assesses the probability of serious infection (i.e. leading to hospitalization) in SLE patients and to test it in an independent cohort.

Methods: The SCORE was developed using data from the RELESSER (Spanish Society of Rheumatology Lupus Registry) cohort of 3658 SLE patients. A Cox regression model for repeated events (Andersen-Gill) was applied to assess which demographic and clinical factors were independently associated with increased risk of developing serious infection (Table 1). The SCORE was then validated using retrospective data from the UCLH (University College London Hospital) cohort including 699 SLE patients. Median SCORE values were compared between sub-groups of patients using the U-Mann-Whitney test.

Results: Among 699 SLE UCLH patients, 98 (14%) developed serious infection. We compared these patients with 111 SLE controls who have never suffered serious infection. The characteristics of both groups are summarized in table 2. The infection group were more likely to have suffered previous infection ($P=0.001$) and/or hospitalized for SLE ($P<0.001$) and had renal and joint disease ($P=0.005$). Over a quarter of the infection group died from their infection. Median (Md) SCORE at diagnosis in SLE patients with infection was 4.27 (IQR 3.18) which was significantly higher than in the control group (Md 2.55, IQR 3.79) ($z=3.341$; $P=0.0008$). Md SCORE before infection in patients was 5.3 (IQR 3.68) which was significantly higher than SCORE at diagnosis ($z=-5.733$; $P<0.001$) in those patients. By ROC analysis, we defined three possible cut-offs to distinguish patients with and without infection. The area under the ROC curve was 0.66 (CI 95% 0.56 to 0.71). A cut-off for SCORE at diagnosis >3.18 identified patients who would develop serious infection with sensitivity (S) 76.5% and specificity (SPC) 50.5%. For SCORE >3.79 , S was 64.3% and SPC 57.7%. For SCORE >4.24 , S was 64.3% and SPC 60.4%.

TABLE 1 – FACTORS INCLUDED IN THE “SCORE”

Risk factor	B	P-value	HR
Age at diagnosis (>46 years old)	0.1163	0.001	1.12
Latin American ethnicity	0.427	0.001	2.40
Corticosteroids (>10 mg/day) at time of calculating SCORE	0.2878	0.001	1.33
Sex=male	0.3692	0.0001	1.49
Previous hospitalization (for SLE)	1.0049	<0.00001	2.73
Katz index	0.062	0.002	1.06
Prior infection at any time	0.8739	<0.0001	2.40

Table 2

	SLE-infection (n=98)	SLE-non infection (n=111)	P value
Gender	Females: 90 (91.8) Males: 8 (8.2%)	Females: 103 (92.8%) Males: 8 (7.2%)	ns
Mean age (diagnosis of SLE)	30.5 (27)	31 (18)	ns
Ethnicity	Caucasian 48 (49%) Latin American 3 (3.06%) African/Caribbean 28 (28.6%) Asian 7 (7.1%) Other 12 (12.2%)	Caucasian 72 (64.9%) Latin American 2 (1.8%) African/Caribbean 20 (18.02%) Asian 6 (5.4%) Other 12 (10.8%)	ns
Median length of follow-up (IQR)	9.5 (14) yrs	14 (9) yrs	0.001
Previous treatment	Steroids (at any time) 89 (90.8%) MMF 25 (25.5%) AZA 46 (47%) Cyclophosphamide 20 (20.4%) Biological treatment 24 (24.5%)	Steroids (at any time) 61 (55%) MMF 23 (20.7%) AZA 29 (26.1%) Cyclophosphamide 13 (11.7%) Biological treatment 22 (19.8%)	<0.001 ns <0.001 0.01 ns
Patients with >1 Infection	18 (18.4%)		

Conclusions: We have developed a SCORE for predicting risk of serious infection in SLE and validated it in an independent cohort. Given the potential mortality from such infections, this SCORE could be clinically useful though the moderate sensitivity and specificity necessitate caution and further prospective studies.

Disclosure of Interest: None declared

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THU0257 ENHANCED ACTIVATION OF NLRP3 INFLAMMASOMES IN PATIENTS WITH SJÖGREN'S SYNDROME

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Background: There has been data about pathogenic role of NLRP3 inflammasome in Sjögren's syndrome. However, linkage between their clinical features and NLRP3 inflammasome has not been clearly defined.

Objectives: The aim of this study is to identify the association of NLRP3 inflammasome with clinical features in patients with primary Sjögren's syndrome.

Methods: A total 25 female patients with Sjögren's syndrome and gender-matched 25 healthy controls were consecutively enrolled. The mRNA expression for target genes including NLRP3, ASC, caspase-1, IL-1b, and IL-18 in peripheral blood mononuclear cells (PBMCs) were measured using real-time polymerase chain reaction. Serum IL-1b and IL-18 expression were also measured by ELISA method. Clinical information and disease activity and damage for Sjögren's syndrome such as EULAR Sjögren's Syndrome Disease Activity Index (ESSDAI) and Sjögren's Syndrome Disease Damage Index (SSDDI) were collected at the time of enrollment. Statistical analysis were applied including Spearman's correlation coefficient and Mann-Whitney t-test.

Results: Patients with Sjögren's syndrome was found to be highly expressed in mRNA IL-1b and its protein, compared to controls ($p<0.001$ and $p=0.001$, respectively). The mRNA levels of caspase-1 and ASC were significantly higher than those in controls ($p=0.021$ and $p=0.008$, respectively), but not mRNA level of NLRP3. The mRNA level of IL-1b is closely related with mRNA level of NLRP3 and ESR ($r=0.549$, $p<0.001$ and $r=0.577$, $p=0.003$, respectively). Serum IL-1b protein expression in Sjögren's syndrome was found to be associated with mRNA level of caspase-1. Based on SSDDI, patients with SSDDI ≥ 1 was older and higher IL-1b and NLRP3 mRNA expression, compared to those with SSDDI = 0 ($p=0.035$, $p=0.005$, and $p=0.016$, respectively).

Conclusions: This study confirmed that activation of NLRP3 inflammasome might implicated the pathogenesis of Sjögren's syndrome.

Disclosure of Interest: None declared

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THU0258 SERUM PARAOXONASE 3 LEVELS ARE DECREASED AND PARAOXONASE 3 ACTIVITY IS REDUCED IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS AS COMPARED TO HEALTHY CONTROLS

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Background: Premature atherosclerosis is a well recognised comorbidity in patients with SLE (1). Elevated levels of circulating Oxidised Low Density Lipoprotein (OxLDL) have been described in SLE patients, especially in those with a history of cardiovascular disease (2). Paraoxonase 3 (PON 3) is believed to play a role in prevention of atherosclerosis by contributing towards the anti oxidant actions of high density lipoprotein (HDL).

Objectives: To determine serum PON3 levels and PON 3 activity in patients with SLE and compare them with healthy controls.

Methods: Serum PON 3 levels and PON3 activity were determined in 100 patients of SLE with no prior history of coronary artery disease and they were compared with those of 50 healthy controls who did not have diabetes, hypertension or coronary artery disease. Serum PON3 concentration was determined by enzyme-linked immunosorbent assay (ELISA) using anti-PON3 antibody specific for human PON3. PON 3 activity was estimated using Spectrophotometric assay which quantified the hydrolysis of dihydrocoumarin at 270 nm (3).

Results: PON 3 levels were lower in SLE patients ($P<0.001$) and PON 3 activity was reduced ($p<0.001$) as compared to healthy controls. In subgroup analysis of SLE patients, PON 3 activity and levels did not correlate with disease activity. On Univariate analysis, serum creatinine ($r^2=0.06$, $p<0.002$), age ($r^2=0.03$, $p=0.035$), and SLE status ($r^2=0.27$, $p<0.001$) contributed to PON3 levels. On Univariate analysis, serum creatinine ($r^2=0.15$, $p<0.001$), AST ($r^2=0.04$, $p=0.01$), ALT ($r^2=0.16$, $p<0.001$) and SLE status ($r^2=0.77$, $p<0.001$) contributed to PON3 levels. On multivariate analysis, only SLE status predicted PON 3 levels ($P<0.001$) and PON 3 activity ($p<0.001$).

Parameter	SLE patients	Healthy controls	P value
Serum Creatinine (mg/dl)	0.55 (0.19)	0.58 (0.19)	<0.001
Aspartate aminotransferase (U/L)	22 (11)	21 (18)	0.02
Alanine aminotransferase (U/L)	12.45 (13)	26.5 (15)	<0.001
Alkaline Phosphatase (U/L)	70 (34)	63.5 (49)	0.408
Total cholesterol (mg/dl)	155 (67)	168.5 (25)	0.076
Low density lipoprotein (mg/dl)	84.5 (44)	102 (28)	0.023
High density lipoprotein (mg/dl)	41 (21)	43 (11)	0.329
Triglyceride (mg/dl)	136 (96)	129 (64)	0.359
Very low density lipoprotein (mg/dl)	27 (19)	26 (12)	0.344
Paraoxonase 3 activity*	38.43 (37.64)	69.54 (27.80)	<0.001
Paraoxonase 3 levels**	0.54 (0.32)	2.41 (1.06)	<0.001

All values are in Median (Interquartile Range). * $\mu\text{mol ml}^{-1} \text{ min}^{-1}$, ** $\mu\text{g ml}^{-1}$.

Conclusions: PON3 levels are reduced and PON 3 activity is decreased in patients with SLE as compared to healthy controls, the difference was attributable to the disease itself. This may contribute to premature atherosclerosis in these patients.

References:

- [1] Nikpour M, Urowitz MB, Gladman DD. Premature atherosclerosis in systemic lupus erythematosus. *Rheum Dis Clin North Am*. 2005;31:329–54.
- [2] Frostegard J, Svenungsson E, Wu R et al. Lipid peroxidation is enhanced in patients with systemic lupus erythematosus and is associated with arterial and renal disease manifestations. *Arthritis Rheum*. 2005;52:192–200.