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The Relationship between Intrinsic Coagulation Pathway and Cardiac Syndrome X Development in Patients with Diabetes Mellitus

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Objective: Cardiac syndrome X (CSX) is a clinical entity characterized with typical exertional angina and myocardial ischemia shown by ECG or scintigraphy and normal or near normal epicardial coronary arteries without indolable coronary vasospasm. There are 72 patients diagnosed as CSX between June’11 and may’12 of which 48 known diabetics and two newly diagnosed diabetics were included to study group consisted of 50 patients. Control group was planned as 45 patients with DM who has no ischemia was shown by noninvasive tests. 11 patients refused to take part in the study so they were excluded and rest 34 patients formed the control group.

Results: Both of the coagulation factors XI and XII were higher in the CSX group in comparison with controls (respectively 129.9±23.7 IU/dL vs 118.2±19.4 IU/dL, p=0.019*; Only high plasma level of F XI, FX XII was statistically significant. There was no difference between CSX and control group in terms of age, sex, body mass index (BMI), smoking, HT, and the time since diagnosis of DM. Plasma levels of LDL and total cholesterol was higher in the control group compared to patients and the rest of laboratory values were similar between groups including HgA1c level. Even F XI and F XII levels were not related with smoking, BMI, time since DM diagnosis, and HgA1c levels.

Conclusion: The results of this study showed that the intrinsic coagulation pathway is more active in diabetic patients who developed CSX without CSX. This study may provide some data for the researchers seeking for the role of hipercoagulability in the development of CSX.

PP-343
Xenobiotics and Methabolic Disorders Impact on Inflammatory Values in Patients with Myocardial Infarction

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Purpose: In order to assess systemic inflammation activity depending on the metabolic status and occupational influence of xenobiotics 96 patients with myocardial infarction aged 20-64 yy were assessed.

Methods: State of the lipid, carbohydrate, purine metabolism, body mass ratio, hair composition of 28 elements, blood levels of c-reactive protein, total fibrinogen, tumor necrosis factor-α were evaluated. Patients were randomized into 2 groups: 1st group (I) included patients who had occupational contact with xenobiotics, 2nd (II) – patients who had no contact with xenobiotics, control – 25 healthy subjects.

Results: Myocardial infarction in 1st group patients under 50 y.o. develops predominantly on the background of normal values of lipid, carbohydrate, purine metabolism, low incidence of traditional cardiovascular risk factors and high activity of systemic inflammation evidenced by reliably higher levels of c-reactive protein (8,23±0,45 fibrinogen (4,18±0,92), p<0,05) and total fibrinogen (4,14±0,12) compared to control and 2nd group. Regardless of occupation, higher mean level of c-reactive protein prevailed in patients younger than 50. Mean level of tumor necrosis factor-α was higher in older age (over 51) and prevailed in 2nd group what may be related to higher incidence of metabolic disorders (atherosclerotic dyslipidemia, overweight, diabetes mellitus, etc. (88,90±7,16; 65,24±15,66 (pg/ml), p<0,01)). C-reactive protein and fibrinogen levels correlated with hair and plasma concentration of heavy metals: manganese, zinc, nickel, cobalt, cadmium, lead, strontium (r=0.48-0.990, p<0,01). Tumor necrosis factor-α confirmed its strong relation with metabolic values: elevation of glycated hemoglobin, low density cholesterol, apolipoprotein-B.

Conclusion: Among patients younger than 50 who had occupational contact with xenobiotics or myocardial infarction development is associated with systemic inflammation. Xenobiotics are capable to cause systemic inflammation and endothelial dysfunction, induce cytokine and acute phase proteins, resulting in acute coronary circulatory disorders even in absence of severe metabolic disorders. Continuous contact with technogeneous chemical substances causes more intense influence on c-reactive protein and fibrinogen elevation, metabolic disorders – on tumor necrosis factor-α. Combination of continuous occupational contact with xenobiotics with metabolic disorders results in reciprocal enhancement of proinflammatory effects and complicated duration of myocardial infarction.

PP-344
Diagonal Ear Lobe Crease is Associated with Epicardial Adipose Tissue Thickness and Carotid Intima Media Thickness in Subjects Free of Clinical Cardiovascular Disease

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Background: Coronary artery disease is one of the leading causes of mortality worldwide. The diagonal ear lobe crease (ELC) has been recommended as a simple, noninvasive marker of cardiovascular diseases. Epicardial adipose tissue (EAT) thickness and carotid intima media thickness (CIMT) are closely related to cardiovascular disorders and atherosclerosis. There is no knowledge about the relation between EAT thickness, CIMT and diagonal ELC. The aim of our study is to evaluate the association between EAT thickness, CIMT and ELC.

Method: Study population was selected from apparently healthy individuals who were referred to hospital for a standard checkup. Sixty five subjects in ELC and sixty