

Case Report

The drugs most frequently used for glaucoma are topical beta blockers such as timolol and levobunolol and miotic agents such as brimonidine. Most recently, prostaglandin analogues such as latanoprost and bimatoprost have been introduced. All these drugs and some vehicles used in their formulation may be responsible for hypersensitivity symptoms (1–3).

We present the case of a 48-year-old woman referred to our outpatient clinic with ocular itching, erythema, tearing, and eyelid eczema for one year. Her symptoms were mild but continuous, without seasonal variation. She did not use cosmetics. She denied respiratory symptoms.

She had been diagnosed with open angle glaucoma 2 years ago, and she was having treatment with levobunolol 0.5% (Betagan®; Allergan, Santiago, Spain), brimonidine 0.2% (Alphagan®; Allergan), and latanoprost 0.005% (Xalatan®; Pfizer, Madrid, Spain). She had no other medical problems and was on no medication.

Patch tests with commercial baseline antigens (True Test®; Alk Abelló, Madrid, Spain), all 3 topical drugs, bimatoprost 0.03% (Lumigan®; Allergan), and additives such as benzalkonium chloride, sulfites, and polyvinyl alcohol were performed. Non-standard antigens and drugs were tested with Curatest® (Lohmann-Rauscher, Rengsdorf, Germany). Pure latanoprost was not tested because of its temperature lability.

3 patients who had no previous contact with these drugs were tested as controls.

Baseline patch tests were positive only for cobalt chloride at 2 days. Brimonidine, bimatoprost, sulfites, polyvinyl alcohol, and benzalkonium chloride tests were negative.

Levobunolol and latanoprost patches were positive at 2 and 4 days. Antiglaucoma treatment was stopped for one month under ophthalmologic supervision. Topical ketotifen was prescribed complete resolution of the symptoms. Levobunolol and latanoprost were reintroduced separately with a recurrence of the symptoms in 2–3 days in both cases. Later, therapy with bimatoprost and brimonidine was tolerated well.

Discussion

Prostaglandin F2α analogues are the most recent addition to glaucoma therapy. Nowadays, there are 3 drugs of this group in the market: latanoprost, bimatoprost, and travoprost.

Their major advantage over other drugs for glaucoma treatment is their low incidence of adverse effects. These adverse effects are usually mild, most frequently an increase in iris, eyelash and eyelid pigmentation, and eyelash hypertrichosis (4).

There are two published cases of latanoprost hypersensitivity reports (5, 6) and one to bimatoprost (7). In the case presented here, skin tests and the clinical presentation demonstrate sensitization to latanoprost, however tests were negative for bimatoprost, with tolerance for this drug.

The positive skin test and symptoms with levobunolol made us tolerate well suspect allergy to one of the excipients present in both eye drops. The only substance in common in both formulations was benzalkonium chloride. Patch test with this substance was negative. Furthermore, it is also used as an excipient in topical brimonidine and bimatoprost eye drops, which were well tolerated by the patient.

In conclusion, we must emphasize that the patient is sensitized to latanoprost, but not to bimatoprost. Previous reports of sensitization to prostaglandin analogues did not evaluate cross-reactivity between different drugs of this group. Because of the low incidence of cases, we cannot state whether this absence of cross-reactivity is common.

References

1. Chaudari P R, Maibach H I. Allergic contact dermatitis from ophthalmics: 2007. *Contact Dermatitis* 2007; 57: 11–13.
2. García F, Blanco J, Juste S et al. Contact dermatitis due to levobunolol in eye drops. *Contact Dermatitis* 1997; 36: 230.
3. Blondeau P, Rosseau J A. Allergic reactions to brimonidine in patients treated for glaucoma. *Can J Ophthalmol* 2002; 37: 21–26.
4. Perry C M, Mc Gavin J K, Culy C R. Latanoprost: an update of its use in glaucoma and ocular hypertension. *Drugs Aging* 2003; 20: 597–630.
5. Jerstad K M, Warshaw E. Allergic contact dermatitis to latanoprost. *Am J Contact Dermat* 2002; 13: 39–41.

Contact dermatitis caused by latanoprost-containing eye drops with good tolerance to bimatoprost eye drops

Contact Dermatitis 2008; 58: 370–371

Eva Pérez-Rodríguez¹, Ruperto González-Pérez¹, Paloma Poza¹, Laura Feliciano², Beatriz López-Correcher² and Víctor Matheu¹

¹Service of Allergy, ²Service of Dermatology, Nuestra Señora La Candelaria University Hospital, CP-38010 Tenerife, Spain

Key words: adverse drug reaction, allergic contact dermatitis, bimatoprost, latanoprost, prostaglandin analogues.

6. Lai C H, Lai I C, Chi C C. Allergic contact dermatitis caused by latanoprost ophthalmic solution. *Eur J Ophthalmol* 2006; 16: 627–629.
7. Sodhi P K, Verna L, Ratan S K. Contact dermatitis from topical bimatoprost. *Contact dermatitis* 2004; 50: 50.

Address:

Eva Pérez-Rodríguez
Service of Allergy
Nuestra Señora de la Candelaria
University Hospital
Carretera del Rosario s/n CP 38010
Santa Cruz de Tenerife
Spain
Tel: +34 922 60 29 44
Fax: +34 922 60 00 89
e-mail: evaprod@hotmail.com