

Fig. 1. Transoesophageal echocardiography (TOE) demonstrating a patent foramen ovale (PFO) with paradoxical shunting during a Valsalva manoeuvre.

circulation, during an episode of right-to-left cardiac shunting, and cause an ischaemic event. Although the majority of strokes are ischaemic with an embolic or thrombotic cause an identifiable risk factor or source is often not found.

Approximately 30% of stroke patients have been estimated to have a potential cardiac source of embolism.¹ TOE is superior to TTE in the identification of cardiac risk factors for stroke, particularly those involving the left atrium. In a comparison of positive echocardiographic findings in patients without other evidence of cardiac disease TOE was at least twice as effective in detecting cardiac lesions.^{2,3} TOE demonstrates a cardiac lesion in 9–60% of stroke patients labelled as cryptogenic prior to scanning, and is especially useful in the evaluation of cryptogenic stroke in young patients.² The study by Lechat *et al.*⁴ illustrates the importance of PFO in the aetiology of cryptogenic stroke in young patients. They looked at 60 cases of stroke in patients under 55 years of age and identified a PFO in 40% of them, compared with 10% of matched controls. When the stroke patients were further subdivided, 21% of those with another identifiable cause also had a PFO. In those with no identifiable cause but a risk factor for stroke, 40% had a PFO. The highest figure, however, was found in those patients otherwise labelled cryptogenic, and in this group 54% had a PFO. Autopsy studies have found a 30% incidence of PFO although a proportion of these are probably not physiologically patent.⁵ Studies using TOE have found that 10–18% of the normal population had a detectable physiological PFO which may only become patent during a Valsalva manoeuvre.^{3,4} The average PFO has a mean diameter of 5 mm and it has been shown that a 1 mm thrombus is sufficient to cause neurological deficit.^{5,6}

When a PFO is found the management is a matter of debate. A peripheral venous source of embolism

and evidence of pulmonary embolism must be excluded. In the presence of stroke and a PFO many cardiologists recommend anticoagulation for a period of at least 6 months. The value of aspirin and/or heparin in non-haemorrhagic stroke is currently under investigation in the International Stroke Trial which may provide clearer guidelines for treatment.

Transoesophageal echocardiography is an important investigative tool for the assessment of young patients with cerebral ischaemic episodes in the absence of other risk factors.

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Sir,

Penetrating Ocular Fish-Hook Injury

We present a patient with double penetrating ocular fish-hook injury and the long-term visual outcome after modified surgical management.

Case Report

A 54-year-old man was struck in the right eye by a fish-hook while casting. He was admitted to our emergency ward 1 hour after the injury. Visual acuity was hand movements. In the paracentral cornea there were two perforations, 3 mm from each other with surrounding oedema. A rusty fish-hook was partly intralaminar and partly in the anterior chamber (Fig. 1). Fibrinoid deposit covered the lens and iris, which appeared intact. The margins of both perforations were irregular and macerated.

The fish-hook was removed through a corneal perpendicular incision placed above the fish-hook and between the two perforations. The corneal wound was closed with 10–0 nylon sutures. Broad spectrum antibiotics were administered intrave-



Fig. 1. Appearance of the eye injury caused by a fish-hook.

nously and the patient was carefully monitored for signs of endophthalmitis. Visual acuity was 20/200 right eye on discharge. Two years later visual acuity was 20/30 right eye with mild corneal scarring without any other complications.

Discussion

Penetrating fish-hook injuries are a rare and potentially devastating trauma. Fishing organisations should be aware of the importance of prevention (e.g. sunglasses) and first aid in eye injuries. In our case further risk for infection was the live bait used.

There are at least four known techniques for the extraction of a fish-hook from the eye, each of which has advantages and disadvantages. We suggest that a large rusty fish-hook, susceptible to a wide range of unusual pathogens, which injures the eye outside of the central cornea, should be removed through an additional corneal incision. This minimises the risk of further damage to internal structures during specialised repair by backing the hook out through the entrance wound. Residual corneal rust stains derived from the fish-hook, the risk of endophthalmitis or foreign bodies during the use of wire cutters to transect the hook are minimised as well. The technique described by us has in our case yielded an excellent long-term visual outcome. It is of further interest to compare the method of backing the hook through the entrance wound and our incision technique for hook removal.

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Sir,

Dacryocystitis

Dacryocystitis is inflammation of the lacrimal sac. In his 1944 paper on dacryocystitis, Gifford¹ stated that this disease is a 'sort of no-man's land', neglected by both ophthalmologists and rhinologists. With regard to the aetiology of dacryocystitis, this statement is as true today as it was then.

If untreated or inadequately treated, dacryocystitis can act as a potent reservoir of pyogenic infection. Its complications include mucocoele formation, conjunctivitis, corneal ulceration, endophthalmitis and orbital cellulitis. The American Academy of Ophthalmology² therefore recommend that this condition 'should be corrected prior to performing any intraocular surgery'.

In southern India dacryocystitis is a common problem constituting a considerable drain on resources. In 1993, the Aravind Eye Hospital in Madurai performed 10 822 operations for ophthalmic conditions other than cataract. Of these, 12.7% were dacryocystectomy operations, the vast majority due to chronic dacryocystitis. Fig. 1 shows the age and sex distributions of patients presenting to the Out-Patients Department of the Aravind Eye Hospital (Paying Section) who were clinically diagnosed as having dacryocystitis. The most striking feature is the large number of patients below 45 years of age. An additional unexpected finding is the male predominance over 65 years of age: a finding not accounted for in the literature on dacryocystitis. We assume that the Aravind Eye Hospital is representative of the extent of the problem in the community on account of the hospital's strong commitment to rural outreach programmes.

We therefore conclude that the number of cases of dacryocystitis in relatively young patients may constitute a major problem in developing countries. The reasons for this remain obscure. We strongly recommend that dacryocystitis be the subject of considerably more research in future, with a view to prevention.

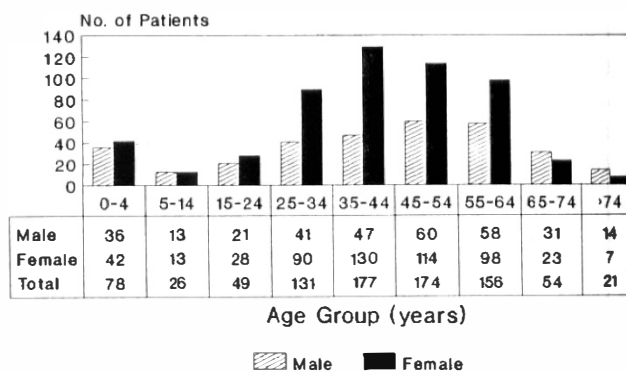


Fig. 1. Outpatient cases of unilateral/bilateral dacryocystitis by age and sex. Data from Aravind Eye Hospital (Paying Section), 1993.