

Short communication

Contact allergy from tobramycin eyedrops

We report a patient with allergic conjunctivitis and blepharitis as a result of tobramycin eyedrops.

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A 59-year-old nonatopic woman, used various ophthalmics for bilateral open angle glaucoma and had ocular surgery (left eye cataract removal) a month ago. She was then prescribed Tobradex[®] (Alcon Cusi, Barcelona, Spain) eyedrops (tobramycin, dexametasone) and atropine. Several days after treatment she developed severe erythema, oedema and exudation of the left eye and eyelid, ocular pruritus and conjunctival hyperaemia. Other eyedrops such as Timofтол[®] (Merck Sharp & Dohne, Madrid, Spain) (timolol), Alphagan[®] (Allergan, Tres Cantos, Madrid, Spain) (brominidine) were apparently well-tolerated since several years. Xalatan[®] (Pfizer, Madrid, Spain) (latanoprost), Azopt[®] (Alcon Cusi) (brinzolamide) were used in her right eye 3 months ago, and were also apparently well-tolerated.

Ophthalmologist were consulted and as the withdrawal of the whole eyedrops treatment was impossible, treatment with Tobradex[®] and Alphagan[®] was stopped. As symptoms subsided within a month after withdrawal of these eyedrops, we decided to start the allergologic study. Conjunctival challenge was not accepted by the patient.

Skin prick test (SPT) and patch testing (PT) were carried out with the European standard series (True Test, ALK-Abelló, Madrid, Spain), eyedrops (Table 1) and excipients to our patient and seven control patients. The PT and reading were carried out according to the International Contact Dermatitis Research Group recommendations. The PT with tobramycin sulphate 0.3%

was positive (+ + +) at 96 h. No response was observed to the excipients. The PT with these reagents in seven control subjects yielded negative results. The SPT with common inhalant allergens and eyedrops were negative in all subjects. Total serum IgE was 126 KU/l. New PT with other aminoglycosides was not accepted by the patient.

Topical ophthalmics cause contact conjunctivitis and blepharitis because of their active principles (anaesthetics, antibiotics, antihistamines, antivirals, β -adrenergic blockers, corticosteroids, miotics and mydriatics) or preservatives (1–5). Among antibiotics, aminoglycosides currently predominate (1), but rarely tobramycin (6, 7) in spite of its frequent use. Cross-sensitivity between aminoglycosides (3, 8–10) is related to the deoxystreptamine ring B,

Table 1. Patch tests results

Allergen	%	Vehicle	D2	D4
European series			–	–
Tobradex [®] eyedrops (5 ml of tobramycin)	0.06	Aq.	–	–
Timoptol [®] eyedrops (0.5% of timolol maleate)	0.06	Aq.	–	–
Dexametasone	0.1	Pet.	–	–
Tobramycin sulphate	0.3	Pet.	+	+++
Atropine	0.2	Aq.	–	–
Clorhexidine	0.02	Aq.	–	–
Thimerosal	0.1	Pet.	–	–
Benzalkonium chloride	0.1	Aq.	–	–

Readings at D2 (48 h) and D4 (96 h).

common to all compounds of this antibiotic class except streptomycin (10). In our case, it was not possible to rule out hypersensitivity to other aminoglycosides.

The clinical picture and result of PTs show that this patient developed allergic conjunctivitis and blepharitis from tobramycin in eyedrops. As control subjects did not react to this compound, an irritant mechanism is not suspected. But, why we obtained a negative result with Tobradex[®] eyedrops? The probable explanation is that

tobramycin 0.3% is the same concentration as it is in eyedrops. In Tobradex[®] PT, tobramycin concentration was 0.06% (five times lower).

The concentration of tobramycin suitable for PT has not been reported. In our case, PT carried out with Tobradex[®] eyedrops, gave us a false negative result. More studies are needed to reach a standardized concentration of tobramycin for PT and avoid false negatives.

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