#### МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ «БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»



### МАТЕРІАЛИ

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pathological reaction based on lipid metabolism disorders (hyper- and dyslipidemia). Changes in lipid metabolism are often associated with the so-called lipid triad: an increased level of very low density lipoproteins or triacylglycerols, atherogenic low density lipoproteins and a decrease of high density lipoproteins. This triad underlies the pathogenesis of both diseases and oxidative stress in general.

To study the combined effect of rosuvastatin, mosapride and ursodeoxycholic acid on a functional markers of endothelial dysfunction, the intensity of oxidative and nitrosative stress in chronic cholecystitis (CC) and cholesterolosis of the gallbladder (GBC).

60 patients with CC and concomitant coronary heart disease (CHD), obesity I-II degree with GBC were examinated and treated. With the purpose of study efficiency of the proposed treatment, the patients were divided on 2 subgroups: group 1 (control, n=30) received standart treatment, which included ursodeoxycholic acid (UDCA) (0,5 g once daily), atorvastatin (A) (10 mg once daily) and prokinetic drug domperidone (10 mg 3 times daily). Group 2 (main, n=30) received rosuvastatin (R) (10 mg once daily), mosapride (M) (5 mg 3 times daily) and UDCA (0,5 g once daily) for 1 month.

It was found that increased level of nitrogen monoxide (NO) due to treatment in patients of the GR1 decreased by 1,2 times (p <0,05), and in the GR2 – by 2,2 times (p<0,05) and there was a statistically significant decrease of the activity of inducible nitric oxide synthase (iNOS) in patients of both groups: respectively by 1,4 and 3,1 times (p<0.05). The result of optimization of endothelial dysfunction has been a decrease level in the blood of vasointestinal peptide (VIP), which in patients of the GR1 decreased significantly by 1,2 times (p<0,05), and in the GR2 – by 1,6 times (p<0,05). Such cholestasis markers like alkaline phosphatase and gammaglutamyltransferase (by 16,1% and 13,7% respectively (p<0,05)) also have showed a decrease in both groups. The results of duodenal ultrasound after treatment confirmed the positive effect of M and P on the course of concomitant hypokinetic dyskinesia of the gastrointestinal tract and dysfunction of the sphincter apparatus of the bile excretory pathways – a significant increase of degree of the bile secretion tension that shows the contractile capacity of the gallbladder, which in the dynamics of treatment of GR1 increased by 15,4% (p<0,05) compared with GR2 30,8% (p<0,05).

Combined therapy due to rosuvastatin, mosapride and ursodeoxycholic acid with basic anti-inflammatory and detoxification therapy of chronic cholecystitis reduces the intensity of the inflammatory process in the gallbladder, promotes the reverse development of cholesterolosis of the gallbladder, potentiates the effect of antibacterial drugs, improves the contractile function of the gallbladder and tone of the Oddi sphincter.

# Hrechko S. I. THE ROLE OF BICUSPID AORTIC VALVE IN THE EVOLUTION OF CARDIOVASCULAR COMPLICATIONS

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The most common congenital heart defect such as the bicuspid aortic valve is the most frequent morphological basis of aortopathy. Morphology of bicuspid aortic valve may influence the associated pathologies including aortic stenosis, aortic insufficiency, and aortic dilation. The purpose of this study was to define the frequency and patterns of valvular dysfunction and aortopathy associated with different types of the bicuspid aortic valve. Most cases of severe aortic failure are associated directly or indirectly with the congenital bicuspid aortic valve.

We analyzed clinical, instrumental, laboratory, instrumental, including echocardiography studies of 51 patients (33 men and 18 women) with the diagnosed bicuspid aortic valve. All patients were referred for transesophageal echocardiography. Aortic valve value less than 0.05 was considered statistically significant. The frequency of various bicuspid aortic valve phenotypes and their association with valvular dysfunction and aortopathy was evaluated.



The analysis of the frequency of phenotypes detection showed the following addiction. A single suture bicuspid aortic valve, which is usually located between the left and right coronary cusps with hemodynamically prevailing stenosis, is more common, and all other types are defined as a mixed compound that is one of the risk factors for aortic stenosis and associated aortopathy and may lead to significant hemodynamic changes. Patients in the bicuspid aortic valve group were more likely to have periannular complications in compare with the tricuspid group. The prominent clinical manifestations brought on the progression of heart failure and the development of complications. The aortic pathology analysis is performed depending on the bicuspid aortic valve phenotype. The placement of the ventricles may be anterior-posterior or right-to-left. According to the functional state of the bicuspid aortic valve divided into complicated and uncomplicated. Patients of different phenotypes are characterized by the indirect eccentric flow and uneven tension on the walls of the aorta that lead to vascular remodeling of the ascending aorta and formation of aneurysms or dissection. There was a significant difference in the frequency of aortic stenosis and the failure of the aortic valve. The phenotype 3 showed a significantly higher incidence of aortic stenosis compared to phenotype 1, while the frequency of aortic failure in phenotype 1 was higher than among other phenotypes. The frequency of mass or vegetation in phenotype 1 was significantly lower compared to other phenotypes.

Timely transesophageal echocardiography and diagnosis of initial conditions of hyalinosis, fibrosis, and calcinosis of the bicuspid aortic valve, insufficiency, and stenosis of aortic valve or insufficiency of the aorta allow early delivery to surgical treatment to prevent hemodynamic dysfunction, to improve the quality and the increase patient's lifetime.

#### Hrvniuk O.Ye.

## EXCHANGE FEATURES OF EXTRACELLULAR MATRIX COMPONENTS IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND NON-ALCOHOLIC STEATOHEPATITIS

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The steady increase in the incidence of comorbidity of chronic obstructive pulmonary disease (COPD) and non-alcoholic steatohepatitis (NASH) against the background of obesity in people of working age in Ukraine and in the world stipulates the need of investigation of the interconnection mechanisms and the search for new factors of the pathogenesis of this comorbid pathology progression.

The aim of the study to establish peculiarities of the exchange of connective tissue components in patients with a combined course of non-alcoholic steatohepatitis, COPD and obesity.

100 patients with COPD participated in the study, including 49 with NASH and obesity of the 1st degree: group 1 - 28 patients with COPD (2B GOLD). Group 2 - 23 patients with COPD (3C, D). Group 3 - 25 patients with COPD (2B) with NASH. Group 4 - 24 patients with COPD (3C, D) and NASH. Control group - 20 healthy persons (HP). Changes in the metabolism of the extracellular matrix components were determined by of oxyproline content in the blood: free oxyproline (FOP) - by S.S. Tetianets (1985) and protein-bound oxyproline (PBOP) by M.S. Osadchuk (1979), hexosamines (HA) by O.H. Arkhipova (1988).

The analysis of the intensity of fibrous reactions in patients with COPD, depending on the presence of comorbid NASH, indicates a probable increase in the content of protein-bound oxyproline (PBOP) in the blood of patients of all groups: in the  $1^{st}$  group  $(61,88\pm2,54) - 1.5$  times in comparison with the HP  $(41,48\pm3,72)$  (p<0.05), in patients of group 2  $(73,23\pm2,96) - 1.8$  times (p<0.05), group 3  $(84,21\pm3,65) - 2.0$  times (p<0.05), in patients of group 4  $(97,38\pm3,42) - 2.4$  times (p<0.05). At the same time, the index of FOP content in the blood, which is the biochemical marker of collagen catabolism, in patients with COPD of group 1  $(15,27\pm0,43)$  was 1.2 times higher (p<0.05) than that in HP, in patients of group 2  $(17,46\pm0,57) - 1.4$  times (p<0.05), indicating a parallel increase in collagen degradation against the background of its high synthesis. The activity