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Co-existing Systemic Lupus Erythematosus with Lupus Nephritis and Sickle Cell Trait in a Patient with Urinary Tract Infection: A Case Report of Rare Combination

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Case Study : Systemic lupus erythematosus (SLE) and sickle cell disease (SCD) are relatively common disorders, the co-existence of these two conditions in an individual is rare. Because of the similarities of the musculoskeletal, central nervous system, and renal manifestations in both diseases, diagnosis of SLE in patients with SCD can be difficult to establish. Both SCD and sickle cell trait (SCT) can have a cumulative assault on the progression of chronic kidney disease (CKD). We report a case of a 23-year-old female from an endemic region of SCD in Nepal who presented initially with the symptoms of urinary tract infection (UTI) but later was found to have co-existent SCT and SLE. Ultrasonography of the abdomen and pelvis revealed Grade I medical-renal disease with increased echotexture of the kidney. High-Performance Liquid Chromatography (HPLC) was performed on the background of her ethnicity which was suggestive of sickle cell trait (HbS). A renal biopsy was performed which showed co-existing lesions of membranous lupus nephritis (class V) and focal lupus nephritis (class III) with no evidence of Sickle cell nephropathy was seen microscopically. She was managed with immunosuppressive medications. She is now in remission and kept on regular follow-up. The coexistence of both SCT and SLE in a single individual is rare. SCT and SLE can have multi-system manifestations with positive anti-nuclear antibodies (ANAs). The coexistence of both can accelerate the rate of kidney damage but it isn't always the same as in our case. This association is more relevant in our setting as sickle hemoglobinopathies are the most common in the Western Terai of Nepal.

Figure 1 SLE.jpg

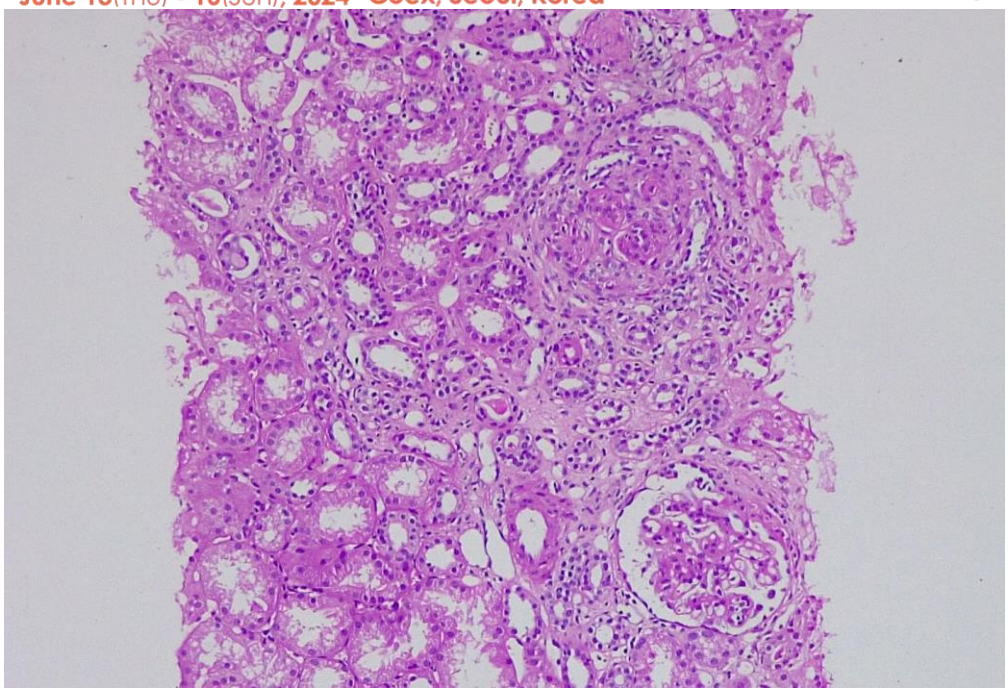

Figure 1 SLE.jpg

	Result (At the time of presentation to our center)	Result (After initiating treatment)	Unit	Reference Range
Haematology				
TLC	11,400	4,900	/cmm	4000-11000
Hb	8.5	8.7	Gm%	12.5-15
Platelets	87,000	3,31,000	/cmm	150000-400000
MCV	68	76.4	fl	82-92
MCH	21	23.3	pg	27-32
MCHC	31	30.4	%	32-36
Retics	0.82		%	0.5-2
Biochemistry				
RBS	7.6		Mmol/l	3.8-7.8
Urea	60.4	36.68	mg/dl	15-45
Creatinine	2.3	1.02	mg/dl	0.4-1.4
Sodium	132.0	140.0	Mmol/l	135-146
Potassium	4.2	4.1	Mmol/l	3.5-5.2
Uric Acid	121.0		umol/l	150-340
LDH	165.0		U/L	125-220
Total bilirubin	6.0		umol/l	3-21
Direct bilirubin	2.0		uMol/l	4
AST/SGOT	25.0		Units/L	37
ALT/SGPT	21.0		Units/L	
Total protein	57.0		Gm/l	60-80
Albumin	36.0		Gm/l	37-47
T3	1.79		Pg/ml	1.8-4.2
T4	0.67		Ng/dl	0.5-1.4
TSH	0.95		uIU/ml	0.35-5.1
Serological, coagulation parameter, immunological, and miscellaneous				
PT/INR	13/1.08		sec	10-12/
HIV Ab/HBsAg/HCV AB spot/quick	Non-reactive			
ANA	400.0		AU/ml	AU/ml<40
Anti-dsDNA ELISA	101.0		IU/ml	<40: negative, >60: positive
Anti-cardiolipin Ab ELISA	37.4		GPLU/ML	<10: negative, >14.4: Positive
C3 serum	0.3		g/L	0.9-1.8
C4 serum	0.05		g/L	0.1-0.4
Anti-CCP	0.29		U/ml	<5.0
RA factor	negative			
ASO Titre qty	154.2		IU/ml	0-200
ESR	40.0		Mm/1hrs	0-15
CRP qualtitative	+++ (positive)			
Clotting time CT	6.3		minute	5-10
Bleeding time BT	2.3		minute	2-6
Urine RE/ME and biochemistry				
Albumin	+++	+		nil
WBCs	plenty	2-3	/hpf	2-5/hpf
RBCs	Plenty	4-5	/hpf	<4/hpf
Cast	Pus and granular cast			
Culture	*S. aureus*	No-growth		
24 hrs urine protein	2.96		Gm/24 hrs	<0.15
Spot urine protein	639.1		Mg/dl	<14