

LETTER TO THE EDITORS

Dear Editor,

Folliculotropic mycosis fungoides associated with atopic dermatitis

A 28-year-old woman presented with a 16-year history of recurrent pruritic dry lesions that began on her forehead and spread. She had been diagnosed with atopic dermatitis and reported a history of allergic rhinitis. Her mother had xerosis and dust allergy. A physical examination revealed

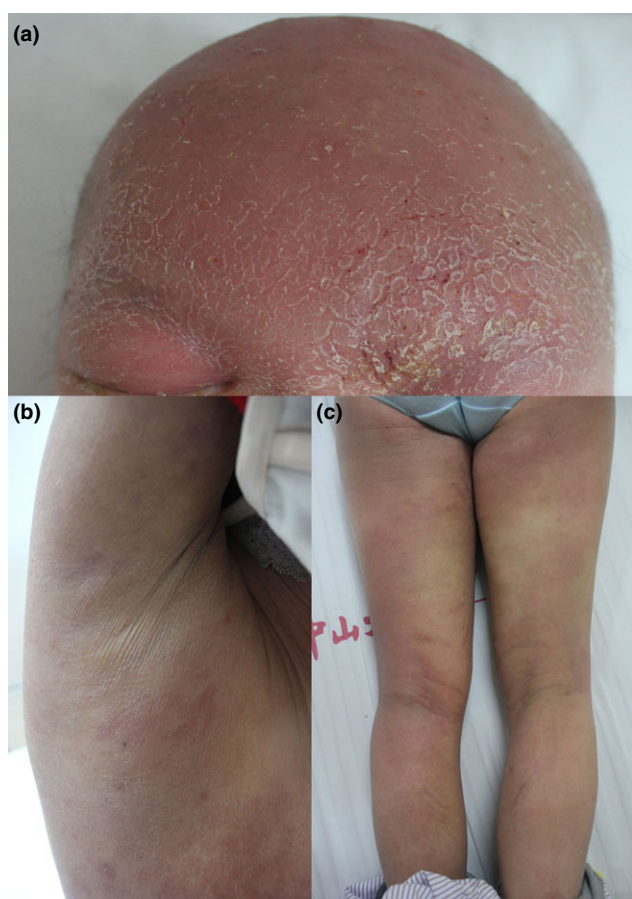


Figure 1 Clinical appearance of folliculotropic mycosis fungoides. (a) Infiltrated plaques covered with fine non-adherent scales involving head and neck with alopecia on scalp and eyebrows. (b) Multiple erythematous plaques on the right chest wall with loss of axilla hair. (c) Scattered erythematous patches on both lower extremities.

skin xerosis, multiple discrete erythematous plaques covered with fine non-adherent scales involving 50% of the body surface and total hair loss (Fig. 1) Enlarged lymph nodes in neck, axillae, and groin were palpated. The laboratory results revealed peripheral eosinophils granulocytes at $0.81 \times 10^9/L$ and serum immunoglobulin E 35 798.0 IU/mL. Skin biopsies taken from the scalp and forehead showed atypical lymphoid infiltrate involving the dermis and hair follicles with focal epidermotropism. An immunohistochemical analysis revealed neoplastic infiltrate strongly positive for CD2, CD3, CD4, and CD5, and negative for CD8, CD56, CD79a, granzyme (Fig. 2). The value of the Ki-67 index was about 10%. The analysis of the T-cell receptor β -chain gene rearrangement revealed a monoclonal population of T-cells. No evidence of bone marrow or cervical lymph node involvement was documented. We diagnosed folliculotropic mycosis fungoides (FMF) stage T2N1M0B0, clinical stage IIa. We combined systemic prednisone 25 mg/day, interferon alpha-2b at 6 mIU/week, methotrexate 15 mg/week and topical 20% nitrogen mustard, which achieved mild improvement, except for alopecia. After 18-months' follow up, the patient had not experienced a complete response.

Folliculotropic mycosis fungoides is a rare variant of primary cutaneous T-cell lymphoma. FMF represents less than 10% of mycosis fungoides cases.¹ It is more prevalent in adult men. FMF frequently appears as follicular papules and alopecia, but also as indurated plaques, acneiform lesions or follicular keratosis-pilaris-like lesions.² Pruritus is present in 81% of cases.² It has a predilection for the head and neck,³ in contrast to the common bathing suit distribution of conventional mycosis fungoides. In one-third of patients the eyebrows are affected with follicular accentuation or alopecia.⁴ Because of infiltration of the lymphoma cells that show folliculotropism, it has a more aggressive course and resistance to treatments than other mycosis fungoides variants.^{1,2}

The number of mycosis fungoides cases with a history of atopic dermatitis has increased in the last decade.⁵ The mechanisms for this association have not been elucidated. Factors that are common in both illnesses include the crucial role of CD4+ T-cells, an analogue cytokine background, the potential role of immunoglobulin E antibodies, and persistent antigenic stimulation by bacteria that may modify T-cell functionality, resulting in proliferation and malignant transformation.

Currently, no standard treatment exists for FMF.^{1,2} The therapeutic reaction of our patient is in accord with the known resistance to standard treatments.^{1,2}

The authors believe that the coexistence of these two entities has not occurred by chance. Hence we urge physicians to be aware of this association and perform an early skin biopsy in recalcitrant atopic dermatitis cases.

Hui Zhou and Zhuo-di Luo contributed equally to this work. Jian-de Han and Qian Gao are the co-corresponding authors. Conflict of interest: none.

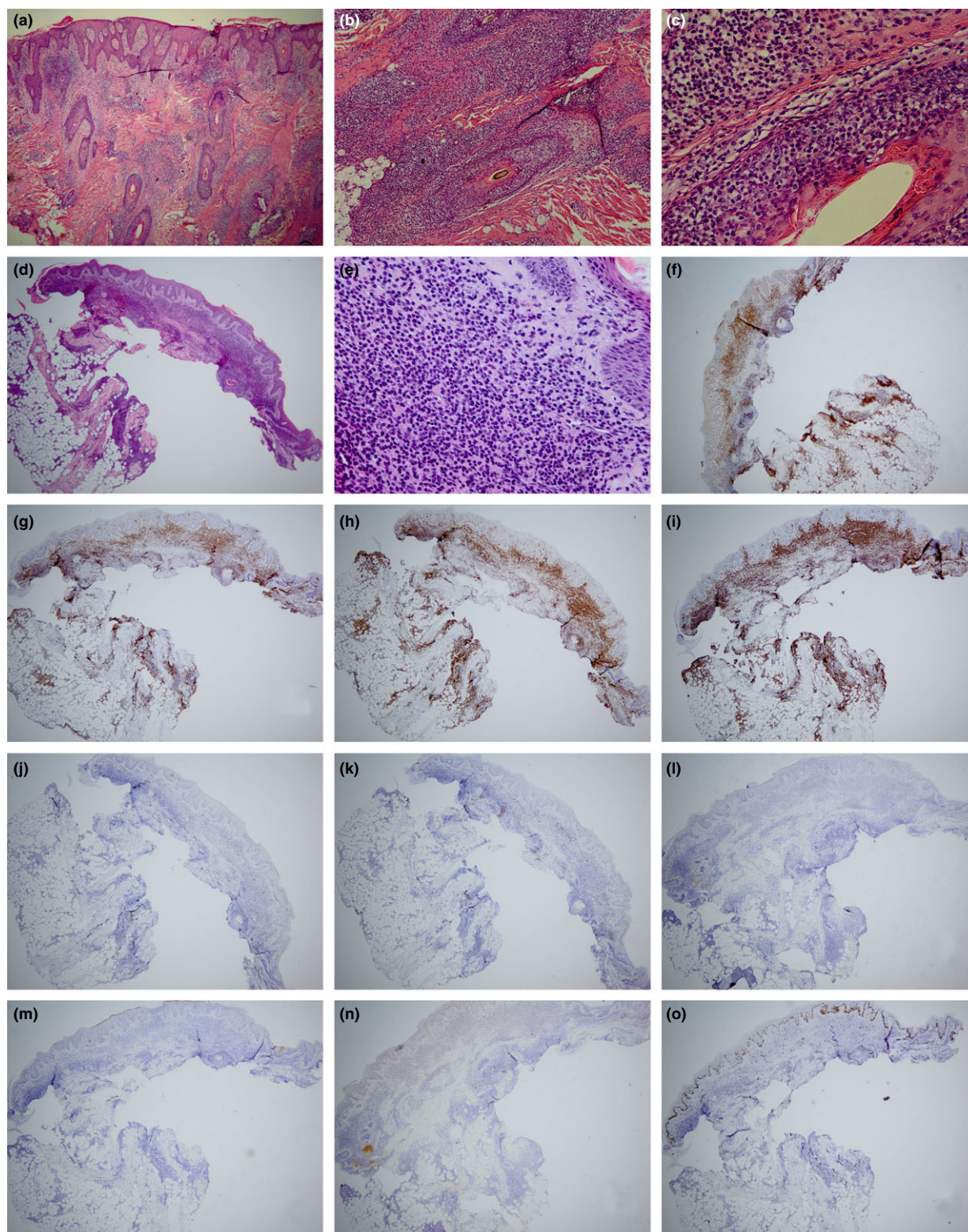


Figure 2 Characteristic histopathological and immunohistochemical features of biopsies taken from scalp (a–c) and forehead (d–o). (a) Nodular aggregates of lymphocytes, mainly around hair follicles with epithelium invasion and some damaged hair follicles; (b,c) Perifollicular and intrafollicular infiltration by atypical lymphocytes. HE; original magnifications: (a) $\times 4$; (b) $\times 10$; (c) $\times 40$. (d,e) Atypical lymphoid infiltrate involving the dermis and subcutaneous fat tissue. HE; (d) $\times 10$; (e) $\times 40$. (f–o) Immunohistochemistry of neoplastic infiltrate: (f) Positive CD2, $\times 4$; (g) positive CD3, $\times 4$; (h) positive CD4, $\times 4$; (i) positive CD5, $\times 4$; (j) negative CD8, $\times 4$; (k) negative CD79a, $\times 4$; (l) negative CD56, $\times 4$; (m) negative granzyme, $\times 4$; (n) negative EBER, $\times 4$; (o) Ki-67 staining index (10%), $\times 4$.

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