P3107 | BEDSIDE
L162V polymorphism of peroxisome proliferator-activated receptor-alpha gene and markers of endothelial dysfunction in coronary heart disease patients in Russia
E.G. Sergeeva, E.I. Baranova, O.A. Berkovich, E.I. Krasnyikova, S. Saha, A.A. Kostareva, J.I. Ionova, E.V. Schlyakhutko. GOU VPO St.-Petersburg State Medical University, St.-Petersburg, Russian Federation

Peroxisome proliferator activated receptor alpha (PPAR-alpha) is a member of the nuclear receptor superfamily that regulates molecular mechanisms of immune inflammation.

Purpose: To assess correlation between L162V polymorphism PPAR-alpha and early incidence of coronary heart disease (CHD), endothelial dysfunction.

Methods: The PPAR-alpha L162V, L162G genotypes were determined in 177 CHD patients and 55 healthy men by a polymerase chain reaction-restriction length polymorphism (PCR). We examined endothelial dysfunction markers - interleukin-8 (IL-8), vascular cell adhesion molecule-1 (VCAM-1) by ELISA.

Results: L162V genotype was revealed in 21 (11.9%) CHD patients and 2 (3.6%) healthy males, p=0.04; OR=3.56. The frequency of L162G genotype in patients with incidence of CHD ≥55 years old exceeded the frequency of this genotype in the group with later (≤55 years old) debut of CHD (13 from 73 patients (13.8%) and 8 from 104 patients (7.7%), p=0.024, OR=2.6. Plasma concentration of IL-8 was higher in the group of CHD patients - carriers of L162V genotype in comparison with patients - carriers of L162G genotype and normal subjects (2208±540 pg/mL; 484±372 pg/mL respectively, p<0.01; 572±412 pg/mL respectively, p=0.05, normal subjects - 689±74 ng/mL).

Conclusion: L162V PPAR-alpha genotype is associated with the debut of coronary heart disease at age ≤55 years and elevation of endothelial dysfunction molecular markers.

P3108 | BEDSIDE
Pentraxin-3 a novel biomarker for predicting coronary artery disease
S. Yigit1, S. Sarı1, I.P. Canbolat2, A. Arat Özkan2, T. Gurmen2.
1Haseki Training and Research Hospital, Department of Biochemistry, Istanbul, Turkey; 2Istanbul University Cardiovascular Institute, Department of Cardiology, Istanbul, Turkey

Aim: Atherosclerotic cardiovascular disease (CVD) is a chronic progressing disorder leading to the most common cause of death. Risk estimation helps health professionals to find who will take the advantage most. Pentraxin-3 (PTX-3) is a member of pentraxin family which is more specific to vascular inflammation. The research objective was to find who will take the advantage most. Pentraxin-3 (PTX-3) is a member of pentraxin family.

Methods: Between December 2010 and June 2011, 88 patients with stable angina pectoris referred to catheter lab were enrolled. Patients were divided into 2 groups according to the presence of angiographic coronary disease (CAD). Group 1 consisted of patients without CAD (N=33), group 2 consisted of patients with CAD (N=54). Serum PTX-3 and hs-CRP levels were obtained prior to catheterization.

Results: Baseline characteristics are given at Table 1. PTX-3 levels in group 2 were significantly higher than group 1 (median 2,50 vs 1,20 ng/mL, p<0.001). Between December 2010 and June 2011, 88 patients with stable angina pectoris referred to catheter lab were enrolled. Patients were divided into 2 groups according to the presence of angiographic coronary disease (CAD). Group 1 consisted of patients without CAD (N=33), group 2 consisted of patients with CAD (N=54). Serum PTX-3 and hs-CRP levels were obtained prior to catheterization.

Conclusion: Pentraxin-3 is a novel inflammatory biomarker, is a better predictor for the presence of ACD than hs-CRP and can add more valuable information for primary prevention risk estimation.

Table 1

<table>
<thead>
<tr>
<th>Group 1 (N=33)</th>
<th>Group 2 (N=54)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (F)</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Genotype score</td>
<td>4 (0–10)</td>
<td>59 (32–81)</td>
</tr>
<tr>
<td>Smoking (%)</td>
<td>54.5</td>
<td>46.3</td>
</tr>
<tr>
<td>Ht (%)</td>
<td>27.3</td>
<td>37.0</td>
</tr>
<tr>
<td>DM (%)</td>
<td>40.5</td>
<td>37.0</td>
</tr>
<tr>
<td>HT (%)</td>
<td>63.6</td>
<td>74.1</td>
</tr>
<tr>
<td>FBS (mg/dL)</td>
<td>108 (99–138)</td>
<td>108 (96–136)</td>
</tr>
<tr>
<td>hsCRP (mg/L)</td>
<td>1.9 (0.7–2.6)</td>
<td>2.7 (1.6–4.2)</td>
</tr>
<tr>
<td>PTX3 (ng/mL)</td>
<td>1.0 (0.02–28)</td>
<td>2.0 (0.02–36)</td>
</tr>
</tbody>
</table>

Conclusion: Pentraxin-3, a novel inflammatory biomarker, is a better predictor for the presence of ACD than hs-CRP and can add more valuable information for primary prevention risk estimation.

P3109 | BEDSIDE
Epicardial fat thickness and coronary risk in obese patients
G. Chumakova1, N.G. Veselovskaya2, O.V. Gritsenko2, A.B. Ott1, Altai State Medical University, Barnaul, Russian Federation; 2Research Institute for Complex Issues of Cardios. Dis. - Siberian Branch RASM Institution Scientific, Kemerovo, Russian Federation

Hyperthyropathy and hyperplasia of adipocytes occur not only in the abdominal area, but also in ectopic local fat deposits, including epicardial ones. Since the myocardium and coronary arteries are anatomically related, hormonally active epicardial fat seems to be a pathologic link connecting obesity and Coronary Heart Disease (CHD).

Aim: The research objective was to study the influence of epicardial adiposity and abdominal obesity on risk of development and severity of coronary atherosclerosis.

Materials and methods: The influence of Epicardial Fat Thickness (EFT) and waist circumference (WC) on risk of development of significant coronary atherosclerosis in obese patients with CHD was studied (138 men, 55.47±9.07 years and BMI 35.2±5.2 kg/m²). Levels of leptin and resistin were assessed by ELISA (Breden), Apolipoprotein A1 (ApoA1) and apolipoprotein B (ApoB) were defined based on KonelabPRIME 60 Chrmical Chemistry Analyser (Finland) by the immunoprecipitation method. Two-dimensional transfarbohydrate echocardiography (GE Vivid 7 with 4.0 MHz transducer) was used to calculate EFT in millimeters (mm) on the free wall of the right ventricle (RV). We used STATISTICA 6.1, MedCalc 5.4 software for statistical analysis.

Results: It turns out that EFT was correlated with plasma lipids: positively with TG (r=0.398; p<0.001) and negatively with HDL (r=-0.295; p=0.004). EFT was correlated with ApoA (r=0.309; p=0.002) and ApoB (r=-0.351; p<0.001). Positive correlation between EFT and visceral fat hormones: (leptin (r=0.086; p<0.001) and resistin (r=0.241; p=0.023) was established. When analyzing WC and additional markers of cardiovascular risk, we found strong positive correlation of WC only with plasma leptin (r=0.214; p<0.013) The ROC-analysis shows that EFT is more informative for diagnosing significant stenoses (>70%: sensitivity of the given marker made up 80.4%, specificity - 67.6% (cut-off value=6 mm). At comparison of epicardial and abdominal adiposity as predictors of coronary atherosclerosis, EFT was more significant (Odds ratio [OR] 4.44; 95% confidence interval [CI] 2.06 to 9.59; p<0.001) than WC (OR 1.65; 95% CI 0.72 to 3.80; p=0.18).

Conclusions: Our findings show that EFT increase in patients with CHD is associated with more severe involvement of the coronary arteries, whereas WC analysis did not reveal similar relationship. It clearly follows from echocardiography data that EFT is a factor of the coronary atherosclerosis development. Perhaps, EFT in obese patients can be used as a noninvasive marker of presence of subclinical stenoses of coronary arteries.

P3111 | BEDSIDE
Association of global longitudinal strain and other clinical and echocardiographic parameters in patients with suspected coronary artery disease
A. Morei1, N. Gaibazzi2, F. Ceranna2, R. Facchetti3, C. Bussadori4, A. Moreo1, P. Campadello1, F. Siorano1, G. Colombo1, F. Rigo1, G. Giannattasio1 on behalf of APRES Collaborative Group. 1Dept of Cardiology, Niguarda Hospital Milan, Milan, Italy; 2Hospital of Parma, Department of Cardiology, Parma, Italy; 3Università Bicocca, Milano, Italy; 4IRCCS Policlinico San Donato, University of Milan, San Donato Milanese, Italy; 5Hospital “del’Angelo”, Department of Cardiology, Messina-Venice, Italy

Background: Considerable data suggest that myocardial deformation analysis has clinical utility in patients with known or suspected coronary artery disease (CAD). Nevertheless strain imaging (SI) is also a sensitive marker of early cardiac dysfunction caused by various pathological disorders, such as diabetes and hypertension that can coexist in the presence of CAD.

Aim of the study: We prospectively evaluated the value of SI in the detection of significant CAD in a large setting of subjects undergoing coronary angiography (CA) for clinical purposes and we analysed the correlation with other conditions such as hypertension, diabetes and age.

Methods: 247 patients (mean age 64±10, male 66%) with a clinical indication for SI to investigate acute coronary stenosis were enrolled. A preserved ejection fraction (EF%;50%) were enrolled in 10 Italian centres. All patients underwent clinical and echocardiographic examination, using the same commercially available equipment (EsaoteMyLab 70). LV function and global longitudinal strain (GLS) were obtained.

Results: There was a high prevalence of hypertension (75%) in our population and diabetes was present in sixty-five patients (26%). One hundred sixty patients (65%) had significant CAD. We found a significant correlation between GLS and the presence of CAD (p<0.003). GLS correlated also with EF (p=0.0001), LVMi (p=0.0001), and E/e’ ratio (p=0.01). In contrast, in our population no correlation was found between GLS and diabetes, hypertension, or dyslipidemia. After multivariate analysis, GLS remained significantly correlated with EF (p<0.0001), LVMi (p=0.0001), and the presence of CAD (p=0.03).

Conclusions: Our data suggest that GLS is correlated with CAD, but also other factors could influence GLS and this should be taken into account in clinical practice.