Sir,

Reply to Basu

With interest we have read the article by S Basu[1] and followed the lively debate it has triggered in the Correspondence section of your publication. The implementation of the Hoffer-Q formula in the IOLMaster software has been validated at two independent sites. We are therefore confident that the formula as implemented in the IOLMaster software is working correctly.

Best regards,

Reference

1 Basu S. Comparison of IOL power calculations by the IOLMaster *vs* theoretical calculations. *Eye* 2006; **20**: 90–97.

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Sir,

Traumatic self-induced orbital apex syndrome

We present a case of traumatic self-induced orbital apex syndrome. The essential sequence of imaging techniques is presented and important management issues are discussed.

Case report

A psychiatric patient pushed a biro pen into the medial aspect of his right orbit (Figure 1). On examination, visual acuity was no perception of light, the pupil was fixed and dilated, there was ptosis, and ocular movements were absent with paraesthesia in V1. Fundus examination revealed a central retinal artery occlusion.

Figure 1 Lateral X-ray showing pen traversing right orbit.

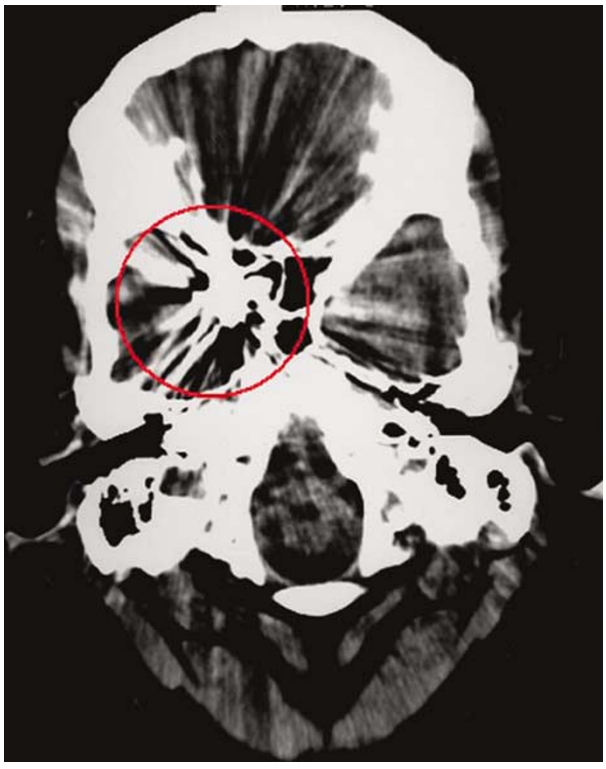

Figure 2 Plain CT brain, circled area shows artefactual change in the right parasellar region.

Figure 3 Digital Subtraction Angiogram, AP projection; arrow indicates narrowed region of cavernous internal carotid artery.

Figure 4 Normal Digital Subtraction Angiogram, AP projection; post-pen removal.

CT brain and orbits showed the pen traversing the medial aspect of the right orbit through the superior orbital fissure with the tip in the right parasellar region and probably involving the right cavernous sinus. Detail was limited due to artefact from the metallic tip of the pen (Figure 2). A cerebral angiogram was therefore performed. This showed indentation of the right internal carotid artery at the level of its distal cavernous segment (Figure 3). A balloon occlusion device (Hyperform 7×7 mm temporary occlusion balloon, MTI, Irvine, CA, USA) was positioned at this level, which could be inflated if haemorrhaging occurred on pen removal. The pen was removed uneventfully under general anaesthetic. Immediate angiography revealed normal flow within the internal carotid artery with no evidence of contrast extravasation during the arterial phase and balloon inflation was not necessary (Figure 4).

Comment

The Superior Orbital Fissure Syndrome is characterised by a combination of ophthalmoplegia, ptosis, proptosis, anaesthesia in V1 distribution, and a fixed dilated pupil.[1] Where there is also injury to the optic nerve and ophthalmic artery, this is known as the orbital apex syndrome.[2] The major causal factors are tumours, haemorrhage, infection, inflammation and trauma.[1,3] Self-induced injury is rare. Cerebral angiography pre-pen removal is important to identify any impingement on major vessels and actual or potential damage especially on object removal. There should be a low threshold for performing angiography in any similar cases—Cunningham *et al*[4] describe the first usage of temporary balloon occlusion of the cavernous carotid artery to allow the removal of a foreign body with immediate control of the vessel and avoidance of craniotomy. This rare case similarly highlights the importance of neuroradiological control.

References

1 Zachariades N. The superior orbital fissure syndrome. Review of the literature and report of a case. *Oral Surg Oral Med Oral Pathol* 1982; **53**(3): 237–240.
2 Pogrel MA. The superior orbital fissure syndrome: Report of a case. *J Oral Surg* 1980; **38**(3): 215–217.
3 Sieverink NPJB, Van der Wal KGH. Superior orbital fissure syndrome in a 7-year-old boy. *Int J Oral Surg* 1980; **9**(3): 216–220.
4 Cunningham EJ, Albani B, Masaryk TJ, Rasmussen PA. Temporary balloon occlusion of the cavernous carotid artery for removal of an orbital and intracranial foreign body: Technical case report. *Neurosurgery* 2004; **55**(5): 1225.

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