Eosinophilic Pustular Folliculitis Induced after Prolonged Treatment with Systemic Corticosteroids in a Patient with Pustulosis Palmoplantaris

Sir,

Eosinophilic pustular folliculitis (EPF), originally described by Ofuji et al. in 1970 (1), is characterized by recurrent crops of pruritic follicular papules and pustules that occur mainly on the face, trunk, and extremities. We report here a patient with pustulosis palmoplantaris (PPP) who eventually developed EPF after prolonged treatment with systemic corticosteroids.

CASE REPORT

A 72-year-old Japanese woman presented with a recurrent pruritic, pustular eruption on the palms and soles: the eruption began in November 1994 and she was referred to our University Hospital in July 1995. Examination revealed scaly erythematous patches with pustules on the palms and soles. A diagnosis of PPP was made and laboratory investigations showed a peripheral white blood cell count of 6,700/μl. Therapeutic trials with oral antibiotics, antihistamines, and topical corticosteroids were without benefit; fresh pustules continued to appear on the palms and soles. Oral prednisone (20 mg day^{-1}) was initiated and resulted in resolution of the lesions. However, when the dose of prednisone was tapered to 15 mg day^{-1}, the palmoplantar lesions recurred; the maintenance dose of 15 mg day^{-1} brought some resolution of the lesions, but her eruption still had a tendency to reappear. The eruption kept recurring for 9 months despite treatment with systemic corticosteroids. In April 1996, 6 months after starting oral prednisone, we recognized the pruritic erythematous lesions on her face. Pruritic erythematous papules developed on her trunk and extremities in May. At this time, the absolute eosinophil count had increased (1895/μl) compared with that before corticosteroid therapy (368/μl). All these data suggested the diagnosis of EPF. HIV antibody was negative. Oral prednisone was discontinued. In June, many pruritic warts were noted on the trunk and extremities.

Histopathological findings of a biopsy specimen from the pustule on the left palm showed the presence of a pustule containing neutrophils and eosinophils, spongiosis of the epidermis, and a dense eosinophilic and neutrophilic infiltrate located mostly around the pustule; numerous eosinophils with degranulation were also noted in the dermis. A diagnosis of EPF was made; and indomethacin (75 mg day^{-1}) was begun in September 1996. In 2 weeks, the pustular lesions had disappeared, all except for warts. Eosinophil count (371/μl) dramatically decreased after indomethacin therapy was started (Fig. 1). The patient has been seen regularly every 2 weeks since then, and the dose of indomethacin has been tapered to 25–50 mg day^{-1}. She remained disease-free with the maintenance dose of 25–50 mg day^{-1} in an intermittent fashion.

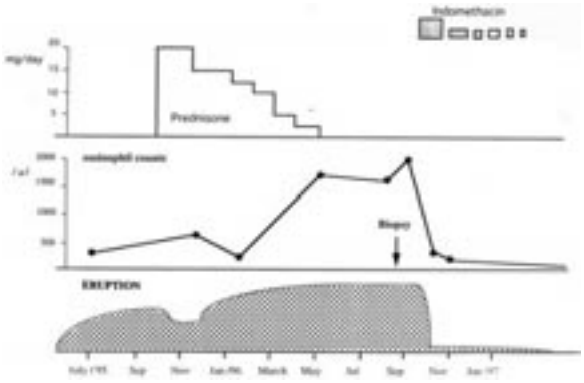

Fig. 1. Clinical course in relation to sequential eosinophil counts and treatment modalities. Eosinophil counts increased coincidentally with exacerbation of the lesions after treatment with systemic corticosteroids, and rapidly returned to normal levels after starting indomethacin.

DISCUSSION

We have reported a patient with palmoplantar lesions who initially presented with clinical features typical of PPP and eventually developed EPF. In this patient, oral corticosteroids for 6 months apparently aggravated the lesion, which was accompanied by absolute peripheral hypereosinophilia. It could be argued that the pruritic pustules we observed in this patient are somewhat different in clinical presentation from those in typical EPF originally described by Ofuji et al. (1): annular erythematous plaques with vesiculopustular margins were not observed in this patient. However, the histologic pattern, absolute peripheral eosinophilia, negative bacterial cultures, and the rapid response to indomethacin point to the diagnosis of EPF.

Palmoplantar pustular or vesicular lesions have often been regarded as an early or abortive form of EPF that has eventually evolved into typical EPF (2). Thus, EPF started as PPP-like lesions in 8% of Japanese cases and the mean time interval between the onset of PPP-like lesions and the development of the typical EPF lesions in the extrapalmoplantar regions was 26 months (2). We found that four cases, including our own one, had been treated with systemic corticosteroids without success: most of these cases treated with systemic corticosteroids developed EPF within 6 months after starting systemic corticosteroids, as in our case; the mean age of the 4 cases was 40 years, whereas that of the remaining 12 cases that had not been treated with systemic corticosteroids was 51 years. These results suggest that systemic corticosteroids may act as a trigger for the development of EPF in predisposed individuals, particularly younger ones.

Although the pathogenesis of EPF is not known, there can be a relationship between immunologic alterations including HIV infection and the development of EPF (3, 4). One possible explanation could be a shift in the cytokine responses toward a Th2 state in such patients (5). Other factors that promote a Th2 response are aging, stress and drugs such as corticosteroids (6). This can explain why in previous Japanese cases aged patients with PPP tended to develop EPF over a prolonged period of time without corticosteroids. Thus, PPP and EPF should not be regarded as a static disease but as an extremely dynamic condition in which modulation of the cytokine responses induced by treatment modalities alters the outcome of the disease.

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Acute Generalized Exanthematous Pustulosis Associated with Paracetamol

Sir,

Acute generalized exanthematous pustulosis (AGEP) was named by Beylot et al. in 1980 (1) and its diagnostic criteria were established by Roujeau et al. (2). Drugs have been the causative agents of AGEP in most cases reported in the literature, particularly antibiotics.

Cutaneous reactions with paracetamol are rare. The most common cutaneous side-effects are acute hypersensitivity or fixed drug eruptions, and occasionally eczema or vasculitis. Three cases of AGEP associated with paracetamol have recently been described (2–4). We here report 2 new cases of AGEP induced by paracetamol (acetaminophen).

CASE REPORTS

Case 1

A 33-year-old man was admitted in March 1994 with a generalized pustular eruption. He described a history of three acute episodes of pustulosis, which had resolved spontaneously within 3 weeks. The eruption began 2 days before admission, with erythema on the face and the trunk, and became disseminated in 24 h with a temperature of 39°C. He was first unsuccessfully treated at home with terfenadine and triamcinolone. On the third day, he presented with several hundred small pustules arising on widespread erythema on the flank, axillae and groin (Fig. 1). There was no evidence of mucous membrane involvement, lymphadenopathy or hepatosplenomegaly.

Laboratory examination showed hyperleukocytosis, with 28.8 g/l white blood cells with 26 g/l neutrophils and no eosinophilia. C-reactive protein was elevated (266 mg/l) and the erythrocyte sedimentation rate was 40 mm in the first hour. Mycology, bacteriology and virology cultures from pustules were negative and blood cultures were sterile. Cutaneous biopsy showed a subcorneal pustule. PAS staining did not reveal any pathogens.

The eruption had begun 48 h after oral ingestion of 3 tablets of paracetamol (500 mg each) in one day for sinusitis. He had not ingested any other drug in the previous month. Paracetamol was stopped and there was spontaneous resolution of fever and pustules in 6 days, with superficial desquamation.

Patch tests were performed with paracetamol (diluted 5% and 20% in saline and petrolatum) 3 weeks after subsidence of skin lesion. They were negative after 48 h.

Case 2

An 83-year-old man was admitted in May 1996 with a disseminated erythematous rash, which had occurred 2 days after hip replacement. Within 48 h the erythematous skin was covered by hundreds of small non-follicular pustules. The confluence of pustules led to superficial desquamation. No mucous membrane lesion was present and there was no fever or lymphadenopathy.

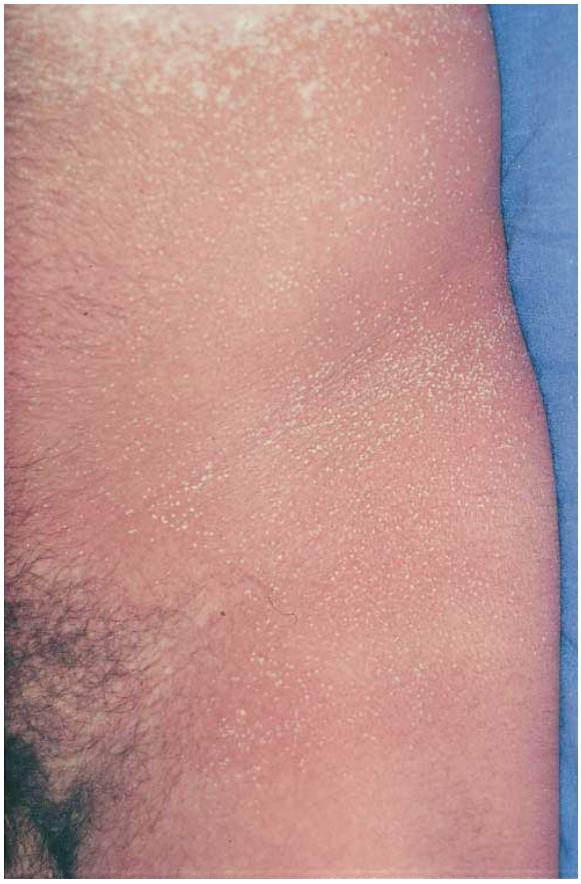

Fig. 1. Case 1 on the third day with small pustules and erythema.

Skin biopsy demonstrated subcorneal pustules; there were slight spongiosis, papillary oedema and a perivascular infiltrate. Staining with PAS did not reveal any pathogens.

Laboratory examination showed hyperleukocytosis, with 12.1 g/l