



E2101

JACC March 12, 2013

Volume 61, Issue 10



Vascular Medicine

REPRODUCIBILITY OF PERIPHERAL ARTERIAL TONOMETRY FOR THE ASSESSMENT OF ENDOTHELIAL FUNCTION IN ADULTS

Poster Contributions

Poster Sessions, Expo North

Monday, March 11, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Markers to Assess Peripheral and Carotid Artery Disease: Rapid Advances

Abstract Category: 35. Vascular Medicine: Non Coronary Arterial Disease

Presentation Number: 1297-167

Authors: *Luisa Brant, Sandhi Barreto, Valéria Maria Passos, Antonio Ribeiro, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil*

Background: Endothelial dysfunction is associated to cardiovascular risk factors and predicts cardiovascular events. Peripheral arterial tonometry (PAT) is a non-invasive method to assess endothelial function. However, there is a paucity of data about its reproducibility. Knowing the reproducibility of PAT is essential to interpret its results, as well as to contribute to sample size planning. The aim of this study was to assess the reproducibility of PAT in adults concurrently by parameters of agreement and reliability.

Methods: PAT exams were performed twice in the same day in 123 participants of a cohort about the determinants of cardiovascular diseases (Brazilian Longitudinal Study of Adult Health [[Unable to Display Character: –]] ELSA-Brasil). Endothelial function in PAT method is measured by reactive hyperemia index (RHI), an automatically calculated index, which evaluates arterial pulsatile volume changes in response to hyperemia. Agreement of RHI values was compared by Bland-Altman method and coefficient of variation. Reliability was assessed by intraclass correlation coefficient (ICC).

Results: Mean values of RHI did not differ significantly between the exams of each participant (1.92 ± 0.56 vs. 1.96 ± 0.58 , $p=0.48$). There were no systematic errors between the exams (mean of differences = -0.03 ± 0.5). Measurement error was 0.35, coefficient of variation was 18.0% and ICC was 0.61. Gender, age or the presence of obesity did not have a considerable influence on the reproducibility of PAT.

Conclusions: PAT exam is feasible and has acceptable reproducibility in adults when compared to other non-invasive methods for endothelial function assessment. This performance makes PAT a promising method for clinical and epidemiological studies.