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**Mitral Annular Calcification and Incident Ischemic Stroke in Treated Hypertensive Patients: The LIFE study.**

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**Source**

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**Abstract**

Background Fibro-calcification of the mitral annulus (MAC) has been associated with increased risk of ischemic stroke in general populations. This study was performed to assess whether MAC predicts incidence of ischemic stroke in treated hypertensive patients with left ventricular hypertrophy (LVH). Methods Baseline and follow-up clinical and echocardiographic parameters were assessed in 939 hypertensive patients with electrocardiogram (ECG) LVH participating in the Losartan Intervention for Endpoint reduction in hypertension (LIFE) echocardiography substudy (66±7 years; 42% women; 11% with diabetes) who did not have aortic or mitral valve stenosis or prosthesis. Results MAC was found in 458 patients (49%). Patients with MAC were older (68±7 vs. 65±7 years); were more often women (47% vs. 37%); had higher baseline systolic blood pressure (BP) (175±14 vs. 172±15mm Hg), left atrial diameter (4.0±0.5 vs. 3.8±0.6cm), and left ventricular mass index (58±13 vs. 55±12g/m) and included more patients with proteinuria (30% vs. 21%; all P < 0.01). During a mean follow-up of 4.8 years, 58 participants had an ischemic stroke. Risk of incident ischemic stroke was significantly related to presence of MAC (log rank = 9; P < 0.01). In multivariable Cox regression analysis models, MAC was associated with increased risk of ischemic stroke (hazard ratio = 1.78-2.35), independent of age, baseline or time-varying systolic BP, prevalence or incidence of atrial fibrillation, history of previous cerebrovascular disease, and other well-recognized confounders, such as sex, time-varying left ventricular mass, left atrial diameter, and urinary albumin/creatinine ratio (all P < 0.05). Conclusions MAC is common in treated hypertensive patients with ECG LVH and is an independent predictor of incident ischemic stroke.

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