

Case Report

Pretibial Dystrophic Epidermolysis Bullosa

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Abstract

Observations: Pretibial dystrophic Epidermolysis Bullosa (PDEB) is an autoimmune disease, in which autoantibodies are directed against type-7 collagen, and cause blister formation following trauma. The lesions predominantly occur on pretibial, or acral areas, and are associated with scarring and nail dystrophy. The disease usually starts early in childhood. In the present case, we described a patient whose clinical and histological findings were inconsistent with hereditary epidermolysis bullosa.

Introduction

Pretibial dystrophic epidermolysis bullosa (PDEB) is a rare localized subset of dystrophic epidermolysis bullosa. The blister formation predominantly occurs in pretibial and acral areas in response to mechanical trauma, and heal with scarring. A 45-year-old man was presented with vesiculobullous lesions on lower extremities persisting for the last two months. Some lesions due to trauma had been occurring since his childhood and eventually healing spontaneously. Dermatological examination revealed tense, clear or hemorrhagic bullae on violaceous, sclerotic, inflammatory plaques over the anterior and lateral aspects of the legs. The toenails were dystrophic. Histologically, there were subepidermal blister formations, necrosis of dermis on the floor of blisters, vascular proliferation on upper dermis, and increase in fibroblastic activity. The finding of direct immunofluorescence assay was nonspecific and could not determine the accumulation of IgG or IgA. No other family members had similar skin lesions. Late on-

set, long lasting lesion, absence of association with trauma, no family history and lesions on non-acral sites of the body were the properties that were not typical for hereditary epidermolysis bullosa. However, a few sporadic PDEB cases, which may be due to *de novo* dominant mutations, have been reported. The diagnosis of PDEB is often difficult, but can be made by combining the clinical, histological, and immunofluorescence findings.



Figure 1. Nikolsky (-), intact bullae and eroded areas covered with yellow crusts seen on the erythematous, sclerotic plaque in the right pretibial area



Figure 2. Dystrophy (hyponychium) of toenails

Case Report

A 45-year-old man was presented to our clinic with erythema, bullous lesions and crusting on pretibial area of both legs. His family told that these bullous lesions were occurring on both arms and legs twice a year since 3 years of age and healing spontaneously within 1,5 month (45 days). He had no pain or pruritus. On dermatologic examination, two purplish, sclerotic plaques were found on the extensor side of the left forearm. Eroded areas and a *Nikolsky* (+) intact bulla were present on the well circumscribed, erythematous, sclerotic plaque in the right pretibial area (**Figure 1**). Moreover, there were two *Nikolsky* (-) intact bullae on the normal skin of the right pretibial area. Dystrophic changes were observed in all toenails (**Figure 2**). His medical history revealed a subarachnoidal hemorrhage. Complete blood count and biochemistry values were normal. *Gram* and *Ziehl Neelsen* analysis of the fluid taken from bullae, revealed no specific staining and moreover there was no bacterial growth in the culture. Antibodies against *Borrelia burgdorferi* were not detected. Examination of toenails with KOH, displayed no fungal elements. Histopathological examination of the biopsy taken from a bullous lesion on the pretibial region showed subepidermal blister formation (**Figure 3**) and increased fibroblastic activity. Specific immune deposits were not detected on direct immunofluorescence examination. Lupus band test was negative.

The patient was treated with 32 mg/day prednisone for 4 months, the steroid dose was gradually tapered and finally stopped over the following months. We could not observe significant improvement during the steroid therapy period. The lesions recurred several times. The patients is currently being followed up every 3 months and new lesions continue to appear (**Figure 4**).

Discussion

PEB has been classified into three clinical forms. The first is a form, in which several family members are affected and it is inher-

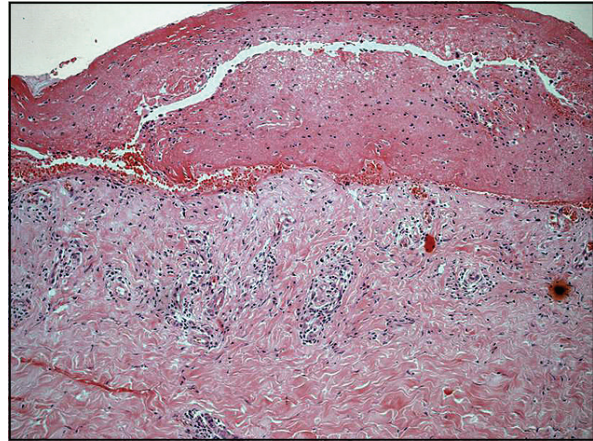


Figure 3. Subepidermal blister with detached and indistinguishable roof over sclerotic dermis and exudate overlying the epidermis

ited in an autosomal dominant pattern. The second form occurs in patients who have family members with other types of dominant dystrophic epidermolysis bullosa, such as the *Pasini* or allopapuloid type and *Cockayne Touraine* type. The third form occurs sporadically without a positive family history. All forms of PEB are characterized by recurrent blisters on the pretibial area that heal with scars and milia [**1, 2**]. Nail dystrophy, allopapuloid lesions or hypopigmented scar-like papules, and hypertrophic scars may also occur. The differential diagnoses of PEB include bullous lichen planus, lichen planus pemphigoides, bullous lichen sclerosis et atrophicus, hypertrophic lichen planus, lichen simplex chronicus, prurigo nodularis, and lichen amyloidosis. The diagnosis is usually delayed, because the disease may have a late onset and atypical clinical features mimicking other dermatoses. Histopathologic findings include a pauci-inflammatory subepidermal blister with papillary fibrosis and milia, seen in the



Figure 4. Healing with milia and atrophic scar after two months of treatment

other forms of epidermolysis bullosa, epidermolysis bullosa acquisita, porphyria cutanea tarda, and pseudoporphyria. Immunofluorescein tests give negative results and help excluding the diagnoses of epidermolysis bullosa acquisita, porphyria cutanea tarda, and pseudoporphyria. Ultrastructural examination of normal and lesional skins has demonstrated rudimentary and sparse anchoring fibrils similar to the other forms of dystrophic epidermolysis bullosa. Mutations in the collagen VII gene, COL7A1, have been detected in patients with PEB, as well as in other types of dystrophic epidermolysis bullosa [3, 4]. The clinical, histological, and immunofluorescence findings of our case were similar to those of previous PEB cases reported in the literature. The diagnosis of PEB should be suspected in a patient who presents with tense bullae in association with pruritic lichenoid papules, plaques, and prurigo primarily on the anterior aspect of the legs. Bi-

opsy from a bulla for histologic examination and IF mapping as well as a biopsy from perilesional skin for direct IF, should all be obtained to confirm this diagnosis.

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