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Framingham Risk Score and Left Ventricular Hypertrophy in Primary Care Setting
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Background
Left ventricular hypertrophy (LVH) is one of the earliest target organ damage amongst hypertensive patients. It is also associated with an increased risk of cardio-vascular events. There are limited studies done locally on its relationship with the Framingham risk score (FRS).

Objective
This study determines the relationship between FRS and LVH in hypertensive patients.

Material and Methods
i) A cross sectional study was conducted among hypertensive patients who attended a hospital based outpatient clinic in the Klang Valley, Malaysia. ii) All eligible and agreeable patients were recruited. A face to face interview was conducted and a structured questionnaire was used to obtain clinical data. iii) All patients underwent ECHO to detect LVH. Echocardiographic LVH was defined as each of the left ventricular posterior wall thickness and the interventricular septal thickness ≥11mm. iv) Framingham risk score was derived from the latest blood investigation results. v) Target BP was defined as <140/90mmHg among hypertensive patients and <130/80mmHg among hypertensive patients with diabetes. vi) Ethics Committee approval was obtained.

Framingham risk score (West Hertfordshire Cardiology)
The components of FRS consist of age, total cholesterol, HDL cholesterol, systolic blood pressure, diastolic blood pressure and smoking status. Ten year risk of cardiovascular heart disease is classified into 4 categories. Very low risk if FRS <10%, low risk if FRS <15%, moderate risk if <FRS is 15% - 20%, low and high risk if FRS > 20%. Result: A total of 258 hypertensive patients were recruited. The mean age was 59.9 (SD7.1) years old. Two third of the respondents were female. The mean BMI was 26.9 ± 4.9 kg/m². Mean duration of hypertension was 10.4 ± 7.3 years. Mean systolic blood pressure (SBP) was 136 ± 12.8 and mean diastolic blood pressure (DBP) was 81.3 ± 7.7 mmHg. The mean FRS is 6.4 (SD2.9). The prevalence of echocardiographic LVH was 22.4%. There was no correlation between both mean FRS and LVH.

Conclusion
Most of the hypertensive patient in this study had low Framingham risk score. However, there was no correlation between the score and left ventricular hypertrophy.