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Sir,

Bilateral acute angle-closure glaucoma after use of Fenox™ nasal drops

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Fenox™ nasal drops are an over-the-counter nasal decongestant preparation which contain phenylephrine and naphazoline, both adrenergic sympathomimetics. We describe a case of bilateral acute angle-closure glaucoma (AACG) presenting following the use of Fenox™ nasal drops.

Case report

A 53-year-old taxi driver presented to the Eye Casualty Department with a one-week history of painful eyes, worse in the right, associated with photophobia and haloes. He had been suffering from symptoms of a cold and sinusitis and had been using Fenox™ nasal drops regularly for the previous week. His past medical history included an operation for a deviated nasal septum. He was otherwise well and was on no other medication. He was a low hypermetrope, wearing right: +1.00 DS and left: +0.50 D/+0.50 D at 100°.

Examination revealed an unaided visual acuity (VA) of counting fingers with his right eye and 6/36 with his left. Both eyes were injected with corneal oedema, shallow anterior chambers and fixed, mid-dilated pupils. Both crystalline lenses exhibited glaucomflecken. His intraocular pressure (IOP) was 38 mmHg in the right eye and 28 mmHg in the left. Gonioscopy was impossible in the right eye and only the inferior 180° of the left was visible, which was closed.

A diagnosis of bilateral AACG was made and he was treated with intravenous acetazolamide and topical pilocarpine 4% and dexamethasone to both eyes. Four hours later, both eyes remained painful.

Only his left pupil had miosed and his IOP was 42 mmHg (right eye) and 06 mmHg (left). He was commenced on oral acetazolamide plus topical timolol 0.5% and latanoprost to his right eye, in addition to his other topical agents. A further dose of intravenous acetazolamide was also required.

The following day, his symptoms had resolved. His IOP had fallen to 15 mmHg in his right eye and 04 mmHg in his left and systemic treatment was stopped. Indentation gonioscopy confirmed that both drainage angles were closed but no peripheral anterior synechiae were observed. The IOPs remained satisfactory on topical medication alone and a left Nd:YAG laser iridotomy was performed 2 days later. Treatment to the left eye was then reduced to topical steroids only. Eight days later, his IOP was 11 mmHg in his right eye and 13 mmHg in his left, although little miosis had occurred in the right eye. Topical treatment was further reduced to pilocarpine 4% in the right eye and dexamethasone to both. IOP control remained satisfactory for a further 4 days, when a right Nd:YAG laser iridotomy was performed. All ocular hypotensive medications were stopped and his topical steroids were tapered off over a 3-week period. At review 6 weeks after his initial presentation, his unaided VA had improved to 6/6 in each eye. The IOP was 15 mmHg in his right eye and 14 mmHg in his left off all treatment. Both iridotomies were patent with deepened anterior chambers, although both irides showed evidence of ischaemic damage and the glaucomflecken persisted. At final review 8 months after presentation, his IOP remained normal. His optic discs did not show any pathological damage and his visual fields were full. His nasal symptoms had resolved following further surgery.

Comment

Many drugs have been reported to precipitate AACG, either by direct or indirect sympathomimetic activity. Diagnostic mydriatics^{1,2} as well as systemic agents such as tricyclic antidepressants,³ serotonin re-uptake inhibitors,⁴ diuretics,⁵ inhaled bronchodilators,⁶ intranasal cocaine^{7,8} and other proprietary medicines⁹ have all been implicated. Fenox™ nasal drops contain two direct adrenergic sympathomimetic agents, phenylephrine and naphazoline, producing vasoconstriction of the skin and reducing congestion when applied to mucous membranes. The recommended frequency of use for Fenox™ nasal drops is morning and night and every 4 hours if necessary, and for no longer than 7 days (manufacturer's instructions).

To the best of our knowledge, this is the first

reported case where the use of a nasal decongestant has been linked to the development of bilateral AACG. Although the exact mechanism of action remains uncertain, it is likely that absorption of the contained sympathomimetic agents through the nasal mucosa (as has been reported for cocaine^{7,8}), aggravated by the patient sitting in a darkened room to relieve his photophobia, was the trigger factor in an, albeit low, hypermetropic patient to produce bilateral AACG. We would suggest that the packaging of such products should alert patients (and their doctors) to this risk.

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Sir,

Globe perforation by the second peribulbar injection
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Despite the increasing popularity of sub-tenons and topical anaesthesia, peribulbar anaesthesia remains an important technique for providing anaesthesia for ocular surgery. The National Survey for Local Anaesthesia for Ocular Surgery in the UK showed that peribulbar anaesthesia made up 65% of the local anaesthetic techniques used.¹ Peribulbar anaesthesia was originally introduced by Mandel and Davis as a safer alternative to retrobulbar anaesthesia.² The relative risk of globe perforation between the two techniques is unknown, however. There have been several previously reported series of globe perforation from peribulbar injections, giving a frequency between 1 in 874,³ and 1 in 16 224.⁴ There is a wide variation in the techniques used to administer peribulbar anaesthesia.^{4–7} The majority of the previously reported cases of globe perforation have given no details of the precise technique used for administering the peribulbar injections. Over an 8-month period a cluster of cases of globe perforation were referred to the vitreo-retinal service at a British Teaching Hospital. The notes were reviewed and the personnel who administered the anaesthetic were interviewed. The exact technique used to give the peribulbar block for each case was thus identified and related to the perforation sites. Analysis of these cases highlights a potential pitfall in a commonly used technique for peribulbar anaesthesia.

Case reports

Five cases were identified. In every case the patient received an inferotemporal injection of 4–5 ml of lignocaine/bupivacaine at the junction of the medial two-thirds and lateral third of the orbital rim. This was followed by a medial injection, placed medial to the caruncle. This was then followed by approximately 10 min of compression with a Honan balloon. In case 4, the medial injection was placed following approximately 1 min of digital ocular compression. This was not timed, however. In the remaining cases the second injection was placed almost immediately after the first. Hyaluronidase was used for each case.

In every case the perforation sites were situated in the nasal retina, in line with the path taken by the medial injection. Cases 1–4 were perforating injuries with an entry and exit site. Case 5 had a linear retinal scar, as if the needle had been withdrawn, or the globe had sustained a glancing blow. The locations of the