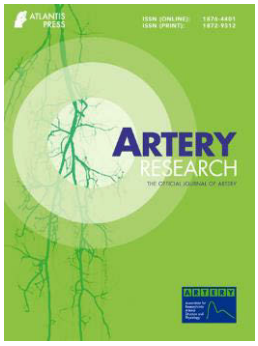

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P1.01: WHICH ONE IS MORE IMPORTANT IN PROGNOSIS BETWEEN CAROTID INTIMA-MEDIA THICKNESS AND CAROTID PLAQUE?

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Poster Presentation Abstracts

P1 – Populations Studies 1

P1.01
WHICH ONE IS MORE IMPORTANT IN PROGNOSIS BETWEEN CAROTID INTIMA-MEDIA THICKNESS AND CAROTID PLAQUE?

T. G. Kwon, K. H. Kim, W. H. Kim, D. J. Yang, J. H. Bae
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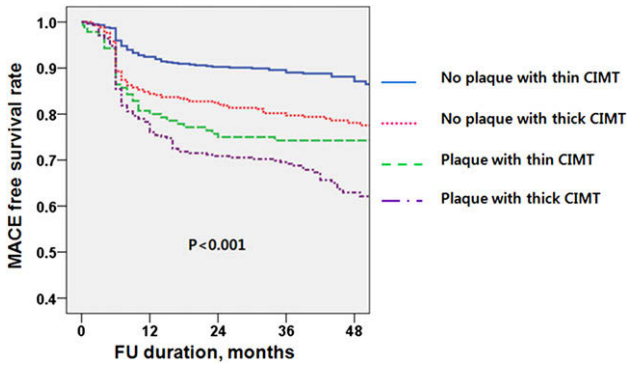
Background and Objectives: Carotid intima-media thickness (CIMT) and plaque are both important in primary prevention. However, it is still unclear which one is more important in prognosis in patients with coronary artery disease (CAD).
Subjects and Methods: The study population, consists of 1473 consecutive patients with CAD, was followed up for a mean of 40.7 months (maximum 126 months). Study population was divided into 4 groups according to the CIMT (≥0.79mm, median value) and the presence of carotid plaque.
Results: Patients with plaque and thick CIMT (n=309, 21.0%) were older and had higher prevalence of hypertension and diabetes mellitus than those with plaque and thin CIMT (n=140, 9.5%), those without plaque and thick CIMT (n=429, 29.1%) and those without plaque and thin CIMT (n=595, 40.4%). In univariate analysis, patients with plaque and thick CIMT had higher mortality (8.1% vs. 5.7%, 2.1% and 2.0%, respectively, p<0.001), restenosis (15.2% vs. 12.1%, 12.4% and 5.4%, respectively, p<0.001), hospitalization for congestive heart failure (4.5% vs. 2.1%, 2.3% and 1.0%, respectively, p=0.005) and total MACE (35.0% vs. 27.1%, 22.6% and 12.3%, respectively, p<0.001) than the other groups. Multivariate Cox regression analysis showed that the independent predictors of total MACE were carotid ultrasound findings (HR 1.4.6, 95% CI 1.276 to 1.549, p<0.001) and diabetes mellitus (HR 1.360, 95% CI 1.066 to 1.736, p=0.013).
Conclusion: Carotid ultrasound findings are important predictor in patients with CAD. Presence of carotid plaque is more important than CIMT in prognostic power.



P1.03
AORTIC STIFFNESS MEASUREMENT IMPROVES THE PREDICTION OF ASYMPTOMATIC CORONARY ARTERY DISEASE IN STROKE/TIA PATIENTS

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Background: Aortic stiffness is an independent predictor of coronary events. We assessed the predictive value of aortic stiffness for ≥50% asymptomatic coronary artery disease (CAD) in a stroke population.
Methods: From January 2006 to February 2009, 300 consecutive patients aged between 45 and 75 years with non disabling, non cardioembolic ischemic stroke or TIA, and no prior history of CAD were enrolled in the study. CAD was assessed with 64-section CT coronary angiography and all patients had a detailed cervicocephalic arterial work-up. Aortic stiffness was determined from carotid-femoral pulse wave velocity (PWV) using 12m/s as cut-off value. The predictive value of aortic stiffness was assessed by logistic regression and reclassification tables method after adjustment for the Framingham Risk Score (FRS) and the presence of cervicocephalic stenosis, which were previously shown to be independent predictors of ≥50% asymptomatic CAD.
Results: Among the 274 included patients who had CT coronary angiography, 26% (95% CI, 21%-32%) had an increased stiffness (PWV>12m/s) and 18% (14%-23%) had ≥50% asymptomatic CAD. Increased aortic stiffness was associated with the presence of ≥50% asymptomatic CAD, both in univariate (OR=3.4 [1.8-6.4]) and multivariate analyses (OR=2.3 [1.2-4.7]) after adjustment for FRS and presence of cervicocephalic stenosis. After PWV was added to the standard model including FRS and the presence of cervicocephalic stenosis, net reclassification improvement was 12.6% (p<0.005) and integrated discrimination index was 2.51% (p=0.025) and model fit was improved (likelihood ratio=4.99, p=0.025).
Conclusion: In stroke/TIA patients, aortic PWV improves risk prediction for the presence of ≥50% asymptomatic CAD.

P1.04
SYSTOLIC TIME INTERVALS DERIVED FROM CAROTID ARTERY DISTENSION WAVEFORMS FOR INTEGRATED CARDIOVASCULAR RISK ASSESSMENT

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Background: Circulatory biomechanics dictate that, with given arterial compliance and pulse pressure, left ventricular ejection and isovolumic-contraction durations (T_{ej} and T_{ic}) reflect systolic ventricular function. Cardiovascular risk assessment, therefore, may benefit from accessible and reproducible measurement of these systolic time intervals (STI). We recently developed a tool to extract STI from carotid artery distension