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Case Report

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Varicella-like Lesions in a Patient with Aggressive Lupus Nephritis

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ABSTRACT

Systemic lupus erythematosus is an autoimmune disease that is widespread throughout the world. Vasculitis can present in patients with lupus nephritis in very different clinics. However, if rapid diagnosis and treatment are not applied, this disease may be mortal. The patient with lupus nephritis, which was aggressive and accompanied by infection, and remission with strong immunosuppressive therapy and infection treatment. In this case, vasculitis with varicella-like lesions is presented.

Keywords: Cutaneous vasculitis, lupus nephritis, varicella zoster

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INTRODUCTION

Systemic lupus erythematosus (SLE) is an autoimmune disease that is widespread throughout the World. SLE may involve all tissues and organs, mostly in women of childbearing age, and its diagnosis is often difficult.[1,2] Impaired apoptotic clearance, complement activation, up-regulation of the immune system, and tissue inflammation resulting in an autoimmune process in this disease.[3]

Systemic Lupus International Cooperation Clinics (SLICC) criteria adopted in 2012,[4] at least 1 clinical evidence; A total of 4 criteria: serositis, proteinuria, synovitis, hemolytic anemia, leukopenia or lymphopenia and thrombocytopenia, neurological symptoms and at least 1 immunological criterion (anti-nuclear antibody (ANA), anti-double-strandedDNA (anti-dsDNA), anti-Smith, anti-phospholipid antibodies, hypocomplementemia, and direct Coombs test) must contain.

Vasculitis in SLE may present in different situations such as cutaneous vasculitis. It is associated with lupus nephritis, hypocomplementemia, cardiovascular symptoms, and Sjogren's syndrome.[5] Also, it has been found that cutaneous vasculitis may be associated with neuropsychiatric lupus.[6]

In this case report, we presented a cutaneous vasculitis involvement in a patient with aggressive lupus who was admitted with varicella-like lesions.

CASE PRESENTATION

A 24-year-old female patient was diagnosed with SLE 10 years ago and she has been treated with methylprednisolone, azathioprine, mycophenolic acid, and hydroxychloroquine during this period. The patient's disease has been in remission for the last 2 years. She applied to another center's nephrology department due to the swelling that has been present in her body for the last month. Since proteinuria of 70 g/day in the urine test, a kidney biopsy was performed in an external center and the pathology result revealed class 5 membranous glomerulonephritis. The patient's weight increased by approximately 17 kg and did not respond

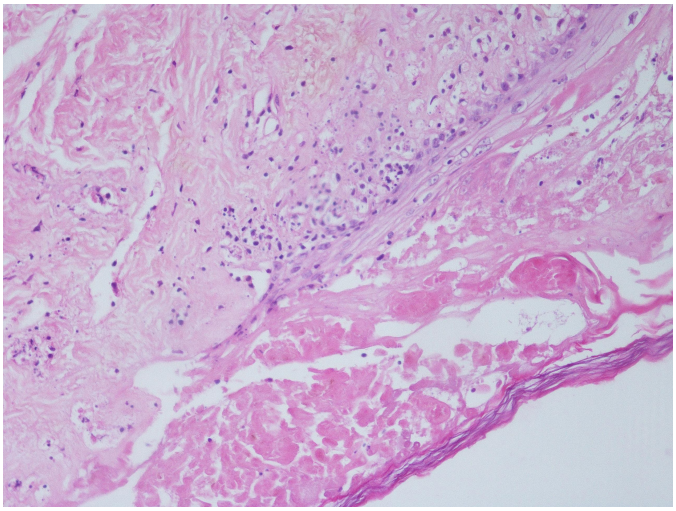

Figure 1. The presence of necrosis in other layers of the epidermis under the keratin layer on the surface is remarkable. Vacualization was observed in the basal cells. There is cell debris around the small vessel under the epidermis.

to the high-dose diuretic treatment. Thus, pulse steroid therapy and 375 mg/m^2 rituximab treatment were started. When her dyspnea progressed after the third dose of rituximab, she was admitted to our hospital with an increased total weight of 21 kg and anasarca-style edema. In a urine test, she had proteinuria of 71 g/day. Therefore, pulse steroid therapy and 750 mg/day cyclophosphamide treatment were initiated rapidly. In the first week after cyclophosphamide, the patient developed neutropenia, and then, neutropenic fever is seen. During this period, the patient was given antimicrobial treatment (1 g/day vancomycin and 3 g/day meropenem). While the patient was immunosuppressive, vesicular lesions appeared throughout her body, especially in her lower extremities. As a result of the biopsy taken from the leg of the patient who was consulted by dermatology (basal cell vacuolization in epidermal necroze peripheral and skin biopsy including supepidermal leukocytoclasis, dorsal skin, incisional biopsy) (Figure 1). As a result of the dermatology consultation, methylprednisolone + vaseline cream was recommended. When the patient had fever under antibiotic treatment, and respiratory distress continued, the Cytomegalovirus polymerase chain reaction (CMV PCR) test result sent from the patient had 3 134 043 copies (Table 1). Thus, 900 mg/day of valganciclovir was started. The patient did not have pneumonia on thorax computed tomography (CT).

MAIN POINTS

- SLE-associated vasculitis can occur in unexpected clinics.
- Extreme caution should be exercised as misdiagnosis will cause delays in treatment.
- SLE disease can sometimes progress together with serious infections. Immunosuppressive therapy can create life-threatening conditions.

Anti-nuclear antibody was positive in 1/10 000 titer with homogeneous pattern, anti-dsDNA: 48 IU/mL (negative if <30), C3 and C4 complement levels were slightly reduced. Anti-neutrophil cytoplasmic antibody, anti-cyclic citrullinated peptide, and rheumatoid factor were within normal limits.

Carbamazepine 200 mg 3 times was started when trigeminal neuralgia started in the follow-up of the patient. Then, antibacterial therapy was discontinued because the patient had neutropenia and had negative culture results. During the follow-up, the patient had gastrointestinal bleeding, but no focus was detected in the endoscopy. It then regressed spontaneously. When the CMV PCR result of the patient was 850 copies (after about 2 weeks of treatment), the patient was given the second cyclophosphamide treatment, and also, valganciclovir treatment was continued. As a result of the antiedema treatment given since her hospitalization, the patient's pleural effusions disappeared, and pretibial edema regressed from grade 4 to grade 1. The patient's weight decreased from 76 to 51 kg. Besides, after the third dose of cyclophosphamide (3 weeks later, third dose of treatment was given), the patient's

Table 1. Biochemical Parameters of the Patient Before and After Treatment (After 6 Weeks)

Laboratory Markers	Values		Reference Values Range, SI
	Before	After	
Blood urea nitrogen	33	4	6-20 mg/dL
Creatinine	0.3	0,1	0.5-1.2 mg/dL
Sodium	131	137	136-145 mmol/L
Potassium	4.5	3.7	3.5-5.1 mmol/L
Total bilurubin	0.6	0.18	0-1.4 mg/dL
Direct bilurubin	0.3	0.1	0-0.3 mg/dL
Total protein	2.5	5.1	6.4-8.3 g/L
Albumin	1.6	3.6	3.5-5.2 g/L
Alkaline phosphatase	52	66	44-130 µ/L
Lactate dehydrogenase	1235	290	135-250 µ/L
Aspartate aminotransferase	49	22	0-40 µ/L
Alanine aminotransferase	66	18	0-41 µ/L
Gamma glutamyl transferase	122	66	10-71 µ/L
C reactive protein	31	8	0-5 mg/L
Proteinuria	71	0.5	0-0.3 g/day
Hemoglobin	9.5	10.3	12-16 g/dL
Platelet	146	187	130-400 µ/L
White blood cell	11×10^9	8×10^9	$4.8\text{-}10.7 \times 10^9$/L
CMV PCR	3 134 045	570	0-500 (copies/mL)

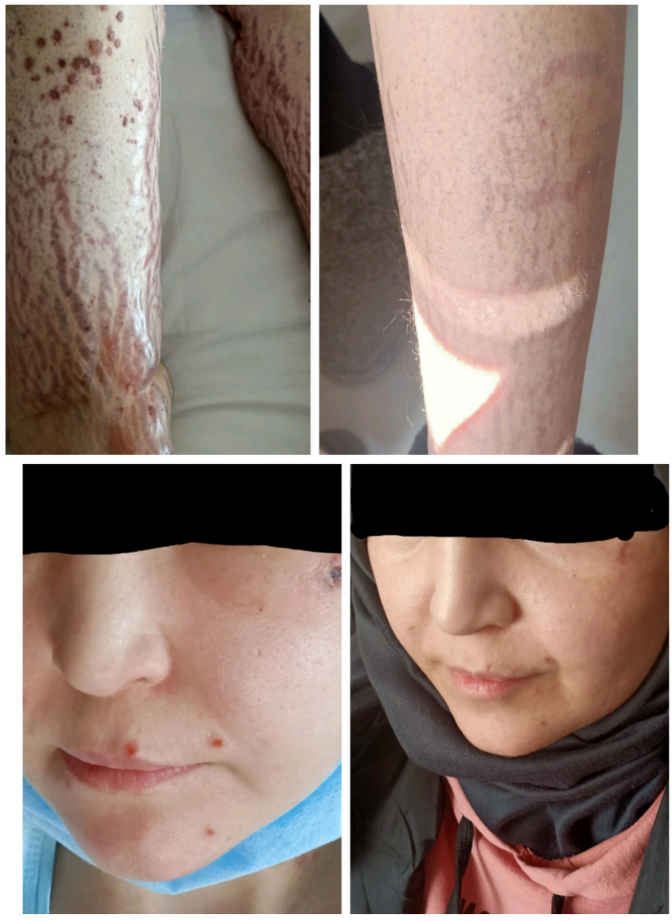

Figure 2. Skin lesions before and after four doses of cyclophosphamide treatment.

proteinuria regressed from 71 g/day to 0.5 g/day. The patient's general condition was good and she was discharged with the planned intravenous cyclophosphamide treatment once a month (Figure 2).

DISCUSSION

Vasculitis affecting different regions may present with non-specific symptoms including fatigue, fever, weight loss or may overlap with other features of the SLE. Careful evaluation is needed to diagnose vasculitis, particularly visceral vasculitis, which is less common but potentially life-threatening. It requires rapid and aggressive treatment. Histopathological evaluation of tissue biopsies is the diagnostic gold standard.[7]

Viruses can trigger autoimmune and autoinflammatory diseases and cause vasculitis.[8] In our case, the inflammatory process may have started with a CMV infection. Cutaneous vasculitis is the most common type of vasculitis among patients with SLE. Usually, the skin is confined and rarely associated with systemic vasculitis. It is seen in up to 20% and is frequently recurring. Cutaneous small-vessel vasculitis mostly presents as punctate lesions, palpable purpura, ulcers, erythematous plaques, or macules.[5,9]

Cutaneous vasculitis has also been found to be associated with disease activity and poor prognosis and renal and central nervous system involvement.[10] SLE patients of 59%-85% have skin manifestations but <5% develop vesiculobullous lesions.[11] Our case report was particularly interesting because vasculitic lesions were presented with varicella-like exanthema. The lesions were also different from the classic chickenpox in their appearance because the vesicles were uncoiled, dispersed, and at the same stage of evolution. Visceral vasculitis usually occurs with disease exacerbations and may coexist with cutaneous vasculitis.[7]

Gastrointestinal symptoms in SLE patients are not uncommon and may be related to treatment-related side effects or infections as well as disease involvement. Lupus mesenteric vasculitis is characterized by sudden onset, diffuse, and severe abdominal pain that may be associated with nausea, rectal bleeding, and vomiting, and the clinical picture of "acute abdomen." Corticosteroids and/or other immunosuppressive treatments may mask symptoms and cause a diagnostic and therapeutic delay.[12] In our case, we associated the patient's bleeding with visceral vasculitis and continued immunosuppressive therapy. Also, we could not find supporting evidence for a cutaneous drug reaction in our patient, considering that antibiotics were administered after the rash occurred.

SLE-related vasculitis may present in unexpected clinics. Since misdiagnosis will cause delays in treatment, extreme caution is required.

Informed Consent: Written informed consent was obtained from the patient who participated in this case.

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