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.

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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.

Conclusions: Higher GAPSS values are found in women with SLE and aPL with previous pregnancy complications compared to those without pregnancy complications. The clinical utility of the GAPSS score in pregnancy seem promising and should be validated in a prospective cohort.

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THU0361 CHARACTERISATION OF NOVEL AUTOANTIBODIES TO AHNK1 SPECIFICALLY PRESENTED IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Aberrant activation of T cells has been considered to play important roles for pathogenesis of SLE. In T cells activation, calcium signalling is essential for the process. Interestingly, T cells of SLE patients have been reported to show several abnormalities of calcium signalling. In the present study, we postulated that patients with SLE may target calcium signaling-related molecules as autoantigen as autoantibodies to these molecules are potentially capable of interfering with calcium signalling through binding to these molecules localised at the plasma membrane eventually resulting in abnormal T cells activation in SLE. Regarding to the calcium signaling-related molecules, recent studies have shown that AHNK1 is predominantly expressed in CD4 +T cells of cell membrane and cytoplasm. Moreover, AHNK1 is known to play significant roles for regulating of calcium signalling at T cells activation through its ability to localise calcium channels properly at the plasma membrane as scaffold protein. Therefore, we verify whether autoimmune response to AHNK1 is elicited in SLE.

Objectives: The present study was conducted to clarify whether autoantibodies to AHNK-1 are produced in SLE compared with other connective tissue diseases and normal healthy controls (NHCs).

Methods: The Patients sera consisting of SLE (n=59), other connective tissue diseases (PM/DM; n=40, SSC; n=40, SS; n=30, MCTD; n=30, and RA; n=30) and NHCs (n=115) were used in the present study. Immunoreactivity against AHNK1 recombinant antigens was evaluated by ELISA. AHNK1 mRNA expression in peripheral blood mononuclear cells (PBMCs) was evaluated by quantitative RT-PCR. Indirect immunofluorescence (IIF) staining using monoclonal anti-AHNK1 antibodies in combination with the patient's sera containing anti-AHNK1 antibodies was evaluated using HEp-2 substrate. The experimental data were statistically analysed using the Mann-Whitney U-test or Chi-square test, and differences with P-values<0.05 were considered to be significant.

Results: Immunoreactivity against AHNK1 was significantly elevated in SLE patients compared to both NHCs and other connective tissue diseases. Significant elevation of AHNK1 mRNA expression was observed in PBMC of SLE patients compared to NHCs. Among 17 SLE patients with anti AHNK1 antibodies positive sera, 4 patients revealed reduction of anti- AHNK1 antibodies level after the treatment like glucocorticoid or immune suppressive reagents, however, the remaining 13 patients did not show the reduction of serum level of anti-AHNK1 antibodies. In clinical profile, lymphopenia was frequently observed in these SLE patients. IIF analysis showed that AHNK-1 is localised at cell membrane and cytoplasm rather than nucleus.

Conclusions: In the present study, we found that autoantibodies to AHNK1 were significantly observed in sera with SLE compared to both NHCs and other connective tissue diseases. Furthermore, AHNK1 were enriched in PBMC of SLE patients suggesting antigen driven system may play an important role for this autoantibodies production. Anti-AHNK1 antibodies may be pathological and play an important role for pathogenesis of SLE because it may possibly alter physiological calcium signalling of T cells through binding to AHNK1 on cell membrane eventually resulting in aberrant T cells activation in SLE.

Disclosure of Interest: None declared

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THU0362 INCIDENCE OF MAJOR INFECTIONS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Major infections are one of the leading causes of morbidity and mortality in patients with systemic lupus erythematosus (SLE), and one of key concerns when considering the risk of immunosuppressive therapy. Previous studies have limited information on the relationship of infections and disease characteristics.

Objectives: To examine the incidence of major infections and describe the types of infections that occur in a cohort of well-characterised SLE patients

Methods: The study included 192 SLE patients who attended the Monash Lupus Clinic at Monash Health and enrolled in the Australian Lupus Registry and Biobank (ALRB) between 1st of July 2009 to 31st Dec 2016. Major infections were defined as any serious infections resulting in hospitalisation, reactivation of major viral infection, latent or active tuberculosis or any opportunistic infections. Patient and disease characteristics were examined in patients with or without major infections, and comparison was also made with 86 rheumatoid arthritis (RA) patients who are on similar level of immunosuppression. Associations between a number of patient and disease variables and infection were examined using Wilcoxon rank-sum tests (continuous variables) and Person's chi-squared tests (binary/categorical variables).

Results: 57 (30%) SLE patients reported 97 episodes of infection during the observation period (974 person-years). The median age of patients and observation period and other demographics were similar in patients who have experienced a major infection. In contrast, 15 (17%) RA patients reported 28 infection events during the study period. RA patients who reported infections were significantly older than SLE patients with infections events, median age (IQR) 68 years⁵³ vs 42 years^{33, 54} (p<0.001) respectively. 61% of SLE patients and 54% of RA patients were on prednisolone. Comparing lupus with RA patients, the type of pathogens identified was significantly different (p<0.001), with no organism identified being the most common in lupus whereas in RA multiple pathogens are common (table 1). VZV reactivation causing shingles was the most common skin and soft tissue infection in lupus patients, and occurred more frequently than the RA patients. Among all of serious infections requiring hospitalisation, infection site did not differ between SLE and RA patients, and lower respiratory and urinary tracts were most commonly involved. In patients who experienced major infection they had a significantly higher SLEDAI (p 0.04), higher ESR (p 0.005) and lower haemoglobin (p 0.003).

Pathogen_type	SLE n=97	RA n=28	<0.001
CMV, EBV	4 (3.2%)	0 (0%)	
E coli, Salmonella	6 (5%)	7 (25%)	
HSV	9 (9%)	1 (4%)	
Influenza	2 (2%)	0 (0%)	
Multiple	7 (7%)	14 (50%)	
Unknown	30 (31%)	2 (7%)	
Pneumocystis jirovecii	1 (1%)	0 (0%)	
Staphylococcus	12 (10%)	0 (0%)	
Streptococcus			
VZV	10 (10%)	2 (7%)	

Conclusions: Our data suggests that major infections occur commonly in SLE patients, and the likelihood of infection is higher in SLE, when compared to RA patients on a similar level of immunosuppression. Higher disease activity measures were associated with increased likelihood of infection. Medication exposure such as prednisolone use was similar in SLE and RA patients, suggesting other factors other than medication use plays an important role in driving infections.

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THU0363 ASSOCIATION OF DEPRESSION WITH SOCIOECONOMIC STATUS, ANTICARDIOLIPIN ANTIBODIES, AND ORGAN DAMAGE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: RESULTS FROM THE KORNET REGISTRY

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Objectives: Depression is more common in patients with systemic lupus erythematosus (SLE) compared to the general population. However, few studies have