Angioedema-like contact dermatitis due to methylisothiazolinone in a mouthwash

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CASE REPORT

A 46-year-old atopic woman presented with a 4 month history of recurrent angioedema of her mouth and lips, without respiratory symptoms or wheals (Figure 1); each episode lasted about 24–48 h.

Patch tests with the SIDAPA (Società Italiana di Dermatologia Allergologica Professionale e Ambientale) baseline series (SmartPractice, Rome, Italy) were performed. Patch test chambers (Van der Bend, Brielle, The Netherlands) were applied on the upper part of the patient's back.

Readings at D2 and D4, according to Italian guidelines, showed positive reaction to potassium dichromate 0.5%, (+/+), nickel sulphate 5% (++/+++), cobalt chloride 1% (−/+), methylisothiazolinone (MI) 0.2% aq. (+++/+++), methylchloroisothiazolinone (MCI)/MI 0.02% aq. (++/++). All the positive reactions were at first considered not relevant for the dermatitis, but with further questioning the patient admitted that relapses occurred after rinsing her oral cavity with a mouthwash (Curasept® biosmalto collutorio denti sensibili). Oedema developed about 5 h after the contact and became more severe in the following hours.

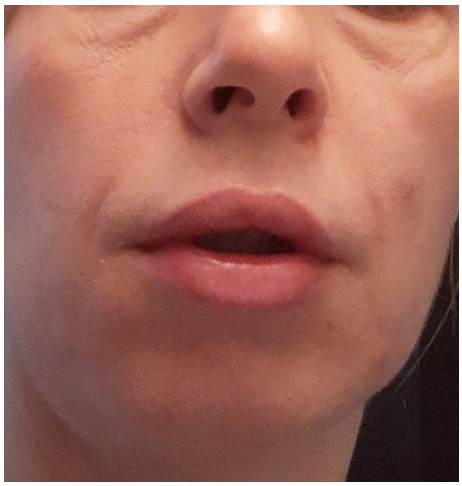

FIGURE 1 Acute oedema of lips after oral rinses with Curasept® mouthwash.

The label on the mouthwash revealed the presence of MI. A repeated open application test (ROAT) with Curasept® mouthwash in the left antecubital fossa was performed by the patient, with no evidence of positive reaction after 3 days. We therefore performed the patch test with Curasept® mouthwash, tested 'as is', which resulted in a positive reaction (+) at D3.

DISCUSSION

MI is an isothiazolinone derivative responsible for sensitization in about 9% of patients referred to patch tests.[1] Previously widely used as a preservative in cosmetics and personal care products, MI use in cosmetic products has decreased; the European authorities, in fact, decided to no longer allow the use of MI in leave-on cosmetics from April 2013, while a maximum concentration of 0.0015% (15 ppm) was considered safe in rinse-off cosmetic products.[2] Since then a decline in contact sensitization to MI due to cosmetics has been observed. On the other hand, because MI is still present in many non-cosmetic products (paints, household detergents, industrial cleaning products, metal-working fluids, etc.), many occupational contact dermatitis are frequently observed; cases of contact dermatitis may also be due to MI in medical devices.[1,3,4]

In the present case MI was responsible for an uncommon clinical manifestation, an angioedema-like contact dermatitis of the lips and oral cavity. Another case caused by a mouthwash has been recently reported, confirming that sensitization to MI can be triggered in the oral cavity.[5] However, a different clinical pattern (recurrent oral ulcerations) was described.

The Curasept® mouthwash is marketed in Italy as a medical device. In this case the presence of MI in the mouthwash was correctly declared in the label by the manufacturer and this facilitated the diagnosis. However, the current regulations concerning medical devices do not require the complete declaration of all the ingredients in the label.[6] A more stringent regulation about the complete declaration would be highly desirable. At the same time a more stringent regulation about MI content in medical devices should be considered, with the aim of reducing the incidence of allergic contact dermatitis due to isothiazolinones in these products.

AUTHOR CONTRIBUTIONS

Alberto Monti: Conceptualization; data curation; formal analysis; investigation; writing – original draft; writing – review and editing. **Monica Corazza:** Conceptualization; data curation; formal analysis; investigation; methodology; writing – review and editing. **Natale Schettini:** Data curation; investigation. **Lucrezia Pacetti:** Investigation; data curation. **Alessandro Borghi:** Formal analysis; investigation; supervision; validation; writing – review and editing.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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Allergic contact dermatitis to neem oil used to treat a flare of atopic dermatitis

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CASE REPORT

A 20-year-old physiotherapy student with a history of atopic dermatitis (AD) presented with an erythematous rash with multiple micropapules showing a follicular pattern that initially affected the elbow folds (Figure 1). The eruption secondarily spread to the forearms, axillary folds, and eyelids. Topical corticosteroids used for 48 h were effective, but the rash relapsed after discontinuation and spread again. At the first evaluation, the clinical pattern suggested an AD flare (AD Control Tool [ADCT] score 15/24; SCORing AD [SCORAD] index 38.4).

Owing to the lesions' severity, and initial atypical clinical pattern, associated allergic contact dermatitis (ACD) was suspected. The patient then revealed that he had applied neem oil (Pranarôm, Pranarôm International) on his elbow folds when he had initially noticed inflammatory lesions in these areas. The bottle's label mentioned the presence of 'Melia azadirachta seed oil' and 'tocopherol'.