

of the century» and not without reason called «paradox of the twentieth century». Peculiarity of asthma at the present is an increasing of the proportion of severe forms, including among young people, with what is associated a high disability and mortality. It is primarily explained by the presence of comorbidities, which include so-called «socially significant diseases» including hypertension, coronary heart diseasediabetes mellitus and obesity.

According to WHO in the world today there are more than 1.5 billion people with overweight, and a third of them has an obesity. The combination of obesity and asthma has a negative influence on the quality of life of the patient, which is associated not only with mechanical barriers of excess fat, but also with the metabolic changes that occur in the body due to excess income of hormones and cytokines, which produces by fatty tissue. These changes can provoke formation of complications, namely, a combination of cardiovascular events asthma and obesity.

Objective: the aim was to establish the state of blood lipid spectrum in patients with asthma that occurs in conjunction with obesity, and defining the role of the obtained changes in the pathogenesis of diseases.

Materials and methods. We analyzed the level of lipids in 32 patients with asthma with obesity (study group), 19 people with asthma and normal weight and 21 patients with obesity (comparison groups). The average age of patients of the group was 42.3 ± 4.6 years, comparing groups – 41.7 ± 5.2 and 44.1 ± 3.4 years respectively. In all groups dominated by women - 59.4%, 57.9% and 57.1% respectively. Duration history of asthma ranged from 3 to 17 years and patients were divided as follows: a history of 5 years experienced a 21.3% and 21.1%, respectively, from 6 to 10 years - 55.3% and 52.6% and 21.3% and 26.6% respectively persons.

Given the body mass index (BMI) 23 patients (71.9%) of study group had an obesity stage I and 9 persons (28.1%) – stage II. In comparison group distribution was 76.2% and 23.8% respectively.

Assessment of lipid profile was performed on total cholesterol (TC), serum triglyceride (TG), low density lipoprotein (LDL) and high density (HDL).

Results and discussion. Studying the content of lipid spectrum of blood showed that the presence of obesity observed increases in total cholesterol levels. So mild form of hypercholesterolemia (HCH) with fluctuation cholesterol content between 5.2 and 6.5 mmol/l was recorded in 12

patients (37.5%); moderate HCH - from 6.5 to 7.8 mmol/l - 15 (46.9%) and severe hypercholesterolemia (cholesterol above 7.8 mmol/l) - in 5 patients (15.6%).

In asthma patients with normal weight generally observed normolipidemia (12 patients - 63.2%) or easy degree of hypercholesterolemia (7 patients - 36.8%). Isolated form of obesity was also accompanied by oscillations of the blood cholesterol; that changes led to the following indicators: mild hypercholesterolemia - in 33.3% of cases, moderate - in 47.6% and severe - in 19.1% of patients. That is, as the main group and so the comparison group with isolated obesity should almost equal distribution of patients according to the forms of hypercholesterolemia.

Moreover, were reliable increased indicators of TG and LDL levels while reducing the amount of HDL cholesterol in the blood serum. These changes showed an increased risk of atherosclerosis and development of steatohepatitis.

In patients with asthma was analyzed the frequency of different types of dyslipoproteyinemias, which used the criteria set out in the recommendations of the Joint Working Group of Experts of the European Society 1998. So normolipidemia was detected in 57.9% (11) non-obese individual with asthma and 21.9% (7) patients with asthma and obesity. Isolated hypercholesterolemia (IIa type of dyslipoproteyinemias by Fredrickson's classification) was characterized by 28.1% (9) patients with asthma and obesity, and 31.6% (6) asthma patients with normal weight. The combined hyperlipidemia (IIb type) met in 43.8% (14) patients of the study group and in 10.5% (2) patients in the control group. Isolated hipertryhlitseridemia (IV type) was found only in patients with obesity - 6.3% of cases.

Thus, the presence of abdominal obesity in patients with asthma more often ($p < 0.05$) was associated with combined hyperlipidemia, which has a number of atherogenic characteristics. In particular, the high concentration of cholesterol, LDL and triglycerides with low HDL content that can be considered as a precondition for the development of atherosclerosis, clinical marker of which is cardiovascular events - pain in the heart, heartbeat, conduction and rhythm disorders.

Conclusions. Asthma on the background of obesity accompanied by negative changes in lipid blood spectrum with the formation of the most atherogenic dyslipidemia's types by Fredrickson. This fact may contribute to the development of atherosclerosis and formation of complications.

MECHANISMS OF TARGET ORGAN DAMAGE IN PATIENTS WITH ARTERIAL HYPERTENSION AND OBESITY

Pasiyeshvili L.M.

Kharkiv National Medical University, Kharkiv, Ukraine

Diseases of the cardiovascular system in most countries define the structure of morbidity and mortality, which makes it possible to consider them as medico-social problems. This thesis is confirmed by the results of official statistics. For example, in Europe and the US, the number of patients exceeded the barrier in 40%; in Russia the diagnosis of arterial hypertension (AH) was recorded in 40.4% of women and 37.3% - men. In Ukraine, patients with increased numbers of blood pressure make up 46.8% of the adult population.

AH is considered as the leading factor of cardiovascular risk. According to the index DALY (2009) it enters and heads of eight major risk factors, which are recorded in 50% of cases among noninfectious diseases.

Another problem of modern clinic is obesity. According to the WHO there are more than 1.5 billion people with overweight, 700 million among them suffering from obesity. In this case we can speak of a logical increase in the number of patients with comorbidity of obesity and hypertension.

The presence of overweight or obesity makes adjustments for many diseases of internal organs, which is associated not only with the mechanical action of excess fat, but also endocrine (adipose tissue produces hormones leptin, adiponectin, resistin, apelin et al.) and immunological activity of tissue (adipocytes synthesize TNF- α , IL-1, IL-6, an inhibitor-1 of plasminogen activator, complement C3). In this case, we can assume that course of chronic noninfectious diseases of internal organs against this background may deteriorate and acquire new directions. So perceiving adipose tissue as independent structure of the body we can expect the adverse effects from produced by its components on course of comorbidities.

Objective: to determine the effect of obesity to the frequency of target organ damage in patients with arterial hypertension.

Materials and methods. The study involved 62 patients with arterial hypertension II stages, which is defined in the assessment of clinical-anamnestic and laboratory-instrumental investigations and classification of AH, recommended by the European partnership Hypertension / European partnership of Cardiology (ESH / ESC). 39 patients (study group) were obese: 23 had 1 stage and 16 - 2 stage. The severity of obesity was assessed according to the criteria International Diabetes Federation (IDF, 2005) based on a calculation of body mass index (BMI). The comparison group was represented by 29 patients with hypertension and normal BMI, the same age, sex and length of anamnesis for hypertension. The control group - 23 healthy patients are comparable on main indicators with study and comparison groups.

In blood serum of patients determined the content of circulating immune complexes (CIC) (with the use of ethylene glycol with MM 6 thousand. D) and immunogenicity of lymphocytes to target organs by using tissue antigens of the liver, kidneys and heart, obtained from the corpse of the deceased in a car accident a young man 1 (0) blood group.

Statistical processing of the results was carried out on a personal computer by using a licensed program «Microsoft Excel» and «Statistica 6.0».

Results and discussion. The study showed that patients with isolated hypertension and combined with obesity were

observed increase in CIC. Moreover, in patients with comorbid pathology CIC level in 3.9 times higher than in the control group and in 1.6 times - in comparison group.

Also found that the indicators of autosensibilization lymphocytes in the presence of studied organs tissue antigens were also significantly higher in the study group. So, autosensibilization lymphocytes in the presence of heart tissue antigens in the study group was $7.4 \pm 0.41\%$, in the comparison group - $6.1 \pm 0.4\%$; to liver tissue - $4.9 \pm 0.3\%$ and $2.4 \pm 0.2\%$ correspondingly. Indicator of autosensibilization kidney tissue was also significantly higher - $7.1 \pm 0.3\%$ and $5.9 \pm 0.4\%$ correspondingly.

That is background diseases - obesity - led to an increase in immune deviations, mostly expressed in tissues of the heart and kidneys, which is logical in patients with stage II AH. More severe autoimmune processes in the liver tissue of patients with hypertension and obesity, in our opinion, can be explained by the formation of steatohepatitis on the background of obesity, leading to structural changes in the liver.

Thus, the presence of obesity aggravates the course of arterial hypertension, which is associated not only with hemodynamic stress and metabolic changes in the body in such patients, but also with immune disorders that manifest autosensibilization hemodynamically dependent organs.

Conclusions. In patients with hypertension and its combination with obesity progression of the pathological process may be caused by the inclusion of the immune system in the pathogenesis of diseases. A combination of hypertension and obesity lead to a significant increase CIC in the blood content of examined patients, which indicates activation of immune components, and hence, the progression of the disease.

The presence of hypertension and obesity is accompanied by strengthening of autosensibilization processes to target organs and the liver, which provides not only the progression of the disease, but also the continuity of the process.

Consequently, the presence of obesity leads to earlier involvement in the process target organs, not only due to hemodynamic and metabolic changes in the body, but also autoimmune disorders.

ELECTRICAL INSTABILITY OF ISCHEMIC MYOCARDIUM IN MODERATELY REDUCED LEFT VENTRICLE FUNCTION

Rib Y., Zhusupova G., Abdrakhmanov A.

Astana Medical University; National Research Center for Cardiac Surgery, Astana, Kazakhstan

Low ejection fraction (EF) - less than 35% - is a main traditional predictor of sudden cardiac death (SCD) in patients with coronary artery disease (CAD). However there are metaanalyses of 2130 cases post myocardial infarction which show more than 60% SCD were registered in patients with left ventricle EF more than 35%.

The aim of this work is studying the myocardial electrical instability indexes in CAD cases with moderately reduced left ventricle function.

Methods. 32 patients of cardiological department over 18 years (both male and female) with stable CAD were examined (including stable angina, post myocardial infarction, coronary artery bypass grafting (CABG) or percutaneous coronary

Intervention (PCI) are not earlier than 6 month ago). According to echocardiography 32 patients with EF 40-50% were undergoing 24-hour ECG monitoring and treadmill-test, than late ventricle potentials and microT-wave alternation were determined.

Results. There were 4 female and 28 male in studying group, mean age 65 ± 7.3 years. 22 patients had a history of CABG (mean time after operation 3.2 ± 1.3 years), 6 ones - of PCI (mean time after operation 4.1 ± 2.8 years), 20 patients were after myocardial infarction (mean time after accident 6.8 ± 5.0 years). In average left ventricle EF was $45 \pm 4.7\%$; late ventricle potentials were determined in 20 cases, pathological meanings of microT-wave alternation were determined in 13