

SHORT COMMUNICATION

CD4/CD8 Double-negative Mycosis Fungoides Mimicking Erythema Gyratum Repens in a Patient with Underlying Lung Cancer

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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



Fig. 1. Mycosis fungoides mimicking erythema gyratum repens. Clinical findings of concentric, annular, red patches on the trunk.

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 grained.”

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-

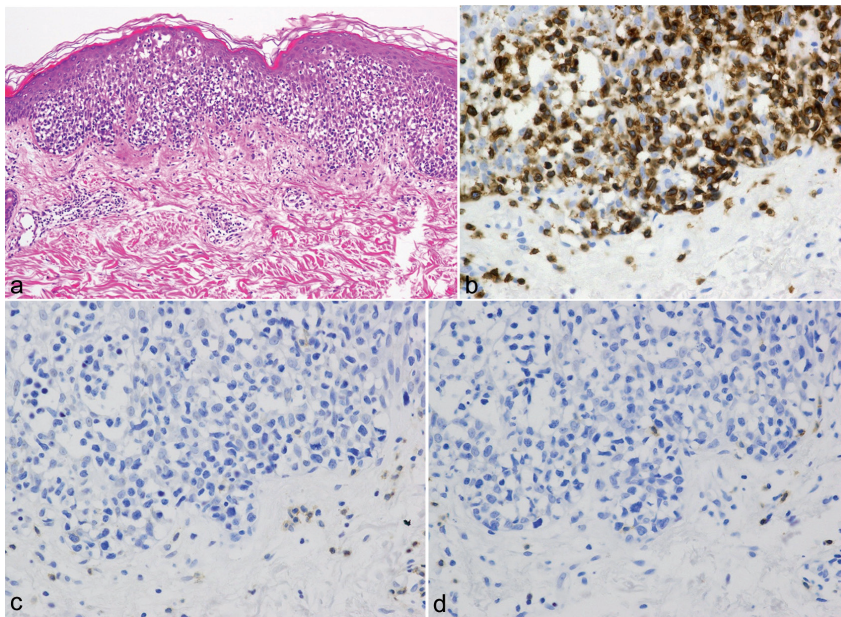


Fig. 2. (a) Histology revealed a dense infiltrate containing small lymphocytes with epidermotropism of atypical lymphocytes. (b–d) Immunohistochemical features: the intraepidermal lymphocytes are CD3⁺ (b), CD4⁺ (c) and CD8⁺ (d). (H&E-stain: (a) × 100; (b) CD3; (c) CD4 and (d) CD8 × 200).

ciation between MF and lung cancer has been reported in 2 large cohorts of patients (8, 9).

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

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

NM: not mentioned.