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Brinzolamide-induced Follicular Conjunctivitis

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Abstract

We report a case of a patient who developed a severe case of follicular conjunctivitis from brinzolamide after 1.5 years of consistent use. This patient was re-challenged again after resolution of the follicles and subsequently redeveloped similar conjunctivitis. This is the first confirmed reported case of follicular conjunctivitis from brinzolamide use.

Case. A 69 year-old female was diagnosed with primary open-angle glaucoma (POAG) and started on topical therapy. She had multiple medication intolerances with ocular irritation to brimonidine, timolol, brimonidine/timolol combination, and travoprost. Preservative-free timolol/dorzolamide combination caused periorbital swelling and redness. She started brinzolamide 1% twice a day in both eyes and tolerated this well, and later added latanoprost 0.005% once nightly in both eyes for better intraocular pressure (IOP) control. After approximately 1.5 years of brinzolamide therapy, she was incidentally noted to have an asymptomatic robust follicular conjunctivitis in the inferior palpebral conjunctiva in both eyes. There was no follicular response noted on the bulbar conjunctiva in either eye. Two weeks later, she presented with mild foreign body sensation in the right eye and persistence of follicular conjunctivitis with a papillary component and mucoid discharge. She was started on a 10-day course of ofloxacin 0.3% applied 4 times a day for a presumed mild bacterial conjunctivitis.

One month later, she returned for a follow-up visit with resolution of the foreign body sensation but was noted to have persistence of the asymptomatic robust confluent inferior palpebral follicular response in both eyes (Figure 1a). The differential included toxic versus infectious etiologies. Ocular chlamydia was not detected on subsequent testing. Topical brinzolamide in both eyes was then stopped and latanoprost continued. One month after stopping brinzolamide, the follicular reaction resolved. On routine 4-month follow-up, follicles continued to be absent (Figure 1b). Fifteen months later, intraocular pressure control was noted to be inadequate on just latanoprost, so brinzolamide was restarted. This resulted in ocular irritation and a recurrence of inferior follicular response seen 1 month after brinzolamide re-challenge. The medication was stopped and again the follicular conjunctivitis resolved. She underwent cataract extraction with iStent placement in her right eye.

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Discussion:

As far as we are aware, this is the first reported case of follicular conjunctivitis from brinzolamide use. Follicles developed after several months of consistent use, resolved after discontinuing brinzolamide, and redeveloped upon rechallenging 15 months later.

The glaucoma drop most commonly associated with follicular conjunctivitis is topical brimonidine¹, though it has been reported with other topical ocular medications including pilocarpine and other miotics, atropine, patanol, dipivefrin, and acyclovir². In addition, follicular conjunctivitis has been reported with dorzolamide², which like brinzolamide is a carbonic anhydrase inhibitor. However, reported ocular surface side-effects from brinzolamide are rare. In the early safety studies of brinzolamide, the most common side-effect was blurry vision³ and there were zero reports of conjunctivitis amongst the 334 patients receiving brinzolamide 1% twice or three times daily in the 90-day trial. In an 18-month trial, patients on brinzolamide experienced unspecified conjunctivitis at a rate of 1.3%, which occurred in similar frequency to the control group receiving timolol 0.5%, an agent rarely associated with follicular conjunctivitis⁴.

Previous reports noted that sensitivity to other topical medications was an identifiable risk factor for developing ocular allergy to brimonidine⁵, which may play a role in this unusual side-effect in this patient. She was intolerant of several previous glaucoma medications, including preservative free timolol/dorzolamide combination. An allergy directly to the topical preservative benzalkonium chloride was unlikely, as she had tolerated topical latanoprost which contains the same preservative.

Clinicians should be aware that while extremely well tolerated, brinzolamide can present as a late developing follicular conjunctivitis that can lead to diagnostic uncertainty.

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Figure 1:
(A) Severe inferior palpebral follicular response after 1.5 years of topical brinzolamide 1% applied twice daily in both eyes. (B) Resolution of follicular response after stopping brinzolamide.