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A peculiar case of sensitization to *Candelilla* Cera and sucrose (di)stearate in a toddler.

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Although some moisturizing creams are specifically formulated for use by atopic dermatitis patients, they may still contain ingredients that provoke contact allergy.

Case report

An 11-month-old boy had been prescribed an unscented emollient cream to treat dry skin accompanying his atopic dermatitis. Two weeks later, he developed a generalized, papular and itchy rash. Hence, the cream was stopped and topical corticosteroid treatment was initiated. In the years thereafter the parents experienced difficulties to find suitable, hydrating creams and sunscreens the child could tolerate, and therefore, at the age of 4, the paediatrician referred him to the Contact Allergy Unit.

Patch tests were performed with an in-house baseline series for children, with a selection of allergens from the European baseline series (1), and with the previously used emollient cream “as is”. Test preparations (Chemotechnique Diagnostics, Vellinge, Sweden) were applied on Allergeaze chambers (SmartPractice, Calgary, Canada) and covered with Fixomull (BSN Medical, Hamburg, Germany). Following an occlusion of two days, readings were performed according to ESCD guidelines. These showed positive patch tests to the emollient cream (++) (Figure 1) as well as to fragrance mix I (+) and *Myroxylon pereirae* resin (+). As the culprit emollient cream was unscented, additional patch tests were performed with its ingredients, kindly provided by the manufacturer. For practical reasons, readings were performed by a private dermatologist (E.V.), and photographs of the reactions were sent to the patch test clinic. Strong positive reactions were again observed to the emollient cream (different batch, same formula; ++), as well as to two ingredients: *Candellila* Cera 41% pet.

(++) and sucrose distearate 10% pet. (++)(**Figure 2**). Weak reactions (+) were scored to sucrose stearate 10% pet. and to xanthan gum 10% aq., whereas doubtful reactions (?+) were observed to ceramide NP 1% pet. and 1,2-hexanediol 2% aq. Twenty control patients showed no reactions to these substances. After discussion at a REVIDAL-GERDA meeting, a French group of dermatologists interested in new and peculiar findings in the field of contact allergy, it was suggested to re-test xanthan gum, ceramide NP and 1,2-hexanediol, which, on this occasion, failed to elicit any skin reaction. Cosmetics without fragrances, *Candelilla* Cera and sucrose (di)stearate were eventually advised and well tolerated by the child.

Discussion

With this case we confirm the sensitization potential of *Candelilla* Cera (INCI; synonym *Euphorbia cerifera* Cera, CAS no. 8006-44-8), only once previously described as a sensitizing agent in a lipstick (2), and we report a first case of contact allergy due to sucrose (di)stearate, a new and unexpected cosmetic sensitizer. Of the three re-tested substances that eventually failed to show any reactions, only xanthan gum has been previously reported as an unusual cosmetic sensitizer in a young child (3). The present case illustrates that some cosmetic ingredients, although they are probably rare sensitizers, may still induce sensitization, even in young (atopic) children. The work-up described herein also stresses the added value of multidisciplinary discussions of peculiar cases of contact allergy, and shows that the re-testing of substances that show weak or doubtful positive patch test reactions may be worthwhile. Circumstances where the occurrence of false-positive reactions should be considered, as evidenced by this case, include: (i) patch testing patients, including children,

suffering from atopic dermatitis, (ii) patch testing potentially irritant test substances (e.g. xanthan gum or 1,2- hexanediol), and (iii) a suspiciously high number of positive reactions.

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Figure legends

Figure 1

Positive patch test (++), on day 4, to the emollient cream (from the patient) “as is”.

Figure 2

Positive patch tests, on day 4, to *Candelilla* Cera ++ (1), sucrose distearate ++ (2), sucrose stearate + (3) and (a repeated patch test) to the emollient cream ++ (obtained from the company; different batch, same formula).