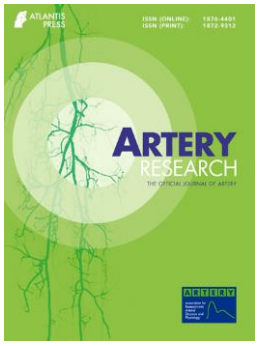

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P4.21: CAROTID ELASTICITY BEHAVIOR DURING EXERCISE IS ALTERED IN PATIENTS WITH KNOWN OR SUSPECTED CORONARY ARTERY DISEASE

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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 (1.00-2.56), 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

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 10-3/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 10-3/KPa, p<0.05 vs rest), but not in patients (21.2±7.9 10-3/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.

P4.22
GUIDELINE BASED CARDIOVASCULAR RISK MANAGEMENT VERSUS IMAGING ATHEROSCLEROSIS

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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

		CIMT + P(A,normal risk, B 25% increased risk, C 50% increased risk and D 100% increased risk)				Total
		A	B	C	D	
Risk test	Low risk	17	10	3	1	31
	Intermediate risk	112	70	51	1	234
	High risk	1	2	12	2	17
Total		130	82	66	4	282

P4.23
HYPOECHGENIC CAROTID PLAQUES ARE MORE MOBILE IN COMPARISON WITH HYPERECHOGENIC ONES

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Background: Speckle Tracking Technology allows to assess multi-dimensional regional mechanics of carotid wall and carotid plaques. We hypothesized that hypoechogenic plaques are more mobile in comparison with hyperechogenic ones.
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 atherosclerosis (aged 53-89, median-69). In total, 48 carotid plaques were analyzed. For each plaque, maximal circumferential strain (S) and strain rate (SR) were measured (in several points separately for plaque cap, core and base). According to grey scale median analysis all plaques were divided into hyperechogenic and low- and moderately echogenic ones. Degree of stenosis and plaque length were also assessed.
Results: S and SR were higher for all parts of hypo- and moderately echogenic plaques in comparison with hyperechogenic ones and for cap and core the difference was significant (table 1). Spearmen 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). Univariant 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 is negatively associated with increased mobility and this may explain the fact that many vulnerable, symptomatic plaques have relatively moderate degree of stenosis.

Table 1 S and SR values of hypo- and moderately echogenic and hyperechogenic carotid plaques.

	Hypo- and moderately echogenic plaques	Hyper- echogenic plaques	p
cap			
S	5.42±3,71	3.78±2.25	p=0.0006
SR	0.52±0.31	0.43±0.27	p=0.02
core			
S	6.3±3.55	4.22±2.60	p=0.0003
SR	0.59±0.28	0.46±0.25	p=0.008
base			
S	4.78±3.2	3.61±3.14	p=0.034
SR	0.47±0.27	0.42±0.37	p=0.32

Data are expressed as mean ± SD