

LETTERS TO THE JOURNAL

Sir,

An Unusual Side Effect of Dorzolamide

Dorzolamide (Trusopt, Merck, Sharp and Dohme) is the most potent topically active carbonic anhydrase inhibitor (CAI) investigated in humans.¹ Concentrations of up to 2% produce a clinically significant reduction in intraocular pressure and acceptable ocular tolerability in normal volunteers and in patients with primary open angle glaucoma.^{1,2} The ocular hypotensive efficacy of 2% dorzolamide given three times daily is comparable to that of 0.5% betaxolol given twice daily.³ We describe the aggregation of dry white granules on the tip of the dorzolamide bottle resulting from the exposure of the medication to the outside environment,

A 53-year-old Caucasian man with bilateral



Fig. 1. White granules on the bottle tip of a bottle of dorzolamide.

pigmentary glaucoma and suboptimally controlled intraocular pressures required further topical medications. The patient was started on topical dorzolamide 2% t.d.s. but complained of bilateral stinging and foreign body sensation at a routine follow-up visit 2 months after starting treatment. He remarked that white granules had accumulated on his bottle tip (Fig. 1) and that these dropped into his eyes when instilling the medication. This phenomenon was reproduced exactly by opening a new bottle of dorzolamide, expressing some of the medication and allowing this to settle on the outer aspect of the bottle tip, replacing the cover of the bottle and leaving the bottle for 10 days at room temperature.

A similar experiment was conducted with pilocarpine 0.5%, 1%, 2% and 4% (non-proprietary), dipivefrine 0.1% (Allergan), adrenaline 1% (Chauvin), timolol 0.25% and 0.5% (Merck Sharp and Dohme) and betaxolol 0.5% (Alcon). None of the above formulations produced any precipitates.

Although dorzolamide is generally well tolerated, local side effects include mild transient irritation, blurring of vision, stinging, conjunctivitis with or without lid reactions suggestive of allergy, foreign body sensation and eyelash/eyelid residues.¹⁻⁴ The deposition of the aforementioned granules appears to be the result of exposure of the medication to air, as a moistened bottle tip that had been constantly covered did not show this phenomenon. Such foreign bodies may cause enough discomfort to induce non-compliance and may increase the incidence of infection. Patients and their carers should therefore be warned of this phenomenon. We would recommend to the manufacturers that the diameter of the bottle tip be increased as this would result in less torque being needed to close the bottle. This would produce a tighter seal for the same amount of effort – an important factor in patients with arthritic hands.

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Sir,

Adenoma of the Non-pigmented Epithelium of the Ciliary Body

The case of an acquired adenoma of the non-pigmented epithelium of the ciliary body occurring in a middle-aged woman is reported. Tumours of the non-pigmented ciliary body epithelium are extremely rare and may be congenital or acquired.^{1–3} The congenital tumours arise from primitive medullary epithelium whereas the acquired tumours arise from fully differentiated ciliary epithelium. This tumour can be clinically indistinguishable from malignant melanoma of the ciliary body and can cause local pressure effects. However, our case presented simulating an iris mass and therefore non-pigmented ciliary body adenoma should be considered in the differential diagnosis of an iris lesion.

Case Report

A 51-year-old woman presented with deteriorating vision in her left eye. She had no previous ocular history. Visual acuity in the left eye was 6/12 and in the right eye was 6/6. An elevated, non-pigmented

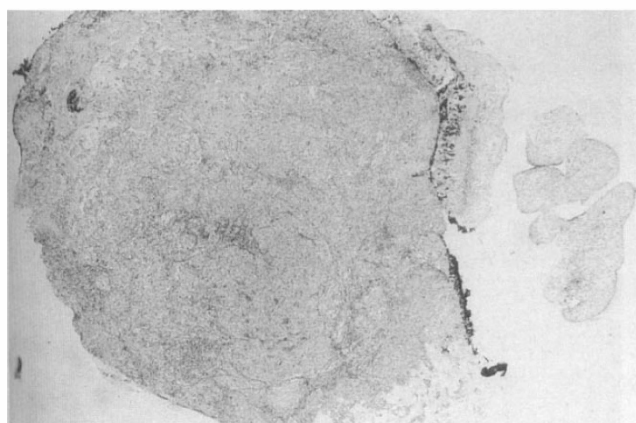


Fig. 1. Entire regular eosinophilic tumour bordered on the right of the illustration by iris with iris pigment superiorly and ciliary pigmented epithelium inferiorly. (Haematoxylin–eosin, $\times 25$).

rounded mass was noted in the supra-temporal aspect of the left iris. The overlying anterior chamber was shallowed with peripheral anterior synechiae evident on gonioscopy. Intraocular pressures were normal in both eyes. The lens underlying the mass had a local cataract and was subluxed. Fundal examination through a dilated pupil revealed no evidence of retinal or ciliary body abnormality. As the lesion transilluminated and an A-mode ultrasound scan confirmed the clinical suspicion that it was cystic, the mass was not considered to be a malignant melanoma initially. However, the patient was kept under review to document any change.

The vision gradually deteriorated to 6/24 3 years after presentation, due to development of posterior subcapsular cataract. The lesion enlarged over this period with progression to corneal touch and pupil margin distortion. Therefore excisional biopsy of the lesion was combined with cataract extraction.

Phacoemulsification of the cataract and intraocular lens implantation was performed. Broad iridectomy to the ciliary body removed the tumour in total. The patient made a good recovery, obtaining corrected vision of 6/6 at 6 months post-operatively.

Pathology

The pathology specimen consisted of a small nodule of tissue measuring approximately 4 mm in diameter (Fig. 1). Histological sections showed an adenoma of the non-pigmented epithelium of the ciliary body with intra- and extracellular secretions and focal areas of inflammation. The tumour was composed of regular eosinophilic cells with small prominent nuclei (Fig. 2). Histochemical staining was positive with periodic acid–Schiff (PAS), mucicarmine and alcian blue stains. The positive staining with alcian blue was dissipated by hyaluronidase, confirming the presence of an acid mucopolysaccharide.

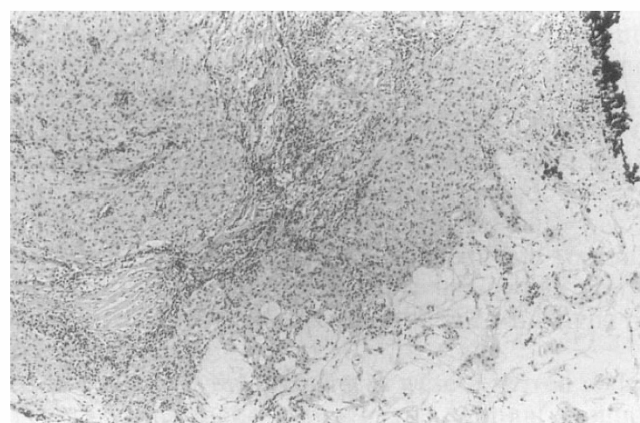


Fig. 2. Magnification from the lower right of Fig. 1. Ciliary non-pigmented adenoma tumour cells are seen with a central area of inflammatory cell infiltrate and inferior area of accumulating secretions. There is a pigmented ciliary epithelium border in the upper right of the illustration. (Haematoxylin–eosin, $\times 100$).