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BMH Med. J. 2024;11(4):68-72. **Case Report**

Late Onset Systemic Lupus Erythematosus - A Case From a Tertiary Centre in Kerala

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Abstract

Our differential diagnosis in this elderly female, who presented with history of anasarca, hypoproteinemia, mesenteric lymphadenopathy and low C3 rapidly progressive glomerulonephritis, placed 'malignancy' in the top of the list followed by 'extrapulmonary tuberculosis'. Though not impossible, it was a pleasant surprise to find the serological markers for Systemic Lupus Erythematosus (SLE) turn positive. These were complemented by the renal biopsy findings, predominantly the Electron microscopy.

Keywords: pleural effusion, AKI, skin changes, lupus nephritis

Elderly female, a hypertensive on irregular treatment, was noted to have pedal edema and facial puffiness for nearly two years, along with progressive fatigue and weight loss and she was evaluated from her hometown. For two years she has been under treatment for hyperpigmented skin lesions on both her feet. Later, she was found to have deterioration of renal function from serum creatinine of 1.4mg/dl to 2.5mg/dl over 6 weeks. Further evaluation showed anemia, elevated ESR, microscopic hematuria and proteinuria. She progressively developed ascites, shortness of breath and difficult to control hypertension with borderline hypokalemia. She was referred to our centre and evaluation revealed high SAAG (serum ascites albumin gradient) ascites with cardiac diastolic dysfunction. Contrast enhanced CT thorax and abdomen showed bilateral pleural effusion with ascites with tree in bud appearance in lingula and few homogenously enhancing mesenteric lymph node enlargement. Lab parameters at our centre are tabulated in **Table 1**.

Hyperpigmented lesions on legs are shown in **Figures 1** and **2**.

USG abdomen reported right kidney 8.5 x 3.5cm and left kidney 7.5 x 3cm. Corticomedullary differentiation partially maintained. Bilateral pleural effusion, minimal pericardial effusion, and moderate ascites. Ascitic fluid cytology showed neutrophils and mesothelial cells. Patient was found to have positive autoimmune markers as mentioned above and was subjected to renal biopsy followed by pulse steroids with Methyl prednisolone 500mg for 3 days followed by oral steroids and Mycophenolate Mofetil as indicated in treatment for Lupus nephritis. The biopsy findings are tabulated in **Table 2**.

Table1: Lab parameters on presentation

	14.2.23
Complete blood count	Hemoglobin 9.7g/dl, total leucocyte count 5500/cu.mm, P70%L17.3%M2.4%, platelet 313000/cu.mm
Urine routine	Protein 3+, pus cells 5-8/hpf, RBC 8-10/hpf
Urine protein creatinine ratio	1.32
Urea (mg/dl)	52.7
Creatinine(mg/dl)	2.12
Sodium(mEq/L)	131
Potassium (mEq/L)	3.9
Calcium (mg/dl)	7.1
Phosphorus(mg/dl)	4.9
Total protein(mg/dl)	4.3
Serum albumin(mg/dl)	1.8
Liver enzymes and Bilirubin	Normal
Lactate dehydrogenase (U/L)	216
Thyroid stimulating Hormone micro IU/L	3.193
C3 complement (75—135) mg/dl	44.14
C4 complement (9—36) mg/dl	25.27
ANA profile	SS-A 2+ dsDNA 1+
SS-A antibody levels U (<20)	81.5
SS-B antibody levels U (<20)	4.98
Ds DNA antibody (<25IU/ml)	95
Angiotensin Converting Enzyme levels (U/L)	40.6
Anti Phospholipid panel	negative
Serum immunofixation electrophoresis	negative
Peripheral smear	Normocytic normochromic anaemia
Ascitic fluid analysis	WBC count 167/cu.mm P8%L92%, RBC 95/cu.mm, Albumin 0.5g/dl, adenosine deaminase levels-15.6U/l (<40)
Sputum culture	negative
RA factor and Cryoglobulin levels	negative
Anti MPOantibody and antiPR-3 antibody	negative

Considering her age and clinical presentation, we initially thought of malignancy or tuberculosis, but the evaluation was negative. With the diastolic dysfunction in the heart, severe hypoproteinemia and renal dysfunction with anemia, a paraproteinemia was suspected and serum immunofixation done which was negative. The autoimmune work up was positive for lupus (raised anti ds-DNA antibody levels with low C3 complement levels and raised SS-A antibody levels) and the renal biopsy showed features of chronicity with presence of subendothelial and mesangial conventional electron dense deposits in electron microscopy. The patient did nor have any previous history suggestive of vasculitis and it was a learning phase diagnosing vasculitis in an elderly female.

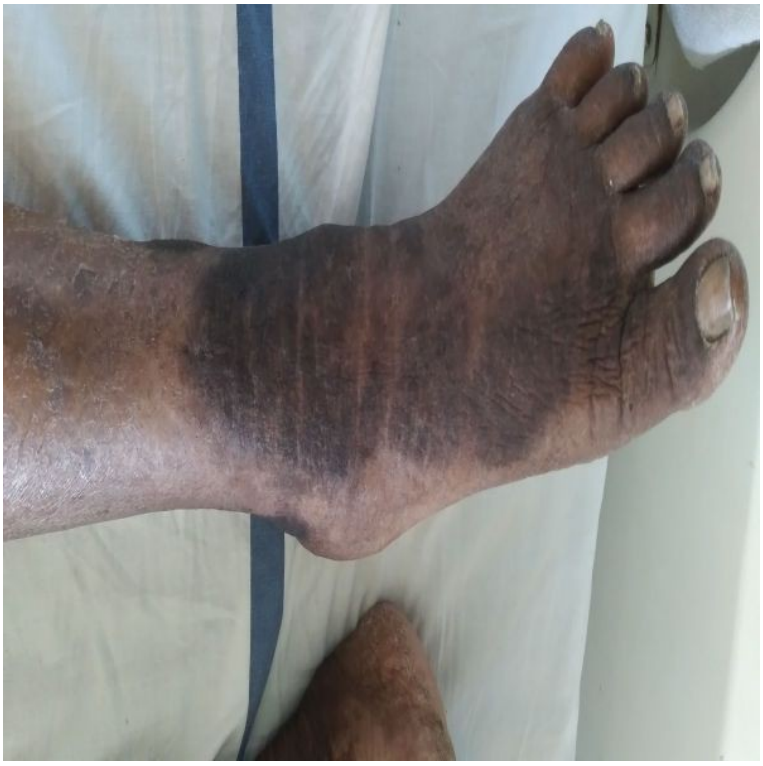

Figure 1: Hyperkeratotic and hyperpigmented lesions on left leg

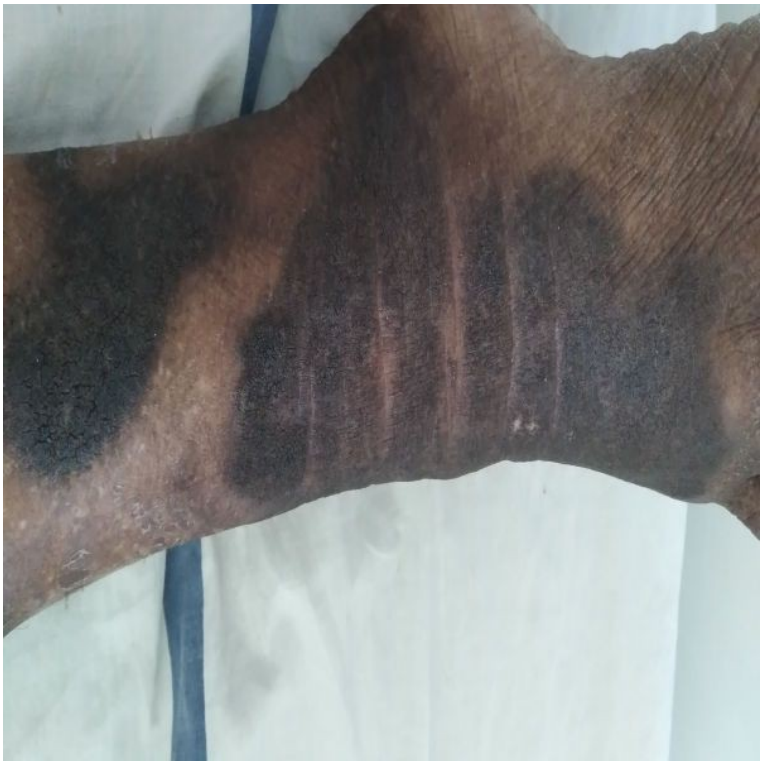

Figure 2: Hyperkeratotic and hyperpigmented lesions on right leg

Table 2: Histopathology reports of renal and skin biopsy

	Renal biopsy reports
Light Microscopy	Glomeruli: Up to 6 in number, 3 are globally sclerosed. Others show mesangial widening and capillary wall thickening with increased cellularity. Tubules: show atrophy, some show lining by foam cells Interstitium: Shows diffuse fibrosis, dense lymphocytic infiltrates, aggregates of foam cells and scattered well-formed epithelioid granulomas with giant cells and cholesterol deposits related to the tubules. Blood vessels: Some arterioles show hyalinosis with luminal narrowing and thrombi. Arteries show intimal thickening
Immunoflourescence:	1 sclerosed glomerulus in the sample, negative for IgM, IgG, IgA, C3, C1q, Kappa and lambda.
Electron Microscopy	1. Diffuse thickening of GBM's with mesangial interposition, neo basement membrane formation and reduplication. 2. Several subendothelial and mesangial conventional electron dense deposits. No substructure is identified in deposits. 3. Areas of GBM wrinkling, subendothelial widening/rarefaction and accumulation of membrane debris. 4. Significant effacement of visceral epithelial cell foot processes.
DIAGNOSIS	Membranoproliferative glomerulonephritis with interstitial cholesterol granulomas, and hypertensive vasculopathy with possible TMA, renal biopsy
	Skin biopsy
	Epidermis is thinned out with papillomatosis, hyperkeratosis, and elongated rete pegs. The papillary dermis shows fibrosis, melanin incontinence and ectatic lymphatics. The lower dermis shows fibrosis Immunofluorescence: Negative for IgG, IgM, IgA and C3
DIAGNOSIS	Elephantiasis nostras verrucosa

Discussion

While Systemic Lupus Erythematosus (SLE) is a known disease to occur in young females, literature reporting elderly SLE from India are not many. Though there is no strict age limit above which one can term it 'elderly' SLE, more than 50 years is considered the cut-off [1]. This subgroup constitutes 2-12% of all patients diagnosed with SLE. Late-onset lupus differs from early-onset lupus in gender and ethnic prevalence, clinical presentation, organ involvement pattern, disease severity, and prognosis. These differences are due to age-related variation in environmental and/or host factors responsible for disease expression and to variation in sex hormones [2]. For example, clinical manifestations such as malar rash, renal disease, arthritis, and photosensitivity are less frequent in them, while serositis, cytopenias, and pulmonary involvement are more frequent [3], as seen in our patient. Nephritis is seen in a smaller proportion of this subgroup than in patients who present with classic SLE. For this reason, LN in late-onset SLE is considered an atypical presentation [1]. A slow onset of the disorder, non-specific manifestations at the beginning of the illness and less frequent prevalence of SLE in the elderly often result in late diagnosis [4].

Muzaffar et.al from India studied the clinical features and autoantibody profile of patients having late onset SLE and to compare with young onset SLE. In this study most common antibody was SSA/Ro60 and anti-SSA/Ro52. Interstitial lung disease (ILD), pancytopenia, and diffuse alveolar haemorrhage were more frequent in late onset group in comparison to photosensitivity, malar-rash, alopecia, Raynaud's phenomenon, lymphadenopathy, nephritis, and antiphospholipid antibody syndrome were less prevalent among late onset group compared to young onset group [5].

There are other case reports of elderly Lupus/Lupus nephritis with atypical presentation, but not many have been reported from India. Lesson learnt from this patient mandates a high index of suspicion in all patients presenting with acute kidney injury with glomerulonephritis, irrespective of gender or age.

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