DAMAGE PREDICTORS IN SLE PATIENTS FROM THE PORTUGUESE LUPUS REGISTRY

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Introduction and Methods

Systemic lupus erythematosus (SLE) survival rate has improved dramatically. However, many patients develop irreversible organ damage during the course of disease. The SLICC/ACR damage index (SDI) measures cumulative damage and is associated with a higher morbidity and mortality rate.
We aimed to characterize damage and to identify damage predictors in SLE patients from the Portuguese registry.

Patients and Methods: SLE patients (according to ACR classification criteria) from the Portuguese register Reuma.pt/LES and available SDI were included. A cross-sectional analysis was made upon records of the last visit. Predictor factors for damage, defined as SDI ≥1, were determined by a multivariate logistical regression model.

Results

In total, 976 patients had available damage data assessed by the SLICC/ACR damage index score – SDI and were included in our analysis (Fig. 1)
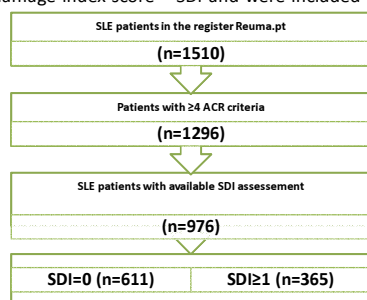

Figure 1 – Population selection among patients registered in Reuma.pt/LES.

- 976 patients were studied. The majority were women, predominantly Caucasian with a mean age of 47±14 years and a mean follow-up time of 14.1±8.9 years.

- 365 patients had an SDI ≥1. Mean SDI score was 0.71±1.22 (Fig. 2). Musculoskeletal, neuropsychiatric and ocular domains were the most commonly affected (Table 1).
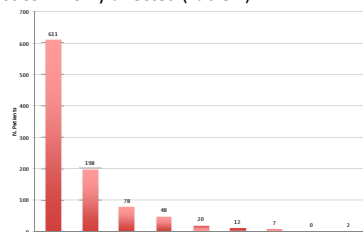

Figure 2 - Systemic Lupus International Collaborating Clinics/American College of Rheumatology Damage Index (SDI) Distribution

SDI Domains	Relative Frequency (n=365)
Ocular	17.2%
Neuropsychiatric	24.1%
Renal	13.1%
Pulmonar	17.0%
Cardiovascular	11.5%
Peripheral vessels	8.5%
Gastrointestinal	4.7%
Skin	9.6%
Musculoskeletal	24.4%
Premature gonadal failure	2.9%
Diabetes Mellitus	8.5%

Table 1 – Systemic Lupus International Collaborating Clinics/American College of Rheumatology Damage Index (SDI) Distribution
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- Patients with damage were significantly older, had longer disease duration and later disease onset (Table 2).
- Clinical manifestations, such as serositis, renal and neuropsychiatric involvement, were associated positively with SDI≥1. Hypertension, antiphospholipid syndrome (APS) and Sjögren's syndrome were also more prevalent in this group.
- The use of antimalarials (ever or current) showed a negative association with damage.

Feature	Patients without damage SDI=0 (n=611)	Patients with damage SDI≥1 (n=365)	P
Women	559 (91.5%)	335 (91.8%)	0.874
Age at diagnosis (years)	34.4±14.7	37±15.0	0.004
Disease duration of LES (years)	12.6±8.1	17.0±9.4	<0.001
Oral ulcers, n=965	179 (29.8%)	133 (36.5%)	0.03
Serositis, n=974	114 (18.7%)	103 (28.2%)	0.001
Renal Involvement, n=959	175 (29.2%)	130 (36.2%)	0.023
Neurologic disorder, n=970	9 (1.5%)	41 (11.2%)	<0.001
Anti-cardiolipin, n= 742	185 (39.7%)	138 (50.0%)	0.006
Low complement, n= 653	413 (70.4)	240 (69.2)	0.020
Hypertension, n=526	84 (28.9%)	94 (40.0%)	0.007
Anti-phospholipid syndrome, n=526	15 (5.2%)	31 (12.3%)	0.003
Sjögren's syndrome n=526	26 (8.9%)	38 (14.9%)	0.02

Table 2 –Characteristics of patients with and without damage.

- In multivariate analysis, age, disease duration, renal involvement, positivity of anti-phospholipids and corticosteroid use were predictors of damage.
- Gender and SLEDAI score at last visit were not associated with damage.

Variables	Univariate analysis OR (95% CI)	Multivariate analysis OR (95% CI)	-	P
Age (years)	1.03 (1.02-1.045)	1.04 (1.03-1.05)	-	<0.001
Disease duration (years)	1.06 (1.04-1.08)	1.05 (1.03-1.07)	-	<0.001
Lupus Nephritis	1.38 (1.04-1.82)	1.53 (1.05- 2.22)	-	0.026
Positivity for anti-phospholipid antibodies	1.51(1.12-2.05)	1.68 (1.26 - 2.49)	-	0.003
Current corticosteroid use	1.18(0.91-1.54)	1.64 (1.15- 2.33)	-	0.006

Values shown are OR and 95% Confidence Interval (CI)

Table 3 –Multivariate analysis of damage predictors.

Discussion

In this large cohort study, clinical and demographic characteristics were found to be associated with damage. Patients with SDI≥1 have different clinical manifestations, older age and longer disease duration.

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