Mycosis fungoides (MF), a common type of cutaneous T-cell lymphoma (TCL), can mimic various dermatoses. We describe here a case of MF, presenting as erythema gyratum repens (EGR)-like lesions, in a patient with lung cancer.

CASE REPORT

A 73-year-old Japanese man presented with a 10-year history of worsening, itchy, erythematous eruptions on his trunk and extremities. Dermatological examination revealed concentric, slightly infiltrated, annular, red patches and plaques, closely resembling EGR, on his chest, abdomen and extremities (Fig. 1). The lesions were not painful. Microscopy and culture excluded the presence of a mycotic infection. Type 1 human T-lymphotropic virus infection was also excluded. Cutaneous histopathology revealed a dense infiltrate of hyperchromatic, atypical lymphocytes that showed extensive epidermotropism. Immunohistochemical studies showed that most cells within the epidermis and dermis were CD3⁺, CD4⁺, CD8⁻ and CD45RO⁺ (Fig. 2). Molecular biology investigations indicated a monoclonal rearrangement of the T-cell receptor (TCR)-beta chain. Clinical evaluation did not show spreading of TCL, but indicated primary lung adenocarcinoma.

A diagnosis of Stage IB (T2N0M0B0) MF was confirmed, and treatment with cycles of photochemotherapy (psoralen plus ultraviolet A radiation; PUVA) combined with topical corticosteroids was initiated, achieving partial clinical remission. No major changes in the skin lesions were noted following surgical excision of the lung cancer.

DISCUSSION

MF is characterized by extremely variable presentation, and reportedly mimicks at least 25 dermatoses (1). Patients usually present with patches, plaques, tumours, and/or erythroderma. EGR-like MF, has recently been described as a possible rare form of MF. EGR is a rare paraneoplastic syndrome strongly associated with various malignancies, particularly lung, breast, and oesophageal cancers. The rash consists of serpiginous, erythematous, concentric bands that can be figurate, gyrate, or annular, and are arranged in parallel rings lined by a fine, trailing edge of scale; a pattern often described as “wood grain ed.”

To our knowledge, only 6 cases, including the present case, of MF resembling EGR, have been reported (2–6) (Table I). The present case is the first associated with an underlying malignancy.

The neoplastic T cells present in MF are typically CD4⁺ and CD8⁻; however, there are variants in which 1 or both of these subpopulations are lost. A review indicated that cases with unusual cell populations, such as the present case, often have unique clinical presentations (7). Various clinical morphologies may be elicited by lymphocytes with the differing phenotypes. Moreover, the host responses between patients may differ, which may contribute to the various presentations (1). The patient’s underlying lung cancer, a malignancy closely related to true EGR, did not appear to contribute to the pathogenesis of the EGR-like lesions, based on the clinical course of the disease. It is notable that an asso-
The association between MF and lung cancer has been reported in 2 large cohorts of patients (8, 9).

REFERENCES


Table I. Summary of reported cases of mycosis fungoides producing eruptions resembling erythema gyratum repens

<table>
<thead>
<tr>
<th>Reference</th>
<th>Age, years</th>
<th>Extent</th>
<th>T-cell receptor rearrangement studies</th>
<th>Mycotic superinfection</th>
<th>Underlying internal malignancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poonawalla et al. 2006 (3)</td>
<td>55</td>
<td>Trunk and extremities</td>
<td>Positive</td>
<td>Trichophyton rubrum</td>
<td>NM</td>
</tr>
<tr>
<td>Moore et al. 2008 (4)</td>
<td>73</td>
<td>Trunk</td>
<td>Positive</td>
<td>Negative</td>
<td>None</td>
</tr>
<tr>
<td>Jouary et al. 2008 (5)</td>
<td>77</td>
<td>Abdomen, back and buttock</td>
<td>NM</td>
<td>Trichophyton rubrum</td>
<td>NM</td>
</tr>
<tr>
<td>Cerri et al. 2010 (2)</td>
<td>61</td>
<td>Chest and upper limbs</td>
<td>Positive</td>
<td>Negative</td>
<td>None</td>
</tr>
<tr>
<td>Holcomb et al. 2012 (6)</td>
<td>75</td>
<td>Chest and anterior abdomen</td>
<td>Positive</td>
<td>Negative</td>
<td>NM</td>
</tr>
<tr>
<td>Current case 2013</td>
<td>73</td>
<td>Trunk and extremities</td>
<td>Positive</td>
<td>Negative</td>
<td>Lung cancer</td>
</tr>
</tbody>
</table>

NM: not mentioned.

Fig. 2. (a) Histology revealed a dense infiltrate containing small lymphocytes with epidermotropism of atypical lymphocytes. (b–d) Immunohistochemical features: the intraepidermal lymphocytes are CD3+ (b), CD4 (c) and CD8 (d). (H&E-stain: (a) × 100, (b) CD3, (c) CD4 and (d) CD8 × 200).