840-1 Relation Between Fasting Glucose and C-Reactive Protein in Middle-Aged Subjects


Introduction: Elevation of C-reactive protein (CRP) is associated with components of metabolic syndrome, and especially with measures of obesity. Hyperglycemia can be associated with higher hs-CRP in a Brazilian population. This study enrolled 984 healthy adults volunteers, 295 men (43.1%) and 389 women (56.9%), designed to quantify environmental and genetic variables associated with serum hs-CRP. Ethnic distribution was consistent with the ethnic distribution in the country. TNF-308 genotype was obtained through PCR amplification and restriction enzyme digestion in DNA from peripheral leukocytes. Individuals in this sample were in Hardy-Weinberg equilibrium in this sample. Ethnicity was the single demographic variable with different distribution regarding harboring or not the TNFalpha allele (p=0.03). In this study, there was 17 CVE in 12 patients (19.6%) with coronary artery constrictions, and 2.9% in 2/33 patients (6.3%) with no change or dilation (p=0.09).

Conclusion: In hypertensive patients with angiographically normal coronary arteries and without other coronary risk factors, epicardial coronary reactivity assessed to cold pressor test (CPT) using quantitative coronary angiography. Unpredictable cardiovascular events (CCE) (sudden cardiac death, stable and unstable angina, myocardial infarction, stroke, angioplasty, coronary artery surgery) were recorded with a mean follow-up of 115 months (range 64-132). Results: In CS, dilation occurred in 42.3%, no change in 11.8% (mean diameter change: +14.6±9.3%) and there was no constriction. In HP, coronary artery dilation occurred in 13.3%, no change in 25.3% (mean diameter change: +10.9±11.2%), and constriction in 61.4% (mean diameter change: -12.7±3.4%). Endothelium-independent dilation to nitrates was normal in the 2 groups (28.7±12.6% and 25.8±11.9%, respectively, NS). In CS, there were 3 CVE in 2 subjects (2.9%). In HP, there was 17 CVE in 12 patients (14.5%, p<0.01 vs CS), and in this group there was 15 CVE in the 10/51 patients (19.6%) with coronary artery constriction, and 2.9% in the 2/33 patients (6.3%) with no change or dilation (p=0.09).

Conclusion: In hypertensive patients with angiographically normal coronary arteries and without other coronary risk factors, epicardial coronary endothelial dysfunction assessed by a simple cold pressor test is predictive of long-term cardiovascular events.

5:15 p.m.

832-6 Long-Term Follow-Up of Hypertensive Patients With Angiographically Normal Coronary Arteries: Prognostic Value of Epicardial Coronary Endothelial Dysfunction

Alain Nitenberg, Denis Chemla, Isabelle Antony, CHU Jean Verdier, Bondy, France, CHU Bicêtre, Le Kremlin-Bicêtre, France.

Background: epicardial coronary endothelial dysfunction independently predicts cardiovascular events in patients with coronary risk factors and without coronary atherosclerosis. This study was designed to evaluate outcome of hypertensive patients (HP) on the basis of their epicardial coronary endothelial function.

Methods: 68 control subjects (CS), 53 males, 15 females (49.8±7.6 years) and 83 HP, 54 males, 29 females (51.3±9.7 years) with angiographically normal coronary arteries and without any other coronary risk factor underwent epicardial coronary reactivity assessment to cold pressor test (CPT) using quantitative coronary angiography. Unpredictable cardiovascular events (CCE) (sudden cardiac death, stable and unstable angina, myocardial infarction, stroke, angioplasty, coronary artery surgery) were recorded with a mean follow-up of 115 months (range 64-132).

Results: in CS, dilation occurred in 42.3%, no change in 11.8% (mean diameter change: +14.6±9.3%) and there was no constriction. In HP, coronary artery dilation occurred in 13.3%, no change in 25.3% (mean diameter change: +10.9±11.2%), and constriction in 61.4% (mean diameter change: -12.7±3.4%). Endothelium-independent dilation to nitrates was normal in the 2 groups (28.7±12.6% and 25.8±11.9%, respectively, NS). In CS, there were 3 CVE in 2 subjects (2.9%). In HP, there was 17 CVE in 12 patients (14.5%, p<0.01 vs CS), and in this group there was 15 CVE in the 10/51 patients (19.6%) with coronary artery constriction, and 2.9% in the 2/33 patients (6.3%) with no change or dilation (p<0.09).

Conclusion: In hypertensive patients with angiographically normal coronary arteries and without other coronary risk factors, epicardial coronary endothelial dysfunction assessed by a simple cold pressor test is predictive of long-term cardiovascular events.

3:15 p.m.

840-3 Matrix Metalloproteinases and Their Inhibitors in Premature Coronary Atherosclerosis: Relation With Inflammation and Metabolic Markers


Background: little is known on determinants of matrix metalloproteinases (MMPs) plasma concentration and activity in coronary artery disease (CAD).

Methods: we studied 100 male patients (pts) with premature (<55 years) CAD (either myocardial infarction or angina with angiographic evidence of CAD) and 40 healthy male controls of similar age. The pts were subdivided into three groups as follows: 1) 20 consecutive pts with ST elevation acute myocardial infarction (STEMI). 2) 29 consecutive pts with unstable angina (UA) or non-STEMI (UA/NSTEMI), 3) 31 consecutive pts with stable CAD.

MMP-2 (i.e gelatinase A) and MMP-9 (i.e. gelatinase B) plasma total activities were measured along with concentrations of MMP-2, MMP-3 (i.e. stromelysin-1), MMP-9 and specific tissue inhibitors of MMPs, such as TIMP-1 and TIMP-2. Inflammation and metabolic markers were also evaluated.

Results: MMPs and TIMPs data are depicted in table 1. MMP-9 total activity was lower both in the whole pts population and in ACS pts compared to controls (both p<0.001). MMP-2 total activity inversely correlated with haptoglobin and blood glucose (p<0.002). MMP-1 strongly correlated with blood glucose and both C-reactive protein and haptoglobin (all p<0.005).

Conclusion: In patients with premature CAD MMP-9 and TIMP-1 concentrations are increased, while TIMP-2 concentration and MMP-2 total activity are decreased. TIMP-1 and MMP-2 total activity strongly correlated with inflammation markers and with blood glucose levels.

9:00 a.m.