

## Determinants of left ventricular hypertrophy among elderly hypertensive in Malaysia

### ABSTRACT

Left ventricular hypertrophy (LVH) has high prognostic value on cardiovascular mortality and morbidity. However, echocardiography is not routinely performed among elderly hypertensives in the primary-care setting due to limited resources. The aim of this study was to determine the prevalence of LVH and its associated risk factors in a multi-ethnic elderly hypertensive population in a primary-care clinic in Malaysia. This study was a sub-analysis of a cross-sectional study of 359 patients with hypertension in a primary-care clinic. All test subjects recruited for the study were hypertensive patients aged 60 and above. Blood pressure, height and weight were measured. All patients underwent an echocardiogram examination for diagnosis of LVH. One hundred and ninety-nine patients were studied for the analysis. The mean age and duration of hypertension was 64.8 (SD 2.9) and 10.4 (SD 7.7) years, respectively. The study found that 44.7% of respondents achieved target blood pressure. The prevalence of LVH was 23.6%. Using multiple logistic regression, factors associated with LVH among elderly patients with hypertension were diabetes (odds ratio [OR] 3.346, 95% confidence interval [CI] 1.458-7.676), higher diastolic blood pressure (OR: 1.088; 95% CI: 1.024-1.156), higher body mass index (OR: 1.113; 95% CI: 1.031-1.203) and poorer blood pressure control was 23.6%. Using multiple logistic regression, factors associated with LVH among elderly patients with hypertension were diabetes (odds ratio [OR] 3.346, 95% confidence interval [CI] 1.458-7.676), higher diastolic blood pressure (OR: 1.088; 95% CI: 1.024-1.156), higher body mass index (OR: 1.113; 95% CI: 1.031-1.203) and poorer blood pressure control (OR: 2.924; 95% CI: 1.180-7.258). Poor hypertension control, higher diastolic blood pressure, presence of diabetes and obesity are the predictors for the development of LVH in elderly hypertensive.

**Keyword:** Left ventricular hypertrophy; LVH; Elderly; Hypertension; Obesity; Diabetes; Primary care; Malaysia