

supraciliary space include benign primary mesectodermal leiomyomas¹ and one case of direct local spread of a conjunctival mucoepidermoid carcinoma to the supraciliary space.² Why the supraciliary space was the site of metastasis in this case remains speculative. The distribution of breast metastases to the eye includes the choroid (81%), iris (9%), ciliary body (2%), optic disc (5%), and retina (rare).³ Symptoms are dependent on the site affected, with blurring of vision being common to all. However, patients are often asymptomatic.⁴ To conclude, we must add the supraciliary space to the list of potential sites of metastases to the eye and also be aware that lesions within this space can present with non-rhegmatogenous retinal detachments.

Conflict of interest

The authors declare no conflict of interest.

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Eye (2013) **27**, 673–675; doi:10.1038/eye.2013.36;
published online 22 March 2013

Sir,

An unusual presentation of aqueous misdirection

Aqueous misdirection following pars plana vitrectomy (PPV) is rare, with four cases described to date.^{1–3} We report such a case following PPV for macular hole repair.

Case report

An 85-year-old female underwent uneventful PPV, internal-limiting membrane peel and gas tamponade (C₂F₆), combined with cataract surgery. Post-operative facedown posturing was not advised.

On day 1, axial shallowing of the anterior chamber (AC) and an intraocular pressure (IOP) of 66 mm Hg

were noted. Mannitol and acetazolamide were administered along with maximum topical therapy. Gas was also released from a scleral port site, lowering the IOP to 5 mm Hg. Within 24 h, the IOP had crept up again to 80 mm Hg, which required further gas release and AC reformation. Laser peripheral iridotomies (PIs) were attempted but limited by corneal oedema. As IOP still remained refractory, further gas was removed (equalised to atmospheric pressure) and a surgical PI created. She also received 180° of cyclocryotherapy. These had little effect, with IOPs continuing to range between 55 and 65 mm Hg, and the presumptive diagnosis of aqueous misdirection was made. Anterior vitrectomy with zonulo-hyalo-iridectomy was performed.

The IOP remained low on no medications, but unfortunately the eye had become phthisical. Fellow eye gonioscopy revealed iridocorneal touch, so prophylactic cataract surgery was performed.

Comment

Aqueous misdirection is characterised by elevated IOP and central shallowing AC without pupillary block or choroidal abnormalities.¹ Cases refractory to medical and laser therapy undergo PPV. As PPV is a form of treatment, aqueous misdirection was not suspected early on, and instead we treated the more common complication of gas-related IOP rise.

Incomplete removal of the anterior hyaloid, which inhibits communication between the AC and vitreous cavity, would explain this paradox. A higher rate of recurrence of aqueous misdirection has been described in patients with PPV alone for the same reason, and nowadays PPV with zonulo-hyalo-iridectomy is recommended.⁴

Experiments performed by Epstein *et al*⁵ suggested that at normal perfusion pressures the vitreous and anterior hyaloid offered very little resistance to forward flow of aqueous, but at higher pressures there was an increased resistance. Certain aspects of PPV, such as gas overfill or expansion, may simulate these increased perfusion pressures and result in aqueous entrapment.⁵

The patient developed a phthisical eye 3 months after the initial vitrectomy procedure. This is most likely related to the cyclocryotherapy, resulting in a non-functioning ciliary body and reduction of aqueous production. Outcomes of cyclocryotherapy are often unpredictable and are associated with a higher incidence of hypotony in comparison to cyclodiode.⁶ Further, the prolonged high pre-treatment IOP may have caused ciliary body ischaemia, which in turn may lead to ciliary body shutdown following cyclocryotherapy. The reason for choosing cyclocryotherapy was that cyclodiode was not yet available at our unit.

Clinicians should consider the possibility of aqueous misdirection after vitrectomy. Some surgeons even advocate the routine disruption of the anterior hyaloid in cases at risk of aqueous misdirection.

Conflict of interest

The authors declare no conflict of interest.

Acknowledgements

There was no prior financial support to this study.

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Eye (2013) **27**, 675–676; doi:10.1038/eye.2013.26;
published online 1 March 2013

Sir,

Routine use of topical cyclopentolate as a predisposing factor to recurrent urinary tract infections in a susceptible adult

The article by Pooniya and Pandey titled ‘Systemic toxicity of topical cyclopentolate eyedrops in a child’¹ has highlighted one potentially serious side effect to a commonly used medication in ophthalmic practice. We agree with their comments and wish to extend the importance of exercising caution using such preparations in children, to include susceptible adults.

Case report

A 65-year-old Caucasian male born prematurely, with hypospadias and subsequent iatrogenic urethral strictures, attended our unit with a macula on retinal detachment. He suffers from recurrent urinary tract infections and has been self-catheterising biweekly for 15 years, but had been symptom free for 4 months before presentation.

He required five vitreoretinal procedures for visual rehabilitation over 7 months. Following the first four procedures, he developed symptoms of dysuria, urinary urgency, and frequency within 4–6 days postoperatively and was diagnosed with nitrite-positive urinary tract infections, subsequently confirmed on mid-stream

urinary culture and treated accordingly. He had topical cyclopentolate hydrochloride 1% (Intrapharm Laboratories Ltd., Maidenhead, UK) instilled preoperatively on all four occasions, and had continued postoperatively three times daily for 1 week. This was subsequently omitted from his routine preoperative treatment at his fifth procedure and he did not develop any urinary symptoms following this procedure.

On the basis of the temporal relation between the onset of symptoms after the first four procedures, and their absence after its omission, cyclopentolate was deemed causative. Our patient neither reported any other alterations in medications nor any change in urinary habits over the relevant time period. All five operative procedures were of similar duration.

Comment

Pooniya and Pandey highlighted local and systemic effects of the anti-cholinergic properties of cyclopentolate, and made reference to reported systemic adverse reactions.^{2,3} Urinary urgency, difficulty, and retention are clearly documented effects in the Summary of Product Characteristics (<http://www.mhra.gov.uk/home/groups/l-unit1/documents/websitesources/con2031217.pdf>). We propose that reduced bladder emptying and a subsequent increased susceptibility to infection were the underlying mechanisms in this susceptible patient.

It is important to remind colleagues that systemic absorption of topical medication is increased in the hyperaemic eye, and to avoid the use of such preparations in susceptible individuals, in whom side effects could be predicted.

Conflict of interest

The authors declare no conflict of interest.

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Eye (2013) **27**, 676; doi:10.1038/eye.2013.29; published online 1 March 2013