

Correspondence

Necrotizing eosinophilic folliculitis: a new manifestation of the atopic diathesis?

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Necrotizing eosinophilic folliculitis (NEF) is a distinct variant of eosinophilic folliculitis (EF), a condition that is associated with atopy and characterized histopathologically by marked follicular destruction with eosinophilic vasculitis, ulceration and dermal neutrophilia.¹

A 49-year-old man presented with a 6-year history of recurrent painful nodules affecting his face and limbs, which were associated with localized paraesthesia and generalized malaise. The patient had longstanding, severe atopic eczema, and an extensive occupational travel history.

Physical examination revealed multiple, tender, erythematous, subcutaneous nodules measuring up to 30 mm on the patient's forehead and limbs (Fig. 1). Widespread, chronic, lichenified eczema, predominantly flexural, was noted.

Histological examination of a skin biopsy taken from a thigh nodule revealed dense infiltration of neutrophils with (abscess formation) and eosinophils in the subcutaneous tissues, prompting the initial diagnosis of neutrophilic panniculitis.

Given the patient's travel history, an infective aetiology was sought, and investigations included tissue PCR and culture for bacterial, viral, and fungal infection, tissue culture for mycobacterial infection, and tissue analysis for parasitic infection; all gave negative results. An infectious diseases blood panel including serology for human immunodeficiency virus (HIV) and *Strongyloides* was also negative.

Repeat biopsies from the left cheek and forehead were obtained during a subsequent flare. Light microscopy showed a striking pattern of necrotizing folliculitis with pyodermatous alteration of the dermis, and significant perifollicular inflammation with eosinophils (Fig. 2) and scattered gram-positive cocci. These findings, combined with the clinical picture, prompted the diagnosis of NEF.

Our patient's frequent occupation-related travel prevented blood monitoring of second-line treatments previously reported as effective in this condition, such as dapsone and cyclophosphamide. Instead, complete remission was achieved with three intramuscular injections of triamcinolone 80 mg and a 3-month course of lymecycline 408 mg once daily, facilitating his successful discharge to primary care.

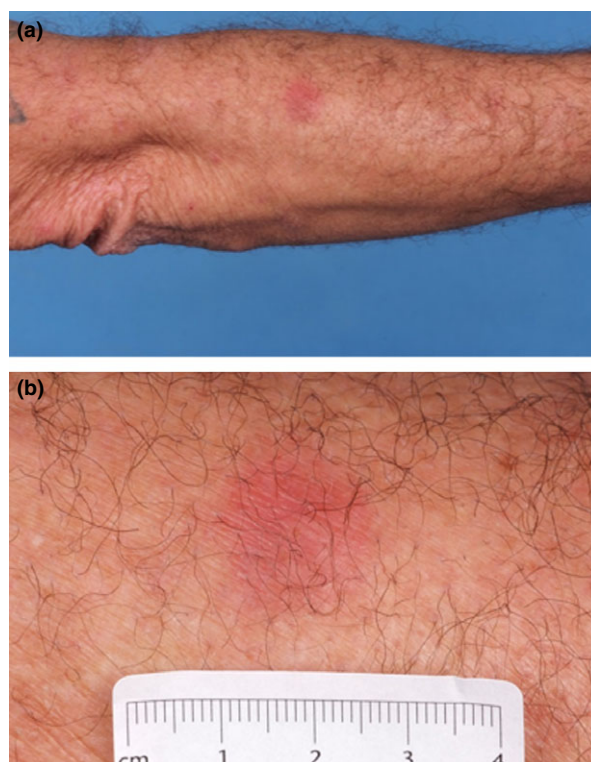


Figure 1 (a,b) Nodules on the patient's forearm.

NEF, a novel variant of EF, has been described previously, based on clinicopathological findings in HIV-negative patients, unlike EF, which is commonly associated with HIV infection.^{1,2} It has been postulated that an abnormal T helper (Th)2-type immune response to a follicular antigen gives rise to the clinical manifestations in EF. NEF differs from EF in that it is characterized by significant tissue destruction and has been reported in patients with a range of immune dysregulatory states, especially atopy.^{3,4}

T-cell dysregulation is thought to be central to the pathogenesis of NEF. In a Th2 cytokine-rich environment, as occurs in atopy, triggers such as commensal bacteria can lead to an exaggerated type IV immune reaction, resulting in the destructive folliculocentric process pathognomonic of NEF.¹ Interleukin (IL)-4 and IL-5 are

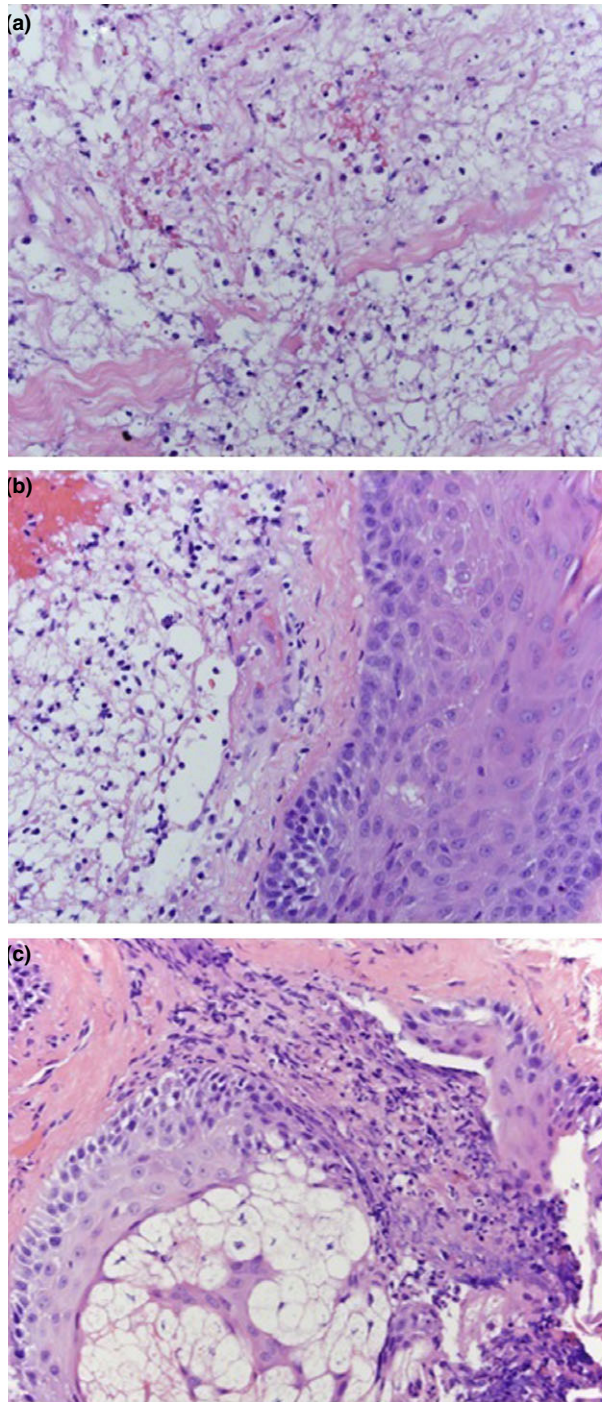


Figure 2 (a) biopsy from facial nodule showing neutrophilic dermolysis with leucocytoclasia (b) vascular injury with some haemorrhage (c) follicular sebaceous unit with features of folliculitis and a cellular infiltrate composed of neutrophils and occasional eosinophils. Haematoxylin and eosin original magnification (a) $\times 400$; (b,c) $\times 200$.

elevated in atopy and are thought to stimulate eosinophil proliferation, resulting in the infiltrates seen in NEF.⁵

Given the extent of the tissue destruction and eosinophilic infiltration in our patient's biopsy in the absence of infection, we suggest that NEF may be considered a new manifestation of atopy.^{1,3} Although exclusion of infection in such patients remains appropriate, a timely diagnosis of this condition based on clinicopathological findings may reduce the need for some costly and unnecessary investigations and guide the appropriate treatment of this condition, which can result in its complete resolution.

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