

## Eosinophilic Pustular Folliculitis (Ofuji's Disease) and Non-Hodgkin Lymphoma

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**The authors report the third case of eosinophilic pustular folliculitis (EPF) associated with a non-Hodgkin lymphoma. The dermatosis occurred after an autologous bone marrow transplantation performed as treatment for the lymphoproliferative disorder. Although EPF was initially described as an idiopathic disease, the association of some cases with immunologic alterations or diseases, such as immunodeficiencies, suggests a possible immunopathologic event in the pathogenesis of EPF. Key word: Autologous bone marrow transplantation.**

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Eosinophilic pustular folliculitis (EPF), or Ofuji's Disease, is a rare pruritic papulo-pustular dermatosis of unknown origin, which was first described in Japan (1, 2) and later in Europe and America as an idiopathic disease (3, 4). Its association with systemic disorders was not known until some cases were observed in patients affected by the acquired immunodeficiency syndrome (AIDS) (5, 6).

We have recently examined a case of EPF occurring in a patient treated with autologous bone marrow transplantation (ABMT) for a non-Hodgkin's lymphoma (NHL). The association of an eosinophilic pustular folliculitis with a NHL has already been reported in the literature.

### CASE REPORT

A 31-year-old female reported a 2-month history of bilateral, cervical, axillary and inguinal lymphadenopathies and a temperature up to 39°C, not fully responsive to symptomatic therapy. A left latero-cervical lymph-node biopsy led to diagnosis of a NHL, centroblastic-centrocytic, diffuse, stage IIIB. Polychemotherapy was begun (schedule CHOP-Bleo: cyclophosphamide, adriamycin, vincristine, prednisone, bleomycin). Since during this treatment the adenopathies failed to improve significantly, an ABMT was performed.

The conditioning regimen consisted of cyclophosphamide (60 mg/kg/day for 2 days) and total body irradiation (1000 CGY). The lymphadenopathies promptly resolved. Forty days after the ABMT, we observed on her face numerous, pruritic, follicular, reddish-brown, 1-3 mm diameter, papules and papulo-pustules, closely grouped over the forehead and the malar eminences. At that time the patient was treated with small doses of prednisone. Material from some pustules was cultured but no bacteria or fungi were isolated. Laboratory tests showed a peripheral white blood cell count of 5,300/mm<sup>3</sup> (with a differential count of 76% neutrophils, 12% eosinophils, 5% lymphocytes, 7% monocytes), hematocrit 38.1%, haemoglobin 11.9 g/dl, platelets 231 × 10<sup>9</sup>/l, erythrocytation rate 30 mm/h, SGOT 25, SGPT 100, gammaGT 108. A complete chemical profile, urinalysis, and determination of total serum proteins, albumin, globulin, IgE, RAST, and anti-nuclear antibodies levels were all normal.

Histologic examination of a biopsy specimen from the forehead revealed in the mid-dermis a moderately dense, mixed inflammatory

infiltrate, consisting of eosinophils, lymphocytes, and histiocytes which was perivascular and periadnexal. Associated spongiosis and focal destruction of the follicular structures were also present.

This eruption extended later onto the trunk and upper limbs with red, circinate plaques showing a slow centrifugal extension with central clearing, accompanied by a severe pruritus unresponsive to anti-histamine therapy. Spontaneous exacerbations and partial remissions were observed. Peripheral blood eosinophilia persisted.

One month after the skin eruption the patient was again admitted because of the growth of diffuse lymphadenopathies with fever. A right axillary lymph-node biopsy was suggestive of a high-grade NHL, centroblastic. All the subsequent polychemotherapeutic regimens were of no avail. Eighteen months later the patient's general condition worsened, and she died of interstitial pneumonia.

### DISCUSSION

Our patient's clinical lesions and histologic findings are compatible with the diagnosis of eosinophilic pustular folliculitis. This condition has a peak incidence in the third decade of life and is characterized by pruritic, red papules and sterile pustules, sometimes aggregated in indurated, circinate plaques, distributed moreover on the face, trunk and limbs; a prominent scalp involvement is present in the infantile form (7). The typical clinical course includes spontaneous remissions and exacerbations (1). Peripheral blood eosinophilia is associated in approximately half the patients.

The histologic picture of EPF reveals an eosinophilic and neutrophilic perifollicular and follicular infiltrate; sometimes in the epidermis spongiosis and subcorneal accumulation of eosinophils and neutrophils are present (1). Various treatments, topical and systemic, have been proposed. These include dapson, prednisone, ultraviolet B phototherapy, PUVA therapy, indomethacin, isotretinoin, antibiotics, but a definitive therapy has yet to be established (1-4, 8, 9).

EPF was not thought to be associated with systemic manifestations, until in 1986 when Soeprono & Schinella reported 3 cases in patients with AIDS (5). These authors hypothesized a rearrangement of the immune system with a possible hypersensitivity to a skin saprophyte or dermatophyte. Further cases of EPF have been subsequently observed in patients with AIDS (6, 9).

In 1988, Roger et al. reported a case of EPF in a 26-year-old male patient affected by a T-cell NHL, unresponsive to chemotherapy, who died 4 months after the skin eruption (10). Another case of simultaneous onset of EPF and B-cell NHL, diffuse centrocytic type, was reported by Barkley et al. a year later (11).

Our patient's history is to some extent similar to the case reported by Roger et al.: EPF appearing 40 days after an ABMT performed for a NHL unresponsive to chemotherapy. The haematologic disorder recurred only 1 month after the onset of EPF. The latter occurred during treatment with low

doses of prednisone for the haematologic disease. This drug has been proposed as one of treatments of choice for this disease (1, 12).

Laboratory investigations performed in other patients affected by EPF have sometimes disclosed immunologic defects, such as immunoglobulin abnormalities (7, 12), impaired neutrophil mobility (7) and T-cell suppressor defects (13). Our observation, the third case of EPF associated with NHL, suggests a possible association between an immunopathological event, involving eosinophils, chemotactic factors, cytokins and T-cell function and some cases of EPF, although it is still not thoroughly understood.

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