artery, and other end arteries.¹ The raised troponin on admission suggests secondary myocardial damage,³ again owing to a low perfusion pressure. His secondary LE vitreous haemorrhage is likely to be owing to a combination of warfarin anticoagulation in the presence of abnormal choroids.^{4,5}

Complications of acute massive PE are rare in those who survive the initial insult. Small bowel hypoperfusion (presenting as fluid-filled dilated bowel loops—'shock bowel')⁶ and cerebral hypoperfusion (presenting as fits) are reported owing to the systemic hypotension of acute PE.⁷ This is, to our knowledge, the first report of bilateral choroidal detachments in association with PE. We could not find any specific reason why this patient should suffer from this complication. Practitioners should be alert to signs of end organ damage following PE, and investigate promptly visual disturbance following a thromboembolic event.

References

- 1 Brubaker RF, Pederson JE. Ciliochoroidal detachment. Surv Ophthalmol 1983; 27: 281–289.
- 2 Feied CF. Pulmonary embolism. In: Rosen and Barkin (eds). *Emergency Medicine Principles and Practice*, 4th ed., 3rd Vol, chapter 111, 1998.
- 3 Collinson PO, Chandler HA, Stubbs PJ, Moseley DS, Lewis D, Simmons MD. Measurement of serum troponin T, creatine kinase MB isoenzyme, and total creatine kinase following arduous physical training. *Ann Clin Biochem* 1995; **32**(Part 5): 450–453.
- 4 Narendran N, Williamson TH. The effects of aspirin and warfarin therapy on haemorrhage in vitreoretinal surgery. *Acta Ophthalmol Scand* 2003; **81**: 38–40.
- 5 Edwards P. Massive choroidal hemorrhage in age-related macular degeneration: a complication of anticoagulant therapy. *J Am Optom Assoc* 1996; **67**(4): 223–226.
- 6 De Backer AI, De Schepper AM, Hubens G, Vaneerdeweg W. Shock bowel following massive pulmonary embolism. *J Belge Radiol* 1997; **80**: 231–232.
- 7 Marine JE, Goldhaber SZ. Pulmonary embolism presenting as seizures. *Chest* 1997; **113**: 1732.

A Gurbaxani¹, GV Robinson², L Crawley¹, A Desai¹, J Wiggins² and J McAllister¹

¹Prince Charles Eye Clinic, King Edward VII Hospital, Windsor, UK

²Department of General Medicine, Wexham Park Hospital, Slough, UK

Correspondence: A Gurbaxani, King Edward VII Hospital, St Leonard Road, Windsor, Berks SL4 3DP, UK Tel: +44 079 7729 6469; Fax: +44 017 5368 0441. E-mail: avigurbaxani@yahoo.co.in

Eye (2006) **20**, 1430–1431. doi:10.1038/sj.eye.6702290; published online 3 March 2006

Sir,

Intraoperative floppy iris syndrome in a patient taking alfuzosin for benign prostatic hypertrophy

Intraoperative floppy iris syndrome (IFIS) is a recently described phenomenon affecting cataract surgery. It consists of poor preoperative pupil dilation together with progressive intraoperative pupil constriction, billowing of a flaccid iris stroma, and iris prolapse to the surgical incisions. IFIS has, to date, only been reported in patients symptomatic for benign prostatic hypertrophy (BPH) treated with tamsulosin, a subtype a1A-selective adrenergic receptor blocker.¹ We present a case of typical IFIS occurring in a patient taking alfuzosin, a nonsubtype-selective a1-adrenergic receptor blocker.

Case report

An 85-year-old man presented with age-related cataract. He had no other ocular findings of significance. He had been treated for 3 years with alfuzosin for symptoms of BPH. He had never received any other a1-adrenergic receptor blockers. Small-incision phacoemulsification cataract surgery was planned. He was not asked to discontinue the alfuzosin before admission.

Preoperative pupil dilation was poor despite several instillations of cyclopentolate 1% and phenylephrine 2.5%. Lidocaine 2% (2 ml) was injected into the sub-Tenon's space inferonasally. A tunnelled temporal clear corneal incision was made. Iris behaviour typical of IFIS became apparent at hydrodissection. Disposable flexible translimbal iris retractors (Synergetics – Cat. No. Ref: 40.02) were therefore inserted in a diamond configuration similar to that described by Chang *et al.*¹ Surgery was completed without further complications, with in-the-bag implantation of a flexible hydrophilic acrylic implant.

Comment

It has been postulated that a1A-subtype-selective adrenergic receptor antagonists cause IFIS by blocking

the a1A-adrenergic receptors on the iris dilator muscle, resulting in disuse atrophy of the muscle; this in turn affects iris rigidity.¹ Controversy exists over the receptor subtypes present in the prostate and the precise mechanism of action of this type of agents.^{2–4} Recent experience in our unit is in accord with Chang's report;¹ the majority of patients treated with tamsulosin undergoing cataract surgery seem to display the features of IFIS. We have noted no benefit from the temporary cessation of treatment preoperatively.

The case we present here was, we believe, typical of IFIS. We are not aware of any previous reports of IFIS in patients treated with a1-adrenergic receptor blockers other than tamsulosin. It has been suggested that the a1A-subtype selectivity of tamsulosin might be accountable for the clinical manifestation of IFIS.¹ Alfuzosin, although not a1A-subtype-selective *in vitro*,^{2,3,5–9} displays uroselective properties *in vivo*.^{5–7} We postulate that the overall *in vivo* affinity of the a1-adrenergic receptor blockers towards a1A-subtype receptors might be responsible for IFIS rather than the *in vitro* a1A-selectivity *per se*.^{2,7}

We agree with previous authors that preoperative recognition of patients at risk of IFIS allows for appropriate surgical planning in anticipation of IFIS, with the intention of reducing the risk of preoperative complications.¹ It is our practice to insert, at commencement of surgery, disposable flexible translimbal iris retractors in a diamond configuration, as described by Oetting and Omphroy.¹⁰ This seems to allow the operation to be completed safely and with little added difficulty.

We believe that surgeons should anticipate IFIS in patients taking alfuzosin, in addition to those taking tamsulosin, and quite possibly in patients taking any of the uroselective a1-adrenergic receptor blockers. We are not aware of any reports of the nonuroselective a1-adrenergic receptor blockers causing IFIS.

References

- 1 Chang DF, Campbell JR. Intraoperative floppy iris syndrome associated with tamsulosin. *J Cataract Refract Surg* 2005; **31**(4): 664–673.
- 2 Kenny BA, Miller AM, Williamson IJ, O'Connell J, Chalmers DH, Naylor AM. Evaluation of the pharmacological selectivity profile of alpha 1 adrenoceptor antagonists at prostatic alpha 1 adrenoceptors: binding, functional and *in vivo* studies. *Br J Pharmacol* 1996; **118**(4): 871–878.
- 3 Michel MC, Grubbel B, Taguchi K, Verfurth F, Otto T, Kropfl D. Drugs for treatment of benign prostatic hyperplasia: affinity comparison at cloned alpha 1-adrenoceptor subtypes and in human prostate. *J Auton Pharmacol* 1996; 16(1): 21–28.

- 4 Faure C, Pimoule C, Vallancien G, Langer SZ, Graham D. Identification of alpha 1-adrenoceptor subtypes present in the human prostate. *Life Sci* 1994; **54**(21): 1595–1605.
- 5 Lowe FC. Role of the newer alpha, -adrenergic-receptor antagonists in the treatment of benign prostatic hyperplasiarelated lower urinary tract symptoms. *Clin Ther* 2004; **26**(11): 1701–1713.
- 6 Forray C, Noble SA. Subtype selective alpha1-adrenoceptor antagonists for the treatment of benign prostatic hyperplasia. *Expert Opin Invest Drugs* 1999; 8(12): 2073–2094.
- 7 Martin DJ. Preclinical pharmacology of alpha1adrenoceptor antagonists. *Eur Urol* 1999; **36**(Suppl 1): 35–41 (discussion 65).
- 8 Buzelin JM, Fonteyne E, Kontturi M, Witjes WP, Khan A. Comparison of tamsulosin with alfuzosin in the treatment of patients with lower urinary tract symptoms suggestive of bladder outlet obstruction (symptomatic benign prostatic hyperplasia). The European Tamsulosin Study Group. *Br J Urol* 1997; **80**(4): 597–605.
- 9 Martin DJ, Lluel P, Guillot E, Coste A, Jammes D, Angel I. Comparative alpha-1 adrenoceptor subtype selectivity and functional uroselectivity of alpha-1 adrenoceptor antagonists. J Pharmacol Exp Ther 1997; 282(1): 228–235.
- Oetting TA, Omphroy LC. Modified technique using flexible iris retractors in clear corneal surgery. J Cataract Refract Surg 2002; 28: 596–598.

G Settas and AW Fitt

Department of Ophthalmology, Peterborough District Hospital, Peterborough, Cambridgeshire, UK

Correspondence: G Settas, Department of Ophthalmology, Peterborough District Hospital, Thorpe Road, Peterborough, Cambridgeshire PE3 6DA, UK Tel: +44 01733 874344; Fax: +44 01733 875281. E-mail: settasg@doctors.net.uk

Eye (2006) **20**, 1431–1432. doi:10.1038/sj.eye.6702291; published online 24 February 2006

Sir,

Ocular trauma caused by a loose slip-lock cannula during corneal hydration

It is easy to become complacent when using such widely used medical instruments as needle and syringes. Needle and syringe systems have many uses in modern day ophthalmic surgical practice. There are two main types of system commonly used: push-fitting 'slip-lock' systems, where the needle hub is pushed

1432