Poster Session 34 - Blood Pressure Monitoring I

PS34/MON/10 - Interobserver and intraobserver variability of automatic measurement of radial augmentation index in patients with cardiovascular disease

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Objectives: To assess the reproducibility of automatic measurement of radial augmentation index (AIx) in patients with cardiovascular disease or cardiovascular risk factor.

Methods: Between two independent observers radial AIx was measured in 43 hospitalized patients who had cardiovascular disease or risk factor, such as ischemic heart disease, valvular heart disease, hypertension, diabetes mellitus, and dyslipidemia. Patients who were in acute phase of heart attack and stroke, on chronic atrial fibrillation, severe heart failure or hemodialysis were excluded in this study. The mean age (SD, range) of the patients was 64.5 years old (15.0, 22 - 96) and 25 were male. After 5-minutes resting each observer measured radial AIx twice for one patient in random order. Radial AIx was measured by using HEM9000AI (Omron, Japan) device. The variability was evaluated by correlation coefficient and the method of Bland-Altman plot.

Results: The correlation coefficients of intraobserver on two observers were r=0.97 (p<0.001) and r=0.98 (p<0.001), respectively. The correlation coefficient between the observers was r=0.99 (p<0.001). The mean difference between observers (95% limit of agreement) for interobserver and intraobserver were -0.74 (-6.3 to 4.9) and 0.26 (-7.5 to 8.0), respectively.

Conclusion: Both interobserver and intraobserver variability were acceptable for measurement of radial AIx in patients with cardiovascular disease or cardiovascular risk factor.