
Heart

4.20 Clinical Impact of Changes in Wall Motion Abnormalities in Hypertensive Patients with Left Ventricular Hypertrophy: The LIFE Study

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Introduction: Left ventricular (LV) systolic wall motion (WM) abnormalities have prognostic value. However, the clinical importance of change of WM over time as a marker of prognosis in hypertensive patients with LV hypertrophy (LVH) without clinically recognized atherosclerotic disease has never been investigated. We examined whether changes in echocardiographic WM abnormalities predicted cardiovascular events in the Losartan Intervention For Endpoint reduction in hypertension (LIFE) echocardiographic substudy.

Methods: We studied 749 patients without coronary artery disease, myocardial infarction (MI), or stroke history. Echocardiographic segmental WM abnormalities at baseline and annual re-evaluations were examined in relation to endpoints (cardiovascular mortality, MI, stroke, and hospitalized heart failure). Adjusted Cox regression analyses were performed for the primary composite endpoint of cardiovascular death, MI, or stroke and, separately, for fatal and non-fatal MI and hospitalized heart failure.

Results: During a mean follow-up of 4.8 years, an event was recorded in 67 (9%) patients. In multivariate Cox regression models adjusting for age, gender, treatment, blood pressure lowering, and serial change of LV mass index, time-varying segmental WM abnormalities were associated with subsequent composite endpoint (hazard ratio [HR] = 2.1, 95% confidence interval [CI] 1.1 to 3.8, P = 0.019) and MI (HR = 3.7 [1.5 to 8.9], P = 0.004).

Conclusion: In hypertensive patients with LVH and no history of atherosclerotic disease, development over time of LV WM abnormalities is associated with increased likelihood of subsequent cardiovascular events, independent of age, gender, blood pressure lowering, treatment modality, and in-treatment LV mass index.