PV associated with HSV-1 in her second pregnancy, which was cured with steroids and antiviral agents.

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A Rare Case of Annular Pustular Psoriasis Associated with Pemphigus Foliaceus

Kenichi Kato[1,2,*], Takaaki Hanafusa[1,*], Ken Igawa[1], Motohiro Tatsumi[2], Yuji Takahashi[2], Takashi Yamanaka[2], Ichiro Katayama[1]

[1]*Department of Dermatology, Osaka University Graduate School of Medicine, Osaka,*
[2]*Department of Dermatology, Kansai Rosai Hospital, Hyogo, Japan*

Dear Editor:

A 56-year-old Japanese woman suffered from multiple, scaly erythemas on the trunk for approximately 30 years. She had been previously diagnosed with psoriasis vulgaris in the clinic due to the clinical appearance and histological findings. She was also previously diagnosed with pemphigus foliaceus (PF) at our hospital 10 years ago, based on the clinical appearance and histological findings of a subcorneal blister, as well as on the direct immunofluorescence findings of superficial epidermal intercellular immunoglobulin (Ig) G deposition. During her clinical course, serum anti- desmoglein (Dsg)-1 IgG antibody levels were elevated to 99 index points in 2010, whereas anti-Dsg-3 antibody levels remained at <5 index points. Recently, she was treated for PF by administration of oral betamethasone (0.5 mg/d) and cyclosporine (100 mg/d). She was admitted to our hospital because the annular erythemas with pustular margins on her trunk were exacerbated and accompanied by high fever (Fig. 1). No lesions resembling PF were seen. Laboratory findings were as follows (abnormal values are underlined): white blood cell count, $21.3\times10^3/\mu l$ (neutrophils: 72%); C-reactive protein: 16.4 mg/L. Anti-Dsg1 and anti-Dsg3 antibodies were within the normal range. Because of the clinical

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*These authors equally contributed as first authors.

Corresponding author: Ken Igawa, Department of Dermatology, Osaka University Graduate School of Medicine, 2-2 Yamadaoka, Suita-shi, Osaka, 565-0871, Japan. Tel: 81-6-6879-3031, Fax: 86-6879-3039, E-mail: igawa@derma.med.osaka-u.ac.jp

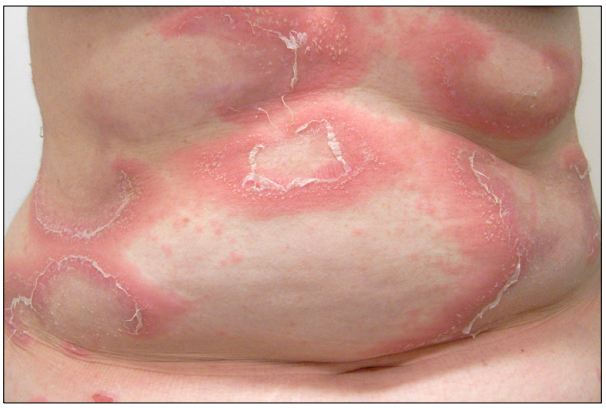

Fig. 1. Clinical appearance of scaly, annular pustular erythemas on the patient's abdomen at the time of admission. The 10 cm-diameter erythemas were scaly and annular with pustular margins. Bacteriological culture of the contents of the pustules was not performed; however, no infectious symptoms were observed.

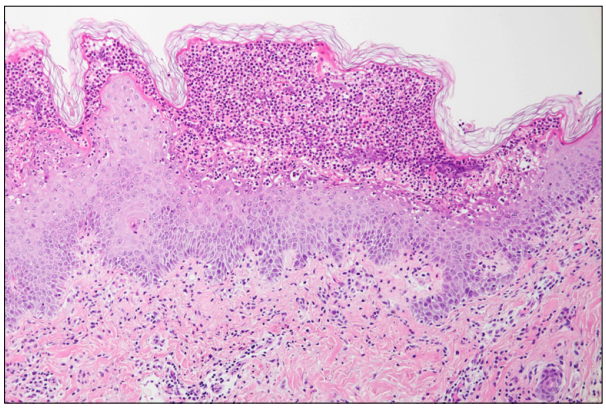

Fig. 2. Histological findings of scaly erythemas with pustules on the abdomen. H&E staining revealed acanthosis, spongiosis, and neutrophilic pustules in the upper spinous layer (×100).

appearance and the laboratory and histological findings of neutrophilic pustules in the upper spinous layer (Fig. 2), the patient was diagnosed with annular pustular psoriasis (APP). In addition to systemic betamethasone and cyclosporine, she was treated with systemic etretinate (40 mg/d) and topical steroid ointment. Although the patient's high fever resolved rapidly, the annular scaly erythemas gradually spread centrifugally. After cyclosporine was increased to 200 mg/d, the erythemas disappeared. No relapse was seen after the doses of etretinate and cyclosporine were decreased, and she was discharged 15 days after admission. No flare-ups have been observed after a 1.5-year treatment with systemic betamethasone (0.5 mg/d) and tapering of etretinate (20 mg/d) and cyclosporine (100 mg/d).

Generalized pustular psoriasis (GPP) is a form of psoriasis that is characterized by an eruption of sterile pustules. APP is a rare form of pustular psoriasis, characterized by erythematous, annular, or polycyclic lesions, eruptions of small sterile pustules, and fine desquamation[1]. It differs from GPP by its more subacute and limited clinical course[2]. Pemphigus is an autoimmune, bullous skin disease, divided into subtypes including pemphigus vulgaris, PF, and IgA pemphigus. It was previously reported that APP might be associated with IgA pemphigus[3]. A case of PF with prominent neutrophilic pustules has also been reported[4]. IgG autoantibody-induced interleukin (IL)-8 expression in keratinocytes was reported to cause neutrophil infiltration into the lesional skin of a patient with a pemphigus variant[5]. Additionally, systemic steroid therapy can transform psoriasis vulgaris into GPP. This patient had a history of persistent psoriasis vulgaris and annular erythemas with pustules that appeared with a high fever and she never relapsed; therefore, we diagnosed her with APP, not GPP. Her disorder transformed from psoriasis vulgaris associated with PF, which was likely induced by elevated IL-8 levels in PF-related lesions and systemic steroid therapy for PF. In the future, we will analyze epidermal and serum IL-8 levels in similar cases.

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