Journal of Pakistan Association of Dermatologists 2005; **15**: 213-15.

Photodermdiagnosis
What caused this bullous eruption?

Section Editor

Amor Khachemoune,
MD, CWS of Harvard Medical School, Boston, USA

Shahbaz A. Janjua, Ijaz Hussain

Ayza Skin & Research Center, Lalamusa, Pakistan.
Department of Dermatology, King Edward Medical College & Mayo Hospital, Lahore.

Introduction

A 45-year-old man presented with a 6-month history of a recurrent bullous eruption involving the dorsa of the hands, the dorsa and outsteps of the feet, the sacral areas, and the buttocks. These areas upon physical examination revealed multiple, symmetric, hemorrhagic bullae with milia and scarring over the dorsa of the hands, the feet, sacral areas and the buttocks. Mucous membranes were uninvolved. Routine blood and urinalyses were unremarkable, and blood and urine porphyrins were negative. The patient reported no recent history of drug intake or any antecedent illness. There was no family history of similar dermatosis. A histopathological examination of a lesional skin biopsy specimen showed an area of dermal-epidermal separation and mixed dermal inflammatory infiltrates consisting of lymphocytes, neutrophils, and eosinophils. Immunofluorescence studies were not performed.

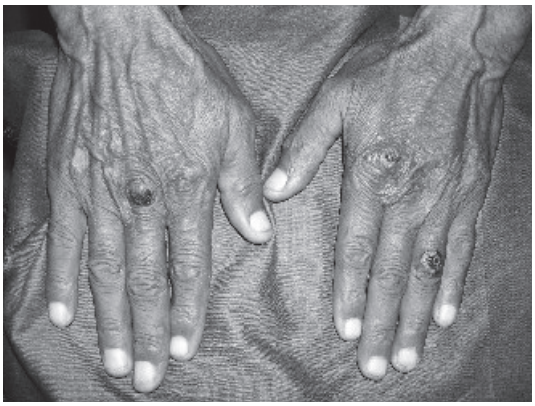

Figure 1

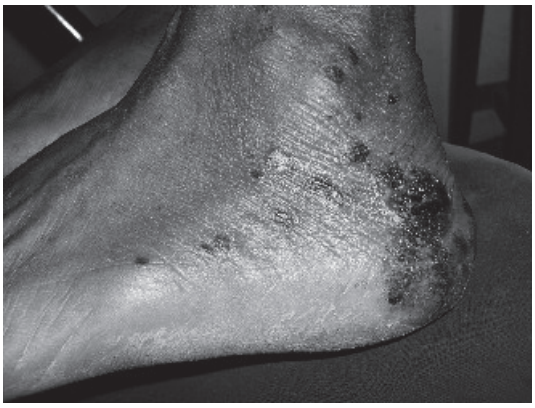

Figure 2

What caused this bullous eruption?

Address for correspondence
Dr. Shahbaz A. Janjua,
Ayza Skin & Research Center, Lalamusa, Pakistan

Diagnosis

Epidermolysis bullosa acquisita

Discussion

Epidermolysis bullosa acquisita (EBA) is a rare subepidermal autoimmune bullous dermatosis with autoantibodies against type VII collagen.[1] It is characterized by blisters, scars, and milia primarily at trauma-prone areas such as the extensor surfaces of the hands, feet, elbows, knees, ankles, and buttocks. Sometimes there is mucosal involvement with blisters and erosions forming in the mouth, nose and eyes. No predilection for sex or race has been reported. While EBA can occur at any age, it affects elderly persons more frequently.[2]

EBA is a chronic inflammatory disease typified by periods of partial remissions and exacerbations. At least three forms of EBA have been recognized, classified based on the extent of involvement of skin and/or mucous membranes. A non-inflammatory form is the most common type of EBA, manifesting as tense vesicles and bullae, with erosions primarily on the extensor surfaces of the hands, knuckles, elbows, knees, and ankles. This form, which closely resembles porphyria cutanea tarda in the elderly, usually heals with significant scar and milia formation.

A generalized inflammatory form presents with widely disseminated tense vesicles and bullae, and is not localized to trauma-prone sites. This variant, which resembles bullous pemphigoid or linear IgA dermatosis, usually heals with minimal scarring and milia formation.[3]

Another subtype predominantly affects mucous membranes including the buccal, conjunctival, gingival, palatal, nasopharyngeal, rectal, genital, and esophageal mucosae. EBA presenting on mucosal membranes closely resemble mucous membrane pemphigoid and can result in significant mucosal scarring and dysfunction.[4]

The underlying pathophysiology in all cases has been found to be the presence of IgG autoantibodies that target a major skin basement membrane component, collagen VII. Collagen VII connects the epithelial basement membrane to the dermis. It is also the major protein of anchoring fibrils. IgG autoantibodies specific for collagen VII alter the dermal-epidermal junctional adhesion, resulting in dermal-epidermal separation.[5,6] EBA has been described in association with other diseases including systemic lupus erythematosus, multiple myeloma, diabetes, lymphoma, leukemia, amyloidosis, and chronic inflammatory bowel disease.[7,8]

In addition to the characteristic clinical findings, the diagnosis of EBA is established by histopathology and immunofluorescence studies. Histopathology reveals a subepidermal blister and a mixed inflammatory cell dermal infiltrate. Direct immunofluorescence detects a thick band of IgG deposited linearly at the basement membrane zone. Indirect immunofluorescence demonstrates the presence of IgG circulating autoantibodies in the patient's serum that target the skin basement membrane component, type VII collagen. Other bullous dermatoses that need to be differentiated from EBA include

porphyria cutanea tarda, bullous pemphigoid, pemphigus, dermatitis herpetiformis, and bullous drug eruptions.

The treatment of EBA is directed at decreasing the development of new blisters, promoting healing, and preventing scarring. Oral corticosteroids and immunosuppressants are the mainstay of the treatment.[9,10] It would be pertinent to note that immunosuppressants are used in patients with severe disease unresponsive to oral steroids alone. Patients with EBA, especially those with predominant mucous membrane involvement, should be monitored regularly. Complications associated with the disease (infections and malignancies) or the treatment (bone marrow suppression, growth retardation, adrenal insufficiency and osteoporosis) should be recognized and treated accordingly. Patients should be instructed to use protective padding on their extensor skin surfaces on a regular basis and avoid trauma to vulnerable areas. Those with mucous membrane involvement should be advised to maintain good oral hygiene, avoid food that is brittle or hard and with high acid content.

(*The authors are grateful to Amor Khachemoune, MD, CWS of Harvard Medical School, Boston, USA for taking time and critically reviewing the manuscript to make this publication possible*).

References

1. Woodley DT, Briggaman RA, O'Keefe EJ *et al.* Identification of the skin basement-membrane autoantigen in epidermolysis bullosa acquisita. *N Engl J Med* 1984; **310**: 1007-13.
2. Chan LS, Chen M, Woodley DT: Epidermolysis bullosa acquisita in the elderly: Clinical manifestations, diagnosis and therapy. *J Geriat Dermatol* 1996; **4**: 47-52.
3. Jonkman MF, Schuur J, Dijk F *et al*. Inflammatory variant of epidermolysis bullosa acquisita with IgG autoantibodies against type VII collagen and laminin alpha3. *Arch Dermatol* 2000; **136**: 227-31.
4. Kirtschig G, Murrell D, Wojnarowska F *et al*. Interventions for mucous membrane pemphigoid/cicatricial pemphigoid and epidermolysis bullosa acquisita: a systematic literature review. *Arch Dermatol* 2002; **138**: 380-4.
5. Sakai LY, Keene DR, Morris NP, Burgeson RE. Type VII collagen is a major structural component of anchoring fibrils. *J Cell Biol* 1986; **103**: 1577-86.
6. Yaoita H, Briggaman RA, Lawley TJ *et al*. Epidermolysis bullosa acquisita: ultrastructural and immunological studies. *J Invest Dermatol* 1981; **76**: 288-92.
7. Boh E, Roberts LJ, Lieu TS *et al*. Epidermolysis bullosa acquisita preceding the development of systemic lupus erythematosus. *J Am Acad Dermatol* 1990; **22**: 587-93.
8. Engineer L *et al*. Epidermolysis bullosa acquisita and multiple myeloma. *J Am Acad Dermatol* 2002; **47**: 943-6.
9. Engineer L, Dow EC, Braverman IM, Ahmed AR. Emerging treatment for epidermolysis bullosa acquisita. *J Am Acad Dermatol* 2001; **44**:818-28.
10. Mutasim DF. Management of autoimmune bullous diseases: Pharmacology and therapeutics. *J Am Acad Dermatol* 2004; **51**: 859-77; quiz 878-80.