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# Stable Ischemic Heart Disease

## PREDICTIVE VALUE OF ENDOTHELIAL FUNCTION BY NON-INVASIVE PERIPHERAL ARTERIAL TONOMETRY FOR CORONARY ARTERY DISEASE

Poster Contributions
Hall C
Sunday, March 30, 2014, 9:45 a.m.-10:30 a.m.

Session Title: Biomarkers, Predictors and Imaging in Stable Ischemic Heart Disease
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**Background:** Endothelial dysfunction is an early stage of atherosclerosis and is associated with cardiovascular events. We examined whether peripheral endothelial function, as assessed by fingertip reactive hyperemia-peripheral arterial tonometry (RH-PAT) can provide an additional clinical value to Framingham Risk Score (FRS) in predicting coronary artery disease (CAD).

**Methods:** We included 118 stable patients who were referred for coronary angiography for chest pain evaluation or abnormal stress test. Natural logarithmic value of RH-PAT index (Ln_RHI) was measured before cardiac catheterization by an independent operator. Significant CAD was defined as luminal stenosis ≥70% (≥50% at left main) and/or fractional flow reserve ≤0.80 in one or more major coronary arteries or their major branches.

**Results:** Levels of Ln_RHI were significantly lower in patients with CAD (n=60) compared to patients without CAD (n=58) (0.69±0.29 vs. 0.88±0.27, p<0.001). Ln_RHI was significantly associated with CAD independent from FRS (odds ratio [OR] for 0.1 increase in RHI 0.78, 95% confidence interval [CI] 0.66-0.91, p=0.001, OR for 1% increase in FRS 1.07, 95% CI 1.02-1.14, p=0.01). The addition of RHI to FRS improved net reclassification index (25.1%, 95% CI: 4.5-45.6, p=0.017) and C statistics (from 0.665 to 0.749) (Figure).

**Conclusions:** Peripheral endothelial function as assessed by Ln_RHI improved risk discrimination when added to FRS. RH-PAT is potentially useful for identifying patients at high risk for CAD.