Lesson of the Week

Stroke affecting young men after alcoholic binges

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Stroke in people aged under 40 is uncommon. Furthermore, when it occurs it is rarely due to atheroma. Subarachnoid haemorrhage accounts for two thirds of cases.[1] Once this has been excluded investigations should be directed towards identifying any congenital vascular anomalies and systemic disease.[1] We report on two young men who suffered strokes after alcoholic binges.

Excessive consumption of alcohol may be an underestimated risk factor for stroke, particularly in men

Case reports

CASE 1

In June 1981 a 30 year old policeman presented with a dense right hemiplegia. He had previously been well. The previous evening he had consumed a large amount of beer, and on the morning of his presentation he had woken with a hangover but had managed to go to work. He collapsed that afternoon with sudden right sided weakness but did not lose consciousness. His normal weekly consumption of alcohol was two or three pints (40-60 g). He did not smoke, and there was no family history of premature stroke or cardiac disease.

Examination showed expressive dysphasia, right homonymous hemianopia, and flaccid right hemiplegia. His pulse rate was 84 beats/minute regular and his blood pressure 150/100 mm Hg. There was no cardiomegaly, his fundi were normal, and there were no cardiac or carotid bruits.

Computed tomography on admission yielded normal results. A lumbar puncture showed clear cerebrospinal fluid; glucose concentration was 3·5 mmol/l (63 mg/100 ml) and protein concentration 0·4 g/l, and there were no cells. A left carotid angiogram showed a left cerebral infarct but no predisposing cause. Other findings were: haemoglobin concentration 153 g/l, packed cell volume 0·44, erythrocyte sedimentation rate 7 mm in the first hour, normal serum biochemical values, and antinuclear factor negative; an electrocardiogram and chest radiograph were normal.

He recovered steadily from his stroke and returned to work to do a desk job. No further problems arose.

CASE 2

In May 1985 a 36 year old man presented with a resolving left hemiparesis. He had woken with a hangover and became aware of weakness in his left arm and leg. During the preceding evening he had consumed 200 g of alcohol in beer and spirits. His normal daily alcohol intake was four pints (80 g) of beer. His general health was good apart from occasional indigestion, for which he took cimetidine. He smoked 20 cigarettes a day. There was no relevant family history.

Examination showed a left upper motor weakness of the face and mild weakness of his left arm. Power in his left leg had returned to normal. His fundi were normal, pulse rate was 78 beats/minute regular, and blood pressure was 160/100 mm Hg. There was no cardiomegaly and no cardiac or carotid bruits.

Computed tomography showed a small right cerebral infarct, and source of arterial embolus was sought. His electrocardiogram and echocardiogram were normal. An arch aortogram showed normal sized carotid and cerebral arteries. Other findings were: haemoglobin concentration 171 g/l, packed cell volume 0·49, mean cell volume 93 fl, erythrocyte sedimentation rate 1 mm in the first hour, normal serum biochemical values, antinuclear factor negative, and treponema serology negative; a chest radiograph was normal.

He recovered completely within 48 hours and remained well.

Discussion

These two men, both previously well, presented with cerebral infarction after an alcoholic binge. Despite extensive investigations we found no other factor predisposing to stroke.

Support for an association between excessive consumption of alcohol and stroke comes from two prospective studies.[2,3] Ten (43%) of 23 consecutive patients admitted to a neurology unit in Finland with cerebral infarction had been intoxicated with alcohol in the 24 hours preceding the onset of their strokes.[2] In a study in Birmingham of 182 patients (108 men) aged under 70 presenting with stroke, 33 (31%) of the men who had suffered a stroke drank more than 300 g of alcohol weekly compared with 7·4% of a control group of men matched for age and race; 13 (12%) drank more than 600 g weekly (compared with two (2%) controls).[3]

The pathophysiology is not clear. Dehydration after excessive intake of alcohol is common and may be a contributory factor. Ingestion of alcohol has a pressor effect,[4] although acute rises in blood pressure might be expected to cause cerebral haemorrhage rather than infarction. Recently attention was drawn to an association between alcohol and atrial fibrillation,[5] an arrhythmia that predisposes to stroke.[6] Neither of our patients complained of palpitations, but supraventricular arrhythmias can occur in the absence of such symptoms, as experience with Holter monitoring has show.[7]

In conclusion, excessive intake of alcohol may predispose to stroke and be an underestimated risk factor in cerebral infarction.

References

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(Accepted 17 July 1985)