

Title: Blood pressure and 10-year cardiovascular risk profile of young hypertensives in Malaysia; a single centre study

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Text: Introduction: Hypertension is being identified in younger population and the need for earlier diagnosis and intervention has resulted in the introduction of prehypertension in the classification of hypertension. Hypertension prevalence is at 33% and they contribute to a rising incidence of cardiovascular disease. The objective of the study is to assess the 10-year cardiovascular risk profile of young hypertensives from a single centre in Malaysia.

Methodology: A total of 484 subjects were screened at a primary health care clinic in Kuantan, Malaysia. 57 subjects between the ages of 20 and 40 with systolic and diastolic blood pressure ranges of between 120-159 mmHg and 80-99 mmHg respectively were enrolled into a cross-sectional observational study. The cardiovascular risk-factor profile was assessed and the 10-year cardiovascular risk determined.

Results: The mean age of the subjects were 32.74 ± 5.78 years. The mean systolic arterial pressures were 132.38 ± 10.34 , 87.17 ± 7.55 and 102.06 ± 7.37 mmHg respectively. The mean fasting blood sugar 4.67 ± 0.75 mmol/L, total cholesterol 5.82 ± 0.96 mmol/L, low-density lipoprotein 3.73 ± 0.86 mmol/L, high-density lipoprotein 1.40 ± 0.37 mmol/L and body mass index 28.72 ± 5.24 kg/m². The mean cardiovascular risk point was 4.07 ± 5.35 wherein 91.23% were in the low 10-year Coronary Artery Disease risk category (Framingham CV Risk Score)

Conclusion: A great majority of young subjects within the prehypertension and stage 1 hypertension range had a low 10-year Coronary Artery Disease risk. They did however show higher than normal total cholesterol, low-density lipoprotein and body mass index levels.

Title: Cardiovascular risk and biochemical profile of young hypertensives in Malaysia; A case control study

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Text: Introduction: Hypertension is one of the most important risk factors for Cardiovascular Disease in Malaysia. Hypertension prevalence in Malaysia is at 42.6% and population-based hypertension control is extremely poor at only 26% based on the 1996 National Health and Morbidity Survey. The objective of the study is to ascertain the cardiovascular risk profile of young hypertensives against age-matched controls in a single centre in Malaysia.

Methodology: 484 subjects attending a primary health care clinic in Kuantan, Malaysia were screened. 97 young hypertensives between the ages 20 and 40 with systolic and diastolic blood pressure ranges of between 120-159 mmHg and 80-99 mmHg respectively and age-matched controls were enrolled in a cross-sectional, observational study. The cardiovascular risk-factor profiles for both groups were assessed and compared.

Results: A total of 57 subjects and 40 controls were enrolled. The mean age were 32.74 ± 5.45 years ($p=0.151$), mean values for arterial pressure 102.10 ± 7.37 vs 82.24 ± 6.11 mmHg ($p<0.001$), central aortic systolic pressure 122.83 ± 9.58 vs 100.28 ± 6.94 mmHg ($p<0.001$), total cholesterol 5.82 ± 0.96 vs 5.46 ± 0.97 ($p=0.076$), low-density lipoprotein 3.73 ± 0.86 vs 3.28 ± 0.86 ($p=0.015$), fasting blood sugar 4.67 ± 0.75 vs 4.35 ± 0.42 ($p=0.013$), body mass index 28.72 ± 5.24 vs 23.18 ± 3.96 ($p<0.001$) and cardiovascular risk point 4.07 ± 5.78 vs 0.13 ± 4.17 ($p<0.001$).

Conclusion: Both the cardiovascular risk factor profiles and the Framingham Cardiovascular Risk Score were significantly higher in young hypertensives compared to age-matched controls.

Title: Central Aortic Systolic Pressure and Biochemical Profile of Young Hypertensives in Rural Malaysia

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Summary: Hypertension is being identified in younger population. The prevalence of hypertension in Malaysia is 42.6% which contributes to the rising incidence of cardiovascular disease. The objective of the study is to assess the central aortic systolic pressure (CASP) and cardiovascular risk profile to young hypertensives in rural Malaysia. A total of 484 subjects were screened at a primary health care clinic in Kuantan, Malaysia. 97 subjects between the ages 20 and 40 with systolic and diastolic blood pressure ranges 120-159 mmHg and 80-99 mmHg respectively and age-matched were enrolled into a group cross-sectional, observational study. The cardiovascular risk-factor profile and CASP was assessed and compared in both groups. A total of 57 subjects and 40 controls were enrolled. The mean age were 32.74 ± 5.78 versus 31.05 ± 5.45 years ($p=0.151$), mean values for arterial pressure 102.10 ± 7.37 versus 82.24 ± 6.11 mmHg ($p<0.001$), total cholesterol 5.82 ± 0.96 versus 5.46 ± 0.97 ($p=0.076$), low-density lipoprotein 3.73 ± 0.86 versus 3.28 ± 0.86 ($p=0.015$), fasting blood sugar 4.67 ± 0.75 years versus 4.35 ± 0.42 ($p=0.013$), body mass index 28.72 ± 5.24 versus 23.18 ± 3.96 ($p<0.001$) and CASP 122.83 ± 9.58 versus 100.28 ± 6.94 mmHg ($p<0.001$). In conclusion, both the cardiovascular risk factor profiles and the CASPs were significantly higher in young hypertensives compared to age-matched controls.