



# FREQUENCY AND HISTOPATHOLOGICAL PATTERN OF LUPUS NEPHRITIS IN PAEDIATRIC SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS AT DIAGNOSIS



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## Introduction and Aims:

Systemic lupus erythematosus (SLE) is an autoimmune disease that can involve every organ systems of the body. SLE in paediatric age group is often more acute and severe at disease detection than in adults. Lupus nephritis (LN) is one of the most serious manifestations of SLE and can lead to significant morbidity and mortality. Our aims of this study were to confirm the diagnosis of LN in paediatric SLE patients and identify the histopathological patterns during diagnosis, as appropriate treatment depends on histologic pattern.

## Methods:

This cross-sectional study was conducted in a tertiary care hospital of Dhaka, Bangladesh from July 2014 to June 2015. American College of Rheumatology (ACR) Revised Criteria for Classification of SLE was applied for disease detection. Newly detected SLE patients were consecutively and purposively included in this study. Data were analyzed by using SPSS version 20.0.

## Results:

Total number of patients fulfilled the ACR criteria of SLE were 50, of which 30 (60%) had lupus nephritis (LN). Among these 30 study subjects, Female:Male was 5:1. Proteinuria was present in all of these 30 (100%) patients, whereas raised serum creatinine was noted in 3 (10%) patients. Serum C<sub>3</sub> and C<sub>4</sub> levels were below normal in 25 (83.3%) and 17 (56.7%) patients respectively.

**Table I: Demographic data of paediatric SLE patients (N=50)**

Character	Level
Mean age at the time of study (years)	11.13 ± 0.78
Mean duration of disease (months)	11.04 ± 9.46
Mean height (cm)	143.40 ± 9.91
Mean weight (kg)	35.61 ± 11.78

**Table II: Urinary findings in paediatric lupus nephritis (LN) patients (N=30)**

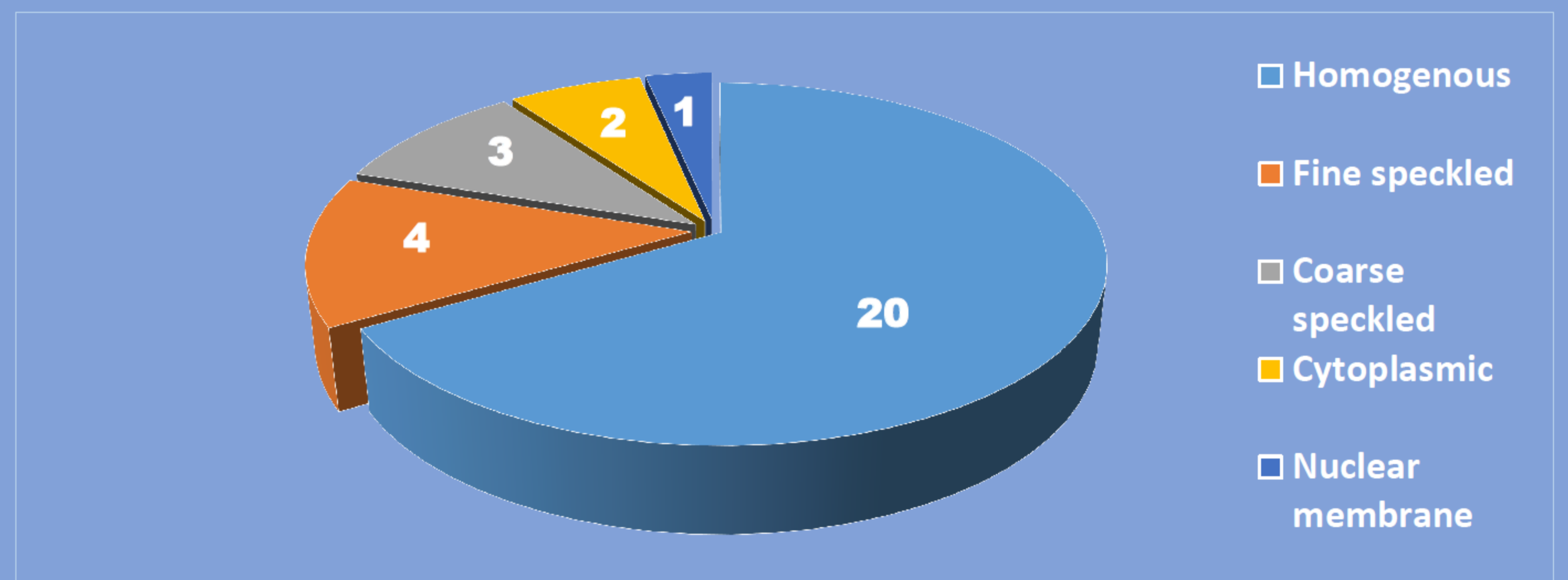
Investigations	Level
Mean urinary red blood cells	12.8 ± 8.7 /high power field
Mean urinary total protein	1.9 ± 1.7 gm/day

**Table III: Frequency of auto-antibodies in paediatric LN patients (N=30)**

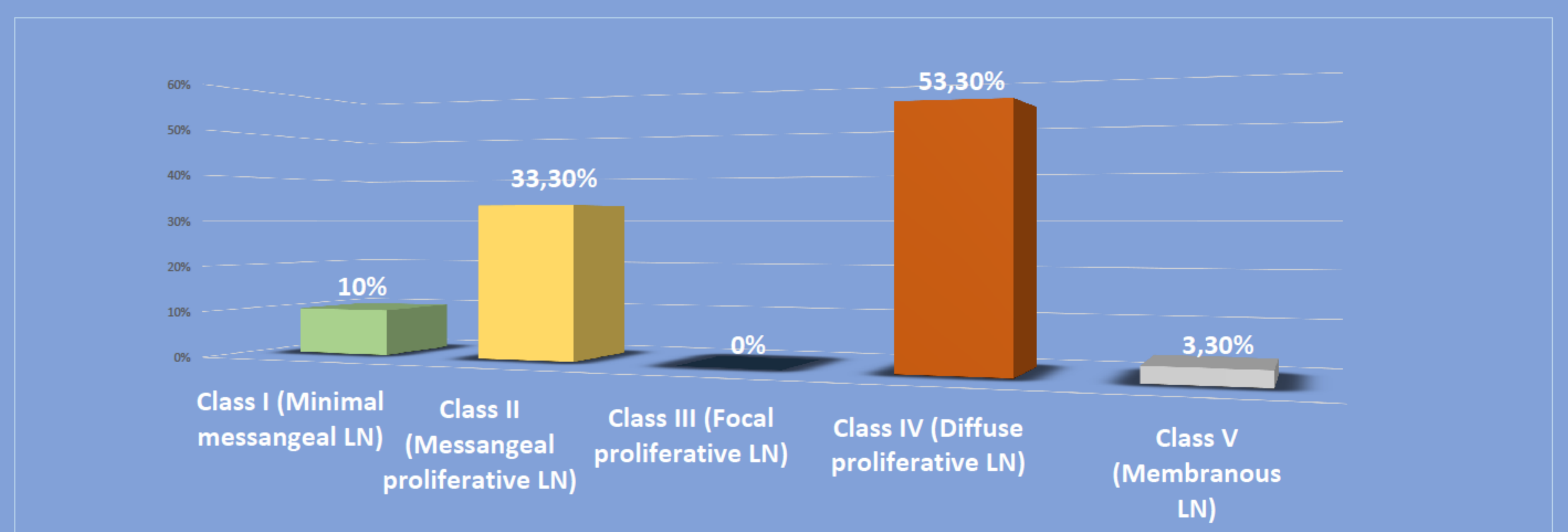
Auto-antibody	Frequency n(%)
Anti-nuclear antibody (ANA)	30 (100%)
Anti-double stranded DNA (Anti-ds DNA)	29 (96.7%)

**Table IV: Disease activity state of paediatric LN patients by SLE Disease Activity Index (SLEDAI) score (N=30)**

SLEDAI score	Mild (1-10)	Moderate (11-20), n(%)	Severe (21-45), n(%)	Very severe (>45)
Total patients	n(%)			n(%)
30	4 (13.3%)	15 (50%)	11 (36.7%)	0 (0%)



**Figure 1: Different patterns of ANA by immunofluorescence method and their distribution among paediatric LN patients (N=30)**



**Figure 2: Histopathological pattern of lupus LN in paediatric SLE patients (N=30)**

## Conclusions:

Frequency of renal involvement is common during SLE diagnosis in paediatric age group. As early detection of LN and early initiation of appropriate treatment can significantly improve renal and patient outcome, high level of suspicion and proper initiatives should be taken to confirm the diagnosis of LN especially in paediatric SLE patients.

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