

# Study of Disease Characteristics and Clinicopathological correlation of Lupus nephritis in a South Indian tertiary care centre-Experience

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## BACKGROUND

Systemic Lupus Erythematosus is a multisystemic inflammatory disorder with frequent renal involvement.. The clinicopathological features at the time of biopsy of Lupus nephritis contribute to the overall prognosis of SLE in many patients

## OBJECTIVES

To determine the clinical and laboratory features at the time of biopsy in the south Indian population and to correlate them with histopathological classes as per International society of Nephrology/renal pathology Society (ISN/RPS) 2018 LN modified classification.

## MATERIALS AND METHODS

**Study design:** Retrospective observational study.

**Inclusion criteria:** 52 patients of SLE diagnosed with clinical/lab criteria and having renal abnormalities from Madurai Medical College, South India were subjected to renal biopsy and data was collected. Baseline ANA, Anti ds DNA and C3 was done in all patients. The biopsy results were interpreted according to ISN/RPS 2018 modified classification and were correlated with the clinical and lab findings.

**Exclusion criteria:** Pregnant women

## RESULTS

Among the 52 cases studied, 48 were females (92.3%).

Age range was between 10-49 years.

The most common presenting clinical symptom was pedal edema (72% patients) followed by arthralgia (43%) and hematuria (40%).

The mean GFR at presentation was  $65 \pm 36$  (ml/min) and the mean creatinine was  $1.51 \pm 0.90$  (mg/dl).

The most common class at biopsy was class IV. About 64% of the cases showed full-house immunostaining.

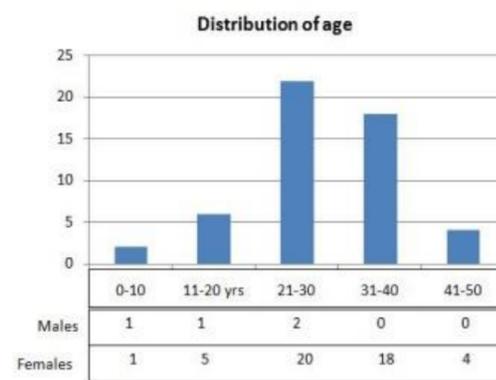
Modified NIH activity index was highest in class IV (Mean 7.2) which correlated with the degree of proteinuria.

Modified NIH chronicity index was also highest among class IV (Mean 4.1) which correlated with the degree of renal failure.

There was also significant correlation between higher chronicity index and higher creatinine level.

52% of cases showed presence of crescents and features of TMA were present in 10% of biopsies.

Tubulointerstitial deposits were present in 33% of cases with highest in class IV.



International Society of Nephrology- Renal Pathology Society Classification

Class	Frequency
I	0
II	4 (7.6%)
III	12 (23.07%)
IV	27 (51.9%)
V	7 (13.5%)
VI	2 (3.84%)

## BASELINE PARAMETERS AT THE TIME OF RENAL BIOPSY

Age (years)	$27.35 \pm 8.30$
Male : Female	1:13
Hemoglobin (g/dl)	$9.54 \pm 1.85$
Urinary protein (g/L/24hours)	$1.8 \pm 1.3$
Serum albumin (mg/dl)	$2.7 \pm 0.76$
Mean serum creatinine (mg/dl)	$1.51 \pm 0.90$
Modified NIH activity index	$7.2 \pm 3.24$
Modified NIH chronicity index	$4.1 \pm 2.54$

## VARIOUS CLASSES OF LUPUS NEPHRITIS WITH RENAL FUNCTIONS

Investigations	I n=0	II n=4	III n=12	IV n=27	V n=7	VI n=2	Total n=52 n (%)
Nephrotic proteinuria	0	0	5 (41%)	9 (33%)	5 (71%)	0	19 (36%)
Hematuria	0	2 (50%)	3 (25%)	7 (25%)	0	0	12 (23%)
GFR less than 60 (ml/min)	0	0	4 (33%)	13 (48%)	3 (42%)	2 (100%)	

## CLASSWISE DISTRIBUTION OF THE VARIOUS HISTOLOGICAL PARAMETERS

Histopathology findings	Class I n=0	Class II n=4	Class III n=12	Class IV n=27	Class V n=7	Class VI n=2
Modified NIH activity index	0	0	$3.10 \pm 1.06$	$7.21 \pm 3.42$	$2.28 \pm 1.9$	0
Modified NIH chronicity index	0	$0.49 \pm 1.0$	$0.48 \pm 0.9$	$4.1 \pm 1.6$	$3.38 \pm 2.1$	12

## CONCLUSION

Assessment of the biopsy results showed strong positive correlation of various clinical findings with the biopsy results (52% had concordant clinical and biopsy diagnosis) hence guiding in treatment strategies and predict long term prognosis in such patients. Other than high prevalence of arthralgia in our area, there were nil significant geographical differences in symptoms/lab/biopsy parameters of LN patients when compared with similar studies in other areas.

## REFERENCES

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