Fosinopril improves left ventricular diastolic function in young mildly hypertensive patients without hypertrophy

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摘要

Abstract

To clarify whether fosinopril monotherapy can improve left ventricular diastolic function (LVDF) in young mildly hypertensives without hypertrophy, we studied 66 patients (pts) with diastolic blood pressure 90–100 mmHg, aged <45 years, with normal 2-dimensional echocardiography (2-D echo), and impaired DF. Impaired DF was defined as a Doppler transmitral early (E) to atrial (A) filling velocity ratio (E/A ratio) <1. Thirty-eight pts were selected for fosinopril monotherapy. Mean age was 36 years. Duration of documented hypertension was 5.4 years. Mean daily dose of fosinopril was 20 mg. Twenty-eight controls were treated with hydrochlorothiazide and hydralazine combination. Sixty-six age- and sex-matched healthy subjects served to establish normal reference values of 2-D and Doppler echo measurements. All hypertensives were treated for 30 months and re-examined 4 weeks after cessation of treatment. The fosinopril-treated group showed improvements in transmitral E (52 ± 8 cm/s, vs. 61 ± 9 cm/s, $p < 0.01$), A (56 ± 9 cm/s, vs. 47 ± 6 cm/s, $p < 0.05$), and E/A ratio (0.93 ± 0.16, vs. 1.29 ± 0.18, $p < 0.01$). Moreover, the early to atrial velocity-time integral ratio (1.31 ± 0.10, vs. 2.24 ± 0.10, $p < 0.001$) improved. The pulmonary venous flow pattern normalized after fosinopril therapy. LV mass index, relative wall thickness, LV dimension, left atrial dimension, fractional shortening, heart rate, and body mass index did not change. The hydrochlorothiazide-hydralazine combination-treated group did not show an improved diastolic function. It is concluded that long-term fosinopril monotherapy leads to an improvement of impaired LVDF in young mildly hypertensives without hypertrophy.

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