

Correspondence

Eyelid contact dermatitis caused by unusual allergens in hair dye: the importance of testing with additional series

Editor,

Hairdressing chemicals may be associated with allergic contact dermatitis.

Usually, the first step to diagnosing a possible allergic contact dermatitis involves patch testing the patient with a standard series of haptens. This provokes positive reactions in 40–65% of cases.¹

We report a 33-year-old woman who presented with eyelid dermatitis. The patient manifested edema associated with pruritus and burning on both upper and lower eyelids. All the periorbital tissue showed slight desquamation (Fig. 1). The patient also demonstrated pruritus on the scalp, face, and neck.

The symptoms had appeared three days after the subject had applied a hair dye at her own home. Her history revealed two episodes of eczematous rash on the trunk which had occurred four to five days after using the same hair dye the previous year. An allergological investigation conducted at the time using a standard SIDAPA (Società Italiana di Dermatologia Allergologica, Professionale e Ambientale - Italian Society of Allergological, Occupational and Environmental Dermatology) series showed positive results only for nickel sulfate.

A brief cycle of topical and systemic corticosteroids was administered to resolve the symptoms and the patient was tested again with a standard series. Additional patch testing with our specific hairdressing series showed a positive reaction to hexyl cinnamal (2% in pet.) and phenoxyethanol (1% in pet.), a preservative for personal

care products that is a component of Euxyl® K400 (Schülke & Mayr Italia S.r.l., Milano).

Lastly, a patch test using the patient's hair coloring (50% in pet.) was performed, revealing a positive reaction.

The condition did not recur after the patient stopped using this particular hair dye.

We report this unusual case because neither the allergens nor the localization of the dermatitis (eyelids) are common in dermatitis related to hairdressing chemicals.²

We also wish to emphasize the importance of testing with specific additional series when the patient's history leads to a reasonable diagnostic hypothesis, and when testing the products used by the patient is possible.

Francalanci *et al.*³ demonstrated the importance of using additional series in a study in which a small group (8.2%) of patients undergoing patch testing were negative to a standard series but positive to additional series. In addition, Wang *et al.*² showed that 6.4% of allergies to hairdressing products were not detectable using the standard allergen series alone.

Although the prevalence of contact allergy to Euxyl® K400 is increasing,⁴ the Italian standard series does not include the substance in this form, but as methyl dibromoglutaronitrile, which is considered a major sensitizer. Phenoxyethanol is included only in the additional series.

In other countries, hexyl cinnamal is included in standard series, such as in Germany since 2005 and in the UK since 2007.^{5,6} Hexyl cinnamal (which is included in fragrance mix II) is not included in the SIDAPA standard series used at the time of this investigation.

It is very important that a detailed patient history is obtained and a specific allergological investigation conducted in order to ascertain the most likely suspect allergen and, thereby, establish the cause of a diagnosis of eyelid contact dermatitis.

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Figure 1 Erythematous and edematous lesions on both eyelids

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