

Ciclosporin ophthalmic emulsion – a novel therapy for benzyl alcohol-associated eyelid dermatitis

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This case shows resolution of fragrance-associated chronic eyelid dermatitis through avoidance and the use of ciclosporin ophthalmic emulsion. The emulsion formula containing glycerin and castor oil, in addition to the active agent, provides a novel therapy in the treatment of chronic severe eyelid dermatitis.

Case Report

A 65-year-old Caucasian lady presented to our contact dermatitis clinic for an evaluation of chronic conjunctival inflammation and concomitant eyelid dermatitis with ectropion (Fig. 1). Prior to evaluation in the contact dermatitis clinic, she had been treated with a variety of topical therapeutics (including, mupirocin, and pimecrolimus cream), intramuscular triamcinolone (40 mg, thrice) and several short courses of prednisone (starting dose 40 mg with 4 week taper). An ophthalmologic consult was obtained, and ciclosporin ophthalmic emulsion 0.05% (Restasis™; Allergan, Inc., Irvine, CA, USA) was prescribed for intra-ophthalmic use along with tacrolimus ointment 0.1%.

Patch testing to the North American Contact Dermatitis Standard and the University of Miami Fragrance and Vehicle Series showed a (++) reaction

to myroxylon pereirae, (+) reaction to colophonium and macular erythema to cinnamic alcohol and benzyl alcohol. In addition, the patient had a weak (+) reaction to dodecyl gallate. Notably, the patient had a negative reaction to abitol.

Evaluation of her current environment showed a variety of perfumed products and topical medicaments containing benzyl alcohol. A fragrance avoidance protocol, low-balsam diet (1), and safe alternatives were recommended. Continuation of topical tacrolimus ointment and intra-ophthalmic ciclosporin emulsion was prescribed.

On the 8-week follow-up, there was marked improvement of the conjunctival inflammation, with significant improvement of the medial canthi in the tearing distribution. This was postulated to be secondary to the ciclosporin emulsion seepage beyond the eye rim. The tacrolimus ointment was discontinued, and ciclosporin emulsion was prescribed topically to the eyelid. This resulted in full clearance of the eyelid dermatitis (Fig. 2).

Following clearance, provocation use tests performed to her perfumes and benzyl alcohol-preserved medicaments (mupirocin and pimecrolimus) showed positive reactions. Likewise, consumption of high-balsam foods (tomatoes and cinnamon pastries) resulted in dermatitis flares. Definite clinical relevance was then assigned to Myroxylon pereirae, cinnamic alcohol, and benzyl alcohol. A possible clinical relevance was assigned to the colophonium, because of the negative reaction to abitol and known cross-reactivity to Myroxylon pereirae. Present clinical relevance was doubtful to the dodecyl gallate.

Of note, with avoidance of fragrances, this patient has had sustained manageability of her dermatitis for over a year. Periodically, following inadvertent fragrance exposures, the patient's eyelids have flared and she has required retreatment with the ciclosporin ophthalmic emulsion.

Discussion

The most frequent cause of eyelid dermatitis has been shown to be allergic contact dermatitis, representing between 29% and 77% of cases evaluated (2). Fragrance-based substances were found to have the highest prevalence of relevant positive reactions. This case shows the important role

*This author has spoken for Shire, Connetics, and Astellas.



Fig. 1. Eyelid dermatitis with ectropion.



Fig. 2. Eyelid dermatitis resolution.

of benzyl alcohol (a naturally occurring constituent of *Myroxylon pereirae*, jasmine, and ylang ylang oil) (3, 4) in fragrance-induced eyelid dermatitis and the need for benzyl alcohol-free prescription alternatives.

Ciclosporin ophthalmic emulsion is preservative-free and contains glycerin, water, and castor oil as lubricants (5), which may promote epithelial healing (6). Furthermore, the emulsion is packaged in sterile single-use disposable droppers, which lowers the potential for bacterial contamination and allows for site-directed topical therapy. To my knowledge, this is the first case reporting a role for ciclosporin ophthalmic emulsion 0.05% (Restasis™) in the treatment of chronic eyelid dermatitis.

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