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# **АКТУАЛЬНІ ПИТАННЯ ВНУТРІШНЬОЇ МЕДИЦИНИ.** ВІД КЛІНІЧНИХ ДОСЛІДЖЕНЬ ДО КЛІНІЧНОЇ ПРАКТИКИ

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Дніпро «Герда» | 2017 respectively the main group. Physical examination, 12-leads ECG, ambulatory ECG (Holter) monitoring, 6-WT, echocardiography, spyrometry, pulsoxymetry, Nt -proBNP level detection were performed to all patients

**Results.** All patients had stable angina: class II– 34 patients (75,6 %), class III – 11 patients (24,4 %) according to the Canadian Cardiovascular Society. 32 patients had IHD assotieted with AH (71,1 %). Severity of COPD was assessed according to GOLD, 2017: group B – 29 patients (64,4 %), group C – 10 (22,2 %), group D – 6 (13,4 %). Severity of airflow limitation was mild (FEV1  $\geq 80$  % predicted) in 3 patients (6,7 %), moderate (50 % $\leq$ FEV1<80 % predicted) – 31 (68,9 %), severe (30 % $\leq$ FEV1<50 % predicted) – 11 (24,4 %)

We assessed LVEF for diagnosis of ALVD. 29 patients (64,4 %) had LVEF 49-41 % (mid-range EF), 11(35,6 %) -54-50 % (preserved EF). 12 (60,0 %) patients without COPD had LVEF 49-40 %, 8 (40,0 %) - less than 40 % (reduced EF).

Nt -proBNP level detection was performed. Mean level of Nt -proBNP in patients with IHD and COPD was  $674,2\pm56,1$  pg/ml. This is the so-called «gray zone». In patients without COPD ean level of Nt -proBNP was in within reference ranges.

We examined left ventrical geometry according to recommendations of European Association of Cardiovascular Imaging (EACVI) and the American Society of Echocardiography (ASE) 2015. Mean range of RWT was  $0,44\pm0,129$ , LVM index  $-79,3\pm13.76$  g/m<sup>2</sup>, LVM  $-139.5\pm24,48$  g, LVV  $-103,4\pm9,07$  mL, LV volume index,  $58,4\pm7,49$  mL/m<sup>2</sup>. The value of the ejection fraction correlates with the type of remodeling of LV. EF $\ge$ 50 % relevant concentric remodeling of LV. Concentric remedeling was also presented in 79,3 % cases EF 41–49 % (23 patients among 29). In patients without COPD, the eccentric type of remodeling predominated.

**Conclusions.** In patients with IHD combined with COPD, ALVD predominates with a preserved or mid-range EF, based on concentric LV remodeling. In our opinion, the definition of ALVD in such patients should include not only a reduced, but also mid-range and preserved EF, since this will determine the direction of treatment.

## THE GENERAL CHARACTERISTICS OF THE T- AND B-CELL IMMUNITY, DEPENDING ON THE BODY MASS INDEX IN THE PATIENTS WITH THE NONALCOHOLIC FATTY LIVER DISEASE IN COMBINATION WITH THE OBESITY

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In recent years, the role of the liver as one of the major organs of the immune system has been widely recognized due to the population of macrophages and killer cells it contains. They are components of the innate immune system. However, the immune response in case of non-alcoholic fatty liver disease (NAFLD) with concomitant obesity (OB) is insufficiently studied; in the literature there some data about changes in the liver innate immunity and the role of acquired immunity in the progression of NAFLD.

#### Актуальні питання внутрішньої медицини

The objective of the research is to study the features of the changes of the indices of T- and B-cell immunity depending on the body mass index (BMI) of the patients with comorbid course of the NAFLD in combination with the OB.

**Materials and methods.** The study involved 200 patients NAFLD in conjunction with OB and, who revealed signs of hepatic steatosis at the time of sonographic and morphological study of liver biopsy: 100 patients with nonalcoholic hepatic steatosis (NAHS) and OB, 100 – with nonalcoholic steatohepatitis (NASH) and OB: among them 70 patients with the minimal activity of the process in terms of alanine transaminase and 30 patients with the moderate activity. Depending on the degree of increase in the body mass index the patients with NAHS and OB and NASH and OB were divided into three subgroups: the first subgroup includes the patients with overweight, the second subgroup includes the patients with the first-degree obesity and the third subgroup includes the patients with the second-degree obesity. The control group consisted of 30 practically healthy persons. The indicators of T- and B-cell immunity were studied by using the serological methods.

Results and Discussion. It is determined that in the patients with NAFLD in combination with OB and disease runs in the background of the changes of T- and B-cell immunity (I-IV variants of the violation of the immune status in 98 % of patients with NAHS and 99 % with NASH). In patients with clinical forms of NAHS and more substantial with NASH, this reaction is mostly characterized by an increase in the number of circulating lymphocytes in the blood, increasing the amount of B-lymphocytes and T-suppressors that can be regarded as a manifestation of nonspecific stereotypes, backup mechanisms immunity system in action any stress factors, including oxidative stress, endogenous intoxication and various metabolic shifts that occur at the course of comorbid NAFLD. In patients with clinical forms of NAHS and more significant with NASH, this reaction in most cases characterized by the increase of the number of the circulating lymphocytes in the blood, increasing the amount of B-lymphocytes and T-suppressors that can be regarded as the manifestation of non-specific stereotypes, backup mechanisms of the system immunity in the action of any stress factors, including the oxidative stress, the endogenous intoxication and various metabolic shifts which occur at the comorbid course of NAFLD. In this category of the patients the rejection of immunity are secondary, mainly compensatory character. The patients with NAFLD in combination with OB whose disease runs in the background of the increase in BMI was observed the weakening of compensatory immune response. The deepest decline of the immune protection was observed in the patients with OB I and especially II degree. It should be noted that NAFLD in combination with OB in most surveyed patients runs in the background of the significant reduction of volume of circulating regulatory T lymphocyte subpopulations, i.e. on the background of the suppression of the immunoregulation from T cells side.

**Conclusions.** The patients with comorbid course of NAFLD in conjunction with OB are characterized by the observation of significant changes of T- and B-cell immunity which depended on the increase in the body mass index parameters and were more significant in the patients from NASH group.

## THE PECULIARITIES OF THE INDEXES OF ACTIVATED RECEPTORS ON THE LYMPHOCYTES ACCORDING TO THE BODY MASS INDEX IN THE PATIENTS WITH NONALCOHOLIC FATTY LEAVER DEASE IN COMBINATION WITH THE OBESITY

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In non-alcoholic fatty liver disease, the process of disease progression is of great importance. Recurrent, and in some cases continuous exacerbations are caused by both humoral and cellular immune disorders. Therefore, the study of the causes and progression mechanisms of fatty liver disease from the perspective of immunology is one of the relevant problems.

The objective of the research is to check the changes of the activated receptors on the lymphocytes according to the body mass index in the patients with comorbid course of nonalcoholic hepatic steatosis and nonalcoholic steatohepatitis in combination with the obesity and pathology of biliary tract.

Materials and methods. The study involved 200 patients with non-alcoholic fatty liver disease in conjunction with obesity and biliary tract pathology, who revealed signs of hepatic steatosis at the time of sonographic and morphological study of liver biopsy: 100 patients with nonalcoholic hepatic steatosis and obesity, 100 – with nonalcoholic steatohepatitis and obesity (of which 70 with the minimal activity of the process in terms of alanine transaminase and 30 with the moderate activity). Depending on the degree of increase in the body mass index the patients with nonalcoholic hepatic steatosis and obesity and nonalcoholic steatohepatitis and obesity were divided into three subgroups: the first subgroup includes the patients with overweight, the second subgroup includes the patients with the first-degree obesity and the third subgroup includes the patients with the second-degree obesity. The control group consisted of 20 practically healthy persons. The subpopulation composition of the lymphocytes was determined using a monoclonal antibody by the «Sorbent TM» company to the clusters: CD25 + (receptors for IL-2), CD95 + (FAS / APO-1), HLA-DR+ by indirect immunofluorescence and CD16 + (natural killer cells) using lymphotoxic test.

**Results and Discussion.** It is determined that in all group of the observations the varied likely increase of the number of the activated receptors on lymphocytes is happening which according from the increase of the indices of the body mass index and it is more significant in the presence of the steatohepatitis in terms of CD16 +, CD25 +, CD95 + immune markers. In the group with nonalcoholic steatohepatitis with the moderate activity is a significant prerequisite for the implementation of lysis of the