

## **G-CH-6**

### **HYPERTENSION IN RELATIVES IS ASSOCIATED WITH OBESITY**

Cheung BMY, Cheung AHK, Lau CP, Kumana CR. Department of Medicine, The University of Hong Kong, Hong Kong

**Introduction:** We had previously found a high prevalence of hypertension among first degree relatives of hypertensive patients. The aim of the present investigation is to identify the factors associated with the development of hypertension in these relatives.

**Methods:** 51 first degree relatives of hypertensive patients (23 men, 28 women; age  $41 \pm 11$  yrs) were studied. The medical history was obtained and the subjects were examined with special attention to blood pressure and indices of obesity. Body fat was assessed using bioelectrical impedance (Body Fat Analyzer, Tanita). A fasting venous blood sample was taken for the measurement of glucose and lipids.

**Results:** 29% of the subjects were hypertensive. Hypertension correlated with age ( $r = 0.34$ ,  $p = 0.01$ ), body mass index ( $r = 0.41$ ,  $p = 0.003$ ), body fat % ( $r = 0.30$ ,  $p = 0.03$ ), fat mass ( $r = 0.43$ ,  $p = 0.004$ ), waist circumference ( $r = 0.41$ ,  $p = 0.003$ ), waist-hip ratio ( $r = 0.33$ ,  $p = 0.02$ ) and fasting blood glucose ( $r = 0.45$ ,  $p = 0.001$ ). Fat mass, waist circumference and body mass index were intercorrelated. Hypertension in these subjects was not related to gender, body weight, lean body mass and lipids (plasma LDL-cholesterol, HDL-cholesterol and triglycerides). Logistic regression analysis suggested that only age ( $p < 0.006$ ) and fat mass ( $p < 0.004$ ) were independent predictors of hypertension in these subjects.

**Conclusions:** Our findings show that the development of hypertension in those with a family history is strongly related to obesity rather than body weight. As waist circumference correlates strongly with fat mass, it can be used as a ready measure of abdominal adiposity and risk of hypertension. Although obesity may be partly influenced by genes, it is modifiable. Avoidance of obesity in these individuals may decrease their chance of developing hypertension.

## **G-CH-7**

### **PROGNOSTIC IMPLICATIONS OF THE CARE STUDY IN HONG KONG**

J Chau, CR Kumana, BMY Cheung, IJ Lauder, CP Lau. Department of Medicine, Queen Mary Hospital, The University of Hong Kong, Hong Kong.

**Objective:** This study is to determine the cost-effectiveness of using pravastatin for the treatment of Hong Kong patients with myocardial infarction (MI) and average cholesterol levels.

**Methods:** Evaluation was based on using pravastatin 40mg daily to treat a hypothetical cohort of Hong Kong patients with the same demographics and prognosis as in the Cholesterol and Recurrent Events (CARE) study. The major endpoint was gross cost per quality-adjusted life year (QALY) gained. The costs of drug treatments and lipid measurements for a period of five years were estimated by using local values. QALYs gained were derived from two sources: fatal and non-fatal MIs prevented, and fatal and non-fatal strokes prevented. A discount rate of 6% was used. Prevention of fatal and non-fatal MI and strokes result in other benefits and savings. These include increased life expectancy and earnings, as well as avoidance of costs due to acute hospitalisation, more frequent outpatient follow-up, procedures, and rehabilitation.

**Results:** The 10,405 patient years of treatment were costed at HK\$71,077,596 and \$60,512, 876 if discounted. The number of QALYs gained were 186 and 89 from the prevention of fatal and non-fatal MIs and strokes respectively. Gross cost per QALY gained was calculated as \$258,878 before discounting and \$220,399 when costs were discounted.

**Conclusions:** For Hong Kong patients with MI and average cholesterol levels, the gross cost per QALY gained from pravastatin treatment (\$220,399 after discounting) must be viewed in relation to other benefits and savings.