An Oxidative Stress and Depression as Risk Factors of Recurrence of Stable Coronary Heart Disease

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Introduction. Psycho-emotional factors are important in the development of cardiovascular diseases (CVD). Depression (D) is an independent risk factor for myocardial infarction, CVD and arterial hypertension. D is connected with current inflammatory reactions in the body and an increased level of lipid peroxidation, leading to oxidative stress (OS). Membrane phospholipids of neurons are particularly susceptible to OS. OS and inflammation are the main pathogenic reasons of degenerative diseases, including the CVD. Free oxygen radicals are involved in vascular cell dysfunction and lead to the development of inflammatory reactions, atherosclerosis and other chronic CVD. 25 % of patients with coronary heart disease (CHD) are diagnosed with the affective disorder, about half of them receive adequate antidepressant therapy. Understanding linkages and interactions, OS and D may be especially useful in preventing and making personalized approach in treating CHD.

Aim, Materials and Methods. The aim of the study was to identify and to evaluate the relationship between the OS level and the severity of D manifestation symptoms in patients with stable CHD and in patients with stable recurrent CHD.

Materials and methods: A retrospective case-control study of cardiology department inpatients aged 45–65 years. Patients (P): 50 diagnosed with stable recurrent CHD and a control group (C) of 50 diagnosed with primary stable CAD. It is assessed in both target groups: manifestations of stable CAD (using structured interviews); OS parameters in the blood (MDA, GPx); quality of life level (QoL, questionnaire Q-les-Q by J. Endicott, short form, valid Latvian language version); D (long form of Geriatric Depression Scale by J. A. Yesavage and others, the valid Latvian language version GDS-LAT).

Results. The study is in its initial stage, data are being processed and assessed. Accessed data of 26 P and 21 C: P considered as D in 9 cases, C – in 4. QoL mean score reported of 67.4 % of the total possible score in P and 71.2 % in C, but different domains were impaired more: healthcare, personal faith, life goals in P and physical health, mood in C. GPx has no significant changes in both groups. Further results will be reported.

Conclusions.

The hypotheses of this study:

1. There is a relationship between the D level and the OS marker level in patients with stable CAD.
2. In patients with relapsed and stable BSC and D, the OS marker level in the blood will be higher than in patients with primary stable BSC.