



Fig. 1. Intralenticular haemorrhage not extending to the visual axis.

spontaneously so it was extracted using a curved Hoskins forceps.

On the first post-operative day the anterior chamber was well formed, with a 1 mm hyphaema, and an intraocular pressure of 8 mmHg. In addition, an intralenticular haemorrhage was noted superiorly, lying between the anterior lens capsule and the cortex. This did not extend to the visual axis (Fig. 1). This clot has reduced in size over an 8 month period, with no evidence of cataract formation. The visual acuity remains 6/6 uncorrected.

Discussion

We presume that, at the time of the peripheral iridectomy, the lens capsule was inadvertently lifted and breached, resulting in blood tracking downwards between the anterior lens capsule and the cortex. A capillary effect drawing blood into the lens as it flowed over the breach in the capsule is a possible mechanism.²

This case highlights the importance of careful extraction of the iris from the anterior chamber in cases where it does not prolapse spontaneously, in order to avoid inadvertent damage to the underlying structures.

To our knowledge this complication of intralenticular haemorrhage following trabeculectomy has not been reported previously.

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References

1. Shields BM. Textbook of glaucoma, 2nd ed. Baltimore: Williams and Wilkins, 1987;481:490-1.
2. Montgomery DM, Dutton GN. Intralenticular haemorrhage complicating pulsed laser iridotomy. *Br J Ophthalmol* 1987;71:484.

Sir,

Patent Foramen Ovale in Occipital Cerebrovascular Accident

Cerebrovascular accidents affecting vision frequently present to ophthalmology departments. Identification of risk factors for future stroke prevention are important and advances in echocardiographic imaging have increased the identification of cardiac risk factors.

Case Report

A 45-year-old right-handed Caucasian man presented with occipital pain becoming moderately severe over 2 minutes. Simultaneously there was bilateral blurring of vision, oscillopsia, nausea and vomiting. There were no other complaints and, except for a mild residual headache, all symptoms resolved within 24 hours. Three days later the headache and visual symptoms returned. This time, however, a few minutes after onset he noticed that he was unable to see objects in the right half of his visual field. The headache and oscillopsia again settled during the day but the visual field loss persisted.

There was no significant past medical history or family history, in particular no migraine, cardiac disease or cerebrovascular disease. He was on no medication, and was a non-smoker with moderate alcohol intake.

Visual examination was entirely normal apart from hypometric saccades to the right and a dense right-sided homonymous hemianopia with macular sparing. General and neurological examination was otherwise normal; there were no cardiac murmurs or carotid bruits. His blood pressure was 130/70 mmHg.

All routine haematological and biochemical investigations were within normal limits. Serology for syphilis and antinuclear antibody was negative. Cholesterol was 5.06 mmol/l and triglycerides 1.96 mmol/l. An ECG showed sinus rhythm with normal axis and no ischaemic changes. His chest radiograph and a transthoracic echocardiogram (TTE) were normal. An MRI brain scan was also normal. Transoesophageal echocardiography (TOE) demonstrated a patent foramen ovale (PFO) with paradoxical shunting during a Valsalva manoeuvre (Fig. 1). There was no clinical evidence of deep venous thrombosis or pulmonary emboli. He was anticoagulated with warfarin and given low-dose aspirin. Within 48 hours the hemianopia had shrunk to a right upper quadrantanopia and had completely resolved when reviewed 3 weeks later.

Discussion

This case had a patent foramen ovale in association with a cerebral ischaemic episode. This may enable emboli of venous origin to cross into the arterial

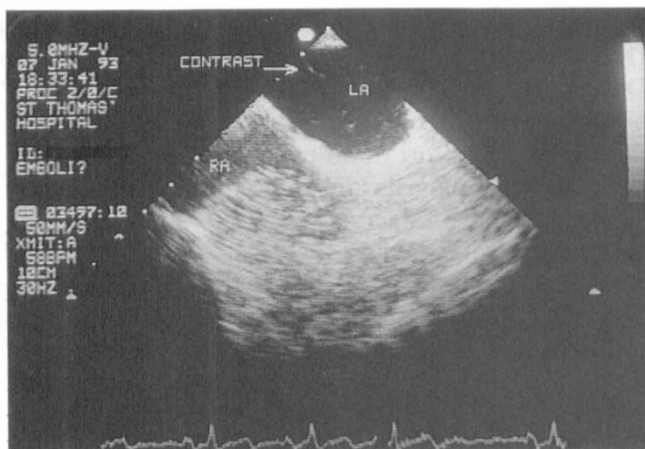


Fig. 1. Transoesophageal echocardiography (TOE) demonstrating a patent foramen ovale (PFO) with paradoxical shunting during a Valsalva manoeuvre.

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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References

1. Cerebral Embolism Task Force. Cardiogenic brain embolism: the second report of the Cerebral Embolism Task Force. *Arch Neurol* 1989;46:727–43.
2. DeRook FA, *et al.* Transesophageal echocardiography in the evaluation of stroke. *Ann Intern Med* 1992;117:922–32.
3. Lee RJ, *et al.* Enhanced detection of intracardiac sources of cerebral emboli by transoesophageal echocardiography. *Stroke* 1991;22:734–9.
4. Lechat P, Mas J, *et al.* Prevalence of patent foramen ovale in patients with stroke. *N Engl J Med* 1988;318:1148–52.
5. Hagen PT, Scholtz DG, Edwards WD. Incidence and size of patent foramen ovale during first 10 decades of life: an autopsy study of 965 normal hearts. *Mayo Clin Proc* 1984;59:17–20.
6. Mohr JP. Cryptogenic stroke. *N Engl J Med* 1988;318:1197–8.

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-