Treating traumatic retrobulbar haemorrhage

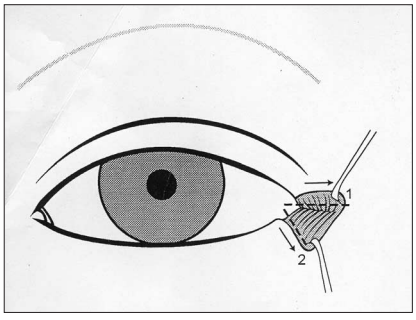
Sir,

We enjoyed reading Swinson and Lloyd's article (vol 64(2), 2003, p. 72) on the management of maxillofacial injuries. We would like your readers to be aware of the management of retrobulbar haemorrhage (RBH), a potentially blinding complication of maxillofacial trauma. We would like to mention how this serious complication may be managed, should it be encountered by maxillofacial surgeons or accident and emergency doctors.

Acute traumatic RBH is easily recognized by sudden onset of painful proptosis associated with restriction of extraocular movements. The visual acuity will be reduced, intraocular pressure raised and there may be reduction in colour vision, visual field loss and reduction in pupillary response to light. Once this is diagnosed, immediate decompression of the orbit is essential to prevent permanent loss of vision.

Lateral canthotomy and inferior cantholysis can effectively decompress the orbit and reduce intraorbital and intraocular pressure significantly (Yung et al, 1994; Goodall et al, 1999). This procedure can be carried out in an emergency room setting, under local anaesthetic by any medical staff. First, the lateral canthotomy is performed by placing an artery clip at the lateral canthus, between the upper and lower lids, advancing towards th orbital rim, crushing the tissue underneath. The lateral canthal tendon is then cut using sharp scissors (*Figure 1*). Next, the inferior cantholysis is performed. The lateral canthal tendon is isolated by dissecting it free from the conjunctiva posteriorly and skin anteriorly. The inferior part of the lateral canthal tendon is then cut with sharp scissors (*Figure 1*). The lower lid should be completely mobile at the end of the procedure. It is important not to perform this procedure on the upper lid as the lacrimal gland and levator muscle can be damaged. The incision site can be left to granulate or closed at a later date with 7/0 vicryl.

Figure 1. Illustration shows position of lateral canthotomy (1) and inferior cantholysis (2) in the eye lid.



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Goodall KL, Brahma A, Bates A, Leatherbarrow B (1999) Lateral canthotomy and inferior cantholysis: an effective method of urgent orbital decompression for sight threatening acute retrobulbar haemorrhage. *Injury, Int J Care Injured* **30:** 485–90

Yung CW, Moorthy RS, Lindley D, Ringle M, Nunery WR (1994) Efficacy of lateral canthotomy and cantholysis in orbital haemorrhage. *Ophthal Plast Reconstr Surg* **10**(2): 137–41

Further reading

Olver JM (2002) *Colour Atlas of Lacrimal Surgery.* Butterworth Heinemann, London: 177–9

Sir,

We thank Mr Fong and Ms Olver for their comments on our article. We entirely agree that the management of retrobulbar haemorrhage (RBH) is a potential and serious complication associated with trauma to the middle third of the face. Unfortunately, owing to the space limitations for the article, we had to restrict its contents.

RBH has an incidence of 0.04% when associated with soft tissue periorbital injuries (DeMere et al, 1974), and an incidence of 0.3% in fractures to the facial skeleton. The most sensitive clinical sign is decreasing visual acuity and loss of pupillary light reflex. Early diagnosis is paramount with regards to outcome.

Although lateral canthotomy is an important method of treatment, initial management should be medical. The patient should be sat up and the eye should be massaged to redistribute extraocular fluid, and mega doses of corticosteroid, 3–4 mg per kilogram of dexamethasone sodium phosphate, should be given intravenously, followed by 1–3 mg/kg 6-hourly. Additionally, mannitol 20% 2 g/kg intravenously over 4 minutes; and acetazolamide 500 mg intravenously, which has a delayed effect, is also useful.

The most important thing is to monitor the patient – if no improvement is seen after 20 minutes then surgical decompression is indicated. The gold standard method has been eloquently described by Mr Fong and Ms Olver. There are other methods of achieving this via a transantral ethmoidectomy, or ultrasound-guided aspiration of the haematoma.

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DeMere M, Wood T, Austin W (1974) Eye complications with blepharoplasty or other eyelid surgery. *Plast Reconstr Surg* **53:** 634