

## **PREVALENCE OF HYPERTENSION IN CLOSE RELATIVES OF PATIENTS WITH ESSENTIAL HYPERTENSION**

*BMY Cheung, SPC Ho, CP Lau. Department of Medicine, University of Hong Kong, Hong Kong*

Essential hypertension is caused by genetic and environmental factors, both of which contribute to familial aggregation of hypertension. To study the prevalence of hypertension among close relatives, 323 hypertensive patients (164 men and 159 women; age, mean [S.D.], 49.4 [11.6] years) were questioned about the blood pressure status of close relatives. 29%, 38% and 33% had 0, 1, and 2 hypertensive parent(s) respectively. 41% of patients had hypertensive siblings. Only 9% of hypertensive patients have no family history of hypertension, which may be due to the large number of siblings in the family (median, 6; interquartile range 4-7). In the parental generation, 102 fathers and 98 mothers were hypertensive. Among siblings of patients, 30% of their brothers and 30% of their sisters were hypertensive. The probability of hypertension is remarkably equal in the two sexes despite physiological differences and suggests autosomal genetic influence.

The large families facilitated the calculation of the proportion of hypertensive sibs in each family, which should show a binomial distribution with a mean of about 10%, the frequency of hypertension in the general population, if hypertension is not inherited. Instead, our data showed bimodal distribution with peaks at around 10% and 50%. In the latter families, half of the sibs were hypertensive, resembling Mendelian inheritance.

In conclusion, most hypertensive patients in Hong Kong have one or more affected first degree relative. The development of hypertension is partly inherited, although the causative genes are likely to be different in different pedigrees.

## **CALCIUM CHANNEL BLOCKERS ARE OVERUSED AND THIAZIDES ARE UNDERUSED IN A HYPERTENSION OUTPATIENT CLINIC**

*BMY Cheung, SPC Ho, CP Lau, CR Kumana. University Department of Medicine, Queen Mary Hospital, Hong Kong*

The JNC V guidelines recommend the use of diuretics and beta-blockers as first choice antihypertensive agents. Hence, a drug utilization study of 246 hypertensive patients was undertaken in the Hypertension Clinic at Sai Ying Pun Hospital, Hong Kong. 51% received calcium channel blockers (CCB); 47%, beta-blockers (BB); 32%, angiotensin-converting enzyme inhibitors (ACEI); 15%, thiazide diuretics and 5%, alpha-blockers. The percentage of patients prescribed no drugs (life-style modification), one drug (monotherapy), two, three and four drugs were 7%, 48%, 35%, 7% and 2% respectively. The leading regimes were, in decreasing order, CCB monotherapy, CCB + BB, BB monotherapy, ACEI monotherapy. One-third of patients on monotherapy were prescribed CCB although only 9/55 had concomitant medical conditions justifying the prescription of CCB (diabetes, gout, respiratory and cardiac disease). Notably, 45% of patients were prescribed neither thiazide nor beta-blocker.

Our data suggest that the prescription of calcium channel blockers and angiotensin-converting enzyme as monotherapy should be reduced whilst the use of thiazides should be encouraged. Thiazides and beta-blockers are economical and their use is justified by clinical trials showing reduction in morbidity and mortality in hypertensive patients.