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Case Report

Late Onset Systemic Lupus Erythematosus Manifests As Lupus Nephritis, A Rare Presentation

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Abstract

Systemic lupus erythematosus(SLE) is a chronic, multisystemic autoimmune disorder typically affecting middle-aged individuals predominantly in women. Late-onset SLE occurs in individuals over 50, differs from classic SLE in terms of age, symptoms, organ involvement and severity. This case describes an elderly South-Asian woman who was under evaluation for skin rashes with impaired renal function, diagnosed to have discoid lupus with lupus nephritis(LN). She was treated with glucocorticoids and mycophenolate mofetil effectively, with improved renal function, thus delaying the need for dialysis. This case emphasizes timely diagnosis and treatment can significantly improve the outcome in late onset SLE with lupus nephritis(LN).

Keywords

South Asian woman, discoid lupus, lupus nephritis, late-onset SLE.

Introduction

Systemic lupus erythematosus(SLE) is a chronic, autoimmune disease with multisystem involvement that presents with a wide range of symptoms(1). It is more prevalent in women between the ages of 20 and 40, with a 10:1 female-to-male ratio(4). The aetiopathogenesis results from a combination of genetic, environmental, and hormonal factors that disrupt immune tolerance and trigger autoimmunity. Due to multi-system involvement, diagnosis and treatment of SLE requires a multidisciplinary approach. Late-onset SLE begins after the age of 50 yrs and differs from the classic form as they are less likely to develop skin manifestations, photosensitivity, arthritis, and nephritis but more prone to get serositis, lung involvement, and Sjögren's syndrome (2, 3). Additionally, there is a higher prevalence of positive rheumatoid factors, anti-Ro and anti-La antibodies, while anti-RNP antibodies and hypocomplementemia are less common(2). The case underscores the importance of detailed assessment, continuous monitoring, and collaboration between specialties to effectively diagnose and manage SLE in the elderly, particularly with atypical presentation, and highlights the need for a methodical diagnostic and individualized management strategies for late-onset SLE.

Case presentation

A 69-year-old female recently diagnosed with hypertension and dyslipidemia, presented with non-pruritic, hyperpigmented skin rashes over sun-exposed areas (Figure 1) which started as small patches and have been progressively worsening for four months duration. In addition, she reported hair loss, loss of weight, loss of appetite and early morning headache over the same period. She also complained of productive cough with yellowish sputum for 1 month duration. She didn't have chest pain, palpitation, orthopnea, paroxysmal nocturnal dyspnea. No dysuria, hematuria, or frothy urine. No history of fever, abdominal pain, nausea, vomiting, altered bowel habits, or gastrointestinal bleeding. No visual disturbances or seizures. She didn't have joint pain, back pain, oral or genital ulcers. No features of hypothyroidism. No bleeding manifestation. Medications before admission were Losartan, Prazosin, and Atorvastatin. No pet exposure recent travel history or high-risk behavior. Family, allergic, and past surgical histories were unremarkable.

On examination, she was pale and her body temperature was 38.3°C. Hyperpigmented skin rashes were noted over the face, neck, bilateral forearms, and hands (Figure 1) with bilateral pitting ankle edema. Her blood

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pressure was 180/90mmhg and her heart rate was 110 beats per minute and no murmur. The respiratory system examination revealed vesicular breathing with coarse crepitations and increased vocal resonance over bilateral lower zones with a respiratory rate of 15 per minute and saturation was 96% on room air. Abdominal and neurological examinations were unremarkable except for grade 2 hypertensive retinopathy changes in fundus examination.

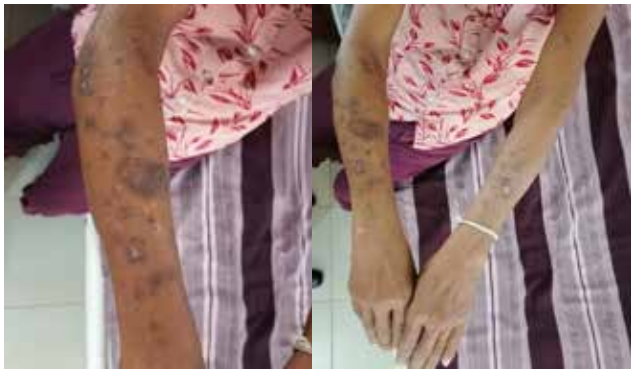

Figure 1: Photosensitivity rash

Table 1: Baseline Investigations

Investigations	Results
WBC	6.88x10^9/l (4-10)
Neutrophil	60.8% (50-70)
Lymphocyte	28.2% (20-40)
Hemoglobin	8.4g/dl (11-15)
MCV	85.1fl (80-100)
MCH	26.3 pg (27-34)
RDW	16.2% (11-16)
Platelets	281x10^9/l (150-450)
ESR	83mm/hr (<20)
CRP	12.6mg/l (0-3)

Her Potassium was slightly elevated(5.2 mmol/l), Serum creatinine increased(233mmol/l) with eGFR of 18ml/min/1.73m^2**.** Urine full report showed Protein – 3+, dysmorphic RBC with ring form 95%, pus cells – 6-8 /hpf, RBC–20-25/hpf, epithelial cells–few. UPCR was elevated (882.4mg/mmol). C-ANCA was positive, but P-ANCA was negative. Her DS-DNA was equivocal. ANA was Positive(1/640). Sputum culture isolated Coliform and Pseudomonas species. Serum Corrected Calcium was normal and Tuberculosis was excluded.

ECG was unremarkable except sinus tachycardia and 2D Echocardiography was normal. Blood Picture showed anemia of chronic disease. An ultrasound scan of the abdomen showed bilateral renal parenchymal changes. Serum protein electrophoresis showed decreased albumin with increased alpha-1 globulin but no Monoclonal peak. HRCT Chest showed Bronchiectasis of the lingula lobe and middle lobe and no evidence of pulmonary hemorrhage.

Renal Biopsy -Features are compatible with lupus nephritis. Class IIIC, Activity index–2/24, Chronicity index–6/12**.** Skin biopsy was not performed as the diagnosis was made with renal biopsy.

The activity index was 2/24 and the chronicity index was 6/12. She was commenced on oral Hydroxychloroquine 200mg/daily and mycophenolate mofetil 600mg/m^2.

Discussion

This case features a 69-year-old woman diagnosed to have late-onset SLE supported with discoid lupus and biopsy-proven lupus nephritis(LN) but lacked common features seen in early-onset SLE. In atypical presentations like this, the American College of Rheumatology(ACR) and Systemic Lupus International Collaborating Clinics(SLICC) criteria are helpful in confirming diagnosis. The SLICC allows diagnosis with fewer markers if lupus nephritis is confirmed on biopsy alongside positive ANA and/or anti-dsDNA antibodies. Lupus nephritis, a serious complication involving the kidneys, is less common in late-onset SLE but can still occur(4), as seen in this case. Usually, kidney biopsy reveals the characteristic "full-house" immunofluorescence pattern. There is immunostaining for IgG in more than 90%; IgA and IgM in 60-70%; and C3 and C1Q in around 80% of cases(5), indicating a widespread polyclonal autoimmune response due to autoreactive B-cells. This is a hallmark finding in lupus nephritis(4).

Managing lupus nephritis is crucial due to its potential to progress to end-stage renal disease in around 10% of cases. Treatment usually starts with high-dose glucocorticoid pulse therapy, followed by daily glucocorticoids combined with immunosuppressive agents like cyclophosphamide, azathioprine, or mycophenolate mofetil. Induction therapy focuses on reducing inflammation, while maintenance therapy with

mycophenolate mofetil helps prevent further immune-related kidney damage. Although lupus nephritis is a serious condition, late-onset SLE generally has a milder course with less systemic involvement compared to early-onset cases(4).In this case, she responded well to the treatment with steroids, Hydroxychloroquine and immunosuppression, led to a reduction in creatinine levels and significant clinical improvement. This case highlights the importance of timely diagnosis and appropriate management, even in older patients with atypical SLE presentations, to achieve better clinical outcomes.

Conclusions

Photosensitive skin rashes with nephritic syndrome can be a first presentation of SLE even in elderly. Clinicians should strongly consider SLE, when a renal biopsy shows a full-house immunofluorescence pattern, which strongly indicates lupus nephritis(LN) a life-threatening complication. Early detection and prompt treatment are crucial, because it may lead to organ failure if not addressed on time. Personalized approach enhances patient outcomes and reduces the risk of treatment-related complications.

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