P4.21: CAROTID ELASTICITY BEHAVIOR DURING EXERCISE IS ALTERED IN PATIENTS WITH KNOWN OR SUSPECTED CORONARY ARTERY DISEASE

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The rare allele (C) was found in 16% of the affected and 10% of the non affected cases and it showed statistical significance [OR (95% CI): 1.64 (1.00-2.66), P = 0.03]. The TT genotype occurred more often in the control group compared with the patients with AMI [OR (95% CI): 0.58 (0.35-0.96), P = 0.039]. The heterozygous genotype of CYP2C8 was found to be significantly associated with a risk of myocardial infarction [OR (95% CI): 2.25 (1.06-4.75), P = 0.036] in women.

Possession of the rare genetic variant of CYP2C8 gene in Bulgarian population is associated with a modestly increased risk of AMI.

**Key words:** CYP2C8, risk, association

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**P4.21**

**CAROTID ELASTICITY BEHAVIOR DURING EXERCISE IS ALTERED IN PATIENTS WITH KNOWN OR SUSPECTED CORONARY ARTERY DISEASE**

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**Objective:** The behavior of cardiovascular parameters during exercise remains unsettled. Our aim was to evaluate carotid elasticity during graded bicycle semi-supine exercise test, in patients with known or suspected coronary artery disease (CAD) and to compare it with a control group.

**Methods:** 36 consecutive patients (20 men, 61±8years), and 18 healthy volunteers (9 men, 34±3 years) were recruited. Right carotid diameter (D) and distension (ΔD) were estimated by ultrasound B-mode image processing, and central pulse pressure (PPa) by radial tonometry; then, carotid cross-sectional distensibility coefficient (DC) was obtained. All measurements were performed at rest and peak of age-dependent maximal heart rate.

**Results:** At rest, D and PPa were higher in patients than in controls (7.8±1.1 vs 6.2±0.6mm and 49±11 vs 27±5mmHg, p<0.05), whereas no significant differences were observed in ΔD and mean blood pressure (0.50±0.21 vs 0.54±0.24mm and 98±7 vs 97±5mmHg, p=ns); DC was lower in patients than in healthy volunteers (22.1±8.5 vs 59.7±20.6 ±13 KPa, p<0.05). At peak, D (8.1±1.3 and 6.4±0.7mm) and ΔD (0.65±0.31 and 0.79±0.24mm) were similar to rest in both groups; PPa (67±17 and 45±12mmHg) and mean blood pressure (128±9 and 123±13mmHg) increased both in patients and controls (p<0.05 vs rest); DC significantly decreased in healthy subjects (39.7±14.5 ±13 KPa, p<0.05 vs rest), but not in patients (21.2±7.9 ±13 KPa, p=ns vs rest).

**Conclusions:** In patients with known or suspected CAD, carotid distensibility, which at rest is lower than in healthy controls, remains unchanged during maximal exercise, despite a similar increase in mean blood pressure in the two populations.

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**P4.22**

**GUIDELINE BASED CARDIOVASCULAR RISK MANAGEMENT VERSUS IMAGING ATHEROPLASIS**

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**Purpose:** We wanted to compare the outcome of a newly implemented Dutch Cardiovascular Risk Management guideline (so called Prevention Consult) with the non-invasive measurement of Carotid Intima Media Thickness and Plaque visualization (CIMT+P) in a group of 313 employees (170 men and 143 women, mean age 42.9 ± 0.5 years range 22 – 65 years) in one organization.

**Methods:** At one and the same measure point we performed the Prevention Consult short questionnaire with 7 questions (www.testuwrisico.nl), measuring weight, height, waist circumference, blood pressure, total/ HDL- cholesterol, glucose and made a CIMT + P. Table 1 shows results:

The Pearson correlation between risk test and the CIMT + P was significant (r = 0.248, p < 0.01). The risk test identified only 17 people at a high risk level and the CIMT + P showed for 70 people distinct atherosclerotic lesions.

**Conclusions:** Although there is a significant correlation between the outcome of the PreventionConsult and the CIMT + P, the CIMT + P is far more sensitive for atherosclerotic lesions than the Prevention Consult. Especially, in a middle age population with intermediate risk, a CIMT + P offers more signs to warrant early prevention and effective intervention.

**Table 1**

<table>
<thead>
<tr>
<th>Risk test</th>
<th>Low risk</th>
<th>Intermediate risk</th>
<th>High risk</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIMT + P (normal risk, B 25% increased risk, C 50% increased risk and D 100% increased risk)</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>82</td>
<td>66</td>
<td>4</td>
</tr>
</tbody>
</table>

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**P4.23**

**HYPOECHOCgenic CAROTID PLAQUES ARE MORE MOBILE IN COMPARISON WITH HYPERECHOGENIC ONES**

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**Background:** Speckle Tracking Technology allows to assess multi-dimen-

**Objective:** The objective of this study was to investigate the mechanical properties of carotid plaques using ultrasound speckle tracking.

**Methods:** Study population consisted of 43 patients with carotid atheroscle-

**Results:** S and SR were higher for all parts of hypo- and moderately echo-
genic plaques in comparison with hyperechogenic ones and for cap and core the difference was significant (table 1). Spearman correlation analysis revealed significant negative associations between echogenicity and S and SR values (table 2). Multivariate linear regression confirmed that echogenicity is an independent determinant of S and SR after adjusting for potential confounders (degree of stenosis, plaque length). Univariate analysis found significant negative association between degree of stenosis and S and SR values (table 2).

**Conclusion:** Hypo-and moderately echogenic carotid plaques are more mobile in comparison with hyperechogenic ones. Degree of stenosis and plaque length were also assessed.

**Table 1**

| S and SR values of hypo- and moderately echogenic and hyperechogenic carotid plaques. |
|---------------------------------------|---------------------------------------------|
| cap                                   | Hyper- echogenic plaques                     |
| S                                     | 5.42±3.71                                  |
| SR                                    | 0.52±0.31                                  |
| core                                  | 6.3±3.55                                   |
| S                                     | 0.59±0.28                                  |
| base                                  | 4.78±3.2                                   |
| SR                                    | 0.42±0.37                                  |

Data are expressed as mean ± SD