Background: Systemic lupus erythematosus (SLE) is a systemic autoimmune disease, often presenting with neuropsychiatric manifestations. Reports on the frequency and patterns of these manifestations vary substantially and remain incompletely understood.

Objectives: We examined neuropsychiatric manifestations in the prospective nationwide cohort of Swiss SLE (SSCS) patients and conducted a systematic literature review to contextualise our findings.

Methods: We reviewed all patients included in the SSCS from 2007-2019 and classified severe neuropsychiatric manifestations. Searches were performed in relevant electronic databases from 1.1999-1.2020 and by checking reference lists of the pertinent literature. Authors of important papers were contacted to obtain further (unpublished) studies. We included prospective or cross-sectional studies focussing on neuropsychiatric manifestations in SLE, defined according to the ACR criteria of 1999. Study selection and data extraction was made in duplicate. We secured salient study characteristics, composition of cohorts, the definitions and the frequencies of neuropsychiatric manifestations. We assessed heterogeneity across reports and investigated sources of variation using meta-regression models.

Results: The frequencies of severe manifestations found in the SSLE were 7.1% (49/688) for cerebrovascular events, 5.3% (37/688) for seizures and 6.5% (45/688) for psychosis. The time-to-event analysis showed a linear relationship between duration of SLE and cumulative incidence of severe neuropsychiatric manifestations. Searches identified 530 studies and authors' contact yielded another unpublished report. We included 28 studies. The mean rates of the most commonly reported severe neuropsychiatric manifestations ranged in the magnitude of 50 percent points. Study characteristics and composition of cohorts could not explain heterogeneity of reported manifestation rates.

Conclusion: The spectrum of neuropsychiatric manifestations in SLE is widely dispersed. The diagnostic work-up and the reporting of manifestations varied substantially across studies which may explain inconsistencies to some extent. We call for concerted efforts and a broad consensus regarding stringent definitions of neuropsychiatric SLE manifestations that allow targeted detection, particularly with view to timely intervention and patient outcomes.

Disclosure of Interests: None declared

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AB0428

ASSOCIATION BETWEEN GEOGRAPHIC AND CLIMATOLOGICAL CONDITIONS AND CUTANEOUS MANIFESTATIONS IN LUPUS PATIENTS FROM THE SPANISH RHEUMATOLOGY SOCIETY LUPUS REGISTRY (RELESSER) AND ARGENTINE RHEUMATOLOGY SOCIETY LUPUS REGISTRY (RELESSAR) COHORT

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Background: Climatological conditions and ethnicity impact on the course of the disease in systemic lupus erythematosus patients.

Objectives: We carry out a study to analyze cutaneous manifestations in SLE patients from Argentina and Spain.

Methods: Patients data from Spanish Rheumatology Society Lupus Registry (RELESSER) and Argentina Rheumatology Society Lupus Registry (RELESSAR) were retrospectively analyzed for presence of cutaneous lesions (alopecia, photosensitivity, malar rash, discoid lesions, oral ulcers and subacute lesions). RELESSER-T and RELESSAR-T are multicenter, hospital-based registries, with retrospective cross-sectional collection of data about patients with SLE attending Spanish and Argentinian rheumatology services from the public national health system. Data about climatological conditions throughout the Spanish and Argentinian geography were provided by the Spanish Meteorological Agency and Argentine Meteorological Services.

Results: A total of 5604 patients were included, median age 44.6 ± 15.3 , 90.4 % female. Current smokers were 28.9%. Other climatological, geographical, biological and clinical data are shown in table 1. In the multivariable model, the presence of cutaneous lesion were significantly associated with temperature OR 1.116 (95% CI:1.042-1.196 p=0.002), altitude OR 1.001 (95% CI:1.000-1.001, p=0.012), hemolytic anemia OR 1.401 (95% CI:1.017-1.931 p=0.039) and serositis OR 1.509 (95% CI:1.215-1.875 p=0.000). Negative associations were observed between females OR 0.392 (95% CI:0.297-0.518, p=0.000), latitude OR 0.994 (95% CI:0.988-0.999, p=0.000), oceanic climate OR 0.566 (95% CI:0.381-0.842, p=0.005), leukopenia OR 0.790 (95% CI:0.643-0.970, p=0.025), renal disorder OR 0.761 (95% CI:0.600-0.966, p=0.025), glucocorticoids treatment OR 0.571

(95% CI:0.456-0.715, p=0.000) and antimalarial drugs OR 0.439 (95% CI:0.342-0.563, p=0.000).

Table 1. Geographical, climatological and clinical/laboratory variables.

	No cutaneous manifestations	Cutaneous manifestations	p
Latitude, median (interquartile range)	40.47 (38.35-41.63)	40.37 (-31.41-41.34)	0.001
Altitude, median (interquartile range)	192.0 (37.0-698.0)	156.0 (25.0-609.0)	0.000
Temperature, mean monthly $\pm$ SD	15.2 $\pm$ 3.5	15.3 $\pm$ 3.6	0.000
Humidity, mean monthly $\pm$ SD	66.9 $\pm$ 7.2	67.4 $\pm$ 7.1	0.108
Oceanic climate, n (%)	307 (11)	2406 (89)	0.000
Subhumid/altitude climate, n (%)	17 (7)	240 (93)	0.002
Mediterranean climate, n (%)	292 (17)	1434 (83)	0.000
Arthritis, n (%)	523 (12)	3722 (88)	0.003
Serositis, n (%)	254 (16)	1368 (84)	0.000
Renal disorder, ever, n (%)	206 (11)	1576 (89)	0.015
Hemolytic anemia, n (%)	90 (17)	426 (83)	0.002
Leukopenia, n (%)	345 (11)	2669 (89)	0.000
Thrombocytopenia, n (%)	170 (15)	986 (85)	0.076
Antiphospholipid antibodies, n (%)	293 (15)	1606 (85)	0.000
Anti DNA, n (%)	522 (14)	3279 (86)	0.044
Anti-Ro/SSA, n (%)	189 (11)	1563 (89)	0.000
Hypocomplementemia, n (%)	510 (12)	3736 (88)	0.000
Glucocorticoids mucocutaneous cause, ever, n (%)	499 (11)	3928 (89)	0.000
Antimalarial drug: ever, n (%)	500 (11)	4034 (89)	0.000

Conclusion: In the current analysis, taking RELESSAR and RELESSER data together, we observe positive association between higher temperature and skin lesion and negative association with living in southern hemisphere latitudes.

References: Influence of Solar Radiation in Cutaneous Manifestations of Lupus: Data from the Gladel Cohort [abstract]. Arthritis Rheumatol. 2016; 68 (suppl 10).

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AB0429

NEUTROPHIL TO LYMPHOCYTE RATIO INDEPENDENTLY PREDICTS CUTANEOUS MANIFESTATIONS IN PATIENTS WITH SJÖGREN'S SYNDROME

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Background: Various cutaneous manifestations are described in patients with Sjogren's syndrome (SS). However, the predictors for its occurrence are not fully investigated. Recently, data regarding the role of hematological parameters ratios in patients with rheumatic diseases were reported. However, routine hematological parameters and the derived ratios were not studied in SS patients.

Objectives: The aim of this study was to evaluate the predictors for cutaneous manifestations in a large cohort of patients with SS followed in a tertiary center.

Methods: We included 114 patients with SS (mean age: 53.1 ± 12.1 ; 94.7% female). We divided the patients in group A – patients with cutaneous manifestations and group B – without cutaneous manifestations. The complete laboratory workup [including the calculation of neutrophil to lymphocyte ratio (NLR), mean platelet volume (MPV) to platelet ratio, platelet distribution width (PDW) to platelet ratio], clinical manifestations and treatment were reviewed and the EULAR Sjögren's syndrome disease activity index (ESSDAI) was calculated for each patients.

Results: Cutaneous manifestations were diagnosed in 11 patients (9.6%). The age of the patients, the levels of anti-SSA, complement, inflammatory markers (ESR, CRP), immunoglobulins and vitamin D levels, the ultrasonographic score of salivary glands and the ESSDAI value were similar in both groups. The patients with cutaneous manifestations were more frequently treated with hydroxychloroquine (9/11 vs 49/103, p=0.03) but the mean doses were similar in both groups. The values of anti-SSB were marginally higher in patients with cutaneous manifestations (102.3 ± 83.1 vs 53.6 ± 79.9 , p=0.07). The lymphocyte, neutrophil count, MPV and PDW were similar in both groups, while platelet count was lower in patients with cutaneous manifestations (224090.9 ± 59528.9 vs 264339.8 ± 60669.0 , p=0.03). The MPV/Plt ratio tended to be higher in patients with cutaneous manifestations (0.051 ± 0.017