

allergenic load in order to perform meaningful comparisons.

Key words: allergy; environment; pollen; sensitization.

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Allergic contact dermatitis to phenylephrine

PHENYLEPHRINE eye-drops are frequently used in ophthalmology as mydriatic agents to obtain maximum pupillary dilation for diagnostic or therapeutic purposes. Phenylephrine is a sympathomimetic drug which mainly stimulates α -adrenergic receptors. Because of its vasoconstrictive effect, it is also used in nasal decongestants, and in otologic and other topical preparations to increase the local activity of topical anesthetic and anti-inflammatory agents. Local complications, such as conjunctival irritation or release of iris pigment into the anterior chamber and corneal edema (1), or systemic side-effects, such as hypertensive crisis from phenylephrine, are rare (2). We report a case of allergic contact dermatitis to phenylephrine contained in eye-drops.

A 69-year-old man regularly developed acute periorbital dermatitis and conjunctivitis after

treatment with multiple ophthalmic preparations for eye diagnostics such as funduscopy examina-

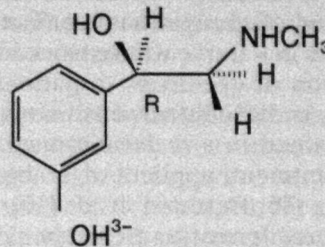


FIGURE 1 Structural formula of (R)-phenylephrine.

tion. He was referred for allergologic investigations. Patch tests were performed with Finn Chambers applied to the patient's back fixed with Fixomull elastic tape (Beiersdorf, Hamburg, Germany). The test included the European Standard series, the drug series, the disinfection and preservative series, ointment bases and emulsifiers, and the series of dental materials. The materials were obtained from Hermal (Reinbek/Hamburg, Germany). In addition, a battery of the patient's own various eye-drops (Novesin[®], Mydriaticum[®], Phenylephrin[®], Methocel[®], and Cyclogyl[®]) was tested (Table 1).

The test patches were removed after 48 h, and readings were performed at 48 and 72 h, according to the recommendations of the ICDRG (International Contact Dermatitis Research Group). The patch tests to Phényléphrine eye-drops (5%) used by the patient were positive (++) on intact skin and strongly positive (+++++) on stripped skin. Patch tests to the other series were negative with the exception of a positive (++) response to the preservative Quaternium-15, a formaldehyde-donating biocide. However, the manufacturer of Phenylephrin 5 "Blache"[®] (Novopharma) confirmed to us that this product does not contain Quaternium-15.

Table 1. Patch test results with the patient's own eye-drops

	Patch test results	
	48 h	72 h
Novesin [®] (0.4%)	Negative	Negative
Mydriaticum [®] (Tropacamide 0.5%)	Negative	Negative
Phenylephrin [®] (Blache 5%)	++	++
Methocel [®] (2%)	Negative	Negative
Cyclogyl [®] (1%)	Negative	Negative

Despite its extensive use by ophthalmologists, allergic reactions such as periorbital contact dermatitis and/or blepharoconjunctivitis caused by phenylephrine (for formula, see Fig. 1) have rarely been reported (3–6). However, cases have been reported of occupational contact dermatitis of the fingers in a nurse whose work included the administration of eye-drops to patients with eye diseases (7), and of contact sensitivity to phenylephrine contained in a rectal ointment (8) and in a steroid ointment applied to a leg ulcer and hemorrhoids (9). Bardazzi et al. (10) reported a case of contact dermatitis from phenylephrine in ear-drops.

Our cases and others indicate that allergic contact dermatitis caused by phenylephrine may be an important medical problem in patients with eye diseases. To change medication without testing the allergenicity is not sufficient because some topical preparations for very different treatments may contain phenylephrine, or the patient may be also sensitized to other additives such as preservatives.

Key words: contact dermatitis; eye-drops; phenylephrine.

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Histopathology of dermatitis due to pseudoephedrine

PSEUDOEPHEDRINE is an alkaloid of the phenylamine family. This type of drug rarely causes allergic reactions, and this is especially true of pseudoephedrine, despite its wide use as a nasal decongestant for oral intake, in association with other drugs, in various over-the-counter antitarrhal preparations. In this paper, we present two cases of delayed generalized dermatitis after intake of the same pseudoephedrine-containing product, showing different symptomatology, histopathology, and results in the patch test.

■ *Patient 1* was a 64-year-old man with high blood pressure and essential tremor. He took the sixth dose of Lasa Con Codeina (LC) (codeine phosphate, chlorpheniramine maleate, pseudoephedrine hydrochloride, and excipients, Laboratorios Lasa, Barcelona, Spain) for a catarrhal infection, and 48 h later, he developed erythema in the groin area that became generalized until erythrodermia was finally produced, with punctate vesicles in the palms and soles, and papilopustular eruption distributed over the axillae, groin area, and abdomen. The patient was admitted to the hospital and treated with systemic corticoids, with significant improvement. Seven days later, he presented generalized skin desquamation with complete resolution of his dermatitis. A cutaneous biopsy was carried out, showing spongiform subcorneal pustules with acantholytic cells, and perivascular and interstitial infiltrates abounding in eosinophils in the papillary dermis.

Patient 2 was a 73-year-old man with hypertrophic cardiomyopathy and high blood pressure. He took the second dose of LC for cough; 24 h later, he developed severe, generalized erythematous edematous rash, without further desquamation, which spontaneously disappeared 15 days later. One month later, he took another dose of LC, developing symptoms similar to those described above.

■ Our diagnostic methods included the following.

- 1) *Patch test* with European standard series, LC, and its individual components including excipients from different dilutions in petrolatum: codeine phosphate 1%–5%–10%, chlorpheniramine maleate 2%, pseudoephedrine hydrochloride 1%, quinoline yellow 2%, sorbitol 20%, vanilla fragrance 10%, lemon fragrance 5%,

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