DISPARITY BETWEEN ENDOPAT MEASUREMENT AND BRACHIAL ARTERY FLOW-MEDIATED VASODILATATION IN HYPERTENSIVE PATIENTS

Poster Contributions
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Background: EndoPAT measurement has been reported to be well correlated with brachial artery flow-mediated vasodilatation (FMD) in coronary artery disease. However, this relation is still controversial in hypertensive patients or normal subjects and the pathophysiological measure of EndoPAT index is still not completely clarified.

Methods: Thus, to investigate the physiological role of EndoPAT index in hypertension, we simultaneously measured EndoPAT index (RHI) and FMD by forearm occlusion technique, that is reported to be nitric oxide (NO) dependent, in 47 hypertensive patients without hypertensive complication (62±11 years old). BaPWV and augmentation index (AI@75bpm) by EndoPAT were also measured at the same time.

Results: RHI did not correlate with FMD nor baPWV (r= 0.17, NS) while FMD also did not correlate with baPWV (r=0.08, NS). However, baPWV significantly correlated with AI@75bpm by EndoPAT (r=0.50, p<0.01).

Conclusions: BaPWV reflects arterial elasticity while augmentation index expressed as AI@75bpm by EndoPAT can associate with arterial stiffness. AI@75bpm by EndoPAT could measure arterial elasticity and/or stiffness. However, EndoPAT index of RHI could not only reflect NO, but also RHI might possibly relate with endothelial derived PGI2 or EDHF in hypertensive patients because the correlation between RHI and FMD is poor.