

ALLERGY Net

ALLERGY 2009 DOI: 10.1111/j.1398-9995.2008.01925.x • © 2009 THE AUTHORS • JOURNAL COMPILATION © 2009 BLACKWELL MUNKSGAARD

CONTRIBUTIONS TO THIS SECTION WILL NOT UNDERGO PEER REVIEW, BUT WILL BE REVIEWED BY THE ASSOCIATE EDITORS

Long-lasting allergic contact blepharoconjunctivitis to phenylephrine eyedrops

N. Raison-Peyron*, A. Du Thanh, P. Demoly, B. Guillot

Key words: blepharoconjunctivitis; contact allergy; long-lasting; ophthalmic; phenylephrine.

Phenylephrine is a sympathomimetic amine with predominant $\alpha 1$ receptor-stimulating properties often used as a mydriatic and conjunctival decongestant in 0.1–10% solution. Contact allergy to phenylephrine eyedrops is well-known (1–5) and four long-lasting allergic patch-testing reactions to phenylephrine have been so far reported in the literature (2–4). We reported two cases of delayed hypersensitivity to this drug with a debilitating blepharocconjunctivitis, lasting more than 5 months but without association with long-lasting allergic patch test reactions (LLAPTR).

A 65-year-old man, without previous personal history of atopy, developed a severe symmetrical blepharoconjunctivitis only 2 h after instillations of four eyedrops containing phenylephrine, tetracaine, fluorescein and tropicamide for a protocol study of fovea degeneration. These symptoms lasted 5 months in spite of using of antiallergic ophthalmic topicals. He had received the same eyedrops

3 years before and experienced an ocular lacrimation with a conjunctival injection for 2 weeks.

Skin prick-tests and intradermal tests with Neosynephrine Faure 10%® (containing 10% phenylephrine) pure and diluted at 1:10 in water were negative at 20 min but positive at 8 h and lasted 7 days. Patch-testing was positive for phenylephrine hydrochloride 10% aq (+ + D2/+ + D3) and negative at D7.

A 72-year-old woman with a past history of contact dermatitis to fragrances presented an episode of blepharoconjunctivitis 10 h after an intraocular examination using mydriatic eyedrops containing phenylephrine (Neosynephrine Faure 10%®) and tropicamide (Tropicamide Faure 2 mg®). She received the same eyedrops 2 years ago without any problem.

In spite of symptomatic treatment, the symptoms persisted even after 8 months with secondary keratitis and trichiasis.

The patient was patch-tested to the European standard series and her own substances including the two eyedrops. Readings on D2 and D3 were positive for fragrance mix I (+ +/+ +), fragrance mix II (+/+ +), and Neosynephrine Faure 10%® as is (+/+ +). Patch tests were negative for preservatives sodium EDTA (1% pet) and thimerosal (0.1% pet), both present in Neosynephrine Faure® eyedrops. There was no persistent reaction to the phenylephrine eyedrops patch test.

Allergic reactions to mydriatic eyedrops are rare despite extensive use by ophthalmologists. Phenylephrine is responsible for most of the cases of allergic reactions reported in literature (1–5). Villarreal found that 93.5% of reactions to mydriatic eyedrops were elicited by phenylephrine (5).

Four cases of LLAPTR (by definition, clinical signs of palpable erythema still present at the site of a positive allergic patch test reaction 2 or more weeks after the test) to phenylephrine have been

reported, which persisted for 2–7 months (2–4).

Allergic blepharoconjunctivitis caused by phenylephrine is usually an acute reaction (mean duration of the symptoms: 10.5 days) (1). As symptoms arose often within 30 min to a few hours after instillation of the eyedrops, these allergic reactions can be mistaken as immediate-type allergic reactions when actually it is a delayed, cell-mediated hypersensitivity reaction.

In our cases, allergic blepharoconjunctivitis caused by phenylephrine persisted for 5 and 8 months without associated LLAPTR, but with ophthalmic complications such as keratitis and trichiasis in the second case.

To our knowledge, no persistent blepharoconjunctivitis caused by phenylephrine eyedrops has been yet reported in the literature.

*Department of Dermatology and Allergology
Hôpital Saint Eloi, 80 avenue Augustin Fliche
34295 Montpellier cedex 5
France
Montpellier I University
Tel.: +33 4 67 33 69 56
Fax: +33 4 67 33 69 58
E-mail: nadia-raison@wanadoo.fr

Accepted for publication 6 September 2008
Allergy 2009
© 2009 The Authors
Journal compilation © 2009 Blackwell
Munksgaard
DOI: 10.1111/j.1398-9995.2008.01925.x

References

1. Borch JE, Elmquist JS, Bindslev-Jensen C, Andersen KE. Phenylephrine and acute periorbital dermatitis. *Contact Derm* 2005;**53**:298–299.
2. Rafael M, Pereira F, Faria MA. Allergic contact blepharoconjunctivitis caused by phenylephrine, associated with persistent patch test reactions. *Contact Derm* 1998;**39**:143–144.

3. Mancuso G, Reggiani M, Staffa M. Long-lasting allergic patch test reaction to phenylephrine. *Contact Derm* 1997; **36**: 110–111.
4. Akita H, Akamatsu H, Matsunaga K. Allergic contact dermatitis due to phenylephrine hydrochloride with an unusual patch test reaction. *Contact Derm* 2003;**49**:232–235.
5. Villarreal O. Reliability of diagnostic tests for contact allergy to mydriatic eyedrops. *Contact Derm* 1998;**38**:150–154.