

Lupus nephritis is associated with higher left ventricular mass index

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BACKGROUND

It is estimated that approximately 40% of systemic lupus erythematosus (SLE) patients develop lupus nephritis (LN) throughout the evolution of the disease. In a previous study, patients with LN had 8 times more risk of myocardial infarction and 4 times more risk of cardiovascular mortality than SLE patients without LN.

OBJECTIVE

To compare the echocardiographic parameters between SLE patients with and without LN.

METHODS

This was a cross-sectional study nested of a SLE cohort. We recruited patients with SLE diagnosis aged ≥ 18 years. A transthoracic echocardiogram (TTE) was performed by two certified echocardiographers blinded to clinical information. Patients with LN were included and matched to patients without LN by age and gender. Comparisons were done with Chi-square or Fisher's exact test for qualitative variables, and Student's T-test or Mann-Whitney's U-test for quantitative variables. A p -value < 0.05 was considered significant.

RESULTS

A total of 48 SLE patients, 24 with LN and 24 without LN, were included. Mean age of patients with LN was 36.9 ± 10.4 years, compared to 36.5 ± 9.3 years in patients

without LN, $p = 0.873$. Demographic characteristics in Figure 1. We found a significant difference in the left ventricular (LV) mass index, higher in LN patients (66.9 g/m^2 vs 54.8 g/m^2 , $p = 0.035$) (Table 1).

Figure 1. Comparison of demographic characteristics between SLE patients with and without LN.

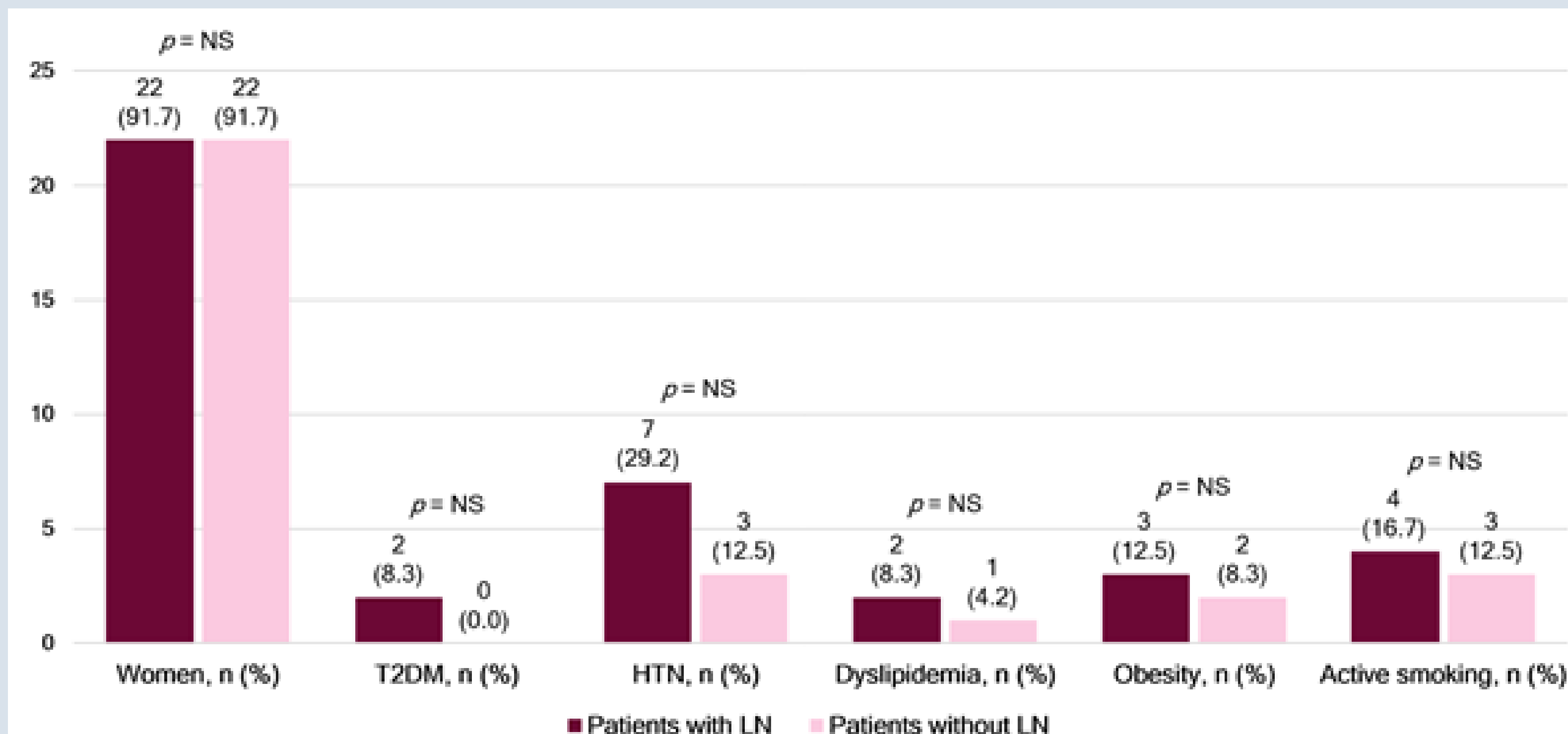


Table 1. Comparison of echocardiographic findings of SLE patients with and without LN.

Variables	Patients with LN (n=24)	Patients without LN (n=24)	p-value
LV mass index, g/m^2 , mean \pm SD	66.9 ± 21.8	54.8 ± 16.1	0.035
RWT, mean \pm SD	0.37 ± 0.08	0.34 ± 0.10	0.265
LV geometry abnormality, n (%)	7 (29.2)	4 (16.7)	0.303
LAESVI, ml/m^2 , mean \pm SD	29.72 ± 10.80	26.04 ± 8.76	0.208
LVEF, %, mean \pm SD	58.16 ± 7.42	58.04 ± 7.04	0.953
LVESV, ml, median (IQR)	39.0 (26.0-54.5)	32.5 (23.7-39.7)	0.185

PsA, psoriatic arthritis; T2DM, type 2 diabetes mellitus; DAPSA, Disease Activity in Psoriatic Arthritis; PASI, Psoriasis Area Severity Index; NAPSI, Nail Psoriasis Severity Index; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; MTX, methotrexate; bDMARD, biological disease modifying antirheumatic drugs.

CONCLUSION

Patients with LN had higher LV mass index than patients without LN. An increased LV mass could lead to the development of ventricular hypertrophy, which is associated to higher cardiovascular mortality. A TTE should be considered as part of the cardiovascular evaluation of SLE patients, especially those with LN.