The revealed fact indicates the growth of EM anisotropic component, conditioned primarily by conformational changes of the EM protein structure due to chronic hyperglycaemia (activation of the peroxic oxidation of the biopolymers and lipids, protein molecules glycolysation, and, as a result, the change of the conformational and spatial orientation of the protein fibrils, including integrated, of the erythrocyte membrane), which is accompanied by worsening of EM morphological features. Correlation analysis showed a statistically significant direct relationship between the level of fasting glucose and anisotropy degree of the red blood cells suspension in patients with CHF and DM.

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

Prysiazhniuk I.V.

CHANGES IN LIPID BLOOD PARAMETERS WITH T894G POLYMORPHISM OF ENDOTHELIAL NITROGEN OXIDE SYNTHASE GENE IN PATIENTS WITH CHRONIC NONCALCULOUS CHOLECYSTITIS AND HYPOTHYROIDISM.

Department of Internal Medicine
Bukovinian State Medical University

Gene polymorphism of endothelial nitrogen oxide synthase (eNOS) has been the object of scientific interest for many years, since it plays a principal role in the regulation of vascular tone. NO plays a key role in vascular relaxation, reducing of migration and proliferation of vascular smooth muscle cells, inhibition of platelet adhesion of leukocytes to the endothelium, inhibiting of low-density lipoprotein oxidation. Described changes result in endothelial dysfunction manifestation, leading to the atherogenesis development. In particular, it was found out, that minor T-allele carriers of the eNOS gene show reduced activity of the eNOS enzyme and decreased NO blood level. We have not found any data about the peculiarities of chronic cholecystitis development depending on the eNOS gene (T894G) polymorphism, especially in patients with hypothyroidism who are prone to the development of this pathology.

The aim of the study was to investigate a possible association of T894G eNOS gene polymorphism with changes in lipid blood parameters in patients with chronic noncalculous cholecystitis and hypothyroidism. The study involved 52 patients with chronic noncalculous cholecystitis and hypothyroidism (average age 46,1±14,4 years), which were signed in research group. Disease duration since the diagnosis of hypothyroidism ranged from 1 to 10 years, chronic cholecystitis between 1 to 5 years respectively. The control group consisted of 20 practically healthy individuals correlative by their age and gender to the groups examined. Lipid profile of the blood was studied by measuring the content of cholesterol, triacylglycerols, cholesterol of high density lipoproteins, cholesterol of low density lipoproteins, cholesterol of very low density lipoproteins in plasma. Atherogenic index was calculated on the base of received data. Investigation of T894G polymorphism of eNOS gene was carried out in the state institution “Reference Center for Molecular Diagnostics of the Ministry of Public Health of Ukraine” (Kyiv, Ukraine). To determine the polymorphic variants of eNOS gene (G894T) (rs1799983) modified protocols with specific oligonucleotide primers (“Metabion”, Germany) were used the method of polymerase chain reaction and subsequent analysis of restriction fragment length polymorphism.

Patients with chronic noncalculous cholecystitis and hypothyroidism T-allele carriers were characterized by 19,2% ($p=0,02$) higher cholesterol of low density lipoprotein blood level compared to the appropriate indicator in patients with GG-genotype. Such peculiarities in lipid profile in patients with T-allele of eNOS gene lead to the increased value of atherogenic index by 14,4% ($p<0,05$) compared with proper parameter in patients GG-genotype carriers.

Thus, carriage of the T-allele T894G of the eNOS gene polymorphism in patients with chronic noncalculous cholecystitis and hypothyroidism is associated with low-density lipoprotein cholesterol and atherogenicity index compared with the corresponding indicators in patients with GG genotype, indicating a more pronounced prerequisites for the deterioration and progression of chronic inflammatory process of the gallbladder.