

# **LIPOPROTEIN A( a) LEVEL AND HUMORAL AND CELLULAR IMMUNITY INDICATORS IN CORONARY ATHEROSCLEROSIS PROGRESSION IN PATIENTS WITH STABLE CHRONARY DISEASE AFTER STENTING**

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**Introduction.** Atherogenesis is based on a chronic inflammatory process developing in the wall of large and medium arteries against the background of lipid metabolism disorders and endothelial damage. Increased concentration of lipoprotein a( a) [ Lp (a)] in blood plasma is an independent risk factor for the occurrence and development of atherosclerotic lesions of various localizations.

**Objective.** To analyze the relationship of Lp ( a ) and autoantibodies to Lp (a) and low-density lipoproteins (LDL) with cellular inflammation indices and progression of coronary atherosclerosis in patients with stable coronary artery disease

**Methods.** The retrospective study included 46 patients with stable coronary artery disease: group 1 - without progression (n=30) and group 2 - with progression (n=16) of atherosclerosis during 22.4±8.7 months of observation according to coronary angiography data. All patients took statins . Lymphocyte subpopulations ( Th1 , Th2, Treg , Th17) were typed using direct immunofluorescence and flow cytometry. Biochemical studies included determination of lipid spectrum parameters, Lp ( a), autoantibodies ( autoAb ) to Lp (a) and LDL, as well as their oxidized derivatives.

**Results .** The level of Lp ( a ) and the titer of class G autoAbs specific to Lp (a) and LDL were higher in group 2 relative to group 1: Lp ( a ) - median 16.8 (9.5-35.5) mg/ dL and 6.5 (4.4-15.9) mg/ dL , p=0.07, autoAbs to Lp (a) - 0.23±0.12 p.u. and 0.17±0.09 p.u., p=0.08 and autoAbs to LDL 0.22±0.07 p.u. and 0.17±0.06 p.u. , p=0.02, respectively. According to the correlation analysis, the absolute content of Th17 (CD4+IL17+) in the blood correlated with the titer of autoAbs to oxidized L p ( a), related to IgG (r=0.253 p=0.089). Analysis of patients relative to the median of the studied parameters showed that the concentration of L p ( a) ≥12.3 mg / dL increases the chances of rapid progression of coronary atherosclerosis after stenting by 2 times (OR = 2.2 95% CI 0.6-7.6), as well as the absolute concentration of Th17 in the blood ≥11.5 thousand / ml (OR = 2.1, 95% CI 0.6-7.5). The combined increase in these parameters potentiated the risk of rapid progression of coronary atherosclerosis by 4 times (OR = 4.2, 95% CI 0.7-23.9). In the case of patients having both a Lp(a) concentration above 12.3 mg / dL and an elevated titer of autoantibodies to Lp (a) or LDL in the blood plasma, the risk of developing 34 progressive atherosclerosis also increased (OR = 5.3, 95% CI 0.9-32.1 and OR = 6.0, 95% CI 1.0-37.3), respectively.

**Conclusion.** Our work revealed that Lp ( a), T-helper 17 and autoantibodies to Lp ( a) and LDL are associated with rapidly progressing coronary artery disease in patients with stable coronary artery disease.

**Foydalanilgan adabiyotlar/Используемая литература/References:**

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