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BULLOUS SYSTEMIC LUPUS ERYTHEMATOSUS

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Bullous systemic lupus erythematosus (BSLE) is a rare variant of systemic lupus erythematosus (SLE) which histologically resembles dermatitis herpetiformis (DH), and responds dramatically to dapsone. We report a case of bullous SLE.

Key Words : Systemic lupus erythematosus, Dermatitis herpetiformis, Dapsone

Introduction

Cutaneous manifestations of SLE occur in 76% of patients during the course of their disease, but blistering lesions are relatively uncommon.[1] Vesiculobullous lesions may be SLE specific or SLE non-specific. BSLE is an example of the former. We recently followed up a patient with BSLE.

Case Report

A 36-year-old female presented with joint pains, red raised and fluid-filled lesions on the face, neck, trunk and extremities. The lesions used to last for few days then burst to form raw, oozing areas, which used to become crusted. The lesions did not spread after rupture, and healed with scarring, hypo-and hyperpigmentation. Since 9 months patient also gave a history of redness of the face on exposure to sunlight, oral lesions and diffuse hairloss. One week before her admission she noted tiny, flat, red lesions on the upper and lower limbs distally. She developed redness of right eye with swelling of the right eyelids, just prior to admission.

The patient had slight erythema with hyperpigmentation on the butterfly area of the face and diffuse non-scarring alopecia. Patient had erythematous papules, plaques on the face, neck and trunk. Discrete, tense vesicles and bullae containing clear fluid were present on normal appearing, erythematous and urticarial skin on the face, neck, trunk and proximal extremities. Bulla spreading and Nikolsky's signs were negative. Raw oozing and crusted lesions were also present. Atrophic patches, hypo-and hyperpigmented areas were also present. Carpet tack sign was positive. Purpuric lesions were present on the upper and lower limbs distally. Superficial ulcers were seen on the palate. Systemic examination did not reveal any abnormality.

A complete blood count showed a haemoglobin of 8.7 gm%, PCV 29; leukocyte count of 2450 cells/cmm with 60 neutrophils, 35 lymphocytes, 1 eosinophil, 3 monocytes. ESR was 30mm/h. Serum iron was 22.5 microgm% (60-160 microgm) and transferin saturation was 13.3% (15-30%) TIBC and s. electrolytes were normal. Total proteins were 4.7 gm. (6-8 gm), with albumin of 2.0 gm (3.5-5 gm). Total bilirubin, alkaline phosphatase, SGOT/PT

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were normal. Urinalysis showed 1+albumin with occasional erythrocytes per high power field (hpf), 4-6 leukocytes/hpf and few granular casts. Stool examination and X-ray chest were normal. Elisa test for HIV was normal. Antinuclear antibody (ANA) was negative, direct immunofluorescence of perilesional skin was negative. Anti dsDNA antibody was present (128u/ml). Coombs test, both direct and indirect; were negative.

Skin biopsy of a vesicular lesion showed a subepidermal blister, with neutrophils and fibrinous material in the blister cavity, epidermal necrolysis, neutrophilic papillary microabscesses, a band-like infiltate beneath the blister consisting of neutrophils and lymphohistiocytic infiltrate, oedema of the upper dermis with extravasated erythrocytes and sparse lymphohistiocytic infiltrate in the mid and lower dermis (Figs. 1,2). Repeat skin biopsy from an

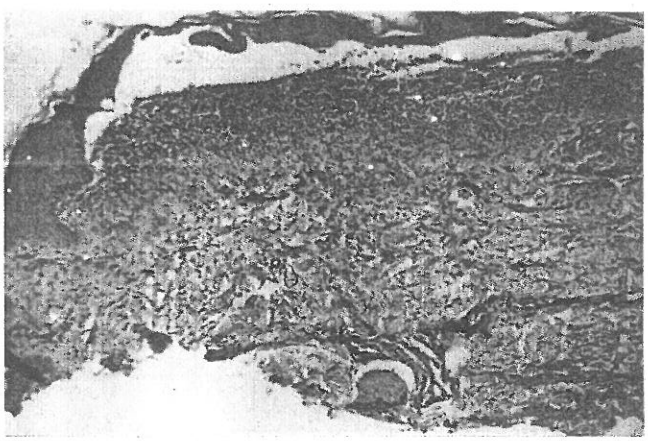

Fig. 1. Skin biopsy of a vesicular lesion showing subepidermal blister, epidermal necrolysis, a bandlike infiltrate beneath the blister, oedema of the upper dermis with extravasated RBCs (H&E x 20)

erythematous plaque from the inter-scapular region, 5 days after the patient was put on steroids and immunosuppressive therapy showed a

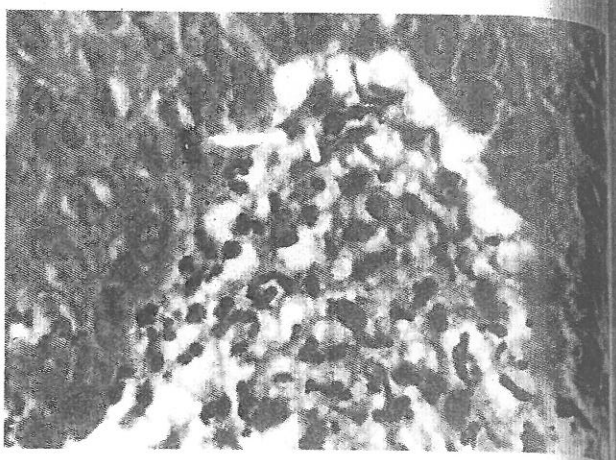

Fig. 2. Histopathology showing neutrophilic papillary microabscess with early subepidermal blister formation, oedema of the papillary dermis and fibrin in the papillary dermis (H & E x 450)

thinned-out epidermis with flattening o rete pegs, a clear zone in the upp dermis, bandlike infiltrate beneath th zone, with oedema of the upper dermis neutrophilic papillary microabscesses dilated blood vessels in the upper derm with swollen endothelial cells surrounde by predominently neutrophilic infiltrate Mixed cell infiltrate was also seen in th lower dermis and around the appendages A PAS stain showed the thicken basement membrane zone (BMZ) an fibrionoid material in the upp oedematous dermis (Fig. 3).

Patient was put on prednisolone 6 mg as single dose in the morning azathioprine 10 mg/d, erythromycin gm/d, ranitidine 150 mg bid, hydroxyzin hydrochloride 10 mg tid, haematinics an steroid for topical use. Prednisolone wa tapered to 40 mg/d at the rate of 10 mg week and then at the rate of 5 mg/week At the time of first follow-up after month patient was free of all lesions which had healed with scarring an dyspigmentation, patient complained o malar rash on exposure to sunlight an was put on chloroquine phosphate 25

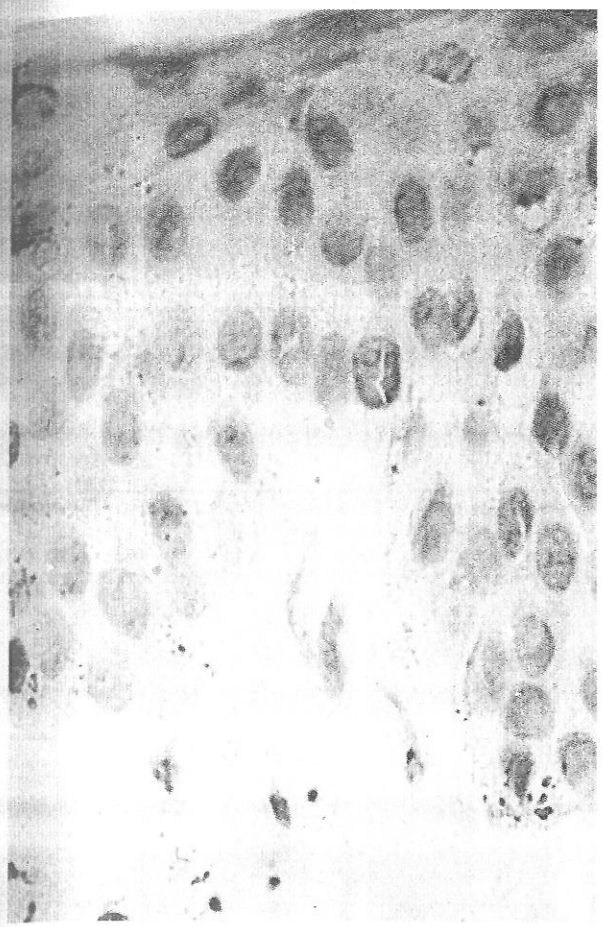

Fig. 3. PAS stain highlighting the thickened BMZ and fibrinoid material in the upper oedematous dermis (PAS x 450)

mg/d and a sunscreen cream for external use. A complete blood count showed haemoglobin 10.9 gm, leukocyte count of 7,300; neutrophils 59, lymphocytes 31, ESR 58, urinalysis was normal and Anti dsDNA was negative.

At the end of 6 months patient was on prednisolone 5mg/d, azathioprine 100 mg/d, chloroquine 125mg/d and a sunscreen and was free of all skin lesions.

Comments

The occurrence of bullous skin lesions in patients with SLE is a well recognized albeit rare phenomenon. Blisters can occur in a case of SLE due to the following causes : (1) They can occur due to extensive hydropic degeneration of the basal cell layer and oedema of the papillary dermis. (2) Bullous lesions occur in BSLE, which is a rare variant of SLE with a DH like histopathology. (3) Bullous pemphigoid, DH, bullous drug reaction, bullous erythema multiforme, epidermolysis bullosa acquisita, linear IgA dermatosis, porphyria cutanea tarda and leukocytoclastic vasculitis can occur in a case of SLE.[1,2] Bullous SLE is a rare variant of SLE with DH like histopathology. Clinically the bullous lesions are predominantly on the face, neck, upper trunk but may be more widespread as seen in our case. The patient may initially present with lesions resembling erythema multiforme.[3] Glomerular nephritis is common, associated with hypocomplementaemia and anti-DNA antibodies. Direct immunofluorescence shows linear deposition of IgG, IgM, IgA and to a lesser extent C3 at the basement membrane resembling bullous pemphigoid and unlike the IgA seen in the dermal papillae in DH. Circulating antibodies may be absent. A recent study using immunochemical and immunoultrastructural analysis has demonstrated circulating IgG autoantibodies that are indistinguishable from those found in epidermolysis bullosa acquisita.[3,4] Immunoelectron microscopy has shwon that the immune deposits are predominently beneath the lamina densa, with globular aggregates also found slightly deeper in the dermis in some areas, subendothelial deposits are frequently seen in superficial dermal blood vessels.[5]

BSLE may or may not be associated with exacerbation of systemic LE. In the former group cutaneous eruption resolves

with the treatment and resolution of their SLE.[6] Patients of bullous SLE may respond to high dose steroid therapy and/or immunosuppressive drugs, but the response to dapsone is dramatic. This patient was not given dapsone because her haemoglobin was 8.7 gm%. Dapsone can rarely exacerbate the disease.[3]

Histopathologically BSLE like picture is seen in (1) DH and DH like drug eruption. The presence of mucin among the collagen bundles in the dermis, the depth of the infiltrate and the thickened BMZ in BSLE differentiates it from DH and DH like drug eruption.

(2) In bullous pemphigoid the predominent cell is usually the eosinophil. The absence of mucin and thickened BMZ differentiates it from BSLE.

(3) Cicatricial pemphigoid is also characterised by a subepidermal blister with neutrophils in the blister fluid and the dermal papillae, but the absence of mucin and thickened BMZ, and clinical features help in differentiating this entity from BSLE.

(4) Leukocytoclastic vasculitis (LCCV) and septic vasculitis have a histopathologic picture similar to BSLE, but in LCCV the infiltrate invades the walls of the blood vessels while in BSLE it is perivascular. Clinically, generalised vesicles and bullae can occur in LCCV, but they usually become purpuric. In septic vasculitis thrombi are seen inside the blood vessels.

(5) In chronic bullous disease of childhood the histopathologic picture closely resembles that of DH and th absence of mucin, thickened BMZ, an the depth of the infiltrate helps i differentiating it from BSLE.

Camisa and Sharma propose criteria for diagnosis of BSLE:[7]

(1) A diagnosis of SLE based o ARA criteria. (2) Vesicles and bullae arising on, but not limited to, sunexpose skin, (3) Routine histopathologic finding compatible with DH. (4) Indirect I negative for circulating BMZ antibodies This has now been revised as follows Negative or positive indirect IF fo circulating BMZ antibodies, usin separated human skin as substrate.[1,5] Direct IF revealing IgG and/or IgM an often IgA at dermoepidermal junction.

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