

FEATURES OF ATHEROTHROMBOGENIC AND ELECTRICAL INSTABILITY MARKERS OF SUDDEN CARDIAC DEATH IN CORONARY HEART DISEASE PATIENTS AFTER FAT LOADING

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THE AIM of our research is to reveal the effects of fat-rich food on electrocardiographic predictive (myocardium electrical instability parameters) markers of coronary heart disease (CHD) complications and sudden heart death (SHD), as well as to study the interaction between atherogenic (lipid spectrum) and thrombogenic (fibrinogen (Fb) risk factors during a lipid-rich food load.

MATERIALS AND METHODS: Seventy-five patients (age 60.9 ± 8.9 years) with CHD (group 1)– and 45 healthy persons (age 58.2 ± 7.4 years) (group 2) were enrolled in the study. Patients were given “atherogenic” food. Blood was taken after 13 hours of fasting and 3 hours after nutritional loading. Lipid profile was performed by enzyme method. The inflammatory and thrombogenic marker Fb determination was performed on plasma by Bio Fibrin. We studied QT and JT interval dispersion and its corrected interval dispersion by standard formulas to reveal heart electrical instability.

RESULTS: After nutritional loading, group 1 showed increased levels of TC, LDLC, TG, Fb ($p < 0.0001$) and decreased levels of HDLC ($p < 0.003$). In contrast, the control group had increased levels only of TC and TG ($p < 0.0004$), which causes confident differences of TC, LDLC, TG ($p < 0.0001$, $p < 0.03$, $p < 0.0001$ respectively) between I and II groups. Unlike with Fb, significant differences between groups were revealed only after loading ($p < 0.01$). In group 1 patients with lipemia, electrical instability was revealed by significant changes in QTd, QTcd, JTd, JTcd.

CONCLUSIONS: Saturated fatty acids provoke electrical instability, as revealed by ionic disturbances manifesting as an increase of QTd and JTd. The fat load may be used as a test for predicting persons at risk of sudden cardiac death and CHD preclinical stages.

Keyword: fat loading, electrical instability, lipids