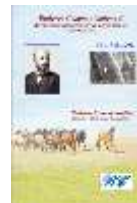




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## **The state of lipid metabolism in the blood of patients of patients with coronary heart disease**

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### **Abstract**

It is known that free radical lipid oxidation plays an important role in the pathogenesis of atherosclerosis. Studies have shown that a significant increase in the content of primary and secondary products of free radical lipid oxidation is found in the blood of patients with atherosclerosis. It is known that free radical reactions also occur during hypoxia and ischemia, while some products of free radical lipid oxidation cause contraction of smooth muscles, impaired vascular permeability and can provoke spasm of coronary vessels. Indeed, during ischemia, oxidation of substrates of the Krebs cycle in mitochondria is suppressed, as a result of which the content of NADPH and NADH increases and oxygen reduction increases. Consequently, ischemia leads to hypoxia, the removal of which restores oxygen supply to tissues, which leads to the formation of oxygen radicals in the presence of Fe<sup>2+</sup> and excess oxygen; the main source of prooxidants is an intermediate electron carrier in the respiratory enzyme chain – semiquinone. It was found that in patients with angina pectoris, an increased activity of oxidative stress processes was revealed, which was accompanied by a decrease in the function of antioxidant systems.

In this work, it was shown that the content of cholesterol in the blood plasma in the group of patients, both men and women, was significantly higher than in the control

group. Moreover, the content of cholesterol in the blood of sick women significantly exceeded this indicator in sick men.

When analyzing the level of high density lipoproteins, low density lipoproteins and very low density lipoproteins in the blood plasma, a tendency to an increase in the content of all lipoprotein particles in the blood plasma of the examined patients can be noted.

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