Abstract CE-43 Table 1 Multivariate Model for Neurological Manifestations During Follow-Up

Variable	Parameter Estimate	Standard Error	Chi-Square	p-value	Hazard Ratio represents	Hazard Ratio	95% CI Hazard Ratio	
	0.53132	0.14438	13.5421	0.0002	Mestizo vs. White	1.701	1.282	2.258
Etnia (African Latin American)	0.16647	0.22746	0.5357	0.4642	ALA vs. White	1.181	0.756	1.845
Etnia (Other)	0.31590	0.42454	0.5537	0.4568	Other vs. White	1.371	0.597	3.152
Disease Duration at Cohort Entry (Up to 6 Months)	−0.32679	0.20764	2.4769	0.1155	Up to 6 Months vs. Entered at Diagnosis	0.721	0.480	1.083
Disease Duration at Cohort Entry (6 to 12 months)	−0.32704	0.20726	2.4898	0.1146	6 to 12 Months vs. Entered at Diagnosis	0.721	0.480	1.082
Disease Duration at Cohort Entry (13 to 24 months)	−0.44389	0.19168	5.3629	0.0206	13 to 24 Months vs. Entered at Diagnosis	0.642	0.441	0.934
Myalgias/Myositis	0.60551	0.16169	14.0235	0.0002	Yes vs. No	1.832	1.335	2.515
Pneumonitis	0.90663	0.42076	4.6429	0.0312	Yes vs. No	2.476	1.085	5.648
Shrunk lung	0.88727	0.41648	4.5387	0.0331	Yes vs. No	2.428	1.074	5.493
Hemolytic Anemia	0.48776	0.18645	6.8436	0.0089	Yes vs. No	1.629	1.130	2.347

independently associated with NP manifestations during follow up are listed in Table 1.

Conclusions There are both disease and non-disease related factors that are clearly associated with NP manifestations. Patients of Mestizo background, those with myositis and those with hemolytic anaemia are at higher risk of developing NP.

Features Predictive of the Occurrence of NP Manifestations by Multivariable Cox regression model

CE-44 PSYCHOSIS DUE TO SYSTEMIC LUPUS ERYTHEMATOSUS IN BLACK CARIBBEAN PATIENTS

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Background To determine the frequency, characteristics and long-term outcome of psychosis due to systemic lupus erythematosus (SLE) in a cohort of Barbadian patients.

Materials and methods All patients with 4 or more American College of Rheumatology (ACR) classification criteria for SLE along with a clinical diagnosis of lupus psychosis were included in the assessment. Patients were identified from rheumatology clinic data and the Barbados lupus registry. Analysis was restricted to events occurring between January 1985 and December 2015.

Results Lupus psychosis was diagnosed and treated in 28 of 376 patients (7.4%) making it the most common manifestation of neuropsychiatric lupus (NPSLE) in this group of patients. Most patients were female (F = 27) and the median age at diagnosis of lupus psychosis was 31 years. In 61% of patients the psychosis was a presenting feature or developed within a year of SLE diagnosis. Psychosis was part of a multisystemic involvement characterised by polyarthritis (84%), haematologic features (74.1%), serositis (50.3%), renal disease (47%)- the frequency of these complications being in keeping with that of the entire group of SLE patients. All patients had resolution of the psychotic symptoms within weeks of treatment. Lupus psychosis was not a direct contributor to mortality. The 18 deaths recorded were secondary to intercurrent illness – SLE nephritis (39%), stroke (28%) and infection (22%).

Conclusion Lupus psychosis is the most common characteristic of NPSLE in this group of Black Caribbean patients and is an early, highly responsive complication- typically occurring in the setting of multisystemic involvement. The long-term outcome of patients was generally not favourable because of concurrent complications which lead to death.

CE-45 BASELINE FACTORS PREDICTIVE OF THE OCCURRENCE OF NEUROPSYCHIATRIC DAMAGE ACCRUAL IN LATIN AMERICAN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background Neuropsychiatric (NP) manifestations of systemic lupus erythematosus (SLE) are an important source of morbidity, functional impairment and poor quality of life. Several investigators have examined predictors of overall damage accrual in SLE, but predictors of NP-damage have been infrequently evaluated. The aim of this study was to assess the socio-demographic and disease related factors predictive of the occurrence of NP-damage accrual and its impact on mortality in Latin-American SLE patients with early disease.

Materials and methods We included 1100 patients from the GLADEL (Grupo Latino Americano De Estudio del Lupus) inception cohort, free of NP involvement at cohort entry (baseline) (up to 2-years of disease duration). We examined the relationship between socio-demographic characteristics, early clinical manifestations, disease activity and treatments (during the first 6 months post-baseline), with the development of NP-damage after 6 months post-baseline. NP-damage was measured with the SLICC Damage Index or Neuro-Damage (cognitive impairment or major

psychosis, seizures requiring therapy for 6 months, cerebrovascular accident ever, cranial or peripheral neuropathy, transverse myelitis). We excluded from the analysis patients with neurologic involvement at entry or those who were lost to follow up before 6 months have elapsed from baseline or who had died during that time period. Data were recorded in an ARTHROS database.
Statistical analysis: Patients who developed and those who did not develop NP-damage were compared using the log-rank test. Independent predictors of NP-damage accrual were identified using a Cox proportional hazard regression model.
Results During a median follow-up time of 47 months, 79 (7.2%) patients developed NP-damage. In the univariable analyses, variables predictive of NP-damage were: cardiovascular disease (4.16 per 100 patient-year of follow up [% pyf] vs. 1.62% pyf in patients without cardiovascular disease, $p < 0.001$), renal disease (2.92% pyf vs. 1.73% pyf, $p = 0.038$) and lymphopenia (2.71% pyf vs. 1.90% pyf, $p = 0.012$). In the multivariable analysis only cardiovascular disease (Yes vs. No) was retained in the model: HR 2.554 (95% CI: 1.580–4.128). During follow-up, mortality was higher in those who developed as compared to those who did not develop NP-damage (12/79, 15.2% vs. 34/1021, 3.3%; $p < 0.0001$).
Conclusions Cardiovascular disease was predictive of the occurrence of NP-damage. Furthermore, the occurrence of NP-damage was significantly associated with a higher mortality. A better control in the early stages of neurological manifestations (early diagnosis and treatment) is needed to reduce NP-damage and improve survival.
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CE-46 INFLUENCE OF SOLAR RADIATION IN CUTANEOUS MANIFESTATIONS OF LUPUS: DATA FROM THE GLADEL COHORT

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Background Whether ultraviolet radiation (UV) exposure is a risk factor for the occurrence of Systemic Lupus Erythematosus (SLE) or of flares remains unclear. Classically, it has been thought that sun exposure is a risk factor for developing cutaneous manifestations. On the other hand, in experimental studies UV radiation has a number of immunomodulatory effects and stimulates vitamin D synthesis. Our objective was to examine the mucocutaneous manifestations of SLE patients from the GLADEL cohort in relation to latitude and solar radiation of the place where they lived along Central and South America by performing an ecological study.
Materials and methods GLADEL patients were categorised according to latitude and solar radiation (insolation on horizontal surface) of the Rheumatology Centre where they were recruited, ascertained between the period of cohort follow up (1995–2004); this was obtained using NASA Surface meteorology and Solar Energy estimator (https://eosweb.larc.nasa.gov/cgi-bin/sse/interann.cgi?email=skip@larc.nasa.gov). Alopecia, photosensitivity, malar rash, discoid lesions, oral ulcers and subacute cutaneous lupus at cohort entry and during follow up were examined in multivariate models in relation to the average daily solar radiation of the city of residence (as a continuous variable) and other possible confounders.
Results The GLADEL cohort included 1480 lupus patients, with a disease duration < 2 years at entry, 89.9 % female (CI: 88–91), mean age at diagnosis 29.5 (SD 12.3), median follow up 52 months (IQR 24–70), from 34 centres of 22 cities of 9 countries in Latin America. Latitudes of these centres varied between −38° S (Mar del Plata, Argentina) and 25.7° N (Monterrey, Mexico) and mean daily solar radiation varied between 4.44 Kwh/m^2/day (Porto Alegre, Brazil) and 6.08 Kwh/m^2/day (Recife, Brazil). When entering the cohort, 1191 patients (80.47%) had one or more of the cutaneous manifestations mentioned above and 434 patients (29.31%) developed new skin involvement during follow up.

In logistic regression analysis after adjusting for age, gender, ethnic group, urban residence, latitude, antimalarial use and autoantibodies, living in a city with higher daily solar radiation (examined at 1 Kwh/m^2/day increments) was not associated to any of the cutaneous manifestations at disease onset or during follow up (Table 1).

Abstract CE-46 Table 1 Associations of average daily solar radiation of city of residence by multivariable logistic regression analysis*

Clinical manifestation	OR (manifestation before/at cohort inclusion)	OR (new manifestation)	OR (manifestation during follow up)
Alopecia*	0.79 (0.61–1.02)	1.35 (0.92–1.98)	1.08 (0.83–1.42)
Oral/nasal ulcers*	0.81 (0.62–1.04)	1.05 (0.66–1.69)	0.74 (0.53–1.03)
Photosensitivity*	0.79 (0.62–1.03)	0.63 (0.39–1.04)	0.81 (0.60–1.09)
Subacute cutaneous lupus*	1.21 (0.57–2.54)	0.81 (0.31–2.13)	0.7 (0.30–1.62)
Malar rash*	0.92 (0.71–1.18)	1.41 (0.91–2.16)	1.17 (0.89–1.52)
Discoid lesions*	1.24 (0.82–1.88)	1.83 (0.81–4.11)	1.29 (0.77–2.18)
Any of the previous*	0.88 (0.64–1.23)	1.32 (1.00–1.75)	1.23 (0.95–1.59)

*Outcome: Daily solar radiation increment of 1 Kwh/m^2/day. All regressions adjusted for age at onset, gender, ethnic group, urban residence, latitude, antimalarial use and autoantibodies (anti DNA, anti Sm, anti Ro, antiphospholipid, low C3).

Conclusions In the GLADEL cohort, the average solar radiation of the city of residence was not associated with an increased risk of developing cutaneous manifestations.
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