Acknowledgements

The institution to which this work should be attributed is Layton Rehmatullah Trust Eye Hospital, 436A-1, Township, Lahore, Pakistan.

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Eye (2006) **20**, 116–118. doi:10.1038/sj.eye.6701798;
published online 25 February 2005

Sir,
Treating obstructive sleep apnoea syndrome: does it improve visual field changes?

We report suspicious glaucomatous field changes improving with continuous positive airway pressure

(CPAP) in a patient diagnosed with obstructive sleep apnoea syndrome (OSAS).

Case report

A 49-year-old man reported difficulty in focusing for near, intermittent diplopia and blurred vision. He complained of snoring, hypersomnolence, and a family history of glaucoma. Right visual acuity was 6/4 with +0.75/+0.50 × 55, Left 6/5 with +1.50 DS. N5 for near with +2.00 add.

Intraocular pressure on applanation tonometry was 17 mmHg in both eyes. Discs were healthy with 0.4 cup–disc ratio. Cover tests and ocular motility were normal. Automated Humphreys 24-2 visual field (VF) test showed a bilateral glaucomatous upper arcuate scotoma with good reliability indices, test duration of 10 min (Figure 1) that was reproducible. Gonioscopy did not show evidence of narrow angles. Thyroid function tests and MRI were normal.

Oximetry diagnosed severe obstructive sleep apnoea with a 58% lowest desaturation point. CPAP relieved symptoms immediately. Over the next 2 years, right VF improved with reduced test duration (Figure 2).

Comment

Obstructive sleep apnoea is characterized by intermittent pharyngeal airway closure with cessation of breathing during sleep, terminated by arousal. It presents as excessive daytime fatigue with decreased cognitive abilities.

OSAS is diagnosed by overnight polysomnography and calculating respiratory disturbance index, that is, total apnoeas and hypopnoeas divided by the hours of sleep. Patients are treated with CPAP during sleep. Early recognition and treatment of SAS avoids cardiovascular and neurological complications.¹ OSAS has been reported in association with primary open angle glaucoma.¹ Geyer *et al*² found equal prevalence of glaucoma in OSAS as in the general population. Ophthalmic findings in OSAS are floppy eyelid syndrome,^{3,4} keratoconus,⁵ papilloedema,⁶ and ischaemic optic neuropathy.⁷ Optic nerve vascular dysregulation secondary to OSAS-induced arterial hypertension and arteriosclerosis or the imbalance between nitric oxide (a vasodilator) and endothelin (a vasoconstrictor) has been suggested to contribute to optic neuropathy.^{7,8} There have been no reports of VF changes in OSAS patients before or after treatment. Improved VF could be due to improved cognitive ability and alertness following CPAP. Patients with OSAS, visual symptoms, and suspicious VF should be tried with CPAP.

Figure 1 Humphrey's Visual field-pattern deviation: right eye before treatment (test duration: 10 min 16 s); left eye before treatment (test duration: 9 min 37 s).

Figure 2 Humphrey's Visual field-pattern deviation: right eye after treatment (test duration: 3 min 49 s); left eye after treatment (test duration: 3 min 54 s).

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Eye (2006) **20**, 118–120. doi:10.1038/sj.eye.6701799;
published online 11 March 2005

Sir,

Orbital floor fracture: an unusual late complication

Complications associated with alloplastic implants (silicone/silastic/supramid) are rare.¹ However, they can occur some considerable time after surgery.² A 36-year-old Caucasian male presented with complete lower eyelid retraction 3 years after silicone sheet orbital floor implant. The implant extruded spontaneously 3 days prior to eyelid reconstructive surgery and was not replaced. The surgical technique is discussed, and a brief discussion of the complications of alloplastic implants presented. More modern porous implants may reduce the chance of implant extrusion and lower eyelid retraction.

Case report

The patient initially presented to our unit with a left orbital cellulitis. Three years previously he had undergone a left orbital floor fracture repair with insertion of a silastic implant at another hospital. On this occasion, he was treated with oral antibiotics and the infection subsided. However, he represented 3 months later with an unsightly red left eye. Examination revealed a complete retraction of the left lower lid, extensive chemosis of the inferior bulbar conjunctiva, and restriction of upgaze in the affected eye (Figure 1).

A CT scan of the orbits revealed a well-defined opacity in the region of the orbital floor implant (Figure 2a and b). The inferior rectus cannot be differentiated from this.

Figure 1 Appearance of left eye on presentation with no visible lower eyelid and marked inferior conjunctival chemosis.

Figure 2 (a) Coronal CT scan demonstrating previous left orbital floor fracture and a radiological opacity extending horizontally above the fracture. The paranasal sinuses are clear. (b) Sagittal CT scan demonstrating the position of the lower eyelid along the anterior one-third of the orbital floor.

At 3 days prior to elective surgery, the silastic implant extruded spontaneously. Exploration revealed an opening in the inferior conjunctival fornix, through which the implant had presented. Reconstructive surgery was performed. The eyelid margin, tarsal plate, and anterior lamella of the lower eyelid had completely retracted along the floor of the orbit. A dense fibrous tissue reaction around the implant had caused this. The lower eyelid was carefully dissected from the deep