Recent scientific researches have shown that it is chronic systemic inflammation (CSI) that plays a leading role in the onset and progression of AS [7], the pathogenetic basis of which is endothelial dysfunction (ED) and DL that causes oxidative stress due to the formation of products of lipid peroxidation (LPO) [3]. Meanwhile, the nuclear factor kappa B (NF-kB) is the key link of CSI, which triggers the synthesis of proinflammatory cytokines (CK): interleukin 6 (IL-6) and tumor necrosis factor α (TNFα) [3, 4]. The foregoing provides the basis for searching the indicative markers of CSI in this combined pathology to optimize diagnostics and assessment of the course of the disease, as well as to ensure the effectiveness of therapeutic measures. The aim of the research was to analyze the relationship between the parameters of CSI, endothelial dysfunction, lipid spectrum, antioxidant defense and blood flow rate in the portal and hepatic veins in order to detect important diagnostic markers of CHD concurrent with NAFLD.

**Materials and methods.** An open clinical trial (single group study) was conducted. The study involved 62 subjects of both sexes with the diagnosis of coronary heart disease: stable exertional angina, FC I-II, HF 0-I concurrent with NAFLD. The inclusion criteria for the study were the age of 40-70 years, the presence of coronary heart disease: exertional angina of FC I-II in the absence of the course destabilization for at least two months, as well as the presence of concomitant NAFLD (steatohepatosis), patient’s informed consent to participate in the study. The exclusion criteria were the presence of hyperpertension above the stage II, unstable angina, chronic heart failure (CHF) above stage I, diabetes mellitus type I, chronic and acute viral hepatitis, alcoholic liver disease, autoimmune hepatitis, Wilson-Konovalov’s disease, rheumatic diseases, anemia, chronic renal failure, oncological diseases. To achieve this aim, patients were tested for blood levels of IL-6 and TNFα by the immunoenzyme method, the number of circulating endothelial microparticles (CEM) in peripheral blood with expression of CD32 and CD40 antigens by flow cytometry [9], total cholesterol (CH) and low density lipoprotein cholesterol (LDL cholesterol) by sedimentation method; expression of the mRNA gene of the kappa inhibitor Bα (IkBα) of the nuclear transcription factor kappa B (NF-kB) in peripheral blood mononuclear cells by the polymerase chain reaction method, the level of ceruloplasmin (CP) by biochemical method. The determination of blood flow rates in the portal vein (v.p.) and hepatic veins (v.h.) was carried out by ultrasonic pulsed dopplerography.

**Results.** Patients in the study group displayed increased proinflammatory CK TNFα -10.7 pg/ml, CD32 CD40 - 2.69 x 10^7/l at the rate of 1.3 (1.05-2.11) x 10^7/l [5], blood flow rate in the portal vein (v.p.) - 0.386 m / s and hepatic veins (v.h.) - 0.195 m / s.As a result of correlation analysis, a direct relationship was found between IkBα NF-kB and TNFα (r = 0.365, p <0.05), as well as between IkBα and IL-6 (r = 0.381, p<0.05), which demonstrates the key role of IkBα NF-kB in CSI. A direct correlation was found between IkBα and total cholesterol (r = 0.494, p<0.01), as well as between IkBα and LDL cholesterol (r = 0.462, p<0.01), thus demonstrating the relationship between dislipoproteinemia and CSI in this category of patients. Blood flow rate in v.p. had a direct correlation with IkBα (r = 0.597, p <0.001) and IL-6 (r = 0.534, p <0.001). We also detected a direct correlation between the blood flow rate in v.h. and CD32 CD40 (r =
0.517, p <0.01), which is an indicator of inflammatory activity of the endothelium. The level of antioxidant CP had an inverse correlation with CD32 CD40 (r = -0.392, p <0.05), with the blood flow rate in v.p. (r = -0.403, p <0.05) and with a blood flow rate in v.h. (r = -0.363, p <0.05).

Conclusion. Thus, both in fatty infiltration of the liver and in atherosclerotic vascular lesions, an important role belongs to CSI and its main factor of NF-kB. CSI promotes endothelial dysfunction, which is also manifested in the increased blood flow rate in v.p. and v.h. and increased marker of inflammatory activation of the endothelium CD40 CD40. The high level of CP determines the degree of antioxidant protection and has an endothelial protective effect in this category of patients.

Prospects for further research. Further study of the dynamics of the CSI markers and endothelial dysfunction can be used to develop effective pathogenetically validated therapeutic regimens for patients with CHD and NAFLD.

It is expedient to use the assessment of the level of expression of IkBα as a marker of the inflammatory process activation in CHD, steatohepatosis and atherosclerosis of vessels. It is also recommended to assess the level of CP in the blood as an indicator of endothelial protection in these diseases.

References:


Key words: coronary heart disease, chronic systemic inflammation, endothelial dysfunction, non-alcoholic fatty liver disease, atherosclerosis, circulating endothelial microparticles, blood flow rate in the portal and hepatic veins.

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THE INFLUENCE OF CILOSTAZOL ON CLINICAL-HEMODYNAMIC AND RELATED HUMORAL FACTORS IN PATIENTS WITH COMPLICATED ARTERIAL HYPERTENSION

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Arterial hypertension (AG) is one of the main risk factors for myocardial infarction or stroke, the number of such patients is growing annually. The search for new methods of diagnosis and treatment of this pathology will partially improve this situation. The level of endogenous bioregulators (beta-endorphin, serotonin, dopamine, orphanine, angiotensin) has a special significance in the genesis of cerebral blood supply disorders. One of the drugs that are effectively used in patients with atherosclerotic peripheral vascular disease is cilostazol. Therefore, the aim of our study was to investigate the effect of cilostazol on changes in the level of endogenous bioregulators and the development of complications in patients with arterial hypertension.

Materials and Methods. This study enrolled 31 patients with arterial hypertension, among them the group I consisted of 19 patients with hypertension without complications, group II - 12 patients with complicated course of hypertension, intermittent claudication, combined with concomitant pathology, history of acute myocardial infarction or history of stroke. The control group consisted of 16 relatively healthy individuals. The average age of patients was 64.3 ± 9.7 years old, male. Plasma levels of antibodies to endogenous bioregulators were determined by ELISA.

Results. Our results revealed that in the group II of patients with severe hypertension, who had a significant (p <0.05) low beta-endorphin level (0.22 ± 0.06) compared with the group I (0.59 ± 0.15) and significant (p <0.05) high serotonin (1.95 ± 0.71) and dopamine (2.02 ± 0.55) levels. After the use of cilostazol within 24 days in a dose of 50 mg 2 times a day, it leads to improved exercise tolerance, increase the distance of painless walking and an increase in