

Sensitization to oleth-3-phosphate and oleth-5 in a hair wax

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Key words: oleth-3-phosphate; oleth-5; hair wax; cosmetics; allergic contact dermatitis. © Munksgaard, 1997.

Accepted for publication 2 July 1997

Case Report

A 30-year-old man with a long-standing history of chronic stable plaque psoriasis, presented with a 1-week history of a pruritic red rash on his hands, scalp and face soon after he was started on cyclosporin. An initial diagnosis of possible allergy to this medication was made and hence this was discontinued. Unfortunately, his rash intermittently worsened over the subsequent weeks and the itch was only partially controlled by oral terfenadine. Examination revealed an urticarial papular rash in the sites mentioned above.

Patch tests with the European standard series, preservatives, balsam and perfumes series were all negative. Further questioning revealed that the patient habitually used a German-made finishing hair wax during the working week, and that his rash was less prominent over the weekends when he temporarily stopped using this hair product. Further patch tests were performed with the hair wax and later with its constituents provided by the German manufacturer at the recommended concentrations. Oleth-3-phosphate and oleth-5 were tested at 1% pet. Positive vesiculobullous reactions were associated with both oleth-3-phosphate and oleth-5 (+++ at 2 and 4 days). The remainder of the tests were negative.

Cyclosporin was therefore recommenced, which effectively controlled his psoriasis. Both oleth-3-phosphate and oleth-5 were patch tested on a further

20 patients attending our contact dermatitis clinic with negative reactions at 2 and 4 days. Avoidance of these allergens has led to prompt resolution of his dermatitis.

Discussion

The hair wax used by our patient contains oleth-3-phosphate and oleth-5, which caused a delayed hypersensitivity reaction. Both chemicals are related to polyethylene glycol ethers of oleyl alcohol that conform generally to the chemical formula $\text{CH}_2(\text{CH}_2)_7\text{CH}=\text{CH}(\text{CH}_2)_7(\text{OCH}_2\text{CH}_2)_n\text{OH}$, where n has an average value of 3. They are used in various cosmetic preparations and hair products as opacifiers and as non-ionic surfactants in fragrances (1, 2). Only 1 similar report has been published and this was related to Myser® ointment, which contains a related compound, polyoxyethylene oleylether. Our case is the 1st report of sensitization to polyethylene glycol ethers of oleyl alcohol in a hair product.

References

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Patch test reading at day 2 will not suffice

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Key words: patch testing technique; reading times; false-positive reactions; false-negative reactions. © Munksgaard, 1997.

Patch test reading is recommended at day (D)2, D3 and/or D4 (1). We reviewed the patch tests of 226 patients to determine the number of positive reactions at D3 that were negative at D2, the number positive at D2 that were negative at D3, and the number positive at both readings.

Patients and Methods

Patch tests in all 226 patients were done with the 23 allergens of the European standard series (Chemotechnique Diagnostics-AB, Sweden), augmented by 3 additional allergens, lanolin, cresol and gentamycin (2).

Results

Of the 226 patients tested, 125 (55%) patients gave a total of 212 positive reactions: 116 reactions (55%) were

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