Erythema multiforme-like contact dermatitis from primin

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ABSTRACT

No Abstract

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Article Text

We report a case of occupational contact dermatitis (CD) manifesting as an erythema multiforme-like eruption caused by contact with Primula obconica.

Case Report

A 35-year-old female working in a plant nursery presented with a 5-day history of itchy, eczematous
lesions on her hands, followed by an erythematous papular polymorphous rash tending to confluence on her forearms and face (Fig. 1). Upon questioning, the patient reported that in the previous days, she had been tending Primula obconica. She had handled these plants in previous years during spring without any problems.

She was patch tested to the Italian Society of Allergological Occupational and Environmental Dermatology (SIDAPA) baseline series of contact allergens, including primin 0.01% in pet. (FIRMA, Florence, Italy) and ether extracts of the leaves and flowers of P. obconica. Patch tests were applied in Finn Chambers® (Epitest Ltd Oy, Tuusula, Finland) and fixed with Scanpor tape® (Norgesplaster A/S, Oslo, Norway) for 2 D. Readings were made at D2 and D4. She developed a ++ reaction (homogeneous redness, infiltration, and vesicles) to primin, the leaves, and flowers of the plant. The reaction to primin extended beyond the site of application of the test and had an erythema multiforme-like appearance.

Histology of an affected area on the volar aspect of a forearm showed foci of hyperkeratotic orthokeratosis, mild spongiosis, exocytosis, and a few isolated necrotic keratinocytes; at the level of the superficial and mid dermis, a largely perivascular lymphocytic infiltrate was present (Fig. 2).

Treatment with topical corticosteroids, systemic antihistamines, and temporary absence from work resulted in remission of the clinical picture after 7 D. Other possible causes of erythema multiforme-like reactions were excluded.

Discussion

Recently, Zachariae et al. stated that 'the frequency of contact allergy to primin has decreased significantly after 2000. The decline is seen in all age groups and can be due to a decreased production of P. obconica and an introduction of the genetic-modified primin-free variant' (1). These authors had observed a statistically significant reduction in the number of positive patch test reactions, from 1.7% of patients tested between 1985–1989 to 0.5% between 2000 and 2004 (1). Also in Denmark, a marked reduction in cases of contact allergy to primin was observed in the UK in 1995–2002 (2).

Contact allergy to primin has always been rare in Italy; the substance has never been included in the baseline patch test series (3, 4). In our clinic, we have seen five cases, all occupational, since 1980, of about 200 patients tested with primin on the basis of their clinical history. Of these five cases, four were men with CD of the hands with a typical linear erythemato-vesiculobullous eruption.

The notable historical difference in the prevalence of primula CD between Northern and Southern Europe illustrates how customs can affect the spread of an allergen. The higher frequency of sensitization to primin reported in Northern Europe is because primulas are more commonly cultivated and bought there (5–13). In Italy, traditionally, there has been little market for P. obconica but the plants are imported and not grown.
Due to genetic modifications, primin-free P. obconica has been available on the market since 2000 (14), resulting in a decline in contact sensitization in Northern Europe in more recent years (1, 2). Primin-free plants have been sold in Italy since 2007; some plants now carry a 'Touch Me®' label, although this states that complete protection is not guaranteed against possible allergic reactions.

The clinical features of primula dermatitis are variable. The typical pattern consists of linear streaks of erythema, vesicles, and bullae. Various authors have reported an eruption resembling erythema multiforme (3, 4, 15), like the one presented here. The differential clinicohistopathological features of true erythema multiforme and erythema multiforme-like contact reactions are shown in Table 1(16, 17).

Table 1. Clinicohistopathological differential diagnosis between EMLCD and TEM

<table>
<thead>
<tr>
<th>Clinical signs</th>
<th>EMLCD</th>
<th>TEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary CD focus</td>
<td>Present</td>
<td>Absent</td>
</tr>
<tr>
<td>Onset of lesions</td>
<td>Simultaneous</td>
<td>Subsequent</td>
</tr>
<tr>
<td>Number of lesions</td>
<td>Generally numerous</td>
<td>Generally few</td>
</tr>
<tr>
<td>Confluence of lesions</td>
<td>Rapid</td>
<td>Slow</td>
</tr>
<tr>
<td>Target lesions</td>
<td>Generally not exudative</td>
<td>Occasionally exudative</td>
</tr>
<tr>
<td>Acral area</td>
<td>Rarely involved</td>
<td>Involved</td>
</tr>
<tr>
<td>Mucosal involvement</td>
<td>Absent</td>
<td>Possible</td>
</tr>
<tr>
<td>Fever</td>
<td>Absent</td>
<td>Possible</td>
</tr>
<tr>
<td>Course</td>
<td>Cause dependent</td>
<td>Spontaneous</td>
</tr>
<tr>
<td>Patch testing</td>
<td>Positive</td>
<td>Negative</td>
</tr>
<tr>
<td>Spongiosis</td>
<td>++</td>
<td>−/+</td>
</tr>
<tr>
<td>Exocytosis</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td>Keratinocyte necrosis</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Bullae</td>
<td>Intraepidermal</td>
<td>Subepidermal</td>
</tr>
<tr>
<td>Vacuolization of epidermal basal layer</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Dermal infiltrate</td>
<td>++</td>
<td>++</td>
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</tbody>
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References


