

Contact allergic dermatitis and periocular depigmentation after using olapatidine eye drops

Dear Editor,

A 24-year-old male with seasonal allergic conjunctivitis and another 12-year-old boy with vernal keratoconjunctivitis were started on 0.1% olapatidine eye-drops (Winolap, Sun pharmaceutical Industries Ltd, which contains 0.02% benzalkonium chloride [BAK] as preservative) twice daily. After using it for six and eight weeks respectively, they presented with complaints of redness, irritation and itching around both eyes, particularly over the eyelids, over the preceding seven to 10 days. The first patient was using the eye-drops once daily, while the second patient was compliant. Further history is confined to the first patient only due to their resemblance.

On examination, the conjunctival congestion had reduced after using the new drug, but the periocular area was inflamed, erythematous and areas of depigmentation were noted. A dermatology consultation was sought and the patient was diagnosed to have allergic contact dermatitis, secondary to usage of eye-drops. He was advised to stop using eye-drops and was started on local application of steroid, 0.05% fluticasone propionate lotion (Flutivate, BSK India Ltd), over the erythematous areas. The erythema and symptoms responded well to steroid application. The steroid was tapered over the next month. However, areas of periocular depigmentation, confined to the eyelid region, persisted.

Both these patients were on 0.05% azelastine eye-drops (Sun Pharmaceutical Industries Ltd containing 0.00004 ml BAK per ml as preservative) before they were switched over to olapatidine and had never experienced such a reaction before. They were restarted on 0.05% azelastine eye-drops. The first patient is still on follow-up, and the periocular depigmented areas have decreased considerably in the last one year. In the second patient, depigmentation persisted until the third month after the reaction; however, he did not follow up with us after this period.

Olapatidine has both anti-histaminic and mast cell stabilizing action. It is gaining popularity for the treatment of chronic conditions like vernal keratoconjunctivitis and allergic conjunctivitis lately, due to its dual mode of action and convenient once or twice a day dosing schedule, thus possibly improving compliance.¹ In addition, no major adverse reactions have been reported so far^{2,3} while the common minor adverse reactions reported are hyperemia and ocular discomfort.¹

Olapatidine has been shown to have better local tolerability when compared to other well-known forms of medication such as 2% cromolyn sodium and 0.5% azelastine hydrochloride.^{4,5} It has been proven to be safe in children and adolescents as well in various studies including the 0.2% formulation which can be used once daily.¹ However, most studies evaluating this drug are short-term studies, mostly six to 10-week trials.

Depigmentation may be associated with contact allergic dermatitis or may occur as a post-inflammatory phenomenon.^{6,7} Contact allergic dermatitis has not been reported with olapatidine eye-drops so far. However, the preservative used in the eye-drop, BAK, can cause allergic dermatitis. Both patients had been using BAK-containing eye drops before starting and also after discontinuing olapatidine and have not had any such reactions. The concentration of BAK in azelastine is however much lower when compared to that in the olapatidine preparation used by us. This may thus imply that either the active ingredient olapatidine or the higher concentration of BAK must have caused the allergic contact dermatitis.

Depigmentation of the periocular area can have a significant psychological impact on the patient, especially considering the age group in which this drug is mostly used. The erythema and itching subsided after steroid application, but the depigmentation persisted and in the first patient it is still persisting, though faintly, even after one year of the episode.

The best way to confirm the causative agent is to re-challenge the patients with the same eye-drops, however this was thought to be inappropriate in the patients' best interest. Though the cause and effect of olapatidine and allergic contact dermatitis could not be proven here as it was only an observation, this possibility should be kept in mind in view of these two cases. Patients who are put on this drug should be warned about allergic symptoms and the drug withheld as soon allergy is suspected.

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References

1. Lichtenstein SJ, Pasquine TA, Edwards MR, Wells DT, Gross RD, Robertson SM. Safety and tolerability of olapatidine 0.2% in children and adolescents. *J Ocul Pharmacol Ther* 2007;23:366-71.
2. Abelson MB. A review of olapatidine for the treatment of ocular allergy. *Exp Opin Pharmacother* 2004;5:1979-94.
3. Abelson MB, Gomes PJ, Vogelsson CT, Pasquine TA, Gross RD, Turner FD, *et al.* Clinical efficacy of olapatidine hydrochloride ophthalmic solution 0.2% compared with placebo in patients with allergic conjunctivitis or rhinoconjunctivitis: A randomized, double-masked environmental study. *Clin Ther* 2004;26:1237-48.
4. Katelaris CH, Ciprandi G, Missotten L, Turner FD, Bertin D, Berdeaux G, *et al.* A comparison of the efficacy and tolerability of olapatidine hydrochloride 0.1% ophthalmic solution and cromolyn sodium 2% ophthalmic solution in seasonal allergic conjunctivitis. *Clin Ther* 2002;24:1561-75.
5. Spangler DL, Bensch G, Berdy GJ. Evaluation of the efficacy of olapatidine hydrochloride 0.1% ophthalmic solution and azelastine hydrochloride 0.05% ophthalmic solution in the conjunctival allergen challenge model. *Clin Ther* 2001;23:1272-80.
6. Malakar S, Panda S. Post-inflammatory depigmentation following allergic contact dermatitis to chloroxylenol. *Br J Dermatol* 2001;144:1275-6.
7. Wohrl S, Hemmer W, Focke M, Gotz M, Jarisch R. Hypopigmentation after non-permanent henna tattoo. *J Eur Acad Dermatol Venereol* 2001;15:470-2.