Abstract: P537

Lipid metabolism, endothelial function, parameters of elastic properties and inflammation in patients with coronary heart disease combined with hepatic steatosis depending from body mass index.

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Purpose. To compare the relationship lipid metabolism, parameters of elastic properties, endothelial function and inflammation in patients with coronary heart disease (CHD) combined with hepatic steatosis.

Materials and methods. Studied 61 men (group A) with CHD combined with hepatic steatosis, the group B - 18 patients with CHD without hepatic steatosis. The study group was divided into 3 subgroups according to BMI (subgroup 1 - patients who are overweight, 2 - obesity 1 degree, 3 - obesity grade 2). Evaluated leptin levels and postprandial hypertriglyceridemia (PPG), Peterson's elastic modulus (Ep), Young's elastic modulus (Es), reactive hyperemia test data (RHI), C-reactive protein (CRP).

Results. The mean level of leptin were 16,3±9,4 ng/ml in a subgroup 1, 24,4±14,6 ng/ml in a subgroup 2 which is lower than in a subgroup 3 (43,6±20,2 ng/ml (p<0,05). The greatest increase in triglycerides after fat loading test with fixed subgroup 1 (70%) and in the control group (125%). Ep and Es in a group A (412,3±142 kPa, 990,6±227 kPa) was lower than in a group B (574,5±158 kPa, 1358±243 kPa p <0,001). Ep and Ep was lower in the subgroup 1(370,1±158 kPa, 846±160 kPa) and in subgroup 2 (375±175 kPa, 1041±301 kPa) than in subgroup 3 (522±125 kPa,1106±281 kPa) (?<0,05). According to the RHI, endothelial dysfunction was found in 7 patients (77%) in a subgroup 1, and in all patients in a subgroup 2 and 3. RHI was lower (4,1±5,3%,) in the subgroup 2 and in subgroup 3 (4,5±1,7%) than in 1 (7,9±5,4%) (?<0,05). The level of CRP was higher in group A (4,8±1,4 mg/l) than in group B (2,4±1,2 mg/l, p<0,05). There was correlation between the endothelial dysfunction and level of PPG (r=0,84, p=0,01), Es (r=0,92, p=0,01) in a group 1 and level of leptin (r=0,76, p=0,01) in a group 2 however in a group and 3 such connection was not observed.

Conclusions: In patients with coronary artery disease combined with hepatic steatosis leptin and PPG have different levels change depending on body weight. Patients with CHD and liver steatosis showed significant differences in the elastic properties of the vascular wall and endothelial dysfunction. There was correlation between the endothelial dysfunction, Ep and level of leptin in patients with coronary heart disease in combination with hepatic steatosis and obesity 1 degree.