МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

М А Т Е Р І А Л И

105-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
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Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

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У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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The lipid spectrum of blood and indicators of carbohydrate metabolism were studied by using standard sets of reagents from the company "Danish Ltd" (Lviv). The level of insulin resistance was determined by the value of the body mass index, insulin resistance indices.

Results. The analysis of the conducted studies showed that in patients of the 2nd and 3rd groups, a slight probable increase in the level of fasting glycemia by 9,0% and 9,4% ($p<0,05$) and postprandial glycemia (respectively by 8,4% and 26,0%) were established ($p<0,05$)) in comparison with the control group, while in patients of the 1st group, changes in glycemic indicators were unlikely. The presence of a violation of the sensitivity of peripheral tissues to insulin in patients of the 2nd and 3rd groups is indicated by a probable decrease in the Caro index - an indicator of the ratio of the level of glucose in the blood to the level of insulin in the fasting blood (by 1,7 and 2,2 times, respectively ($p< 0,05$)), which indicates the phenomenon of insulin resistance. Calculation of generally accepted indices of insulin resistance, in particular BMI, indicates the presence of insulin resistance in patients of the 1st, 2nd and 3rd groups: the indicator exceeded the control by 19,0%, 25,8% and 39,4%, respectively ($p1,2,3<0,05$) with maximum values in patients with comorbid obesity (group 3). These data indicated that patients with chronic cholecystitis, which runs on the background of coronary artery disease and obesity, have insulin resistance syndrome, and its presence was the basis for the progression of all comorbid diseases. The established syndrome of insulin resistance is probably primary (hereditary predisposition), and may be formed secondarily in connection with liver damage against the background of biliary dysfunction. The data supporting this assumption is a probable increase in the HOMA IR index in all observation groups. In particular, in the patients of the 1st group, the HOMA IR index was within the normal range, in the 2nd group it exceeded the index of PHI by 1,8 times, in the patients of the 3rd group – by 2,4 times ($p2-3<0,05$) with the presence of a probable statistical difference between groups ($p<0,05$). Correlation analysis between indicators of glycemia, compensation of carbohydrate metabolism, insulin resistance and the level of bile lithogenicity indicated that the duration of hyperglycemia episodes, BMI and the index of insulin homeostasis (HOMA IR) exerted the greatest influence on the lithogenicity of bile in patients with chronic cholecystitis with accompanying coronary artery disease and obesity.

Conclusions. The cause of the progression of insulin resistance and metabolic syndrome in patients with chronic cholecystitis is probably liver damage against the background of biliary dysfunction with the formation of secondary hepatic insulin resistance.

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THE ROLE OF CONNECTIVE TISSUE COMPONENTS IN THE PROGRESSION OF NON-ALCOHOLIC STEATOHEPATITIS COMBINED WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Introduction. Fibrogenesis is a universal process, the basis of which is the excessive accumulation of extracellular matrix components (ECM). Activated hepatic stellate cells (HSC) play a key role in the process of hepatic fibrogenesis because they serve as the major source of ECM proteins and tissue collagenases**.** The combination of direct and indirect serological markers of liver fibrosis in patients with non-alcoholic steatohepatitis (NASH) and chronic obstructive pulmonary disease (COPD) allows not only to assess the severity of fibrosis, but also to predict the rate of its development, monitor the rates of liver fibrosis and lungs in the dynamics of treatment.

The aim of the study. To determine the metabolism characteristics of hydrocarbon-protein components of the extracellular matrix and their role in the progression of non-alcoholic steatohepatitis and chronic obstructive pulmonary disease in their comorbidity.

Material and methods. 100 patients with NASH and obesity of the 1st stage have been examined, including 48 with with COPD (GOLD 2-3 C-D) (2 group). The average age of patients was (48.4±4.2) years. There were 20 apparently healthy persons (AHP) of the corresponding age and sex in the control group.

Results. The analysis of the intensity of fibrous reactions in patients with NASH, depending on the presence of comorbid COPD, indicates a probable increase in the content of protein-bound oxyproline in the blood of patients of all groups: in the 1st group – 1.8 times in comparison with the AHP ($p<0.05$), in patients of group 2– 2.9 times ($p<0.05$). At the same time, the index of free oxyproline content in the blood, which is the biochemical marker of collagen catabolism, in patients of group 1 was 1.3 times higher ($p<0.05$) than that in AHP, indicating a parallel increase in collagen degradation against the background of its high synthesis. The activity of collagen degradation was even more intense in comorbidity with COPD: in patients of group 2 - 1.8 times ($p<0.05$) respectively.

Conclusions. The received data confirm that patients with NASH secondary to COPD, which developed against the background of obesity, suffer from a significant increase in the synthesis of collagen and glycoproteins, accompanied by an ineffective resorption of newly formed collagen due to insufficient activation of collagenolysis, a significant imbalance in the connective tissue metabolism system, which leads to progressive fibrosis of the lungs and liver and disturbances of their functions.

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THE INFLUENCE OF DIFFERENT X-RAY IRRADIATION DOSES ON THE FIBRINOLYTIC SYSTEM OF RATS' LIVER

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Introduction. Fibrinolysis is considered as a process that plays an important role in the physiology and pathology of the body. It is a vital mechanism that prevents pathological deposition of fibrin and maintains blood in a liquid state. Fibrinolysis is carried out by a multicomponent enzyme system, which includes four main components: plasminogen proenzyme, plasmin enzyme, activators and inhibitors. Under normal conditions, the activator and inhibitory functions of the fibrinolytic system are in dynamic balance. The Chernobyl nuclear power plant accident participants of its consequences liquidation have signs of functional disorganization in the homeostasis system: activation of hemocoagulation and platelet aggregation on the background of the activity of fibrinolysis decrease and antithrombogenic properties of the vascular wall.

The aim of the study. The aim of the work is to clarify the effect of small-dose fractionated X-ray radiation on the fibrinolytic system of rats' liver.

Materials and methods. The research was conducted on 48 white non-linear male rats with a weight of 120 - 150 г, which were kept on the usual vivarium food ration. Fractional total irradiation of animals with X-rays in total doses of 0.3; 0.6; 0.9 and 1.2 Gr (groups 1, 2, 3 and 4, respectively) were carried out for 30 days with an interval of 24 h on the X-ray diagnostic unit 12 P6: exposure dose power 0.258 mCl/s, voltage 90 kV, force current 40 mA, aluminum filter, skin-focal distance 48 см. The control group consisted of intact rats, which were decapitated at the same time as the experimental ones. Tissue fibrinolytic activity was determined in 10% rat liver homogenate, prepared in 0.9% NaCl by azofibrin lysis ("SimkoLtd", Lviv), i.e. fibrin bound with an orange dye, which gives a bright red color in an alkaline medium. Statistical analysis was performed by Student t - criterion. The results of the studies were expressed as a percentage of control.

Results. In a day after the end of the course of X-ray irradiation, changes in the fibrinolytic activity of the liver of rats were observed for 30 days. A slight decrease in total fibrinolytic activity (TFA) was detected in all experimental groups. The lowest level of activity was noted under the effects of X-ray radiation in a total dose of 0.3 Gr, due to a decrease in non-enzymatic fibrinolytic activity (NFA) by 22%. In the 3rd and 4th experimental groups, the total fibrinolytic activity decreased to a greater extent due to enzymatic fibrinolysis. On the 30th day, the fibrinolytic activity normalized only in the 1st and 2nd groups. In the 3rd and 4th groups, total non-enzymatic and enzymatic fibrinolytic activity remained low.