

Contact dermatitis with systemic reactions caused by cetearyl isononanoate

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Cetearyl isononanoate is commonly used as a hair conditioning agent and an emollient in European countries. Contact dermatitis caused by this chemical has been rarely reported. We report a case of contact dermatitis with a high fever and generalized erythema induced by cetearyl isononanoate in massage cream.

Case Report

A 35-year-old woman started to use over-the-counter massage cream manufactured in France on the entire surface of her legs every night. Nine days later, she began to wear thigh-high support hose at bedtime to prevent oedema. Two days later, pruritic erythema developed on



Fig. 1. Clinical findings of the popliteal area. Dark erythema with purpura was observed on areas that were covered by the support hose.

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the legs, and this gradually spread extensively over her body during the next 6 days, accompanied by a high fever. She visited our clinic, and was hospitalized on the same day. On admission, she had dark erythema with purpura on the areas that been in contact with the support hose (Fig. 1). Sharply defined pruritic erythema with target lesions was observed on her forearms and trunk, with swollen inguinal lymph nodes. A skin biopsy specimen from her lower leg showed vacuolization, and liquefaction degeneration of the basal cell layer with severe infiltration of neutrophils, lymphocytes, and eosinophils in the upper dermis. She was treated with prednisolone orally, and her symptoms improved within 2 weeks. After she had recovered, a closed patch test was performed with the cloth of the support hose, the massage cream, and the ingredients of the massage cream. Positive reactions (International Contact Dermatitis Research Group 2+) to the massage cream ('as is') and cetearyl isononanoate (1%) were observed on D3. Therefore, we diagnosed this patient as

having contact dermatitis with systemic reactions caused by cetearyl isononanoate in massage cream.

Discussion

Cetearyl isononanoate is formed by esterification of a saturated C16–C18 alcohol, namely cetearyl alcohol, with the branched-chain isononanoic acid. It is not clear whether sensitivity to cetearyl isononanoate is caused by the final product itself. There has been only one report of contact dermatitis caused by this chemical, by Le Coz and Bressieux (1). This is the first report of contact dermatitis with systemic reactions caused by cetearyl isononanoate.

The use of support hose with massage cream seems to promote the absorption of allergen and to induce systemic symptoms.

Cetearyl isononanoate is rare, but is a possible contactant that can induce systemic reactions. Caution is necessary in using support hose with some cream, even if it contains low-antigenicity ingredients.

Reference

- 1 Le Coz C J, Bressieux A. Allergic contact dermatitis from cetearyl isononanoate. *Contact Dermatitis* 2003; **48**: 343.