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Objective: To examine whether the angiotensin II receptor blockers valsartan in a dose of 160mg per day combined with amlodipine in patients with coronary heart disease combined with hypertension.

Methods: 75 patients with coronary heart disease combined with hypertension in all accepted brachial-ankle pulse wave velocity (ba-PWV) and central aortic blood pressure measurement. They were administered to take valsartan in a dose of 160mg per day (valsartan group, n=35) or amlodipine 5–10 mg per day (amlodipine group, n=40) respectively soon after to ensure equivalent BP control. Measurements of ba-PWV and central aortic BP were carried out again after 24 weeks.

Results: After 24 weeks there were no statistical differences in coronary artery Gensini score, left ventricular ejection fraction, mean heart rate and types of therapy medication between valsartan group and amlodipine group (p>0.05). Systolic blood pressure, diastolic blood pressure and pulse blood pressure of brachial artery as well as central artery between baseline level and end of the study had no statistical differences between two groups (p>0.05), and had significant decrease in both groups (p<0.01). The levels of central artery BP and brachial BP controlled by valsartan were similar to amlodipine. There were no significant differences in ba-PWV between two groups at baseline (12.6±2.6 vs 21.2±2.6, p=0.05), however a significant decrease were observed in valsartan group after 24 weeks (12.6±2.6 vs 10.8±1.9, p<0.01), while no significant changes appeared in amlodipine group (12.1±2.6 vs 11.4±2.7, p>0.05).

Conclusion: valsartan may improve arterial stiffness to a significantly greater extent than amlodipine despite similar central artery and brachial BP control.