

# RENAL OUTCOMES IN EARLY- VERSUS DELAYED-ONSET LUPUS NEPHRITIS

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## BACKGROUND

The timing of nephritis onset following a Systemic Lupus Erythematosus (SLE) diagnosis varies among patients. In some cases, nephritis and SLE are diagnosed simultaneously, while in others lupus nephritis (LN) develops after the initial SLE diagnosis. Controversy exists regarding the impact of LN onset timing on renal outcomes.

## OBJECTIVE

To compare the renal outcomes between patients with early-onset lupus nephritis (EOLN) and those with delayed-onset LN (DOLN).

## METHODS

Retrospective study of 160 adult patients with biopsy-confirmed LN attended at a tertiary university hospital. We divided patients into two groups: the EOLN group (with LN onset within 12 months of SLE diagnoses) and the DOLN group (LN onset more than 12 months post-SLE diagnosis). Patients were observed from the date of LN diagnosis to the development of end-stage renal disease (ESRD) or the last follow-up.

## RESULTS

Of the 160 patients (133 women), 90 (56%) had EOLN while 70 (44%) had DOLN. The median time to LN development in the DOLN group was 85.5 months (IQR 25th–75th: 41-157 months). In 49 (70%) of the EOLN cases, nephritis appeared at SLE onset. Results of the comparative study are shown in Table 1. EOLN patients showed a lower chronicity index ( $0.9 \pm 1.4$  versus  $1.6 \pm 1.7$ ;  $p = 0.015$ ) but similar activity index and frequency of higher grades of nephritis (classes III, IV, V, or mixed) compared to DOLN patients. At the time of renal biopsy, no significant differences were observed in serum creatinine values or in the percentage of cases with nephrotic range proteinuria. Both groups had comparable renal responses. Four patients (4.4%) in the EOLN group developed ESRD during a median observation period of 240 months (IQR 25th–75th: 125-368), compared with 1 patient (1.4%) in the DOLN group during a median observation period of 214 months (IQR: 105-321). The estimated median intervals from LN diagnosis to ESRD progression were 100 months in the EOLN group (IQR 62.5-145) and 247 months in the patient with DOLN, a difference

not statistically significant in Kaplan-Meier analysis (log-rank test 2.193;  $p = 0.139$ ). After adjustment for confounding factors, EOLN was not a significant risk factor for ESRD (Hazard ratio: 3.14, 95% CI 0.693 to 23.089;  $p=0.179$ ).

**Table1.** Comparative study of renal outcomes between EONL and DOLN.

	EOLN N=90	DOLN N=70	p
Higher grade of nephritis (classes III, IV, or V and mixed III/IV + V)	72 (80%)	53 (76%)	0.217
Activity index	7.3 $\pm$ 4.8	7.2 $\pm$ 5	0.825
Chronicity index	0.9 $\pm$ 1.4	1.6 $\pm$ 1.7	<b>0.015</b>
Serum creatinine, $\mu$ mmol/L in the first episode of nephritis ( <i>Ref value 45 -84</i> )	97 $\pm$ 89.2	101 $\pm$ 69	0.514
24-h urine protein	2643 $\pm$ 2672	2881 $\pm$ 2187	0.208
Nephrotic range proteinuria	41 (45.5%)	23 (33%)	0.104
Renal response			
Complete	78 (86.7%)	62 (88.5%)	0.952
Partial	8 (8.9%)	5 (7.2%)	
No response	4 (4.4%)	3 (4.3%)	
Renal relapses	37 (41.1%)	27 (38.5%)	0.569
End-stage renal disease (ESRD)	4 (4.4%)	1 (1.4%)	0.232

Results are presented as a number with percentages or mean  $\pm$  standard deviation

## CONCLUSION

Our study suggests that the risk of ESRD progression in EOLN is similar to DOLN, despite slight numerical differences.

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