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## **Clinical impact of 'in-treatment' wall motion abnormalities in hypertensive patients with left ventricular hypertrophy: the LIFE study.**

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### **Abstract**

**OBJECTIVES:** Left ventricular systolic wall motion abnormalities have prognostic value. Whether wall motion detected by serial echocardiographic examinations predicts prognosis in hypertensive patients with left ventricular hypertrophy (LVH) without clinically recognized atherosclerotic disease has, however, never been investigated. We examined whether 'in-treatment' wall motion abnormalities predicted outcome in the Losartan Intervention For Endpoint (LIFE) reduction in hypertension echocardiographic substudy.

**METHODS:** We studied 749 patients without coronary artery disease, myocardial infarction (MI), or stroke history. Echocardiographic segmental wall motion abnormalities at baseline and annual re-evaluations ('as time-varying covariate') were examined in relation to endpoints (cardiovascular mortality, MI, stroke, and hospitalized heart failure). Adjusted Cox regression was used to analyze the primary composite endpoint of cardiovascular death, MI, or stroke and, separately, for fatal and nonfatal MI and hospitalized heart failure.

**RESULTS:** During a mean follow-up of 4.8 years, an event was recorded in 67 (9%) patients. In Cox models after adjusting for age, gender, treatment, blood pressure lowering, and serial change of left ventricular mass index, 'in-treatment' segmental wall motion abnormalities were associated with subsequent composite endpoint [hazard ratio = 2.1, 95% confidence interval (CI) 1.1-3.8; P = 0.019] and MI [hazard ratio = 3.7 (1.5-8.9); P = 0.004].

**CONCLUSION:** In hypertensive patients with LVH and no history of cardiovascular disease, 'in-treatment' left ventricular wall motion abnormalities are associated with increased likelihood of subsequent cardiovascular events independent of age, gender, blood pressure lowering, treatment modality, and in-treatment left ventricular mass index.

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