

Allergic contact dermatitis caused by a nursing comfort balm: methyl glucose dioleate as the sensitizing ingredient

Anne-Catherine Deswysen¹, Valérie Dekeuleneer¹, An Goossens² and Marie Baeck¹

¹Department of Dermatology, Cliniques universitaires Saint-Luc UCL, B-1200 Brussels, Belgium and ²Department of Dermatology, Katholiek Universiteit Leuven, 3000 Leuven, Belgium

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Methyl glucose dioleate (MGD; CAS 86893-19-8), the diester of methyl glucoside and oleic acid, is used as a water-in-oil emulsifier, emollient, humectant and skin conditioning agent in cosmetics, and may also be present in topical pharmaceutical products. Only a few cases of contact dermatitis caused by this substance have been observed. We here report a case of allergic contact dermatitis caused by MGD from a balm used during breastfeeding.

Case Report

A healthy 26-year-old woman, without atopic or contact dermatitis history, presented with a very itchy

erythematous papulovesicular eruption, symmetrically located on the breast, and spreading to the arms and the upper part of the abdomen (Fig. 1). She had given birth 2 weeks previously, and had been breastfeeding since then. She was wearing newly bought black underwear, namely Anita[®] black breastfeeding underwear (Anita[®], Brussels, Belgium), and had



Fig. 1. Erythematous papulovesicular eruption, symmetrically located on the breast, and spreading to the arms and the upper part of the abdomen.

Correspondence: Dr Anne-Catherine Deswysen, Department of Dermatology, Cliniques Universitaires Saint-Luc, Avenue Hippocrate, 10, B-1200 Brussels, Belgium. Tel: +32 473 57 13 25; Fax: +32 764 89 58. E-mail: anne-catherine.deswysen@uclouvain.be

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Fig. 2. Positive patch test reactions to the Mustela® nursing comfort balm (++ on D2) and to methyl glucose dioleate 5% pet. (++ on D2).

also applied a balm on the breasts, namely Mustela® nursing comfort balm (Expanscience, Courbevoie, France). Allergic contact dermatitis was suspected, and therapy with topical corticosteroids healed the lesions within 2 weeks, with transient pigmented lesions.

Patch tests were performed with the European baseline series (Trolab, Almirall Hermal, Reinbek, Germany; Chemotechnique, Vellinge, Sweden), a dye and textile-finish series (Trolab, Almirall Hermal; Chemotechnique)

and the personal products used, namely the Mustela® nursing comfort balm and a piece of the black breastfeeding underwear.

The patch test materials used were IQ Ultra® Chambers (Chemotechnique) covered on the upper back with Mefix® (Mölnlycke Healthcare, Gothenburg, Sweden).

After less than 24 hr (early patch test removal because of important itching), a positive reaction (+ at D1) to the Mustela® nursing comfort balm was observed, which increased in severity at later readings (++ at D2 and D3). Further patch testing with the individual ingredients of the Mustela® nursing comfort balm, supplied by the manufacturer, showed a positive reaction only to MGD 5% pet. (++ on D2; ++ on D4) (Fig. 2). MGD gave negative test results in 5 control subjects, excluding irritancy. A patch test with the black underwear remained negative.

Discussion

To our knowledge, this is the first case of allergic contact dermatitis caused by a breastfeeding nursing balm, in which the patient reacted to MGD. Although the material safety data sheet refers only to the possibility of mild irritancy but no sensitizing properties, allergic contact dermatitis caused by MGD has been reported (1–7). The allergen was contained in topical medicaments for leg ulcers (5, 6), an antifungal paste (4), insect repellents (1, 2), or cosmetic creams (3, 7). In the last case, the patient had been primarily sensitized to methyl glucose sesquisteate.

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