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ABSTRACTS



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INVESTIGATION OF THE LIPID METABOLISM AND CYTOKINES GENES POLYMORPHISMS ROLE IN THE DEVELOPMENT OF ATHEROSCLEROSIS

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Cardiovascular diseases are currently a basic cause of mortality in highly developed countries and are due to atherosclerosis in which cholesterol and other lipids, cellular elements and fibrin accumulate in the arteries walls, forming plaque and thus limiting blood flow. The aim of our study was to examine the association of the atherosclerosis development risk with polymorphic markers of genes involved in lipid metabolism depending on age. The study involved 116 people, who were divided into 3 groups. Group 1 included 40 people under the age of 55 years old, while the group 2 40 people older than 55 years. All patients of groups 1 and 2 were diagnosed with coronary heart disease. The control group (group 3) included 36 persons without diseases of the cardiovascular system. Polymerase chain reaction was performed using sets of reagents for amplification of *LIPC* G-250A, *TNF* G-308A, *IL4* C-589T, *IL10* G-1082A, *LPL* Ser447Ter, *APOE* Leu28Pro, *PPARGC1A* Gly482Ser, *PPARGC1B* Ala203Pro polymorphisms. According to the results, the genotype frequencies for the *LIPC*, *PPARGC1*, *IL4* and *IL10* genes were significantly differed between the groups of patients with cardiovascular diseases of different age. The risk of cardiovascular diseases in the carriers of the *LIPC* gene -250A allele increases in 2 times; in the *LIPC* and *PPARGC1A* genes in 2.55 times, in the pathological *LIPC* and *IL4* alleles in 6.48 times. In group 1 the proportion of individuals with the simultaneously heterozygous condition in four, five and six genes was higher than in controls, that confirming the differences in the genetic predisposition to cardiovascular diseases. Analytical work was carried out on the equipment of Center for collective use High Technology of SFedU. This research was supported by the Russian Science Foundation grant No: 15-15-10022.