

Sir,

**Commotio-retinae and central retinal artery occlusion after blunt ocular trauma**

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Over 90% of cases of central retinal artery occlusion (CRAO) occur in adults over the age of 30 years, the main cause being emboli originating from atheromatous disease of the carotid artery.<sup>1</sup> Reported causes of CRAO in children and young adults are migraine, coagulation abnormalities, cardiac disorders, contraceptives, and trauma.<sup>2</sup>

Traumatic occlusions have been seen in patients suffering from head injury and in those with eyeball contusions. In most cases, the obstruction of central retinal artery occurred several hours after the trauma.<sup>3</sup>

We present here a case of CRAO occurring after seemingly minor blunt ocular trauma. To the best of our knowledge, this is a rare occurrence and has not been frequently reported in literature. We feel that it is important to consider this uncommon but visually catastrophic condition in the differential diagnosis of acute post-traumatic visual deterioration.

**Case report**

A 15-year-old boy presented in casualty with blurring of vision in the right eye 2 days after being hit by a football on the right side of his face. There was no apparent facial bruising. Visual acuity was hand movements in the right eye and 6/9 in the left. Anterior segment examination showed minimal conjunctival congestion and flare in the anterior chamber on the right side. Intraocular pressure was normal. Posterior segment examination showed an oval area of pallor with swelling of the nerve fibre layer along the superior vascular arcade and macula (Figure 1). Similar pallor was seen along with two blot haemorrhages at 12 o'clock near the equator. No retinal holes, tear, or retinal detachment were seen. A provisional diagnosis of commotio-retinae was made.

Subsequent examination after 1 week showed his vision to be 1/60 in the affected eye. Marked RAPD was noted. Posterior segment examination showed pale right optic disc with obvious attenuation of retinal arterioles. A diagnosis of traumatic central retinal artery occlusion was made. Pallor and swelling in the macular area at presentation had probably masked the 'cherry-red' spot. Routine investigations and a thrombophilia profile requested were normal. An orbital CT scan showed no evidence of bony injury. MRI scan suggested the possibility of a small haematoma at the right orbital apex; however, the radiologist was of the opinion that the area was too small and insignificant.



**Figure 1** At presentation. Right eye shows commotio-retinae involving the superior temporal arcade and adjacent macular area with normal optic disc.



**Figure 2** After 4 weeks. Right eye shows marked attenuation of arterioles and pallor of optic disc suggesting CRAO, and retinal pigment epithelial atrophy involving superior temporal arcade and macula.

At 4 months after the initial injury, the patient's visual acuity was 3/60 with optic atrophy and marked attenuation of retinal arterioles (Figure 2).

**Comments**

Most cases of CRAO occur in elderly patients. The main causes are atheromatous disease of the internal carotid artery with embolization of the ocular vessels.<sup>1</sup> In younger people, this condition is rare and is estimated at about 8% of all cases of CRAO.<sup>2</sup> It is difficult to establish the exact cause; therefore, a complete systemic and ophthalmic work-up should be carried out. Occasionally, more than one aetiological factors are involved.

Trauma as a cause of CRAO has been reported as a sole factor or in association with other systemic pathology such as haemoglobinopathies and coagulation abnormalities.<sup>4,5</sup> Trauma can be directed to the eyeball or the head. The possible mechanisms that cause closed-eye CRAO can be compression of the central retinal artery induced by a haematoma,<sup>3</sup> by air in case of orbital emphysema,<sup>6</sup> or raised intraorbital pressure resulting from swelling of orbital soft tissue. Direct compression after surgical repair of orbital blow-out fracture with a Teflon plate has been reported.<sup>7</sup> Common to these conditions is damage to the endothelial cells of the artery with exposure of the underlying collagen, which stimulates platelet aggregation and thrombus formation.<sup>2,8</sup> If CT/MRI scans show a significant haematoma, the patient requires an urgent neurosurgical referral for decompression.

Severe reflex vaso-spasm initiated as a direct response to concussion injury to the arterial wall smooth muscle is another mechanism.<sup>9</sup> As there was no evidence of severe ecchymosis or proptosis, we can only postulate that this was the possible mechanism in our patient. Some authors have suggested stellate ganglion block to relieve the spasm if the patient is seen within 4 h of injury.<sup>9</sup>

Blunt ocular trauma can lead to commotio-retinae, a relatively benign and self-limiting condition, which does not require any specific treatment. Trauma can also produce CRAO. Rarely, as in our case, the two can coexist with commotio-retinae masking the clinical appearance of CRAO. A patient with such a history but with profound visual loss and RAPD should raise suspicion of CRAO. If optic nerve contusion and compression are ruled out, then spasm of the retinal artery is the likely mechanism for CRAO. If seen within 4 h of injury, aggressive measures may be undertaken to alleviate spasm.

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## Dacryocystectomy as treatment of chronic dacryocystitis in a frail, elderly patient

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Chronic dacryocystitis develops secondary to obstruction of the nasolacrimal duct (NLD) caused by infection or inflammation. The patient presents with epiphora, a mucocoele that can become secondarily infected due to tear stasis (acute or chronic dacryocystitis) or a chronic discharging fistula to the skin. The treatment of chronic dacryocystitis is usually with an initial course of broad-spectrum oral antibiotics followed by external dacryocystorhinostomy (DCR) and intubation. However, prior to the development of DCR surgery in 1904, chronic dacryocystitis was managed by dacryocystectomy (DCT), whereby the lacrimal sac and any fistulae present were excised.<sup>1</sup> We report a case of a frail, elderly patient in whom DCT was preferred to DCR surgery and resolved a chronic dacryocystitis that had been resistant to antibiotic treatment.

## Case report

A frail 71-year-old man with chronic epiphora and discharge of several months duration presented to the eye casualty department with a 2-day history of a localised tender, erythematous swelling over the right infero-medial canthal area with associated preseptal cellulitis. There was also mucopurulent discharge from a fistula over the lacrimal sac and acute dacryocystitis. He