15.44-fold increased risk for AVN, compared with patients without these risk factors ($p<0.001$). RERI, AP, and S, which define the strength of interactions between two risk factors, were 9.01 (95% confidence interval (CI) 1.30–16.73), 0.58 (95% CI 0.36–0.81), and 2.66 (95% CI 1.42–4.99), respectively, supporting the presence of synergistic interactions in the development of symptomatic AVN in our Korean lupus cohort.

Abstract THU0356 – Table 1. Synergistic effect of total cumulative steroid dose and use of immunosuppressants in development of AVN in SLE patients

	No. patients with AVN	No. patients without AVN	OR ^a (95% CI)	p-value
Total cumulative steroid dose $\leq$ 20 g and immunosuppressants (-)	11	314	1.00	
Total cumulative steroid dose $>$ 20 g and immunosuppressants (-)	17	168	3.08 (1.40–6.81)	0.005
Total cumulative steroid dose $\leq$ 20 g and immunosuppressants (+)	18	121	4.34 (1.99–9.49)	<0.001
Total cumulative steroid dose $>$ 20 g and immunosuppressants (+)	64	134	15.44 (7.64–31.19)	<0.001
RERI			9.01 (1.30–16.73)	
AP			0.58 (0.36–0.81)	
S			2.66 (1.42–4.99)	

AVN: avascular necrosis; SLE: systemic lupus erythematosus; OR: odds ratio; CI: confidence interval; RERI: relative excess risk due to interaction; AP: attributable proportion; S: synergy index

a. Odds ratios were adjusted for sex, age and disease duration.

Conclusions: An individual risk assessment for AVN development should be made prior to and during treatment for SLE, especially in patients with high-dose corticosteroid and immunosuppressant use regardless of clinical manifestations and disease activity.

Disclosure of Interest: None declared

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THU0357 FEATURES ASSOCIATED WITH LOSS TO FOLLOW-UP IN THE YEAR PRIOR TO DEATH IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: A RETROSPECTIVE ANALYSIS FROM A NATIONAL REFERRAL CENTRE

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Background: Loss to follow-up in the year prior to death may lead to underrecognition and underreporting of systemic lupus erythematosus (SLE) as a cause of death of lupus patients.

Objectives: We aimed to assess the extent and features associated with loss to follow-up in the year prior to death in a group of 90 deceased SLE patients from our tertiary centre.

Methods: We retrospectively analysed 90 SLE patients (68 females) followed-up at our centre, deceased from 2002 to 2011. Patients were ≥ 18 years of age at death and fulfilled ≥ 4 classification criteria of the American College of Rheumatology (ACR). The cause and place of death were identified by matching patient data from our department's SLE registry with data from the National Death Database. Patients were considered lost to follow-up in the year prior to death (LTF) if the time span between the last visit to our centre and death exceeded 1 year. Other patients were considered to be under regular follow-up (RGF).

An extensive set of parameters was compared between the LTF and RGF groups: demographics, ACR classification criteria, cumulative damage according to the Systemic Lupus International Collaborative Clinics (SLICC)/ACR index, as well as causes of death. Frequencies were compared using the chi-square and Fisher's exact test, and continuous variables using the t-test and Mann-Whitney U-test.

Results: We identified 35/90 patients in the LTF group (29 females). The time span between the last visit to our centre and death of LTF patients ranged from >1 to 3 years. Compared to the RGF group, LTF patients were diagnosed at a later age (mean $\pm$ SD: 54 $\pm$ 15 vs. 44 $\pm$ 17 years, $p=0.006$), while there was no difference in disease duration (median of 11 years, IQR of 5–15 years in the RGF group vs. median of 7 years, IQR of 5–15 years in the LTF group, $p=0.285$). The

LTF and RGF groups did not differ in the count of ACR criteria (median of 5, IQR of 4–6 vs. median of 6, IQR of 5–7, $p=0.053$) and cumulative damage (median damage of 3, IQR of 2–5 vs. median of 5, IQR of 3–8, $p=0.068$).

Compared to the RGF group, LTF patients had a lower cumulative proportion of pericarditis (1/35 vs. 16/55), proteinuria (10/35 vs. 30/55), hemolytic anaemia (1/35 vs. 10/55), thrombocytopenia (5/35 vs. 21/55) and Hughes syndrome (2/35 vs. 13/55) ($p<0.05$). Pulmonary damage and peripheral vascular damage were observed only in RGF patients (9/55 vs. 0/35, $p=0.011$; and 8/55 vs. 0/35, $p=0.021$, respectively). LTF patients also had a lower proportion of cardiomyopathy (7/35 vs. 24/55, $p=0.021$).

RGF patients died more frequently from active lupus compared to their LTF counterparts (24/55 vs. 2/35, $p<0.001$), while no difference was observed between the proportions of death from infections, cardiovascular diseases, malignancies and unknown causes (figure 1). SLE was reported in death certificates of 30/55 RGF patients compared to only 11/35 LTF patients ($p=0.032$). Compared to the RGF group, a lesser proportion of LTF patients died in the hospital (17/35 vs. 46/55, $p=0.004$).

Abstract THU0357 – Figure 1. Causes of death according to follow-up status

Conclusions: A lower proportion of LTF patients exhibited features of active SLE over their disease course. This may have led to underrecognition of SLE as a contributor to death.

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THU0358 USEFULNESS OF 18F-FDG POSITRON EMISSION TOMOGRAPHY (PET) FOR LYMPHOMA DIAGNOSIS IN PATIENTS WITH PRIMARY SJÖGREN'S SYNDROME

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Background: Primary Sjögren's syndrome (pSS) is the autoimmune disease having the highest risk of lymphoma. The differential diagnosis between benign and malignant lymphoproliferation is sometimes difficult. Among imaging procedures, 18F-FDG PET could be useful for that purpose.

Objectives: To compare 18F-FDG PET results between patients with and without lymphoma to identify PET pattern associated with lymphomas in pSS

Methods: Retrospective study conducted in 2 centres including pSS patients (according to ACR/EULAR 2016 criteria) who undergo 18F-FDG PET. We compared PET abnormalities in patients with and without lymphoma, the PET having been done before any chemotherapy. Two independent readers analysed PET blind to lymphoma diagnosis. ESSDAI-PET score previously described by Cohen *et al.*¹ was calculated.

Results: 45 patients were included; 15 had lymphoma: MALT (n=12), nodal marginal zone with plasmacytic differentiation (n=2), diffuse large B-cell (n=1). Patients with lymphoma had more frequently parotid gland swelling (67% vs 20%, $p=0.003$) and higher ESSDAI score (24 [13.5–29] vs 9, $p=0.03$), even after exclusion of lymphoma item (19^{11–27} vs 9, $p=0.03$).

Compared to non-lymphoma patients, mean size (45.5^{38–56} mm vs. 40^{37–41} mm; $p=0.048$) and maximum standardised uptake value (SUVmax) of the parotid glands (5.6 [5–6.9] vs 3.8 [3.2–4.4]; $p=0.001$) were higher in lymphoma patients. 53.3% of patients with lymphoma and 43.3% without lymphoma had lymph node FDG uptake, but neither their number nor their repartition or mean SUV differ between them.

Pulmonary uptake was observed in 6 (40%) patients with lymphoma and 6 (20%) without lymphoma ($p=0.17$). But in lymphoma patients, this uptake was focal in 5 (33.3%) patients (nodules or condensation) and in only one (3.3%) patient without lymphoma ($p=0.01$). Remaining patients had interstitial FDG uptake. Mean PET score (4^{-2} vs. 2^{-1} $p=0.04$) and SUVmax at any site (6.3 [5.6–7.3] vs. 4.2 [3.7–5.9] $p=0.02$) were significantly higher in lymphoma group. 20 patients had PET guided biopsy of a hypermetabolic lesion that conducted to lymphoma diagnosis in 7 cases (46.6%). After chemotherapy for lymphoma, PET was available for 10 patients: complete regression of hypermetabolic lesions was observed in 6 patients (60%), and decreased uptake intensity in the 4 remaining patients.

Conclusions: Some of the systemic manifestation of pSS (lung, lymph nodes and salivary glands) can be assessed by 18F-FDG PET. Lymph nodes hypermetabolism is frequent and not associated with lymphoma. The 18F-FDG PET abnormalities associated with lymphoma diagnosis are SUV max at any site >6 , SUV max of parotid glands >5 and focal nodular hypermetabolic lung lesions. Finally, PET can be helpful to guide biopsy toward the most hypermetabolic structure for diagnosing lymphoma.

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THU0359 RELATIONSHIP BETWEEN DAMAGE CLUSTERING AND MORTALITY IN JUVENILE SYSTEMIC LUPUS ERYTHEMATOSUS: CLUSTER ANALYSES IN A LARGE COHORT FROM THE SPANISH SOCIETY OF RHEUMATOLOGY LUPUS REGISTRY

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Objectives: Identify patterns (clusters) of damage manifestations within a large cohort of patients with juvenile-onset SLE (jSLE) and evaluate their potential association with mortality.

Methods: Multicenter, descriptive and cross-sectional study of a cohort of 345 patients with jSLE (age at SLE diagnosis <18 years) from the Lupus Registry of the Spanish Society of Rheumatology (RELESSER). Organ damage was determined by using the SLICC/ACR damage index (SDI). By using cluster analysis, groups of patients with similar patterns of damage manifestations were identified and compared among them.

Results: Mean age (years) $\pm$ S.D. at diagnosis was 14.2 ± 2.89 , 88.7% were female and 93.4% were Caucasian. Mean SLICC/ACR DI $\pm$ S.D. was 1.27 ± 1.63 . A total of 12 (3.5%) patients died. Three damage clusters were identified: Cluster 1 (72.7% of patients) presented a lower amount of individuals with damage (22.3% vs 100% in clusters 2 and 3, $p<0.001$). Cluster 2 (14.5% of patients) was featured by renal damage in 60% of patients, significantly more frequent than clusters 1 and 3 ($p<0.001$), alongside more ocular, cardiovascular and gonadal damage. Cluster 3 (12.7%) was the only group with musculoskeletal damage (100%), significantly higher than in clusters 1 and 2 ($p<0.001$). The overall mortality rate in cluster 2 was 2.2 times higher than that in cluster 3 and 5 times higher than that in cluster 1 ($p<0.017$ for both comparisons).

Conclusions: In a large cohort of jSLE patients, renal and musculoskeletal damage manifestations were the two dominant forms of damage to sort patients into clinically meaningful clusters. We found two clusters of jSLE with important clinical damage that were associated to higher rates of mortality, especially for the cluster of patients with predominant renal damage. Physicians should pay special attention to the early prevention of damage in this particular subset of jSLE patients with kidney involvement.

Disclosure of Interest: None declared

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THU0360 A VALIDATION STUDY OF THE GLOBAL ANTIPHOSPHOLIPID SYNDROME SCORE (GAPSS) IN WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS AND PREGNANCY MORBIDITY

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Background: Systemic lupus erythematosus (SLE) and antiphospholipid antibodies (aPL) are associated with pregnancy complications.

Objectives: To validate the global antiphospholipid syndrome score (GAPSS) in a cohort of women with SLE.

Methods: 143 women ever pregnant with SLE who presented in our outpatient clinic were included (table 1). Data on cardiovascular risk factors and aPL positivity were retrospectively collected. The individual GAPSS was calculated for each patient by calculating the sum of each risk factor score, which is based on a linear transformation derived from the β regression coefficient as follows: 3 for hyperlipidaemia, 1 for arterial hypertension, 5 for aCL IgG/IgM, 4 for anti-b2 glycoprotein I IgG/IgM, 3 for aPS/PT IgG/M and 4 for lupus anticoagulant (LA)¹.

Results: Significantly higher GAPSS values were seen in patients with a history of pregnancy complications compared to those without a history pregnancy complications. Results are outlined in table 1 and figure 1.

Abstract THU0360 – Table 1. Patient demographics

Patients Characteristics	All (n=143)	%
Age, mean (S.D.), years	43.6 (SD 10.8)	
Disease duration, mean (S.D.), years	13.4 (9.3)	
Ethnicity (White:Black:afro-carib:Columbian: Asian)	119:6:11:1:4	
Cardiovascular risk factor (any), n	84	58%
Smoking, n	39	27%
Arterial Hypertension	44	31%
Hyperlipidemia, n	31	22%
Diabetes, n	4	3%
Pregnancies, n	382	
Pregnancy morbidity (any), n	54	14%
Consecutive early miscarriages (>3), n	9	2%
Any miscarriage, n	39	10%
Fetal death, n	25	7%
Prematurity, n	15	4%
Pre-eclampsia, n	19	5%
Intrauterine death, n	10	3%
Placental infarction, n	5	1%

Abstract THU0360 – Figure 1. Graphic illustration of the global antiphospholipid syndrome scores (GAPSS) in women with and without pregnancy morbidity.