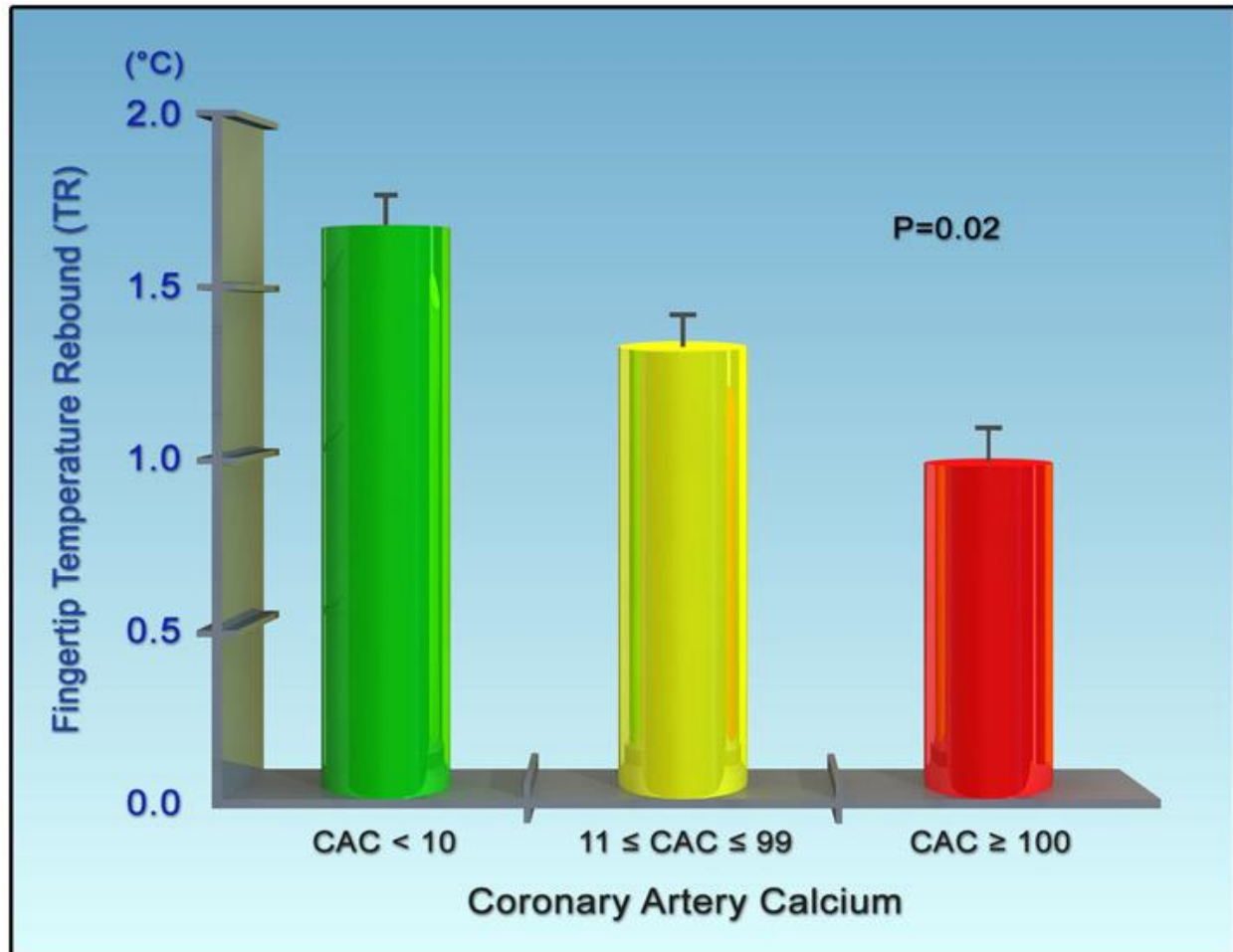


VENDYS for Asymptomatic Patients

Lower Fingertip Temperature Rebound is Associated with Higher Coronary Plaque Burden



Vascular Dysfunction Measured by Digital Thermal Monitoring is Strongly Correlated with the Framingham Risk Score and Coronary Artery Calcium Score

Digital Thermal Monitoring (DTM) of vascular function correlates well with known coronary artery disease (CAD). The current study was designed to evaluate whether DTM can identify at risk asymptomatic patients with significant coronary artery calcium (CAC) or increased Framingham risk score (FRS). 233 consecutive asymptomatic subjects (58 ± 11 years, 62% male) without known CAD underwent DTM, CAC and FRS calculation. DTM measurements were obtained during and after a 5-minute supra systolic arm-cuff occlusion. Post cuff-deflation temperature rebound (TR) and AUC (area under the temperature curve) were measured and correlated with FRS and CAC. TR was lower in FRS > 20% and CAC ≥ 100 as compared to FRS < 10% and CAC < 10, respectively ($p < 0.05$). After adjustment for age, gender and traditional cardiac risk factors, the odds ratio of the lowest vs. upper 2 tertiles of TR was 3.96 for FRS $\geq 20\%$ and 2.37 for CAC ≥ 100 compared to low risk cohorts. The area under the ROC curve to predict CAC ≥ 100 increased significantly from 0.66 for FRS to 0.79 for TR to 0.89 for TR + FRS.

Vascular dysfunction measured by DTM strongly correlates with FRS and CAC independent of age, gender and traditional cardiac risk factors; 2) DTM is superior to FRS for the prediction of significant CAC; 3) Prospective studies are needed to determine the association between DTM measured vascular dysfunction and future CHD events, as well as whether treatment directed towards improving vascular function measured by DTM will reduce events.