

## Contact urticaria from 2-phenoxyethanol

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2-Phenoxyethanol is a preservative widely used in both cosmetics and pharmaceutical products, including vaccines and topical drugs. It is equally effective against gram-positive and gram-negative bacteria and fungi (1). It can be used as a single agent or combined with other products. Euxyl® K 400 is a commercial trademark of the mixture of phenoxyethanol and methyltribromo glutaronitrile, in a ratio of 1:4.

### Case Report

A 44-year-old woman, with no prior history of skin disease, was referred for evaluation of pruritic erythematous oedematous lesions on the site of application of various cosmetics for the last 2 years. Such lesions started 5–10 min after application of most of the emollients, make-up,

shampoos and soaps that she had bought, disappearing in less than 1 h without treatment. There had never been any systemic symptoms. She was taking no drugs.

Open application tests were positive at 20 min readings to all 19 of her toiletries that were tested. Patch tests with the GEIDC standard series, the Chemotechnique cosmetics series and with her own toiletries were positive to Euxyl K400 (1.5% pet.), 2-phenoxyethanol (1% pet.) and all of her own products (as is) when read at 20 min. At D3 and D7, all tests were negative. Prick tests were also positive to Euxyl K400 (1.5% pet.) and 2-phenoxyethanol (1% pet.), and negative to methyltribromo glutaronitrile. Prick tests in 10 controls were negative. 2-Phenoxyethanol was a declared ingredient in 17 of her products. Total IgE was normal (92 IU/mL). Specific IgE to 2-phenoxyethanol was not available to us.

### Discussion

Although less common than allergic contact dermatitis, contact urticaria can be caused by cosmetics and may be more common than recognized. Contact urticaria from preservatives is particularly infrequent, fragrances being the most common cause (2).

To our knowledge, only 1 previous case of contact urticaria from 2-phenoxyethanol has been described (3). Bohn & Bircher could not confirm an immunological mechanism for the urticaria, as specific IgE against 2-phenoxyethanol was nega-

tive. Only 2 cases of allergic contact dermatitis due to 2-phenoxyethanol have been reported (4, 5). In animal experiments, a very low sensitization capacity has been shown (6). Both allergic contact dermatitis and contact urticaria from 2-phenoxyethanol are unusual.

### References

1. Tosti A, Guerra L, Bardazzi F, Gasparri F. Euxyl K 400: a new sensitizer in cosmetics. *Contact Dermatitis* 1991; 25: 89–93.
2. Scheman A. Adverse reactions to cosmetic ingredients. *Dermatol Clin* 2000; 18: 685–698.
3. Bohn S, Bircher A J. Phenoxyethanol-induced urticaria. *Allergy* 2001; 56: 922–923.
4. Vogt T, Landthaler M, Stolz W. Generalized eczema in an 18-month-old boy due to phenoxyethanol in DPT vaccine. *Contact Dermatitis* 1998; 38: 50–51.
5. Lovell C R, White I R, Boyle J. Contact dermatitis from phenoxyethanol in aqueous cream BP. *Contact Dermatitis* 1984; 11: 187.
6. Hausen B M. The sensitizing potency of Euxyl® K 400 and its components 1,2-dibromo-2,4-dicyanobutane and 2-phenoxyethanol. *Contact Dermatitis* 1993; 28: 149–153.

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