

Impact of stroke on autonomic nervous system

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Introduction: Disturbances of the autonomic nervous systems (ANS) are not uncommon in stroke patients, attributed to damage of the central autonomic networks. The resultant alternation in autonomic dynamics caused an imbalance between sympathetic and parasympathetic tone. The most common clinical problems include abnormalities in heart rate and blood pressure control. Vasomotor and sudomotor disturbances post stroke are less well defined.

Methods: First-ever stroke patients admitted to Queen Mary Hospital were recruited excluded those with known cardiac illness or disorders that can affect ANS. Autonomic function test and sympathetic skin response (SSR) were performed in Tung Wah Hospital within 14 days of admission.

Result: A total of 75 patients were recruited, only 72 underwent full assessment (3 patients died before assessment). A total of 25 patients (34.7%) have orthostatic hypotension (OH), majority asymptomatic, found to be more common in patients with severe stroke (NIHSS) and poor functional level (BI). There was no difference in number of antihypertensive used between those with and without OH. Forty-five patients (62.5%) have impaired SSR where 60% has bilateral involvement. SSR impairment was more common in patients with low BI score or insular involvement.

Conclusion: Sympathetic impairment is common post stroke, ranged from 34.7% for OH to 62.5% for sudomotor impairment. Graded vasomotor training should be advocated in patients with severe stroke with monitoring of BP during training as majority of patient with significant OH were asymptomatic. SSR is found to associate with post-stroke functional status.

Predictors common to cardiovascular and cancer outcomes in a population-based 13-year prospective study in Hong Kong

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Introduction: Cardiovascular diseases (CVD) and cancer are the two leading causes of death in Hong Kong. Obesity is becoming increasingly prevalent in the local population and has been reported to be associated with CVD and some forms of cancer in the western world. In this study, we attempted to identify the aetiological factors linking obesity to both CVD and cancer among Hong Kong Chinese.

Methods: Subjects were recruited from the Hong Kong Cardiovascular Risk Factor Prevalence Study (CRISPS), a population-based prospective study commenced in 1995-6. CVD and cancer outcomes were identified and confirmed by physician-entered diagnosis codes in the Hospital Authority Computer Database.

Results: A total of 2091 subjects from CRISPS-1 had full anthropometric and biochemical data and outcome data for analysis; 113 subjects had confirmed incident CVD. Male sex, age, baseline body mass index, waist circumference (WC), fasting glucose, 2-hour glucose after oral glucose tolerance test, insulin resistance index HOMA-IR, systolic and diastolic blood pressure, triglycerides, high-density lipoprotein (HDL), diabetes, hypertension, dyslipidaemia and metabolic syndrome were all predictive of incident CVD over 12.9 years even after controlling for age ($P < 0.01$). On multivariate analysis, baseline age, WC, HOMA-IR, hypertension and diabetes were independent risk factors for incident CVD. A total of 176 subjects had incident cancer. Age and female sex were significantly associated with cancer. In addition, baseline HDL, HOMA-IR and diabetes were significantly associated with cancer after adjustment for age. On multivariate analysis, age, female sex, low HDL and diabetes were the independent risk factors for the development of cancer.

Conclusion: Age and diabetes mellitus are risk factors common to CVD and cancers in our population. The data from this prospective study suggest that diabetes plays an important role in the development of CVD and cancer, the top killers in Hong Kong. Primary care health policies should focus on community-wide education and strategies aiming to reduce insulin resistance and diabetes development, and hence future CVD and cancer events in our ageing population.

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