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THE RELATIONSHIP BETWEEN BRACHIAL-ANKLE PULSE WAVE VELOCITY AND DIASTOLIC FUNCTION IN ESSENTIAL HYPERTENSIVE PATIENTS WITH LEFT VENTRICULAR HYPERTROPHY

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Objective To evaluate the relationship between brachial-ankle pulse wave velocity (baPWV) and left ventricular function in essential hypertensive patients with left ventricular hypertrophy.

Methods A total of 54 hypertensive patients with left ventricular hypertrophy were divided into two groups: E/Ea \geq 15 group and E/Ea $<$ 15 group. Auto-survey atherosclerosis apparatus was applied to examine baPWV and ankle-brachial index (ABI). Central aortic waveforms were generated using pulse wave analysis. End-diastolic left ventricular diameter (LVIDd), interventricular septum thickness (IVSd), end-diastolic posterior wall thickness (LVPWd), left ventricular ejection fraction (LVEF), left ventricular mass index (LVMI) and E, A, Ea were measured by echocardiography.

Results baPWV were significantly higher in the E/Ea \geq 15 group compared to the E/Ea $<$ 15 group (1844.26 \pm 347.90 vs 1616.23 \pm 295.08, $p<$ 0.05). There were no significant differences in LVEF ABI between the two groups. Correlation analysis revealed that baPWV was significantly and independently associated with E/Ea ($r=0.289$, $p<$ 0.05).

Conclusions Elevated baPWV is significantly associated with diastolic function in essential hypertensive patients with left ventricular hypertrophy.