Haemorrhagic Bullae in Skin as First Manifestation of SLE

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Abstract
Systemic lupus erythematosus (SLE) is a multisystem disease with varied manifestations. Atypical presentations of this disease may baffle clinicians and delay the diagnosis. We here report a case of SLE in a 15 year old female, presenting with haemorrhagic and necrotic bullae in the skin. The patient later developed renal failure. She was positive for anti-dsDNA and anti ribosomal-P. Also, serum C reactive protein level was high. She responded to steroid therapy. The skin lesions were proved to be vasculitis. Such initial presentation of SLE has not yet been reported.

Introduction
Systemic lupus erythematosus (SLE) is a great mimicker and may have completely atypical presentations. Dermatological manifestations of SLE may vary widely from discoid lupus (DLE) to cutaneous vasculitis. While some of these lesions like the malar rash or DLE are pathognomonic for SLE, some lesions may mimic other diseases. In absence of other systemic features like arthritis, these atypical skin lesions may baffle clinicians and delay the diagnosis. We here report a case of SLE presenting with haemorrhagic bullous lesions on skin. Such an atypical manifestation is rarely reported in literature.

Case Report
A 15 year old female patient presented with fever for four days and a few painful lesions in the back. The lesions were dark coloured, blood-filled bullae, sharply demarcated from normal surrounding skin. Nikolsky sign was negative. Within the next two days, she developed more lesions in both legs and earlier lesions became necrotic (Figure 1). The lesions were extremely tender. There was no bleeding or exudation from the lesions. The patient had not taken any drugs in the recent past. Except for these lesions, rest of her skin and mucosa was normal. There was no photosensitivity or arthritis. Her fever was continuous, varying between 100-102°F. Urine output was normal. Physical examination was unremarkable. Blood pressure was 120/77 mm of Hg. There was no evidence of free fluid in abdomen or thorax.

Laboratory investigations showed haemoglobin of 8.5 gm/dl with total leukocyte count of 7100/µL and platelet count of 45000/ µL. Differential count showed neutrophil of 68% and lymphocyte of 21%. Reticulocyte count was 1.1%. ESR was 50 mm in 1st hour. Direct Coomb’s test was negative and peripheral smear examination did not show any evidence of haemolysis. Serum urea and creatinine were 35 mg/dl and 0.8 mg/dl respectively. Electrolytes were normal. Urine routine examination was normal and albumin-creatinine ratio was 33 mg/g. C-reactive protein (CRP) level was 5 mg/dl (N<0.6). Chest X ray and abdominal ultrasonography were normal. Echocardiographic screening did not show any evidence of endocarditis. Urine and blood cultures did not grow any organism. Viral serologies including HIV were negative. Due to presence of haemorrhagic bullae in the skin clotting parameters were also done. D-dimer, fibrin degradation products, fibrinogen level, prothrombin time and aPTT were all normal. In view of the raised CRP, she was started on antimicrobial agents, although cultures were negative. However, the lesions did not resolve and the fever also persisted. Hence, more tests were done.

Blood for anti-nuclear factor (by Hep-2 cell line) was positive (4+) with homogeneous pattern. Anti-dsDNA antibody and anti-Ribosomal-P were also positive. Other auto-antibodies, including antiphospholipid antibody were negative. Biopsy from the skin lesion showed extravascular RBCs...
steroids. Her condition stabilized with 3 days), followed by full dose oral methyl prednisolone (1 gm/day for she was treated empirically with pulse flare, as renal biopsy was not feasible, considering the acute stage of mg/dl). Considering the acute stage of complement levels were also low: C3-50 mg/dl (N: 80-180) and C4-<5 (N:16-50 mg/dl). Urine showed urea 90 mg/dl, creatinine 3 mg/dl and potassium of 5.6 mEq/L. Urine showed increase in albumin and appearance of RBCs. Her blood pressure also came increase in albumin and appearance of RBCs. Her blood pressure also came with evidence of vasculitis. There was skin necrosis around the vasculitic lesion. Immunofluorescence of the skin biopsy could not be done due to cost factor. Thus, by SLICC criteria, she was diagnosed to be a case of SLE (2 laboratory parameters: anti-nuclear factor and anti-dsDNA and 2 clinical criteria: cutaneous lesions and thrombocytopenia). Based on these results, the patient was started on oral steroids (short term) and hydroxychloroquine sulphate for the cutaneous lesions. Topical steroid was also given. However, on the 18th day of admission, she suddenly developed pedal swelling with severe nausea. Urine output also decreased. Repeat serum biochemistry revealed urea 90 mg/dl, creatinine 3 mg/dl and potassium of 5.6 mEq/L. Urine showed increase in albumin and appearance of RBCs. Her blood pressure also came down to 100/60 mm of Hg. Serum complement levels were also low: C3-50 mg/dl (N: 80-180) and C4-<5 (N:16-50 mg/dl). Considering the acute stage of flare, as renal biopsy was not feasible, she was treated empirically with pulse methyl prednisolone (1 gm/day for 3 days), followed by full dose oral steroids. Her condition stabilized with this therapy and the blood biochemical parameters slowly became normal. Renal biopsy was done later which showed stage III Lupus Nephritis. She was then commenced on regular pulse cyclophosphamide therapy.

During follow up, no new skin lesions were noted. The original lesions healed with scars (Figure 2). CRP levels also became normal after 1 month. Her oral steroid was slowly tapered; hydroxychloroquine and azathioprine were continued. The renal parameters have remained normal with no active sediments in urine. Platelet count has remained between 70000 and 1,00,000/µL. She is regular follow up in our rheumatology clinic.

**Discussion**

This case highlights a rare cutaneous manifestation of SLE. Cutaneous manifestations are quite common in SLE, affecting up to 70% of patients. Commoner cutaneous manifestation of SLE are malar rash, photosensitivity and DLE. A distinct subtype of SLE patients have subacute form of skin lesions which are non-scarring, photosensitive non-indurated lesions.

Cutaneous vasculitis in lupus may manifest in various forms like palpable purpura, ulcers, skin necrosis or urticaria. The vasculitic lesions result from deposition of antigen-antibody complexes in the skin vessels followed by complement activation. Skin is the commonest organ affected by vasculitis in SLE. Other internal organs affected include retina, mesentery and CNS. Cutaneous vasculitis usually indicate a poorer prognosis with possibility of flares. A case report from India showed neurological and cardiological flares in SLE shortly after appearance of cutaneous vasculitis. A retrospective study from Brazil found that SLE patients with cutaneous vasculitis had more prevalence of Raynaud’s phenomenon and anti-ribosomal P antibody. In contrast to the Indian report, this Brazilian study did not find any association between vasculitis and CNS manifestations. However, these systemic involvements were not present in our case, although anti-Ribosomal P was positive.

Usually in SLE, CRP levels remain normal or only mildly elevated. However, there are exceptions where CRP is markedly elevated in SLE. These include serositis, vasculitis or synovitis. In SLE, vasculitis causes significant increase in CRP levels. In our case, one of the clues to the vasculitic nature of the cutaneous lesions was raised CRP. However, infection is a close differential diagnosis in these cases and must be excluded by appropriate tests. Vasculitis is SLE should be promptly treated to prevent serious complications. Anti-malarials and immunosuppressives are generally used, as in our case1. However, in severe cases, more aggressive therapy with plasmapheresis, IVlg or cytotoxic drugs may be needed. Biologics may be needed too.

The prevalence of cutaneous vasculitis in SLE varies from 20–40% in different studies. However, first presentation with vasculitic lesion, without any other systemic feature is quite rare. A case was reported from Portugal where hypocomplementemic urticarial vasculitis was the initial presentation for SLE. Anti-phospholipid antibody syndrome (APLA) may present with similar necrotic skin lesions, which is termed “pseudo-vasculitis”. But skin biopsy will differentiate between this and true vasculitis because in APLA, the lesions will not have any inflammation.

Such cutaneous bullous vasculitic lesions as first manifestation of SLE has not been reported till now.

**Conclusion**

SLE can present with atypical cutaneous vasculitis manifesting as haemorrhagic bullae. Clinicians should be aware of such rare presenting symptoms.

**References**