

Risk Factors for Stroke in Sri Lankans

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Stroke is a leading cause of morbidity and mortality in Sri Lanka accounting for 10.1 hospital deaths per 100,000 population in 1987¹. This study looks at the association of known risk factors for stroke in Sri Lankan patients.

Material and methods

119 stroke patients, 86 men and 33 women, admitted to Base Hospital, Panadura from 1 July 1989 to 30 June 1990 were studied. Data on previous stroke, previous transient ischaemic attacks (TIA), previous coronary artery disease (CAD) and valvular heart disease, smoking habits, alcohol use of the contraceptive pill were recorded. Blood pressure was recorded regularly during the hospital stay. On clinical assessment, the extent of the stroke was noted as reversible ischaemic neurological deficit, stroke with minimum residue or completed stroke and the site as in the carotid or vertebro-basilar distribution.

Investigations; ESR, haemoglobin and packed cell volume (PCV), fasting and postprandial blood sugars, blood urea and serum electrolytes, total cholesterol and ECG were done on all patients. Selected cases had echocardiography.

Results

Strokes accounted for 1.2 per cent of all admissions to the medical unit during this period and 8.3 per cent of all deaths. Eighty seven patients (73%)

were 60 years or older with a peak incidence at 60 years for men and 70 years for women.

There were 25 deaths (21%) with a 13 per cent mortality in strokes in the carotid distribution and a 61 per cent mortality in strokes in the vertebrobasilar distribution. One patient with a subarachnoid haemorrhage also died.

71 patients had a completed stroke, 33 had a stroke with minimum residue and 15 had a reversible ischaemic neurological deficit.

Twenty one per cent had previous stroke, 11 per cent had previous CAD 1.7 per cent had valvular heart disease and 2.5 per cent had a previous TIA.

Fourteen (11.8%) used alcohol in excess and 44 (37%) smoked more than 5 cigarettes per day. Smoking as a sole risk factor was seen in 3 patients.

Six patients (5%) had diabetes.

Hypertension was found in 85 patients (71.4%), 59 males and 26 females. Eighty one per cent with hypertension were under 70 years of age while 59 per cent were over 70 years. Only 14 per cent took regular treatment, 30 per cent took intermittent treatment, 21 per cent had stopped treatment, while 35.5 per cent were not aware of their hypertension. Inability to attend the hospital clinic or purchase drugs and taking treatment only when "ill" (headaches, giddiness, heaviness of

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the body) were the reasons given for taking intermittent treatment while approximately equal numbers of patients stopped treatment on the advice of a qualified Western medical practitioner, or an unqualified Western practitioner or an Ayurvedic practitioner.

Two patients had mitral valve disease with thrombi in the left atrium.

ESR and PCV were normal in all patients. Total cholesterol was elevated (over 240 mg) in 8, all women over 60 years of age.

None of the women had used the contraceptive pill.

Discussion

Hypertension and age over 60 years for men and a decade later for women, emerge as the major risk factors for stroke in this group of Sri Lankan patients.

Hypertension increases the risk of stroke 4 to 8 times that of age matched controls² and control of hypertension decreases this risk by half³. The control of hypertension in this group of patients was poor and underlined the need for better understanding of hypertension by both the practitioner and patient. The large number of patients with undetected hypertension underscores the importance of recording blood pressures routinely.

Elevated total cholesterol is a possible risk factor for stroke. A 30 year follow up from the Framingham study has shown no association between total cholesterol levels and cardiovascular deaths including stroke, in

patients aged over 60⁴. Twenty-four per cent of women aged over 60 had raised total cholesterol levels suggesting that raised total cholesterol levels is a major risk in this sub-group of patients.

All patients who took excess alcohol were also hypertensive, so that alcohol as a risk factor could not be independently assessed. Smoking was not a risk factor.

Diabetes and previous TIA⁵, both major risk factors were not significantly associated with stroke in this group of patients.

Comment

With increasing life expectancy for Sri Lankans, the incidence of stroke will continue to rise. A single measure, the detection and control of hypertension, can more than halve this potential increase.

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