Is there a case for left ventricular hypertrophy screening?

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Diabetes and hypertension are major factors in the development and progression of left ventricular hypertrophy (LVH). A recent study reported that LVH was the only ECG abnormality that was a significant predictor of arrhythmic mortality. An associated increased risk of 35% for arrhythmic death was calculated from the cohort selected from the Multicenter Unsustained Tachycardia Trial (MUSTT).[1] Appropriate medication to reduce high blood pressure in individuals with diabetes is known to reduce LVH although it has been documented that 20-30% of patients with diabetes have left ventricular hypertrophy (LVH) independent of raised blood pressure. Our study investigated the prevalence of LVH in adult individuals participating in a diabetes complications screening research project in rural Australia . 521 adult individuals from rural communities in south eastern NSW and north eastern Victoria presented for a range of tests including a standard 12 lead electrocardiogram (ECG). The Sokolow and Cornell criteria were used to identify LVH. Medical history was determined by interview and age, gender, body-mass index (BMI), blood pressure (BP) and diabetic status were recorded. 146 (28%) individuals from this opportunistic screening were identified with either type 1 or type 2 diabetes. LVH was identified in 29 individuals (5.6%) and of these 6 (20%) had diabetes and 23 (80%) were without diabetes. Only 21% had blood pressures in the normal range. The number of people with LVH was far less than previously reported, however, we feel that our data represents a more realistic percentage found in the general population. Of interest is our finding that more people in the non-diabetes group had LVH. It has been reported that two-thirds of left ventricular systolic dysfunction (LVSD) is symptomless therefore screening people for LVH as part of an opportunistic health screening may provide an indicator for early intervention associated with increased risk of coronary artery disease.

(1) Zimetbaum, P.J. et al. (2004) ECG predictors of arrhythmic death and total mortality in the Multicenter Unsustained Tachycardia Trial. Circulation. 110:766-769.