

**Erythema
multiforme-like
generalized contact
dermatitis to
l-menthol contained in
anti-inflammatory
medical compresses
as an ingredient**

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Key words: allergic contact dermatitis syn-
drome; anti-inflammatory compress; ery-
thema multiforme; l-menthol.

Case Report

A 34-year-old woman presented with an intensely itchy rash on her arms and back. She had used a felbinac poultice (Sumilu[®], Mikasa Pharmaceutical Co., Ltd, Tokyo, Japan) and a sodium diclofenac poultice (Voltaren[®], Novartis Pharma Co., Ltd, Tokyo, Japan) alternatively every other day for 9D to reduce myalgia on her upper and lower

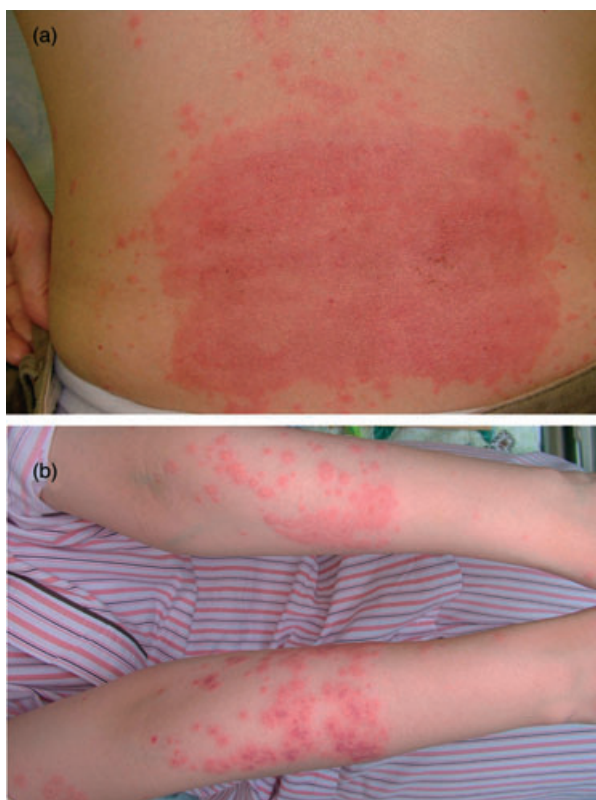


Fig. 1. (a) Oedematous scaly plaque at the application area of the poultices. (b) Erythema multiforme-like eruption on the arms.

back and upper arms caused by a traffic accident. She had oedematous, red plaques on the arms and lower back (Fig. 1a) where the poultices had been applied and multiple erythema multiforme (EM)-like lesions on her anterior chest, thighs and forearms (Fig. 1b). She was hospitalized and received systemic steroids, which were tapered in 10D because of complete regression of the inflammatory reaction with no residual pigmentation.

Patch tests to Sumilu[®] and Voltaren[®] as well as to their 11 and 12 ingredients provided by the manufacturers respectively were performed. The ingredients were prepared in petrolatum, mounted on adhesive tape with chambers for patch tests (PatchTester[®], Torii Pharmaceutical Co., Ltd, Tokyo, Japan) and left under occlusion on the back of the patient for 2D. The results revealed that, except for the compresses themselves, only l-menthol, which was present in both products and tested at 1.5 (corresponding to the amount present in the commercial products) and 10%, showed positive reactions on D2 and D3. Voltaren[®] 'as is' and 1.5% l-menthol showed D2(+) and D3(+), whereas Sumilu[®] 'as is' and 10% l-menthol

revealed D2(++) and D3(++) according to the International Contact Dermatitis Research Group criteria. No urticarial reactions were observed. Felbinac and diclofenac gave negative results. The patient has been disease free since stopping the use of these products.

Discussion

l-Menthol [2-(2-propyl)-5-methylcyclohexanol; INCI name: menthol; CAS: 2216-51-5] is an organic compound derived from peppermint or other mint oils. It is present in some topical preparations, oral hygiene products, confectionery and liquors. It is also used in anti-inflammatory poultices for its anaesthetic and vasodilating effects that help transcutaneous drug absorption. Orally, menthol may induce burning mouth syndrome, stomatitis or oral lichenoid reactions (1). Generally contact allergy to menthol is rare, but there have been a few reported cases of allergic contact dermatitis by menthol in a spray (2) or compresses (3,4). In these papers, the allergic contact dermatitis reactions caused by menthol were typically eczematous. Although potent contact sensitizers, e.g. chemicals, drugs, plant allergens and others (rubber,

etc.), are reported as causing EM-like reactions (5), there has been no report of an EM-like eruption caused by menthol. Our present case was unique in that EM-like lesions developed at sites distant from the sites of application. The patch test reaction to 10% l-menthol could have been an irritant one, but we concluded that an allergic reaction was responsible for the patient's condition because the patch test with 1.5% of l-menthol was also positive (the recommended concentrations of menthol for patch testing are between 1 and 5% (1)), and the disseminating eruption could not be caused by irritant dermatitis.

Finally, this case corresponds to the concept of a so-called stage 3A allergic contact dermatitis syndrome (6), i.e. haematogenous dissemination from the primary site of application of the allergen.

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