

Contact Allergic Dermatitis Due to Kathon CG Contained in Ultrasound Gel

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PRECÍS

We describe the first case of contact allergic dermatitis due to methylchloroisothiazolinone (MCI) and methylisothiazolinone (MI) contained in ultrasound gel.

DISCUSSION

An 80-year-old man presented a 2-month history of large, well-defined, erythematous, infiltrated patches on the trunk, on the

abdomen, and on the upper extremities, some of which with central fine scaling (Fig. 1A). Histopathologic examination revealed spongiotic dermatitis with a moderate inflammatory infiltrate composed of lymphocytes and histiocytes in the upper dermis with few neutrophils (Fig. 1B), leading to a diagnosis of eczema. The patient was treated with oral steroids with resolution of skin lesions in 2 weeks (Fig. 2A). Results of patch tests carried out with the baseline SIDAPA (Italian Society of Allergological, Occupational and Environmental Dermatology) series purchased by FIRMA (Fabbrica Italiana Ritrovati Medicinali e Affini) S.p.A. (via di Scandicci, 37, Florence, Italy) showed exclusively positive reactions (++) on day 2 and day 4 to MI/MCI (Kathon CG, FIRMA; 0.01% in water; Fig. 2B). We examined personal hygiene products commonly used by the patient (2 shampoos and 2 shower gel products). Methylchloroisothiazolinone and methylisothiazolinone were present in all of them. Some months before the occurrence, the patient had

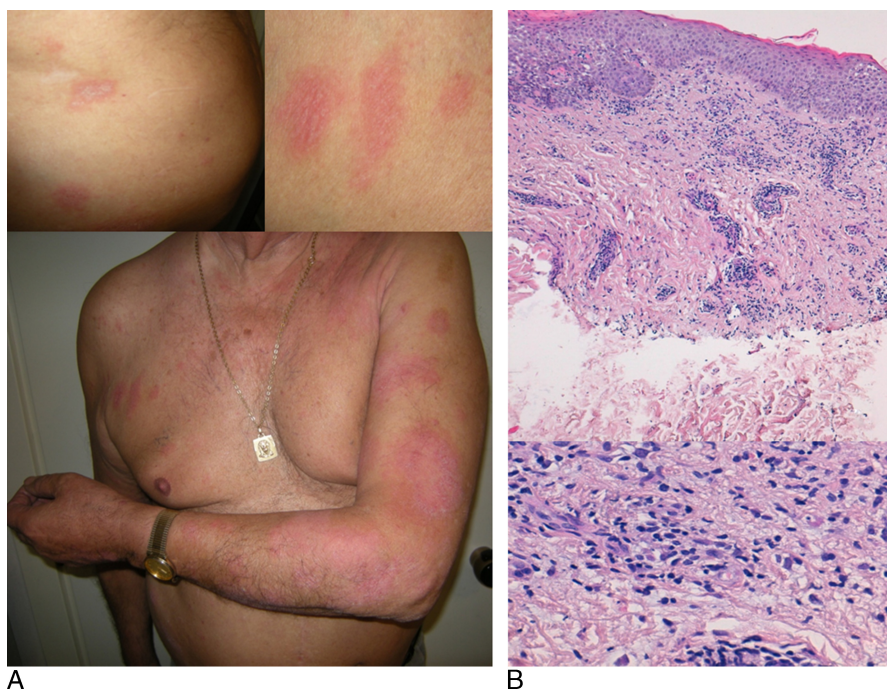


Figure 1. A, Erythematous, infiltrated patches on the abdomen, on the trunk, and on the upper extremities, some of which with central fine scaling. B, Histopathologic examination (original magnification $\times 10$ and $\times 40$): spongiotic dermatitis with a moderate inflammatory infiltrate composed of lymphocytes and histiocytes in the upper dermis with few neutrophils.

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developed 2 distinct episodes of acute eczema after therapeutic ultrasound at the right knee and left shoulder, respectively, limited to the sites where ultrasound gel was applied. The manufacturer sent us the complete list of the gel's composition. It was composed of Eukyl K 100 (Schülke & Mayr, Milan, Italy; benzyl alcohol, MCI, and MI), propylene glycol, and water. We patch tested the patient with benzyl alcohol (5%) and propylene glycol (5%). Both gave negative results. We recommended the patient to avoid products containing

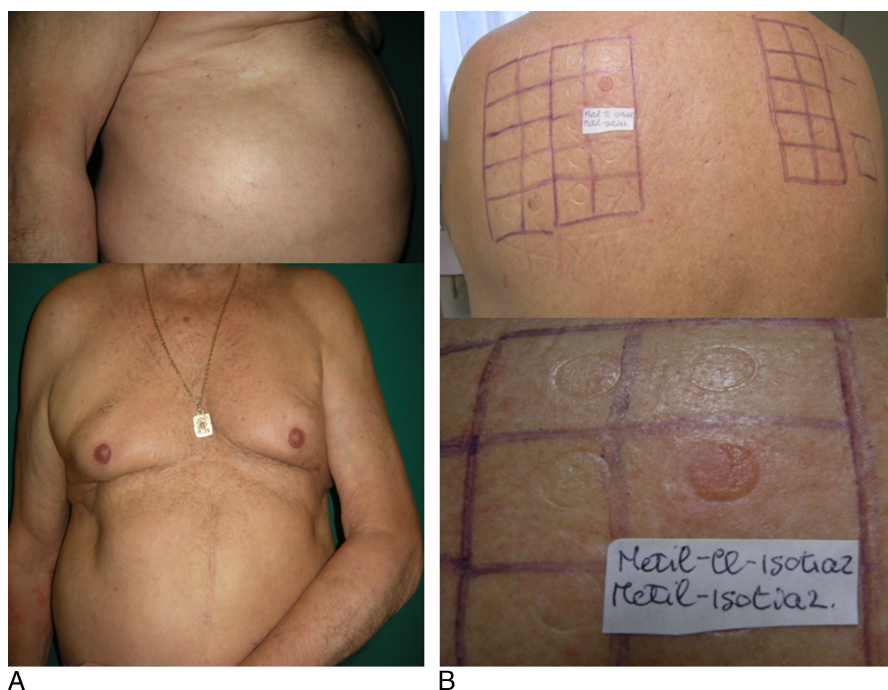


Figure 2. A, Resolution of skin lesions after treatment. B, Patch test: positive reaction to MI/MCI.

MI/MCI or MI alone, and in the following 6 months, no other lesions appeared on the skin surface with the only exception of a subacute erythematous vesicular dermatitis on the hands appeared after housework, resolved without therapy in a few days. We collected household products used by the patient (dish and floor detergents), and MI/MCI were also present in all of them. In conclusion, we diagnosed a chronic allergic contact dermatitis because of products for personal hygiene with a pseudolymphomatous aspect, an acute allergic contact dermatitis because of ultrasound gel, and a subacute allergic dermatitis of the hands because of household products. In all 3 cases, contact sensitized to MI/MCI could be considered relevant.

In the literature, only few cases of allergic contact dermatitis due to ultrasound gel were reported; most cases of allergic contact dermatitis were associated with propylene glycol,¹ parabens,² and methyldibromo glutaronitrile in Eukyl K 400 (Schülke & Mayr, Milan, Italy).³ To our knowledge, this is the first case because of MI/MCI contained in ultrasound gel. A number of sources of exposure to MI/MCI or increasing exposure to MI alone have been reported, demonstrating the ubiquity of these preservatives with possible inadvertent contact in sensitized subjects.⁴ The products used by our patient did not contain MI alone, and we have not tested it individually because of the patient's refusal. Sensitization to MI could be acquired as an immunological cross-reaction after sensitization to MCI. However, isolated sensitization to MI often occurs. It would be necessary to pay attention to this "new"

emerging hapten, whose presence in cosmetic and household products is increasing, testing itself as a single allergen in the baseline patch test series.⁵

ZEBRA

Contact MCI/MI dermatitis can occur with different clinical presentations in sensitized subjects. To avoid new episodes, proper education of the patient is needed.

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