FRI0350

LUPUS LOW DISEASE ACTIVITY STATE (LLDAS-50) IS A SIGNIFICANT PREDICTOR FOR DAMAGE ACCRUAL AND MORTALITY: A NORWEGIAN COHORT ANALYSIS

C. Sharma¹, W. Raymond², G. Eilertsen³, J. NOSSENT¹. ¹Rheumatology, Sir Charles Gairdner Hospital; ²University of Western Australia, Perth, Australia; ³Clinical medicine, Arctic University, Tromsø, Norway

Background: Disease activity in patients with Systemic Lupus Erythematosus (SLE) is an important contributor to organ damage and premature mortality. Current indices to capture disease activity are not well suited to reflect their contribution to long term outcome. Lupus Low Disease Activity State (LLDAS) has been developed as an alternative measure of long term disease activity.

Objectives: To determine whether 50% of time spent in Lupus Low Disease Activity State (LLDAS-50) impacts on mortality and damage accrual in SLE

Methods: A retrospective analysis of prospectively collected data was conducted on 3650 clinic visits by 207 patients in the Tromsø Lupus Cohort. Lupus Low Disease Activity State –50 (LLDAS50) score was defined as at least 50% of follow-up time with SLE Disease Activity Index (SLEDAI) ≤4, no new disease activity, prednisone ≤7.5 mg/day and no escalation of maintenance immunosuppressant therapy. Cox regression analysis was used to evaluate the impact of LLDAS50 in terms of mortality and damage development (either new or severe) by Systemic Lupus Erythematosus Clinical Criteria (SLICC)/American College of Rheumatology (ACR) Damage Index (SDI). New damage was defined as a rise in SDI by 1 from baseline whereas severe damage was defined as a rise of 3 points or more from baseline.

Results: The median age at diagnosis of the cohort was 34 years with the majority (84%) being female. The median follow-up time was 125 months. A total of 69 patients (33.5%) spent at least half of their follow up time in LDAS, thus achieving LLDAS50. After correction for age and gender, LLDAS-50 was associated with a significant reduction in risk of having any new damage (OR 0.65; 95% CI 0.44–0.96, $p < 0.01$), severe damage (OR 0.46; 95% CI 0.25–0.83, $p < 0.01$), and also a reduction in mortality risk (OR 0.42; 95% CI 0.21–0.82, $p < 0.01$). These values were also tested for those patients who spent 30% or more time in LDAS, and were also found to be significant for death (OR 0.46, 95% CI 0.26–0.83, $p < 0.05$) but not for new damage (OR 0.92, 95% CI 0.62–1.35, $p = 0.67$) or severe damage (OR 0.71, 95% CI 0.42–1.19, $p = 0.19$).

Conclusions: The significant reduction in the risk of long term damage and mortality supports the use of LLDAS50 as a therapeutic goal.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1696

FRI0351

CLINICAL CHARACTERISTICS AND OUTCOMES OF EARLY-ONSET AND LATE-ONSET LUPUS NEPHRITIS AND ITS RISK FACTORS

C.-B. Choi, S. Won, S.-C. Bae. Rheumatology, Hanyang University Hospital for Rheumatic Diseases, Seoul, Korea, Republic Of

Background: The kidney is one of the most commonly involved major organ in systemic lupus erythematosus (SLE). It may occur as an initial presentation at the onset of SLE and it can also present later in the course of the disease.

Objectives: To compare clinical characteristics, management, and outcomes after 12 months in patients with early-onset lupus nephritis (LN) and late-onset LN and to assess the risk factors for late-onset LN.

Methods: Patients with lupus nephritis enrolled in the Hanyang BAE Lupus Cohort were retrospectively assessed. Patients who developed LN within one year of the diagnosis of SLE (early-onset) were compared with those who developed LN more than a year later from the diagnosis of SLE (late-onset). Clinical characteristics including the features of SLE, management, and outcomes including renal responses and SLE disease activity were assessed.

Results: From 1,294 SLE patients in the Hanyang BAE Lupus Cohort, 641 (49.5%) patients had LN. Early-onset LN was observed in 469 (73.2%) and late-onset LN in 172 (26.8%). Hypertension was more frequent in early-onset LN while malar rash, discoid rash, photosensitivity, oral ulcer, arthritis, leukopenia, anti-Sm Ab, and anti-RNP Ab were more frequent in late-onset LN. Late-onset LN patients also showed lower C3 and higher activity index in renal biopsy. There was no significant difference in ISN/RPS classification and in induction therapy. SLEDAI score at onset of LN and after 12 months was similar in the two groups. Complete and partial response rates at six months and twelve months were also similar and there were no differences in progression to end-stage renal disease or death between the two groups. Multivariate analysis identified younger age at onset, malar rash, arthritis, serositis, anti-dsDNA Ab, and anti-Sm Ab as independent risk factors for late-onset LN.

Abstract FRI0351 – Table 1. Clinical characteristics

	Early-onset LN (n=469)	Late-onset LN (n=172)	No LN (n=653)
Age at onset, mean±SD, years	23.84±10.38	22.66±8.55	26.73±10.51
Female, n (%)	417 (88.91)	161 (93.60)	615 (94.18)
Time to LN, mean±SD, years	0.06±0.19	5.48±4.42	
Malar rash	200 (42.64)	105 (61.05)	262 (40.12)
Discoid rash	20 (4.26)	17 (9.88)	56 (8.58)
Photosensitivity	123 (26.23)	74 (43.02)	248 (37.98)
Oral ulcer	136 (29.00)	67 (38.95)	246 (37.67)
Arthritis	243 (51.81)	131 (76.16)	449 (68.76)
Serositis	152 (32.41)	46 (26.74)	120 (18.38)
Neurologic disorder	35 (7.46)	10 (5.81)	28 (4.29)
Hematologic disorder	383 (81.66)	147 (85.47)	539 (82.54)
Immunologic disorder	421 (89.77)	164 (95.35)	550 (84.23)
ANA positivity, %	469 (100.00)	172 (100.00)	653 (100.00)
Anti-SSA, %	150 (33.56)	69 (42.59)	265 (41.41)
Anti-SSB, %	33 (7.38)	10 (6.17)	40 (6.25)
Anti-RNP, %	130 (29.08)	62 (38.27)	219 (34.27)
Antiphospholipid Ab, %	124 (26.44)	57 (33.14)	219 (33.54)
Proteinuria, g	2.55±2.43	2.45±2.48	
SLEDAI	6.71±4.75	7.20±4.80	3.98±2.86

Conclusions: Late-onset LN patients showed more mucocutaneous symptoms, autoantibodies, and higher activity index in renal biopsy compared to early-onset. However, there were no differences in outcomes after 12 months. Younger age at onset, malar rash, arthritis, serositis, anti-dsDNA Ab, and anti-Sm Ab were risk factors for late-onset LN.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3012

FRI0352

DAMAGE ACCRUAL IN A LARGE MONOCENTRIC COHORT OF PRIMARY SJÖGREN'S SYNDROME PATIENTS: DETERMINANTS AND IMPACT ON PATIENT REPORTED OUTCOMES

C. Baldini, F. Ferro, N. Luciano, E. Calabresi, E. Elefante, M. Mosca, S. Bombardieri. Rheumatology Unit, University of Pisa, Pisa, Italy

Background: Primary Sjögren's Syndrome (pSS) is a chronic progressive disease potentially leading to irreversible organ damage. To date only a limited number of studies have analysed prevalence and factors associated with damage accrual in pSS.

Objectives: a) to characterise cumulative damage in pSS patients, b) to identify determinants associated with its presence and c) to evaluate the impact of damage on patient reported outcomes (PROs).

Methods: Data from a monocentric cohort of 466 pSS patients were analysed. Glandular and extra-glandular damage manifestations were assessed by the Sjögren's Syndrome Disease Damage Index (SSDDI). Additional items of damage defined 'a priori' as being potentially related to treatment (i.e osteoporosis, diabetes, infections) were analysed separately. The EULAR Sjögren's Syndrome Disease Activity Index (ESSDAI) was used to measure disease activity at baseline and prospectively during the follow-up. The EULAR Sjögren's Syndrome Patient Reported Index (ESSPRI), Oral Health Impact Profile (OHIP) and Ocular Surface Disease Index (OSDI) were utilised to record PROs. Patients' comorbidities were assessed by the Charlson Comorbidity Index (CCI).

Results: A total of 466 pSS patients (446 F:20 M, median age (IQR): 59 years (48–69) were included in the study. The frequency of anti-Ro-SSA in the cohort was 69.5% (324/466). The median ESSDAI was 4 (IQR 1–8) at baseline and 2 (IQR 0–5) at the last evaluation, respectively. In addition to symptomatic agents, patients had been treated during the disease course with low-medium doses of glucocorticoids (GCs) (56%), hydroxychloroquine (HCQ) (62%) and DMARDs (16.6%). After a median follow-up of 5 years (IQR, 2–10), 208 patients (44.6%) had accrued some damage in either the oral damage items (33%), ocular damage items (20%) and/or systemic damage items (12%). In addition, 24/466 patients had developed a non-Hodgkin lymphoma and 2 patients a multiple myeloma. The SSDDI score ranged from 0 to 14. In the regression analysis: patients more likely to develop damage were those that were older, with a longer disease duration, higher baseline ESSDAI and who had been treated with DMARDs, whereas patients who had been ever treated with HCQ were less likely to develop disease-related damage. Similarly, treatment-related damage was independently associated with: disease duration, age of the patients, baseline ESSDAI, anti-Ro/SSA

positivity and use of GCs. Oral and ocular damage items significantly correlated with ESSPRI, OHIP and OSDI, whereas systemic damage items positively correlated with patients CCI.

Conclusions: This large pSS cohort confirmed that demographic and clinical characteristics as well as medication are independently associated with disease-related and treatment-related damage. In particular, this study shows a highly significant impact of baseline disease activity on the development of future damage and poor PROs in pSS patients.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5797

FRI0353

DEVELOPMENT AND VALIDATION OF QUESTIONNAIRES TO ASSESS HEALTHCARE UTILISATION AND ACCESS IN COHORTS OF PATIENTS WITH PRIMARY SJOÖGREN'S SYNDROME AT THE DIAGNOSIS AND DURING THE DISEASE COURSE

C. Seghieri¹, T. Grillo Ruggieri¹, C. Baldini², L. Quartuccio³, R. Priori⁴, E. Bartoloni⁵, F. Carubbi⁶, M. Orlandi⁷, S. Gandolfo³, S. De Vita³, S. Bombardieri² on behalf of Italian Rheumatology Society-pSS study group and of the HarmonicSS – "Harmonization and integrative analysis of regional, national and international Cohorts on pSS towards improved stratification, treatment and health policy making" group. ¹Sant'Anna School of Advanced Studies; ²University of Pisa, Pisa; ³University of Udine, Udine; ⁴University of Rome, Rome; ⁵University of Perugia, Perugia; ⁶University of L'Aquila, L'Aquila; ⁷University of Florence, Florence, Italy

Background: The geographic variation in healthcare spending, utilisation and quality, across and within countries is well documented. Part of this geographic variation is linked to differences in population health and needs. However, some of the variation may be unwarranted and driven by factors including provider discretion, availability and distribution of resources, financing and reimbursement models.

Objectives: To develop and validate an instrument a) to assess the pSS patients' experience and satisfaction along their clinical pathway including both primary care services and specialists, b) to collect comparable information in Europe to establish practice profiles in the diagnosis, management and treatment of patients with primary Sjögren's Syndrome (pSS).

Methods: The questionnaire consists of 32 items and collects patient-reported data on: type and intensity of treatments and services received (e.g. diagnostic testing, hospitalizations, specialist visits), costs, patients' satisfaction with the care received and general information covering patients' overall health, education, ethnicity and marital status. A narrative-based medicine section is also included in the questionnaire administered to newly diagnosed patients to explore their journey to pSS diagnosis. Additionally, a short questionnaire is administered to the specialists treating the pSS patients to collect data on the organisation of their clinical centres.

Results: The pilot version of the questionnaire was administered to 164 pSS patients (mean (SD) age: 60 (12.2) yrs) from 6 clinical centres. The majority of the respondents had a primary or secondary school (59%). Disease activity was significantly associated with frequency of rheumatologic visits and diagnostic tests ($p < 0.001$). Both the total number of specialists involved in the care other than the rheumatologist and the number of treatments received in the last 12 months before the interview varies significantly among patients and across centres ($p < 0.001$). Patients with lower education have attended on average less specialists than those with a high school or university degree ($p < 0.001$). Construct validity was supported by the questionnaire's ability to discriminate between groups with different levels of activity of the disease and socio-demographic characteristics.

Conclusions: Preliminary results confirm that the questionnaire is a valid instrument to assess and compare patterns of care for pSS patients in terms of access and utilisation of treatments and services across and within providers. Patient-reported data linked with available information from clinical records will allow to measure quality of care more comprehensively and to identify best practices and opportunities for improvement, enhance care outcomes, and increase value for patients. Further analysis will be conducted in other clinical centres within the European Horizon2020 project "HarmonicSS" to verify the generalizability and additional psychometric properties of the instrument before collecting data across and within countries

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5987

FRI0354

URINE METABOLOMIC FINGERPRINT AS DIAGNOSTIC BIOMARKER FOR LUPUS NEPHRITIS

D.A. Herrera Van Oostdam¹, C. Abud Mendoza¹, R. Flores Ramírez², M. Rodríguez Aguilar², M. Pierdant Pérez³, M.U. Martínez Martínez¹. ¹Unidad Regional de Reumatología y Osteoporosis, Hospital Central "Dr. Ignacio Morones Prieto"; ²Coordinación para la Innovación y Aplicación de la Ciencia y la Tecnología, Coordinación para la Innovación y Aplicación de la Ciencia y la Tecnología; ³Facultad de Medicina, Universidad Autónoma de San Luis Potosí, San Luis Potosí, Mexico

Background: Lupus nephritis (LN) represents the main prognostic factor for worsening in systemic lupus erythematosus (LES).¹ The relevant classes of LN – due to the need of treatment- are the proliferative (III, IV, III/IV+V) and membranous (V).

Objectives: The aim of the study was to find a urinary metabolomic fingerprint to diagnose proliferative and/or membranous LN.

Methods: Cross-sectional study. Inclusion criteria: lupus patients with and without clinical significant lupus nephritis (classes III, IV, V and mixed classes). Urine samples were screened for metabolites using gas chromatography mass spectrometry (coupled with electronic nose). Statistical analysis: principal component analysis (PCA), and for the selection of the metabolites we used Random Forest.

Results: We included 29 lupus patients, 11 with LN. The median SLEDAI score in LN patients was of 13 vs. 3 in those without NL ($p < 0.0001$). Class IV nephritis was present in 45%, mixed class in 36%, and class V in 18%. The median proteinuria of patients with NL was 1 g/L, (IQR 2.7).

The variance explained using the first two principal components was 80%.

With random forest we selected, 2 nonanone, as the metabolite with the best diagnostic accuracy, (sensitivity of 0.87 and specificity of 0.93) of proliferative LN. Obtaining the ratio of 2-bromopropane/2-nonanone, the diagnostic accuracy improved, with a positive likelihood ratio (LR) of 14 and a negative LR of 0.1 (AUC 90%).

Metabolic pathways involved in LN were: methane, glycolysis, pyruvate and glycerophospholipid pathways.

Conclusions: We identified a urinary metabolomic fingerprint that involved several metabolic pathways; 2-nonanone and the ratio of 2-bromopropane/2-nonanone had the best diagnostic accuracy in our study.

REFERENCE:

[1] Mok CC, et al. Arthritis Rheum 2013;5:2154–2160.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7529