $120 \pm 16,51$ mmHg. Tbsp.)and hypothyroidism (mean SBP was $126 \pm$ day 29, 14mm Hg. Art., average SBP night $120,5 \pm 29,87$ mmHg. tbsp.) were revealed differences in diastolic blood pressure (in patients with diffuse toxic goiter average daytime DBP $74,4 \pm 6,20$ mm Hg. Art., average DBP night $69,4 \pm 7,86$ mm Hg. Art., in patients with hypothyroidism secondary DBP day $84,5 \pm 6,08$ mm Hg. Art., average DBP night $78,5 \pm 4,56$ mm Hg. tbsp.). Lack of adequate pressure reducing at night creates the preconditions for the formation of subsequent hypertension (thyrotoxicosis daily index (SBP 3% , CI 6.2% DBP), hypothyroidism (SI 4.5 % SBP , DBP SI 6.8%). There was found negative correlation among patients with thyrotoxicosis between TSH levels and systolic blood pressure ($r = -0,774, p = 0.014$), which confirmed a positive correlation and St. T4 level average pulse pressure ($r = 0,796, p = 0.010$). These changes in the case of continuous decompensation may form a lesion of the cardiovascular system.

Conclusions. Using the model of uncompensated hyperthyroidism and hypothyroidism there were identified metabolic, hemodynamic changes that in the continuous course (overdose of thyroid hormones or inadequate compensation hypothyroidism) can lead to the formation of arterial hypertension.