

Short Communication

Allergic contact dermatitis from apraclonidine in eyedrops

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Case Report

A 59-year-old man presented with right sided conjunctivitis and lichenified dry eczema on the right lower eyelid and cheek present for 2 years. Past medical history included high blood pressure on treatment with Ameride® (amiloride and hydrochlorothiazide) and glaucoma of the right eye on treatment with Cusimolol® 0.5% and Iopimax® 0.5% for 7 years. Iopimax® eyedrops (0.5% apraclonidine, 0.1% benzalkonium chloride, sodium acetate, sodium chloride, hydrochloric acid and purified water) were applied only to the right eye. Cusimolol® drops (0.5% timolol, benzalkonium chloride, monosodium phosphate, disodium phosphate, sodium chloride, and purified water) were applied to both eyes.

Patch testing was performed with the GEIDC standard series, 0.1% benzalkonium chloride, 0.5% Iopimax' and 0.5% Cusimolol'. Positive reactions were obtained to Iopimax 0.5%® (++) at D3 and D4. Patch testing with 0.25%, 0.5%, 1% and 10% aq. apraclonidine gave a positive reaction (++) only to 10% apraclonidine. 10% apraclonidine patch testing in 20 healthy volunteers was negative. 0.5% Iopimax' was stopped and this led to resolution of the conjunctivitis and eczema of the right eye. The patient has kept on applying the 0.5% Cusimolol® without any side-effects for the last year.

Discussion

Apraclonidine is a selective α -adrenergic drug with few side-effects when used as eyedrops. Recently, it has been used as a coadjuvant treatment for glaucoma. 21%–48% of patients on long-term treatment with 0.5% apraclonidine and, more often, 1% apraclonidine, have been reported as developing dermatitis and/or conjunctivitis (1, 2). These local reactions disappear when the drops are stopped. These authors consider that this intolerance to the drops is due to apraclonidine. No patch testing has

been done to prove this intolerance. Apraclonidine drops contain benzalkonium chloride as a preservative, and this could be also the reason for intolerance to them.

Armisen et al. (3) reported 2 cases of allergy to 0.5% apraclonidine eyedrops. They patch tested both patients with the drops and 1 gave a positive result. In our case, we obtained a positive result to the drops themselves and to apraclonidine 10%, but not to 0.25%, 0.5% or 1% apraclonidine. To confirm allergy to an eyedrop component, it has thus been necessary to test at a higher concentration than that in the eyedrops, as has occurred before. This could be due to the presence of irritants, such as benzalkonium chloride, among the excipient of the drops that facilitate penetration of the allergen. It is also possible that apraclonidine itself is not the allergen, but rather an oxidation product (3).

Patients with delayed hypersensitivity to apraclonidine can still use eyedrops of other α -1-adrenergics, such as brimonidine or clonidine, because these do not seem to cross-react with apraclonidine (4, 5).

References

1. Gross R L, Pinyero A, Orengo-Nania S. Clinical experience with apraclonidine 0.5%. *J Glaucoma* 1997; 6: 298–302.
2. Butler P, Mannschreck M, Lin S, Hwang I, Alvarado J. Clinical experience with the long-term use of 1% apraclonidine. Incidence of allergic reactions. *Arch Ophthalmol* 1995; 113: 293–296.
3. Armisen M, Vidal C, Quitans R, Suarez A, Castroviejo M. Allergic contact dermatitis from apraclonidine. *Contact Dermatitis* 1997; 39: 193.
4. Shin D H, Glover B K, Cha S C, Kim Y Y, Kim C, Nguyen K D. Long-term brimonidine therapy in glaucoma patients with apraclonidine allergy. *Am J Ophthalmol* 1999; 127: 511–515.
5. Geyer O, Schmidt K G, Pianka P, Neudorfer M, Lazar M. Clonidine provides an allergy-free alternative in glaucoma patients with proven allergy to apraclonidine. *Graefes Arch Clin Exp Ophthalmol* 2000; 238: 149–152.