

in a patient with Hodgkin's disease. This patient also had a white proximal part to the nail and a dark brown colour distally, similar to the half-and-half nail. Review of 50 patients with Hodgkin's disease brought to light three more patients with one to three white bands on the nails. In each of these four patients the nail change portended a serious prognosis, as all died within a few months of its occurrence. The changes are clearly not specific to Hodgkin's disease but when they do occur the outlook appears to be grave.

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⁴ Muehrcke, R. C., *British Medical Journal*, 1956, 1, 1327.

⁵ Hudson, J. B., and Dennis, A. J., *Archives of Internal Medicine*, 1966, 117, 276.

⁶ Lindsay, P. G., *Archives of Internal Medicine*, 1967, 119, 583.

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Internal Carotid Stenosis

Of the extracranial arterial lesions which cause symptoms of transient cerebral ischaemia, the most common are internal carotid stenosis, vertebrobasilar insufficiency, and lesions of the first part of the subclavian artery associated with the subclavian steal phenomenon. The first reported¹ successful carotid reconstruction was in 1954, and since then endarterectomy of a stenosed internal carotid artery has become a standard and successful method of treatment. At the same time the incidence of operative deaths and postoperative strokes cannot be ignored. In a recent series J. A. De Weese and colleagues² described 103 cases with one operative death and six postoperative strokes—a 6.8% incidence of events directly attributable to surgery.

Operative hazards are acceptable only if the later progress of patients can be shown to be significantly improved by the procedure. Evidence is now becoming available on the incidence of transient cerebral ischaemia in communities and the relative merits of operative and non-operative treatment for internal carotid stenosis.

H. R. Karp and his colleagues³ found 28 patients with transient cerebral symptoms in a community of 2,455 patients over 40 years of age when those with a previous stroke and neurological damage had been excluded. As might have been expected, the incidence was higher in the white population (15.9/1,000 men and 11.5/1,000 women) than in the black population (7.9/1,000 men and 7.8/1,000 women). Temporary paralysis of a limb was the dominant symptom, and other common symptoms were altered sensation, aphasia, visual disturbance, and disturbances of equilibrium. Nineteen cases were regarded as carotid in origin and nine vertebrobasilar. This community incidence was considerably higher than the 1.1/1,000 population/year reported by S. D. Friedman and others⁴ and the 0.3/1,000/year reported by J. P. Whisnant and his colleagues.⁵

Evidence of the value of surgery in carotid lesions has been provided by the Joint Study of Extracranial Arterial Occlusion, from which several papers have been published. The results in 316 patients with transient cerebral ischaemia randomly allocated to surgical treatment (169 cases) and non-operative treatment (147 cases) were presented⁶ in 1970. In the surgical

group there was an 11.2% incidence of serious complications (3.5% mortality, 7.7% postoperative strokes) compared with a 1.4% incidence (one death and one major stroke) in the non-operative group during investigation in hospital which included arteriography. Despite this high incidence of early disasters, the number of patients remaining symptom-free within the average follow-up period of 42 months was overwhelmingly in favour of the surgical group ($P < 0.001$). Furthermore it is probable that the mortality rate of carotid endarterectomy and the risk of postoperative stroke in major vascular centres is much lower than these figures would suggest and that the greatest risks occur in patients undergoing bilateral surgery.⁶

An earlier report from this survey⁷ had dealt with the cumulative survival rates in surgical and non-surgical groups and indicated that long-term survival in patients with transient cerebral ischaemia due to internal carotid stenosis is better following surgery than can be achieved by non-operative methods. On the other hand, if there is residual neurological damage from previous cerebral incidents non-operative treatment gives a better survival than surgical treatment.

The results of carotid surgery, as in all branches of arterial surgery, depend on the careful selection of patients. Adequate and skilled clinical assessment should precede arteriography. The chance discovery of a carotid bruit during routine clinical examination in the absence of ischaemic symptoms is not a prime indication for arteriography and must be assessed in the context of the disease pattern with which the patient has presented. The presence of a loud carotid bruit in a patient with transient cerebral ischaemia who is otherwise fit is a primary indication for arch aortography, supplemented as necessary by carotid arteriography. The existence of other symptoms and signs increases the probability of a remedial arterial lesion and transient blindness, micro-emboli in the retinal arteries, or reduced retinal artery pressure are highly specific indicators of internal carotid stenosis.⁸

Arteriography is undertaken with the intention of proceeding to operation, but it will not always show a marked degree of internal carotid stenosis.⁸ Improvement in radiological delineation of the internal carotid may be obtained by arch aortography with the head in an oblique position, or by biplane arteriography. When a remedial lesion has been demonstrated surgical treatment by an experienced operator can be confidently recommended and the results to be expected are excellent.^{6, 7} The safety of operation may be increased by the use of intraoperative shunts carefully inserted to avoid precipitating platelet emboli, hypercapnia, anticoagulants, and E.E.G. monitoring. Operative risks can never be completely eliminated but there is no longer any doubt about the value of successful surgery.

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