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OMEGA – 3 POLYUNSATURATED FATTY ACIDS AS A PREVENTIVE AND THERAPEUTIC AGENTS FOR CORONARY HEART DISEASE

Current literature data on the effect of omega-3 polyunsaturated fatty acids (PUFAs) on lipid metabolism, hemodynamic parameters and coronary blood flow in patients with coronary heart disease were analyzed. There was improvement in cardiac output due to the positive effects of omega-3 on systolic and diastolic left ventricular function. Omega-3 PUFAs may modulate the autonomous control of heart rate, because omega-3s in a large quantity contained in nervous and cardiac tissues. The main effect eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) were dose-dependent reduction plasma triglyceride levels. Omega-3 PUFAs supplements are used to increase the myocardium stability to the ischemia-reperfusion injury effects and to prevent the ventricular arrhythmias occurrence. Reduced omega-3 PUFA consumption or high fructose consumption leads to the development metabolic syndrome, hepatic steatosis, resistance to insulin, increasing cognitive dysfunction vulnerability, and increased ischemia risk. During the study blood samples of people who consume EPA and DHA, was found reduced expression of genes that taking part in inflammatory and atherogenic pathways: eicosanoids synthesis, adypogenesis, hypoxia and nuclear transcription. EPA and DHA have anti-inflammatory effects and play an important role in preventing the oxidative stress occurrence by improving cellular function due to gene expression changes.