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ВИЩИЙ ДЕРЖАВНИЙ НАВЧАЛЬНИЙ ЗАКЛАД УКРАЇНИ
«БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



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101 – ї

підсумкової наукової конференції

професорсько-викладацького персоналу

Вищого державного навчального закладу України

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Матеріали 101 – ї підсумкової наукової конференції професорсько-викладацького персоналу вищого державного навчального закладу України «Буковинський державний медичний університет» (м. Чернівці, 10, 12, 17 лютого 2020 р.) – Чернівці: Медуніверситет, 2020. – 488 с. іл.

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У збірнику представлені матеріали 101 – ї підсумкової наукової конференції професорсько-викладацького персоналу вищого державного навчального закладу України «Буковинський державний медичний університет» (м.Чернівці, 10, 12, 17 лютого 2020 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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structural changes of erythrocytes membranes (EM) in patients with chronic heart failure (CHF) and diabetes mellitus type 2 (DM). Methods of the optical physics reveal and objectify structural changes of EM, which can expand the arsenal of diagnostic methods of rheological disorders detection due to various pathological conditions.

60 patients with CHF (I group) and 55 patients with CHF with comorbid DM (II group) were included in the study. For objective assessment of functional state of EM laser polarimetry of the red cell suspension smear was applied.

Intensity distribution of histogram of Fourier spectrum of erythrocytes suspension smear had symmetrical “bell-like” appearance. Unlike this, intensity distribution of Fourier spectrum of erythrocytes suspension smear of patients of II group was uneven, and histogram transformed into asymmetric dependence. Revealed fact indicates growth of anisotropic component of EM, conditioned primarily by conformational changes of the protein structure of EM due to chronic hyperglycemia (activation of the peroxic oxidation of the biopolymers and lipids, protein molecules glycolization, and, as a result, change of the conformational and spatial orientation of the protein fibrils, including integrated, of the erythrocyte membrane), accompanied by worsening of morphological features of EM. Correlation analysis showed statistically significant direct relationship between level of fasting glucose and anisotropy degree of the red blood cells suspension of patients of CHF and DM.

Thus, methods of the laser polarimetry of the EM may be used for early diagnosis of structural changes of erythrocytes in patients with CHF and DM.

Prysiashniuk I.V.

ENDOTHELIAL DYSFUNCTION IN PATIENTS WITH CHRONIC CHOLECYSTITIS AND HYPOTHYROIDISM

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Much attention is paid to the role of endothelial dysfunction and mechanisms of cytokine regulation in pathological changes of different organs during hypothyroidism. Increased vascular endothelial growth factor (VEGF) plasma level is characterized for the development of endothelial dysfunction, which promotes the development of nitrogen monoxide and prostacyclin stimulating vasodilation. Violation of the endothelium functional state and cytokine-mediated mechanisms of inflammation are important components in the pathogenesis of chronic cholecystitis (CC). The abovementioned indicates the need for timely detection of endothelial disorders in patients with CC and hypothyroidism for their further therapeutical corrections.

The objective of the study was to investigate activity of the markers of endothelial dysfunction in patients with chronic cholecystitis and hypothyroidism.

The study involved 72 patients with CC and hypothyroidism (main group). 30 patients with CC with normal functional activity of the thyroid gland (comparison group) were examined to establish the possible effect of hypothyroidism on the CC course. Control group included 20 healthy individuals. The average age of patients of main group was $42,3 \pm 2,6$ years, comparison group— $46,0 \pm 1,6$ years, control group— $40,1 \pm 2,9$ years. Biochemical studies were performed on the blood biochemical analyzer "Accent-200" ("Cormay SA", Poland). The biochemical blood analysis included: total bilirubin and its fractions concentrations, albumin level, plasma enzyme activity (aspartate aminotransferase (AST), alanine aminotransferase (ALT), lactate dehydrogenase (LDH), alkaline phosphatase (AP), gamma-glutamyl transferase (GGT)).

Endothelial function was investigated by measuring VEGF blood level with the help of immunoassay method. The quantity of circulating desquamated endothelial cells was calculated by J. Hladovec method in N.N. Petrishchev et al. modification.

Patients of both groups showed an increased AST activity as compared to healthy individuals. It was significant only for patients with CC and hypothyroidism, in which the activity of this enzyme by 18,2% ($p=0,004$) prevailed control indicators. ALT activity was significantly



higher in patients of the main and comparison groups by 55.8% ($p=0,01$) and 56,5% ($p=0,04$) as compared to the specified figures in healthy people. Significant increase in the total LDH activity was observed in patients with hypothyroidism and CC, which at 38,4% ($p<0,0001$) and 40,2% ($p<0,0001$) prevailed mentioned values in patients of the comparison group and healthy individuals. The AP activity was higher by 14,7% ($p=0,04$) in CC patients compared to healthy people. In patients with hypothyroidism and CC, AP was the highest, its activity by 31,7% ($p=0,0002$) prevailed control indicators and by 14,8% ($p=0,04$) activity of this enzyme in the patients of comparison group. In patients of both examined groups GGT activity at 63,5% ($p=0,0007$) and 66,5% ($p=0,002$) prevailed control values. In patients with CC and hypothyroidism increased VEGF plasma level was observed, which at 2,5 times ($p=0,0005$) prevailed its concentration in healthy individuals. Also VEGF concentration in patients of the main group was significantly higher at 53,2% ($p=0,04$) as compared to patients of comparison group, that indicates the increased severity of the endothelium dysfunction in patients with hypothyroidism and CC and point on the particular role of the thyroid hormones in disbalance in this injury

Thus, in patients with chronic cholecystitis and hypothyroidism increased lactate dehydrogenase and alkaline phosphatase activity were observed, accompanied by the manifestation of cholestasis. Increased vascular endothelium growth factor plasma level and endotheliocytes number was detected in this patients, attested the accelerated severity of endothelium dysfunction.

Reva T.V.

MORPHOLOGY OF THE ESOPHAGEAL MUCOSA IN PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE ON THE BACKGROUND OF HYPOTHYROIDISM

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The current paradigm of gastroesophageal reflux disease (GERD) diagnosis hinges on the identification of oesophageal mucosal lesions or troublesome symptoms caused by gastro-oesophageal reflux. The primary determinant of mucosal injury is excessive oesophageal acid exposure attributable to anatomical or physiological defects of the oesophagogastric junction and oesophageal peristalsis. GERD symptoms, however, have multiple potential determinants including the number of reflux episodes, the proximal extent to which the refluxate migrates, the acidity of the refluxate, oesophageal hypersensitivity and cognitive hypervigilance. Consequently, depending on the clinical context, the defining features of GERD can be pathology, physiology or symptomatology. The morphology of GERD depends on the duration of contact between the esophageal mucosa and refluxed stomach contents. Consequently, the amount of refluxed material, how frequently reflux occurs, and how quickly refluxed material is cleared are all variables. Endocrine disorders are common, and the effects of endocrine disorders present with a wide range of clinical manifestations. Digestive symptoms or signs may also reveal signs of thyroid disease and, when ignored or underestimated, diagnosis may be delayed and serious consequences may occur. Patients with adult gland thyroid deficiency may cause gastrointestinal manifestations, such as GERD.

The objectives of the study was to determine the main morphological features of the course of gastroesophageal reflux disease in the conditions of comorbidity with hypothyroidism.

The main group consisted of 100 patients with GERD in comorbidity with hypothyroidism. The average age of patients was 49.9 years. There were 18 men (18%), 82 women (82%). The control group consisted of 30 patients with GERD (with acid reflux). The comprehensive study included clinical inspection, laboratory and instrumental research. Nature of the histological changes of the esophageal mucosa was assessed using a rating scale of morphological changes of the esophagus and the esophagopatic index.

In the pathomorphological picture GERD with alkaline reflux marked predominance of hyperregenerative changes over inflammatory of the esophageal mucosa, but when acid reflux, on