SAT0426

SERUM URIC ACID LEVELS PREDICT DAMAGE ACCRUAL IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

C. Elera-Fitzcarrald^{1,2}, C. Reategui-Sokolova¹, R.V. Gamboa-Cárdenas^{1,3}, M. Medina¹, F. Zevallos¹, V. Pimentel-Quiroz¹, J.M. Cucho-Venegas¹, J.L. Alfaro-Lozano¹, Z.J. Rodríguez-Bellido^{1,3}, C.A. Pastor-Asurza^{1,3}, R.A. Perich-Campos^{1,3}, G. Alarcón⁴, M.F. Ugarte-Gil^{1,2}, ¹Rheumatology, Hospital Guillermo Almenara Irigoyen, EsSalud; ²Universidad Científica del Sur; ³Universidad Nacional Mayor de San Marcos, Lima, Peru; ⁴School of Medicine, The University of Alabama at Birmingham, Birmingham, AL, USA

Background: Serum uric acid levels have been reported as predictors of cardiovascular and renal morbidity,¹ and, of increasing the risk of renal damage in systemic lupus erythematosus (SLE) patients.² However, their role as predictors of global damage accrual in SLE patients has not been determined.

Objectives: To determine whether uric acid levels predict new damage in SLE patients.

Methods: This is a longitudinal study of SLE patients from a single centre cohort which started in 2012. Visits were performed every six months. Patients with at least two visits were included. Demographic and clinical characteristics as well as treatment were recorded at every visit. Disease activity was ascertained with the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI), and damage with the Systemic Lupus International Collaborating Clinics (SLICC)/American College of Rheumatology (ACR) damage index (SDI). Prednisone use was recorded as current daily dose and time of exposure. Immunosuppressive drugs and antimalarial use was recorded as current, past or never. All variables were ascertained at baseline, with the exception of new damage which was assessed at the subsequent visits. Univariable and multivariable Cox-regression models were performed to determine the impact of uric acid levels on the risk of new damage. Multivariable models were adjusted for age at diagnosis, disease duration, socioeconomic status, SLEDAI, SDI, comorbidities and use of prednisone, immunosuppressive drugs and antimalarials.

Results: Two hundred and thirty-seven patients were evaluated. The mean (SD) age at diagnosis was 35.9 (13.1) years, 220 patients (92.8%) were female, nearly all were mestizo, disease duration was 7.3 (6.6) years. The mean SLEDAI and SDI were 5.1 (4.2) and 0.9 (1.3), respectively. The Charlson comorbidity index was 0.5 (0.9). Uric acid levels were 4.5 (1.4) mg/dl. The mean current prednisone dose 7.1 (6.4) mg/d. The duration of exposure to prednisone was 6.9 (6.2) years. Follow-up time was 3.1 (1.3) years. One hundred and twelve (47.3%) patients accrued damage during the follow-up. In univariable and multivariable analyses, uric acid levels predicted new damage [HR=1.14 (95% CI 1.01–1.28); p=0.026 and HR=1.16 (95% CI 1.00–1.34); p=0.043, respectively].

Conclusions: Higher uric acid levels predicted the development of new damage in our SLE patients.

REFERENCES:

- [1] Zoccali C, et al. Uric acid, hypertension, and cardiovascular and renal complications. Current hypertension reports. 2013;15(6):531–7.
- [2] Reategui-Sokolova C, et al. Serum uric acid levels contribute to new renal damage in systemic lupus erythematosus patients. Clinical rheumatology 2017;36(4):845–52.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6128

SAT0427

PREDICTIVE VALUE OF FETAL UMBILICAL ARTERY DOPPLER IN ADVERSE PREGNANCY OUTCOMES IN PATIENTS WITH LUPUS NEPHRITIS

D. Chen, Z. Zhan. *Rheumatology, The first affiliated hospital of Sun Yat-sen University, Guangzhou, China*

Background: Compared with the general population, patients with lupus nephritis (LN) are still at high risk of adverse pregnancy outcomes (APOs), including fetal loss, preterm birth and intrauterine growth retardation (IUGR). Umbilical artery is particularly important for placental perfusion and fetal development. Increased umbilical artery resistance could be traced by Doppler velocimetry, which could be used as a screening tool for placenta-related diseases. However, the predictive value in HDP of lupus pregnancies has not been widely assessed.

Objectives: To examine the predictive value of the fetal umbilical artery Doppler on adverse pregnancy outcomes (APOs) in pregnant women with lupus nephritis (LN).

Methods: The clinical data of 158 LN pregnant patients from the First Affiliated Hospital of Sun Yat-sen University were analysed retrospectively.

Results: Totally, 119 were diagnosed before pregnancy and 39 were newly diagnosed during pregnancy. One or more APOs occurred in 74.7% of patients with LN and 40 (25.3%) were without any APOs. Fifty-four of pregnancies (12.2%) resulted in fetal loss. A total of 55 pregnancies were preterm birth, 24 were IUGR, 14 were fetal distress and 9 were neonatal lupus. Doppler pulsatility index (PI), resistance index (RI) as well as S/D value were significantly higher in the APOs groups than in the patients without APOs (p<0.05). The area below the receiver operating characteristic (ROC) curve for PI, RI and S/D all was 0.7 (95%CI 0.6–0.8). PI with cut-off value of 0.9 indicated the highest risk of APOs, with sensitivity of 28.3% and specificity of 97.2%. Regarding 0.6 as the cut-off value for RI to predict APOs, the sensitivity was 45.7% and the specificity was 80.6%. The optimal cut-off value for S/D was 2.5, at which sensitivity (39.1%) and specificity (90.0%) had the best combination.

Conclusions: Pregnancies in LN were more prone to pregnancy loss and preterm birth. Umbilical artery Doppler was a useful monitoring measure for APOs in pregnancies of LN.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5030

SAT0428

ASSOCIATION BETWEEN ORGAN DAMAGE AND HEALTH-RELATED QUALITY OF LIFE IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): A SYSTEMATIC REVIEW

E.R. Hammond¹, D.H. Lin², I.B. Murimi², H. Nab³, H. Kan², O. Onasanya², J. C. Tierce², X. Wang¹, B. Desta¹, G.C. Alexander². ¹AstraZeneca, Gailthersburg, MD; ²Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA; ³AstraZeneca, Cambridge, UK

Background: Organ damage in SLE is associated with increased morbidity and mortality. The comorbid burden of SLE involves various organ systems and may be associated with pain, fatigue, difficulty with daily activities (including school and work), and emotional well-being, all contributing to high rates of disability.

Objectives: We conducted a systematic literature review evaluating association between SLE-related organ damage and health-related quality of life (HRQOL).

Methods: A systematic literature search (January 2000–February 2017) of PubMed, EMBASE, Cochrane Library, and Latin American and Caribbean Health Sciences Literature was conducted to identify studies evaluating association between organ damage (measured by SLICC/ACR Damage Index [SDI]) and HRQOL for adults with SLE. Instruments examined include the Short Form 36 (SF-36: Physical Component Summary [PCS] and Mental Component Summary [MCS], 15 studies); EuroQol 5 Dimensions Questionnaire (EQ-5D) and Fatigue Severity Scale (FSS, 2 studies each); and the LupusQoL, Multidimensional Fatigue Inventory (MFI), Quality of Life Questionnaire of the European Foundation for Osteoporosis (QUALEFFO), and WHO Quality of Life Scale (WHOQOL-BREF) (1 study each).

Results: From 10 420 articles screened, 20 studies were included (3 prospective cohort studies, 17 cross-sectional studies). The 3 prospective studies evaluated HRQOL by the SF-36, 2 of which modelled SDI as a binary variable. For patients without damage at baseline, any damage accrual over 2 years was associated with a 5.5-fold increased risk of decreased HRQOL compared with those who did not develop new damage (SF-36 overall relative risk [RR] 5.5 [95% CI: 1.1–26.6; p=0.03]). A similar trend toward increased risk of decreased HRQOL was observed with PCS: RR 2.5 (95% CI: 0.6–10.0; p=0.19); and MCS: RR 4.6 (95% CI: 0.9–22.8; p=0.06). Any damage at baseline was associated with 67% decreased odds of achieving minimum clinically important improvement in SF-36 PCS: odds ratio [OR] 0.33 (95% CI: 0.13–0.85; p=0.02). However, no association was observed for MCS. When SDI was modelled as a continuous variable, increasing damage was associated dose-dependently with decreased SF-36 PCS compared with SDI=0; SDI 1: –2.64, p<0.001; SDI 2: –2.86, p=0.003; SDI 3: –5.94, p<0.001; SDI 4: –6.35, p<0.001; and SDI 5+: –8.11, p<0.001. In cross-sectional evaluations, increasing SDI was modestly correlated with decreased HRQOL: SF-36 correlation coefficient score range: –0.12 to –0.30; SF-36 regression coefficient score range: –0.011 to –4.65; LupusQoL correlation coefficient –0.31, p<0.01; and WHOQOL-BREF regression coefficient –0.06, p=0.57. Increasing fatigue displayed weak correlation with damage: FSS correlation coefficient range: 0.04 to 0.15.

Conclusions: Organ damage was associated with decreased HRQOL in most studies evaluated. This review determined heterogeneity in HRQOL instruments and methodology across studies. Improving construct validity of instruments and

consistent evaluation will improve the ability to estimate the burden of SLE and enhance efforts to improve HRQOL in SLE.

Disclosure of Interest: E. Hammond Employee of: AstraZeneca, D. Lin: None declared, I. Murimi: None declared, H. Nab Employee of: AstraZeneca, H. Kan Shareholder of: GlaxoSmithKline, O. Onasanya: None declared, J. Tierce: None declared, X. Wang Employee of: AstraZeneca, B. Desta Employee of: AstraZeneca, G. C. Alexander Consultant for: Chair of the FDA's Peripheral and Central Nervous System Advisory Committee, serves as a paid consultant to IQVIA, serves on the Advisory Board of MesaRx Innovations, and serves as a paid member of OptumRx's National P and T Committee. This arrangement has been reviewed and approved by Johns Hopkins University in accordance with its conflict of interest policies.

DOI: 10.1136/annrheumdis-2018-eular.5473

SAT0429

HOW PHENOTYPE OF THE SMALL FIBRE NEUROPATHY (SFN) IN PRIMARY SJÖGREN SYNDROME (PSS) DIFFERS FROM OTHERS CAUSES OF SMALL FIBRE NEUROPATHY?

E. Descamps¹, J. Henry¹, C. Labeyrie², D. Adams², D. Aiello², X. Mariette¹, R. Seror¹. ¹Rheumatology, ²Neurology, Hôpitaux Universitaires Paris Sud, Kremlin Bicêtre, France

Background: Small fibre neuropathy (SFN) is a peripheral neuropathy characterised by neuropathic pain associated with normal routine nerve conduction study but rarefaction of intraepidermal nerve fibres (IEFN). Primary Sjögren Syndrome (pSS) is one of the many etiology of SFN.

Objectives: To compare phenotype of SFN in pSS, transthyretin (TTR) familial amyloidosis and idiopathic SFN. To describe evolution of SFN in pSS.

Methods: All patients referred since October 2012 with a biopsy-proven SFN associated with either pSS (ACR/^{EULAR} 2016 criteria), TTR-amyloidosis or idiopathic were included in this monocentric retrospective study. Diagnosis of SFN was confirmed by normal nerve conduction study and abnormal lower limb skin biopsies. All patients undergo standardised diagnosis procedures during an out-patient day-clinic, pSS patients were further followed and undergo a second evaluation. Characteristics of SFN were compared between 3 groups: pSS, TTR-amyloidosis and idiopathic, and outcome of pSS associated SFN was analysed.

Results: We included 15 patients with pSS (13 (86.7%) women, median age: 56 years [IQR:46.5–63.5], 7 (46.7%) anti-SSA positive, 12 (80%) focus score ≥ 1 , 17 with TTR-amyloidosis (7 (41.2%) women, median age: 47 years^{35–56}) and 11 with idiopathic SFN (7 (63.6%) women, median age: 47 years [36–56.5]). Patients with pSS had a median ESSDAI of 5.5–8. One had monoclonal gammopathy, 5/13 (38.5%) rheumatoid factor, 2/13 (15.4%) hypergammaglobulinemia and none had cryoglobulin. Time from first neurologic symptoms to diagnosis of SFN was significantly higher for pSS (29 months [8.5–65]) and idiopathic group (35 months [11.5–65]) than for TTR group (6 months [0–15]). Clinical presentation was length dependant in only 2 (13.3%) patients with pSS compared to 10 (58.8%) in TTR amyloidosis ($p=0.01$) and 2 (18.2%) in idiopathic group ($p=1$). A "patchy" presentation (defined by asymmetrical and/or proximal symptoms involving limb, trunk and/or face), was significantly more frequent in pSS than in TTR amyloidosis (7 (43.7%) vs. 1 (5.9%); $p=0.01$). This more frequent non-length dependant course was confirmed on skin biopsies with an IEFN at proximal site <IEFN at distal site in 7/14 (50%) pSS patients compared to 2/15 (13.3%) in TTR ($p=0.05$) and 1 (9.1%) in idiopathic ($p=0.04$) groups. Lauria score was significantly higher in pSS than in TTR, (5 [4–7.5] vs. 2, 2^{-5} $p=0.007$), mainly due to items of sicca symptoms ($n=14/15$) and peripheral limb pain ($n=13/15$). Ten patients with pSS have been reassessed with a median follow up of 31 months [16.5–53.5]. At reassessment, the Lauria score did not significantly differ (6^{5–7}) from initial score, patchy presentation was still predominant 5 (50%). Patients did not evolve through large fibre neuropathy, except one patient who had received a neurotoxic chemotherapy by platin for ovarian cancer, between the 2 evaluations.

Conclusions: pSS patients with SFN had a low frequency of serum B cell activation biomarkers. Compared to other causes of SFN, in pSS SNF was characterised by a more frequent non-length dependant and patchy presentation and a higher Lauria score. After a median follow-up of 31 months, SFN in pSS were stable in the time and did not evolve through large fibre neuropathy.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3298

SAT0430

ASSESSMENT OF ACR AND SLICC CLASSIFICATION CRITERIA IN THE ASIA PACIFIC LUPUS COLLABORATION COHORT

R. Kandane-Rathnayake¹, V. Golder¹, W. Louthrenoo², S.-F. Luo³, Y.-J. Wu⁴, A. Lateef⁵, S. Sockalingam⁶, S. Navarath⁷, L. Zamora⁷, L. Hamijoy⁸, Y. Katsumata⁹, M. Harigai⁹, M. Chan¹⁰, S. O'Neill¹¹, F. Goldblatt¹², C.S. Lau¹³, A. Hoi¹, M. Nikpour¹⁴, E. Morand¹. ¹School of Clinical Sciences at Monash Health, Monash University, Clayton, Australia; ²Chiang Mai University Hospital, Chiang Mai, Thailand; ³Chang Gung Memorial Hospital, Taipei; ⁴Chang Gung Memorial Hospital, Keelung, Taiwan, Province of China; ⁵National University Hospital, Singapore, Singapore; ⁶University of Malaya, Kuala Lumpur, Malaysia; ⁷University of Santo Tomas Hospital, Manila, Philippines; ⁸University of Padjadjaran, Bandung, Indonesia; ⁹Tokyo Women's Medical University, Tokyo, Japan; ¹⁰Tan Tock Seng Hospital, Tan Tock Seng, Singapore; ¹¹Liverpool Hospital, Liverpool; ¹²Royal Adelaide Hospital and Flinders Medical Centre, Adelaide, Australia; ¹³University of Hong Kong, Pok fu lam, Hong Kong; ¹⁴St. Vincent's Hospital, Melbourne, Australia

Background: Patients with systemic lupus erythematosus (SLE) are commonly assessed using the classification criteria developed by the American College of Rheumatology (ACR), or more recently by the Systemic Lupus International Collaborating Clinics (SLICC). Although SLE is highly prevalent and severe in Asians, no comparison of patients meeting these criteria in predominantly Asian SLE patients has been performed.

Objectives: To compare patients meeting the ACR and SLICC classification criteria in the Asia Pacific Lupus Collaboration (APLC) cohort.

Methods: All patients fulfilled either the ACR (1997) criteria (≥ 4 of 11 items) or SLICC criteria (≥ 4 of 17 items, including ≥ 1 clinical and ≥ 1 immunologic criteria, or biopsy-proven lupus nephritis (LN) + ≥ 1 immunological criterion), evaluated at enrolment. Demographic and clinical data were compared using Kruskal Wallis (for medians) chi-squared (proportions) tests.

Results: 1735 patients were studied with a median ([IQR] (range)) follow up of 795 [532, 1087] (0, 1443) days. 1716 (98.9%) and 1668 (96.1%) patients met SLICC and ACR criteria respectively. 1649 (95%) patients met both criteria, 67 (3.9%) patients met SLICC criteria only and 19 (1.1%) patients met ACR criteria only. Patients in ACR-only and SLICC-only groups were significantly older than those who met both criteria (ACR-SLICC group); ACR-only patients had longer observation period (table 1). 15/67 SLICC-only patients had non-scarring alopecia, which is not an ACR item, and 14 had LN with ≥ 1 immunologic criterion. Discrepancies between the 19 ACR-only patients and the ACR-SLICC group were predominantly observed in the immunological criteria. Both ACR-only and SLICC-only patients had lower SLEDAI-2k score at recruitment when compared to ACR-SLICC group, and a fewer SLICC-only patients were in flare (table 1). During the observation period, SLICC-only patients had the lowest time-adjusted mean (TAM) SLEDAI-2k and prednisolone dose; lowest proportions of flares and damage accrual, and highest proportion of patients achieving Lupus Low Disease Activity State (LLDAS) at least once. In contrast, ACR-only patients had the highest proportion of patients experiencing flares and least proportion of achieving LLDAS (table 1).

	ACR & SLICC n=1649	ACR only n=19	SLICC only n=67	p-value
Demographics				
Age at enrolment (years)	40 (31, 50)	50 (37, 59)	46 (34, 55)	0.003
Study observation period (years)	2.2 (1.5, 3.0)	3.4 (2.4, 3.5)	2.1 (1.7, 2.8)	0.005
Females, n (%)	1533 (93.0%)	18 (94.7%)	64 (95.5%)	0.7
Clinical indications at recruitment				
PGA	0.5 (0.2, 1.0)	0.5 (0.2, 0.8)	1.0 (0.3, 1.2)	0.09
SLEDAI-2k score	4.0 (2.0, 6.0)	2.0 (0.0, 4.0)	2.0 (1.0, 4.0)	0.03
Mild/mod./severe flare, n (%)	272 (16.5%)	4 (21.1%)	3 (4.5%)	0.03
Organ damage, n (%)	679 (41.2%)	10 (52.6%)	25 (37.3%)	0.5
In LLDAS, n (%)	769 (46.7%)	7 (36.8%)	39 (58.2%)	0.12
Longitudinal clinical indications				
Time adjusted mean PGA	0.4 (0.2, 0.8)	0.4 (0.2, 0.6)	0.5 (0.2, 0.9)	0.7
Time adjusted mean SLEDAI	3.4 (1.5, 5.4)	2.6 (1.0, 5.3)	2.0 (1.3, 4.0)	0.009
Time adjusted mean prednisolone (mg)	5.0 (2.1, 8.9)	4.1 (2.5, 8.9)	3.0 (0.0, 6.6)	0.004
Mild/mod./severe flare ever, n (%)	954 (57.9%)	12 (63.2%)	21 (31.3%)	<0.001
Damage accrual, n (%)	241 (14.6%)	3 (15.8%)	6 (9.0%)	0.4
LLDAS ever, n (%)	1282 (77.7%)	12 (63.2%)	58 (86.6%)	0.07

Conclusions: We observed a high overlap between the two classification criteria, but the use of both criteria captured a larger cohort overall. In this cohort, patients meeting SLICC but not ACR criteria had less active disease.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4308