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Case presentation

Erythema multiforme like allergic contact dermatitis associated with laurel oil: a rare presentation

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Abstract

Allergic contact dermatitis is a common skin disease, which affects approximately 20% of the population. This reaction may present with several clinical manifestations. Erythema multiforme-like allergic contact dermatitis is a rare type of non-eczematous contact dermatitis, which may lead to difficulty in diagnosis.

Essential oil of *Laurus nobilis* is widely used in massage therapy for antiinflammatory and analgesic effects. *Laurus nobilis* induced contact dermatitis has been reported in the literature but an erythema multiforme-like presentation is rare.

Keywords: Allergic contact dermatitis, erythema multiforme, massage oil, *Laurus nobilis*, sesquiterpene lactone

Introduction

Allergic contact dermatitis (ACD) is a delayed hypersensitivity reaction, which might be induced by several allergic or irritant agents. It may present with typical, eczematous, itching papulovesicular lesions or with non-eczematous, hyperkeratotic, papular, lichenoid, pustular, pigmented, purpuric, or erythema multiforme-like eruptions clinically. The chemical structure of the causative agent, the type and duration of exposure, and environmental factors may cause this polymorphic presentation [1-2].

Laurus nobilis is one of the suspected herbal allergens that can cause allergic contact dermatitis. The essential oil of this plant has antiinflammatory and analgesic effects and is widely used in massage therapy for arthralgia and rheumatism. This use may affect a large population as occupational dermatitis or non-occupational dermatitis.

Case synopsis

History: A 47-year-old man presented to our outpatient clinic with pruritus and erythema that was affecting his shoulders, arms, and back. He had undergone massage therapy 10 days prior; a massage oil that included laurel oil had been applied to these areas. He first presented to another clinic and local methylprednisolone aceponate lotion and systemic antihistaminics were prescribed. On the fourth day of this treatment he was referred to our clinic because of the increase in lesions.

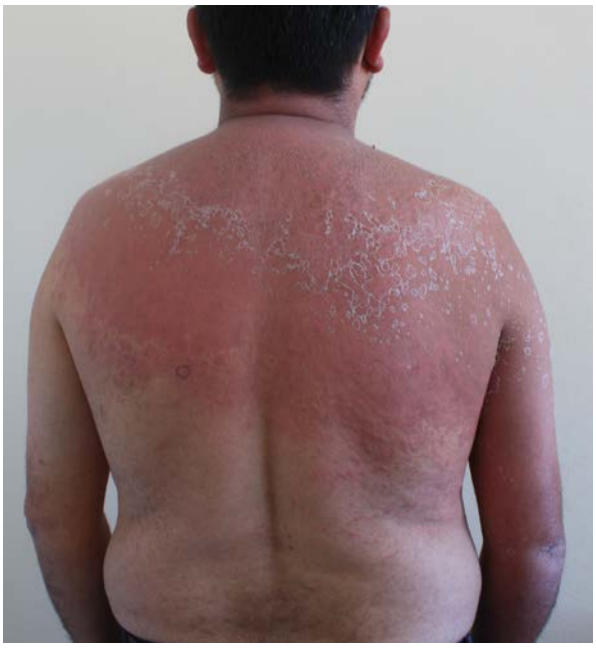


Figure 1. Widespread urticarial plaques, atypical targetoid papules and desquamation on bilaterally shoulders, arms and back

A 4mm-punch biopsy specimen was taken from the active border of the erythematous plaque on his back. The diagnoses initially considered were contact dermatitis, erythema multiforme major, and subacute lupus erythematosus.

Physical examination: Pruritic, urticarial plaques, atypical targetoid papules with desquamation were present on his shoulders, arms, and back.

Laboratory data: Mild leukocytosis was detected in the complete blood count. Serological examination for herpes simplex viruses type 1 and 2 IgM and IgG was negative. Antinuclear antibody and anti-Ro and anti-La antibodies were negative.

Histopathology: Histopathological examination revealed parakeratosis, mild spongiosis, exocytosis, necrotic keratinocytes in epidermis, basal vacuolar degeneration in basal layer, and perivascular lymphocytes in the superficial dermis (Figure 2).

The patient was diagnosed with erythema multiforme-like allergic contact dermatitis considering his clinical and histopathological findings.

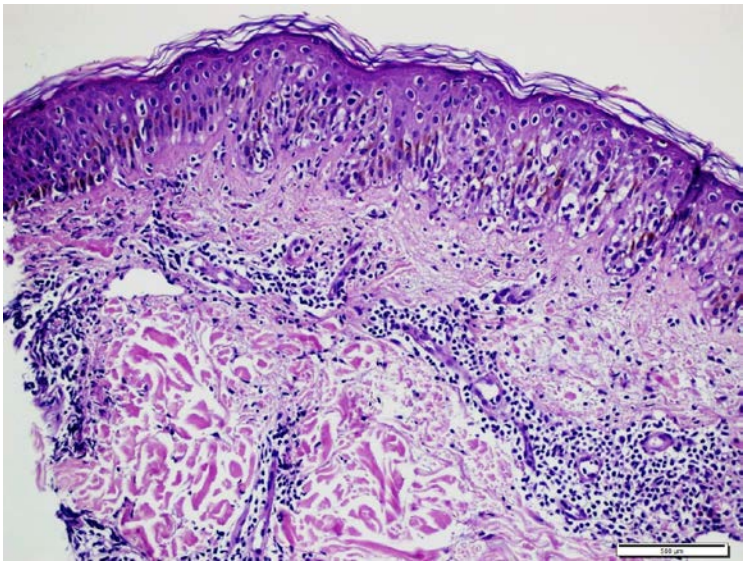
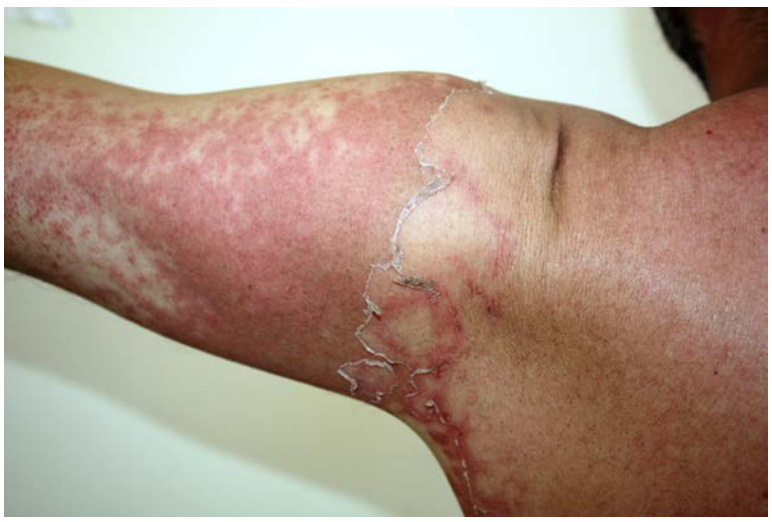


Figure 2. Parakeratosis, mild spongiosis, exocytosis, necrotic keratinocytes in epidermis, basal vacuolar degeneration in basal layer, and perivascular lymphocytes in the superficial dermis.

Systemic methylprednisolone 32 mg/d, amoxicillin 2g/d and local wet dressings with isotonic NaCl were started. On the seventh day of this treatment atypical targetoid lesions and desquamation was detected on neck and arms (Figure 3); erythematous and edmatous lesions on the back were expanding to lumbar and inguinal areas (Figure 4). The systemic methylprednisolone dose was increased to 60 mg from 32 mg and by the seventh day of this treatment lesions started to fade and totally cleared on the fifteenth day of therapy. Systemic methylprednisolone treatment was discontinued on the 20th day and eruption did not relapse. After complete healing T.R.U.E test was performed and a (++) reaction was detected with parthelonide (Panel 3.2, No:34), which contains a sesquiterpene lactone. Laurel oil also contains this compound.



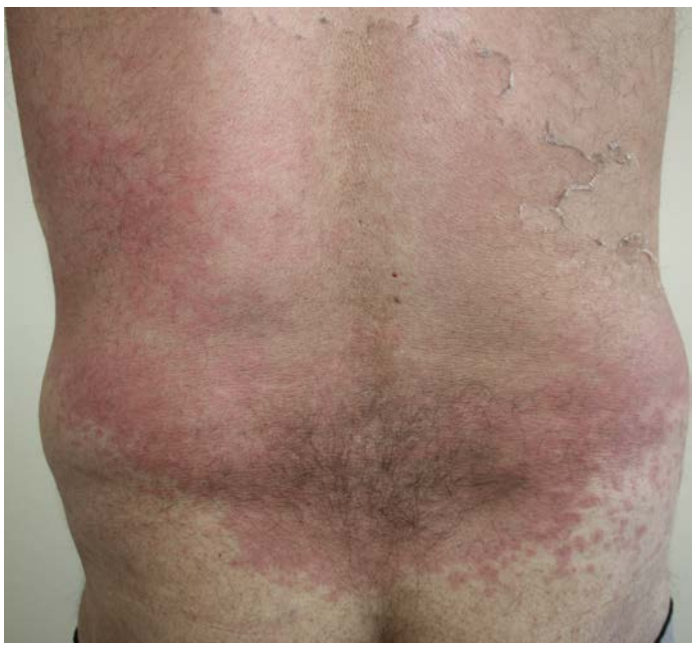


Figure 3. Atypical targetoid lesions and desquamation was detected on neck and arms on seventh day of systemic methylprednisolone 32 mg/d. **Figure 4.** Erythematous and edematous plaques on back expanding towards bilaterally lombar and inguinal area on seventh day of systemic methylprednisolone 32 mg/d

Discussion

Diagnosis: Erythema multiforme-like allergic contact dermatitis

Comment: Erythema multiforme-like eruption is a rare type of non-eczematous allergic contact dermatitis and has been reported with strong allergens [2,4]. This reaction may appear at the beginning or after the onset of the contact dermatitis and starts as polymorphic, urticarial plaques, classic or atypical targetoid lesions, vesicules and purpura. The eruption may expand to the periphary of the contact site [2].

Massage oil induced EM-like allergic contact dermatitis has been reported with various herbal allergens in the literature [5-10]. Athanasiadis et al reported laurel oil-induced EM-like allergic contact dermatitis in 2007 [10]. They reported typical targetoid lesions, petechiae, and hyperpigmentation on the contact site that responded well to topical corticosteroid therapy. However, our patient experienced a generalized inflammatory reaction with typical lesions of allergic contact dermatitis and atypical targetoid lesions at the same time; systemic corticosteroid therapy was required.

Histopathological examination of EM-like allergic contact lesions is characterized by spongiosis, exocytosis, mild upper dermal edema, and perivascular lymphocytic infiltration. Vacuolar degeneration of basal cells is rare and if present, intraepidermal bullae are expected [2]. In a typical erythema multiforme reaction we expect to see basal cell necrosis, subepidermal vesicobullae, dermal edema, and capillary vasodilation [2]. In our patient, spongiosis, exocytosis, necrotic keratinocytes, and perivascular lymphocytes in the superficial dermis suggested allergic contact dermatitis, but basal vacuolar degeneration supported an EM-like reaction.The histological findings of EM-like lesions might be a marker of the severity of the inflammatory process. Mucosal involvement and fever are usually absent in erythema multiforme-like allergic contact dermatitis. We did not notice any mucosal lesions or systemic symptoms in our patient.

Targetoid lesions can be seen with systemic lupus erythematosus, paraneoplastic pemphigus, and syphilis [11]. However, the clinical and histopathological findings of our patient were not consistent with these diseases. Topical or systemic corticosteroids are effective in treating EM-like contact dermatitis. [8,10]. We emphasize that contact allergy to laurel oil may present in different clinical appereance than usual. It is important for clinicians to recognize this reaction, because it can be mistaken for other eruptions.

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