

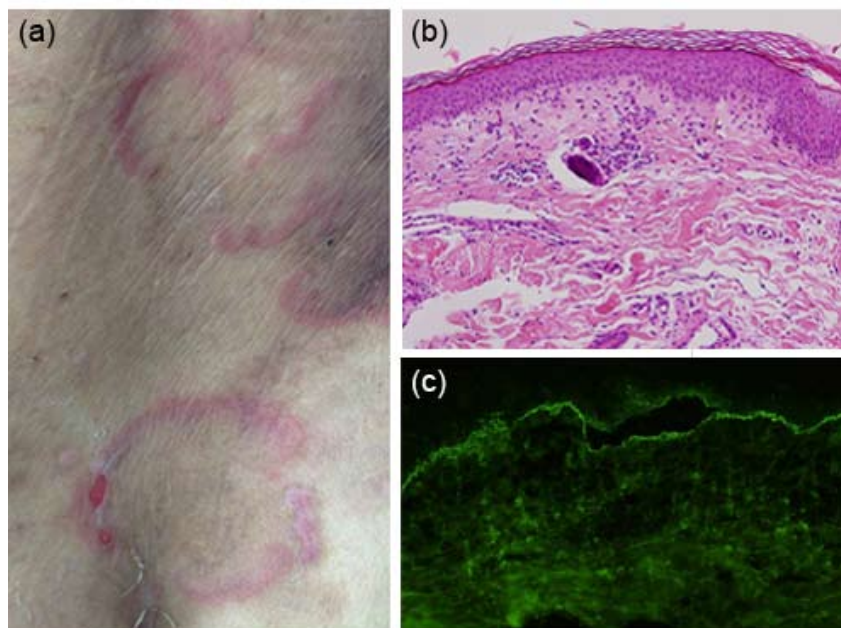
## Bullous Pemphigoid Masquerading as Erythema Annulare Centrifugum

Dear Editor,

Bullous pemphigoid (BP), a relatively common autoimmune blistering disease in the elderly, is characterized by large, tense bullae on urticarial, erythematous, or normal skin. However, atypical BP with polymorphic clinical presentations is rarely encountered, leading to misdiagnosis and delayed treatments (1). BP with lesions resembling erythema gyratum repens or figurate erythema has been regarded as a paraneoplastic phenomenon (1). Herein we report a case with erythema annulare centrifugum-like presentation of BP without evidence of underlying malignancy.

A 64-year-old woman first presented with multiple large, tense bullae on the trunk and four extremities. She was diagnosed with BP according to the typical clinical, histopathological, and direct immunofluorescence findings. There were no annular lesions at that time. After a treatment course of systemic cortico-

steroids and azathioprine, the cutaneous symptoms were controlled. One year after discontinuing her medications, a pruritic bullous eruption reappeared with several annular erythematous plaques (Figure 1, a). The patient reported no mucosal involvement and took no new medications before the onset of skin lesions. On physical examination, multiple circular and arcuate erythematous lesions with slightly raised borders were seen on the trunk and both legs. Some erosions and tiny vesicles were noted on the erythematous edges. There were no other systemic symptoms or abnormalities. Laboratory studies, including complete blood count, liver and renal function tests, electrolytes, antinuclear antibody, complement levels, anti-Ro and anti-La antibodies, urine routine, stool routine, and chest X-ray, were normal. The biopsy specimen obtained from the rim of the



**Figure 1.** (a) Several annular and arcuate erythematous lesions on the trunk. There are some erosions on slightly raised borders. (b) Skin biopsy showed slight vacuolar change at the basement membrane zone with perivascular and interstitial infiltration of lymphocytes and eosinophils in the upper dermis (hematoxylin and eosin,  $\times 100$ ). (c) Direct immunofluorescence demonstrated linear deposition of C3 along the dermoepidermal junction.

annular lesions revealed slight vacuolar change at the dermoepidermal junction and perivascular and interstitial lymphocytic infiltration with numerous eosinophils in the upper dermis (Figure 1, b). Direct immunofluorescence showed linear deposits of immunoglobulin G (IgG) and C3 along the basement membrane (Figure 1, c). Histopathological features and immunofluorescence examinations were consistent with BP. There was no evidence of hematological or solid malignancy from further imaging and laboratory testing.

The patient was started on oral prednisolone 30 mg/day and azathioprine 150 mg/day, with significant improvement over the following month. Complete regression of all skin lesions was achieved two months later, so the prednisolone dose was gradually tapered and then ceased. Under maintenance monotherapy of azathioprine 100 mg/day, there were no signs of BP recurrence or malignant disease during the one-year follow-up period.

The annular erythema variant of BP is extremely rare. Therefore, in this case, erythema multiforme, subacute cutaneous lupus erythematosus, erythema annulare centrifugum, and urticarial vasculitis should be considered in the clinical differential diagnoses. Pathological features and immunofluorescence results can clearly rule out these possibilities. Until now, only 13 cases of BP presenting as annular erythema had been documented in the English literature, described as figurate erythema-like, erythema gyratum repens-like, or erythema annulare centrifugum-like manifestations (1-3). An association with internal malignancy in patients with these types of lesions had been reported (1). Nevertheless, as in most previous case reports (3), malignant diseases were not found in our patient.

The precise mechanism of the annular erythema form of BP is unknown. Some authors considered it a variant of pre-bullous phase lesions, usually presenting as itchy erythematous patches or urticarial plaques (4). Based on this case, however, this assumption is less likely because the annular, erythema annulare centrifugum-like skin lesions appeared one year after the initial onset of bullous eruption, and simultaneously with the exacerbation of the bullous phase of BP. The exact pathogenesis of annular BP may be similar to that in erythema annulare centrifugum. Further investigations are warranted to clarify this issue.

It should be noted that an erythema annulare centrifugum-like or figurate erythema-like manifes-

tation in the absence of underlying malignancy can occasionally be a feature of BP. Making the correct diagnosis may be difficult if there is no concurrent bullous presentation. Clinicians should be vigilant for the development of this type of BP. The histological and direct immunofluorescence findings and the detection of circulating autoantibodies by indirect immunofluorescence or enzyme-linked immunosorbent assay remain crucial tools for establishing a definitive diagnosis.

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