

## **LIPID DISTURBANCES AND LIPOPEROXID ACTIVITY IN PERSONS OF DIFFERENT AGE GROUPS WITH CORONARY ARTERY DISEASE**

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Free radical oxidation concept considers endothelial damage by oxidized LDL resulting in impaired vasodilation and increased adhesiveness as a key step in atherogenesis. The study aimed at identifying diagnostic significance of plasma lipoperoxid (LPO) as a direct biomarker of lipid peroxydation in persons with coronary artery disease (CAD).

The patients were randomized into following age-related clinical groups: 45 patients aged 35-60 (Group I) and 50 - aged 55-75 (Group II) with stable CAD. Along with plasma lipid profile all patients underwent measurement of LPO concentration and intima-medial wall thickness of carotid arteries carried out by ultrasound duplex screening. Positive correlation was established in groups between plasma LPO level, LDL concentration and incidence of major cardiac events. The obtained data showed statistically proven difference in LPO activity between investigated groups despite similar lipid changes in both of them. LPO appeared significantly higher in group I ( $15.02 \pm 2.35$  nmol/ml), although its average level was also increased in group II ( $6.05 \pm 0.15$  nmol/ml) in compare with normal levels (0.25-5.0 nmol/ml). Increased LPO activity in CAD patients indicates that lipid metabolism disorders can cause activation of free radical reactions precipitating development of oxidative stress. In older population this might be referred to a combination of multiple pathologies while in younger individuals with CAD it can serve as an additional biomarker of expected acute cardiac events.