

Allergic contact dermatitis from dioctyl maleate in a moisturizer

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Case Report

A 62-year-old woman presented with a 2-year history of severe intermittent facial dermatitis associated with an itchy, burning sensation and oedema. Each episode lasted for 3 days and resolved with desquamation after 2 weeks. There was no history of atopy.

Patch testing to the British Contact Dermatitis Society standard series, a cosmetic series, and her own cosmetics showed a positive (+) reaction to her moisturizer (Boots No 7 Daily V Matifying Moisture Fluid). Further patch testing to individual ingredients of the moisturizing lotion showed a strong positive reaction (++) to 2%, 5%, and 10% dioctyl maleate in petrolatum. Patch testing in 15 control patients was negative with all concentrations of dioctyl maleate.

Discussion

Dioctyl maleate (also known as dicaprylyl maleate) is a synthetic, lipophilic diester, produced by reacting caprylyl alcohol and maleic acid, the latter being a dicarboxylic acid (1). Cosmetically, it imparts a silky, non-greasy feel and is used as an emollient in various skin and hair care products such as cleansers, moisturizers, sunscreens, eye shadows, hair relaxers, and hair styling products. It has been shown to be non-toxic and only mildly irritant, with a primary irritant index of 1.18 (1). In industry, it is categorized as a plasticizer and used in emulsion-type paints, paper, textile coating, adhesives, and oil additives. It is also used in surfactants and wetting agents. So far, only 2 previous cases of allergic contact dermatitis to dioctyl maleate have been reported (2). In these cases, exposure had

occurred through the use of a different moisturizing lotion. Given the widespread use of this agent, particularly in cosmetics, we wish to raise awareness of this allergen and suggest that it should be included in cosmetic test series.

References

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