



Figure 2. Final reading (day 7) patch test results showing the patient's reactions: (A) a strong (++) reaction to dyclonine 1% aqueous and (B) between a mild (+) reaction to dyclonine 1% petrolatum.

Purified dyclonine powder was kindly provided by Ambix. The patient was tested to 1% aqueous and 1% petrolatum preparations, the recommended concentrations per De Groot.¹ Final reading on day 7 showed a strong (++) reaction to the aqueous preparation and a mild (+) reaction to petrolatum preparation (Fig. 2). Five controls were negative.

DISCUSSION

Dyclonine, or dyclocaïne, is a unique topical anesthetic that is categorized as neither an amide nor ester. It is structurally similar to the topical anesthetic pramoxine; however, there is no known cross-reactivity between the two,^{2,3} and our patient did not react to pramoxine 2% petrolatum. Allergic contact dermatitis to dyclonine is exceptionally rare, with only 3 reported cases^{2,3} in the literature, all from dyclonine-containing herpes simplex treatments. Topical treatments containing dyclonine are no longer commonly sold in the United States because of low profitability.⁴ At present, topical dyclonine is found only in the Ambix cream and certain brands of liquid bandages. Dyclonine can also be found in the over-the-counter cough drops, Sucrets, and throat-numbing solutions, such as Cepacol (Cepacol is sold in Canada but not in the United States), or oral solutions created in compounding pharmacies. Although there are no published reports of allergic contact dermatitis to these oral products, they should be avoided in individuals with contact allergy to dyclonine.

Dyclonine was clinically relevant to this patient's dermatitis because she had been using it as a topical treatment. After 2 months of avoiding allergens, she endorsed significant improvement of her rash. This rare allergen would have been missed had she not been tested to her own personal products.

ZEBRA

Although rare in modern topicals, dyclonine is an important potential allergen.

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Unilateral Allergic Dermatitis to Timolol in Eye Drops for Treating Glaucoma in a Patient With Sturge-Weber Syndrome and a Choroidal Hemangioma

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PRÉCIS

This case of allergic contact dermatitis to timolol in antiglaucoma eye drops in a patient with Sturge-Weber syndrome reminds to test patients with their own products.

DISCUSSION

A 17-year-old adolescent boy presented with persistent left-sided periorbital dermatitis, edema, and recurrent infections for the

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Figure 1. Eczematous area and hemangioma on the left eyelid.

preceding 1 month (Fig. 1). He had been prescribed timolol 0.25% eye drops, containing benzalkonium chloride 0.01% as a preservative, for the last 3 months for glaucoma in the left eye after fractional radiotherapy for a diffuse choroidal hemangioma. He had received multiple courses of oral antibiotics, such as co-amoxiclav and flucloxacillin, and topical fusidic acid (Fucidin). His medical history included Sturge-Weber syndrome, associated with a left-sided facial port-wine stain, affecting his left eye and left side of his forehead. He had received several sessions of pulsed dye laser for the left-sided

facial port-wine stain with moderate improvement. He had no documented drug allergies.

He was initially prescribed topical tacrolimus 0.1% twice daily for the dermatitis, but this was unfortunately not well tolerated and was therefore discontinued. Then, he was prescribed miconazole nitrate 2% combined with hydrocortisone 1% cream to be applied topically twice daily for 7 days and also referred for patch testing. He was patch tested with the British standard series for patch testing in addition to his timolol maleate 0.25% eye drops applied 100% “as is” and a preservative series containing benzalkonium chloride 0.1% aqueous (aq.), using 8-mm Finn Chambers (Smartpractice, Phoenix, AZ) on Scanpor tape (Norgesplaster; Alpharma, Vennessla, Norway).

The test readings were performed after 48 and 96 hours (D2 and D4). The reactions were classified according to the International Contact Dermatitis Research Group guidelines. Readings showed positive reactions (++) only to timolol maleate 0.25% eye drops and not to benzalkonium chloride 0.1% aq. (Fig. 2). Based on the results and the patient's history, a diagnosis of allergic contact dermatitis to timolol was made. The use of timolol eye drops was discontinued. Complete remission of the periorbital dermatitis was achieved within a couple of weeks after discontinuation of timolol eye drops. He was prescribed latanoprost 0.005% eye drops, which he has since been using with no recurrence of the dermatitis.

Sensitization to topical β -blockers is a well-recognized adverse effect of glaucoma treatment.^{1–5} β -Blocker-containing eye drops may induce irritant as well as allergic contact dermatitis, the latter being rarely reported.¹ Most conjunctival reactions to pharmaceutical preparations with timolol are not caused by the substance itself, but rather by the preservative, which is usually 0.01% benzalkonium chlorhydrate.³ Two groups observed patch test reactions to β -blockers, which had never been used by the patient, indicating true cross-reactions among different β -blocker eye drops: the first was between befunolol/carteolol, and the second observed a delayed-type reaction to timolol, subsequent sensitization to carteolol, with an additional positive patch test reaction to levobunol, which had never been used.¹

PEARL

This case highlights the potential usefulness of testing to ophthalmologic drugs and their excipients to establish diagnosis.

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Figure 2. Strong positive reaction to timolol 0.25% eye drops.