Allergic contact dermatitis to phenylephrine

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Sir,

Dermatitis of and around the eyes is common. Allergic contact reactions with phenylephrine are rare despite its extensive use as a mydriatic agent by ophthalmologists. We report, presumably, the first case from India of allergic periorbital dermatitis due to phenylephrine.

A 40-year-old woman was referred to the dermatology outpatient with acute-onset edema and erythema of both eyes associated with watering, a burning sensation, and moderate discomfort, of 24 h duration. Questioning elicited the history of use of phenylephrine 10% eye drops thrice at 5 min intervals in the ophthalmology outpatient department the previous day prior to fundus examination. She denied use of any other medications or cosmetics in or around the eyes. Her medical records revealed the use of phenylephrine eye drops 8 months back when she was diagnosed to have presbyopia. At that time, its use had been uneventful. Her general physical examination was within normal limits. Cutaneous examination revealed marked periorbital erythema, edema, and conjunctival congestion, along with acute eczematous lesions on both cheeks with a streaky pattern extending on to the neck [Figure 1]. She was treated with a short course oral prednisolone, starting with a single morning dose of 40 mg that was tapered to 10 mg over 15 days. She was also prescribed topical hydrocortisone 1% cream, tablet hydroxyzine hydrochloride 10 mg thrice a day, and topical eye drops containing nephazoline 0.01% and chlorpheniramine 0.1% with complete resolution of lesions. Four weeks later, a patch test was performed with standard cosmetic series and eye drops containing 10% aqueous solution of phenylephrine with 0.5% chlorbutol. After 48 h, the patch test was positive (3+) to the eye drops; five controls tested were negative.

Figure 1: Erythema and edema of eyelids with conjunctival congestion and eczematous reaction over cheeks and neck

Phenylephrine is α-receptor sympathomimetic drug exhibiting vasoconstrictive activity and is frequently used in ophthalmology as a mydriatic agent and nasal decongestant in topical formulations. Local complications like conjunctival irritation, corneal edema, or release of iris pigment into the anterior chamber and systemic cardiovascular symptoms such as hypertension are rare.[1] Allergic contact dermatitis to phenylephrine has been reported on many occasions from different parts of the world.[2-3] In the largest documented series Herbst *et al*. performed retrospective analysis of 1641 patients with periorbital dermatitis. Of these, 1053 were diagnosed as allergic periorbital dermatitis and 43 (4.1%) showed positive patch test reaction to phenylephrine.[4] Borch *et al*. observed a higher frequency (15%) of positive reaction to phenylephrine in their series of 32 patients.[5]

There is no generally accepted commercial ophthalmic series available for patch testing. Moreover, the composition of an ophthalmic series would require continuous modification to keep pace with the changes in the use of specific ophthalmic drugs in practice. In addition, the patient's own

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eye care/cosmetic products should also be tested. Though phenylephrine is widely used by ophthalmologists in India in nonhypertensive adults as a mydriatic agent to obtain maximum pupillary dilatation prior to fundus examination and assessment of refractory errors, allergic contact dermatitis has not been reported from this country so far. This may be partly due to a low index of suspicion or failure to perform patch tests in patients with transient and self-healing periorbital dermatitis.

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