



P69 The Initial Upstroke Time is Most Strongly Associated with the Severity of as Among Brachial Pulse Wave Parameters

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ABSTRACT

Background: Aortic valve stenosis (AS) is the most common valve disease in an elderly population, therefore, simple screening examination for AS is needed. Although a prolonged carotid upstroke time (UT), and prolonged ejection time (ET) of a brachial pulse wave (BPW) have been observed in severe AS patients, it has been unclear which BPW parameters have a better correlation with the severity of AS. The aim of this study was to examine which BPW parameters are most relevant to the severity of AS.

Methods: Sixty-five consecutive moderate and severe AS patients who were evaluated by trans-thoracic echocardiography were enrolled in this study. Control patients who were adjusted for age, gender, and blood pressure among outpatients were enrolled ($N = 110$). UT, ET, initial upstroke time (iUT), and half rise time of upstroke (1/2 hrUT) were evaluated correlations between mean pressure gradient (mPG) among AS patients.

Results: iUT and 1/2 hrUT have significant correlations with mPG among AS patients (iUT: $R = 0.50$, 95% CI = 0.29–0.67, $p < 0.0001$; 1/2 hrUT: $R = 0.41$, 95% CI = 0.19–0.60, $p < 0.001$), whereas UT and ET did not. Multivariate logistic regression analysis showed area under curve (AUC) of iUT and 1/2 hrUT were higher than UT and ET to predict mPG >40 mmHg (AUC: iUT vs 1/2 hrUT vs UT vs ET = 0.90 vs 0.89 vs 0.69 vs 0.77).

Conclusion: The severity of AS appeared strongly in the first half of the BPW upstroke. iUT and 1/2 hrUT may be a simple and useful screening test to assess the severity of AS.

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