the DORIS remission definitions and the further development of a treat-to-target approach in SLE.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3616

FRI0378

ANTIPHOSPHOLIPID SYNDROME IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

M. Jordhani, J. Seiti, V. Duraj, D. Ruci. *Internal Medicine, Uhc Tirana, Tirana, Albania*

Background: Antiphospholipid syndrome (APS) is a known cause of thrombotic disorders, including Acute Myocardial Infarction (AMI). Although the incidence of APS in AMI patients it's not known, it can be an important cause of myocardial infarction especially in young patients.

Objectives: The aim of this study is to evaluate the relationship between antiphospholipid syndrome and acute myocardial infarction in patients presented at cardiac emergency and cardiac reanimation at UHC Mother Teresa, Tirana, Albania

Methods: This is an observational study which included all patients from 23 to 45 years old presented as Acute Myocardial Infarction at our hospital from 10 december 2016–10 december 2017. In this period, there were diagnosed with AMI 61 patients fulfilling the inclusion criteria of the study: 37 males and 24 females. Besides the usual laboratory tests, all patients included in the study were completed with the titration of APS autoantibodies (Anti-cardiolipin, Lupus anticoagulant, $\beta 2$ glycoprotein 1 antibodies). If positive, according to diagnosis guidelines, the tests were repeated after 12 weeks.

Results: Of 61 patients with AMI, 17 patients were positive for Antiphospholipid Syndrome at the first test and after 12 weeks, APS was confirmed in 15 patients (24.6%): 10 females (67%) and 5 males (33%). Three of the patients diagnosed with APS underwent to a second Percutaneous transluminal coronary angioplasty due to rapid occlusion of stents placed in concomitant stenotic coronary arteries.

Conclusions: From this study it was found that Antiphospholipid syndrome in relatively young patients hospitalised for Acute myocardial infarction is a concomitant-causing disorder in a quarter of the patients included in our study. This implies that in young patients it should be kept in mind that APS could be the reason of the problem.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.7227

FRI0379

INFLAMMATORY JOINT INVOLVEMENT IS ASSOCIATED WITH SEVERE DRY EYE IN PATIENTS WITH PRIMARY SJÖGREN'S SYNDROME

M. Fernandez Castro¹, C. Sanchez-Piedra², J.L. Andreu³, V. Martínez Taboada⁴, A. Olive⁵, J. Rosas⁶ on behalf of SJOGRENER project (GEEAS-SER).
¹Rheumatology, Hospital Infanta Sofía, Madrid; ²Research Unit of the Spanish Society of Rheumatology; ³Rheumatology, Hospital Puerta de Hierro Majadahonda, Madrid; ⁴Rheumatology, Hospital Marqués de Valdecilla, Santander; ⁵Rheumatology, Hospital Germans Trias i Pujol, Barcelona; ⁶Rheumatology, Hospital Marina Baixa, Alicante, Spain

Background: Primary Sjögren's syndrome (pSS) is characterised by lymphocytic infiltration of exocrine glands and other organs, resulting in dry eye, dry mouth and extraglandular systemic involvement such as pain, myalgia or polyarthralgia, among others.

Objectives: The aim of the present study is to explore the association of severe or very severe dry eye with extraocular involvement in patients with pSS.

Methods: SJOGRE-SER registry is a multicenter cross-sectional study of pSS patients fulfilling European/American consensus criteria 2002 from 33 Spanish rheumatology departments. Data were collected by reviewing clinical records and interviewing patients. For the construction of our main variable, "severe/very severe dry eye" (S/VSDE), we used those variables present in our cohort that represented a degree 3–4 of severity (S/VSDE) according to the dry eye TFOS DEWS I classification 2007 (Tear Film and Ocular Surface Society Dry Eye Workshop): Schirmer score (≤ 5 mm/5 min) and/or corneal ulcers and/or use of autologous sera and/or contact lenses and/or Stenon conduit bypass and/or palpebral cleft reduction. First, bivariate logistic regression models were used to identify the effect of each independent variable on S/VSDE. Secondly, multivariate analysis using regression model was used to establish the independent effect of patient characteristics associated with the dependent variable.

Results: Four hundred and thirty-seven patients were included in SJOGRE-SER registry (female gender 95%; median age 58 (50.02–67.98) years). Mean time of evolution of the disease in the cohort was 8.3 years. ESSDAI mean score was 2 (0–4, P25–P75) in the full registry. Ninety-four per cent of the patients in SJOGRE-SER cohort complained of daily, persistent, troublesome dry eyes, 92% had sensation of sand in the eyes and 16% developed corneal ulcer. In the

full cohort Schirmer's test was performed in 402 patients and was pathological (≤ 5 mm/5 min) in 371 patients (92%). The use of autologous sera was 14%, contact lenses 2%, Stenon conduit bypass 0.23% and palpebral cleft reduction 0.23%. Three hundred and seventy-eight patients (86.5%) presented S/VSDE; 95% were women, and the median age was years. Mean time of evolution of the disease was 8.51 and ESSDAI mean score was 5. Inflammatory articular involvement was significantly more frequent in patients with S/VSDE (82.5%) than in those without S/VSDE (69.5%) ($p=0.028$). Inflammatory joint affection was associated with S/VSDE in the multivariate analysis, OR 2.079 (95% CI, 1.096–3.941). These results were adjusted by sex, age, time of evolution of the disease and ESSDAI score.

Conclusions: Severe or very severe ocular involvement is associated with the presence of inflammatory joint involvement in patients with pSS. These results suggest that a directed anamnesis including systemic comorbidities, such as the presence of inflammatory joint affection and dry mouth, in patients with severe dry eye, would be useful to suspect an pSS.

REFERENCE:

[1] Report of the International Dry Eye Workshop (DEWS). *Ocul Surf* 2007;5:65.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1961

FRI0380

ASSESSMENT OF SUBMANDIBULAR GLAND QUALITATIVE CHANGES USING SHEAR WAVE ELASTOGRAPHY IN PATIENTS WITH SJÖGREN'S SYNDROME

N. Hashimoto¹, S. Uchiyama², M. Kitano³, T. Nakazawa⁴, T. Iwasaki⁵, T. Hashimoto¹. ¹Hashimoto Rheumatology Clinic; ²Temabashi General Clinic, Kansai Medical University, Osaka; ³Division of Rheumatology, Department of Internal Medicine, Hyogo College of Medicine, Nishinomiya; ⁴Department of Rheumatology, Osaka Saiseikai Nakatsu Hospital, Osaka; ⁵Department of Pharmacy, Hyogo University of Health Sciences, Kobe, Japan

Background: We have reported that the submandibular gland ultrasonography (SGUS) is a useful noninvasive and inexpensive procedure for the evaluation of the structural changes of salivary gland (SG) in Sjögren's syndrome (SS), International Symposium on SS 2002, EULAR 2009, EULAR 2012, EULAR 2015. However, our previously study demonstrated that although SGUS findings were useful for the diagnosis of SS with low salivary flow they were not for early-stage SS with normal salivary flow. EULAR 2016 Recently, ultrasound elastography has been reported to be a new tool to evaluate tissue stiffness and diagnose tumour.

Objectives: The aim of this study was to examine the usefulness of SGUS using US staging and PD grading score in combination with shear wave elastography (SWE) in patients with SS.

Methods: Fifty-eight patients who fulfilled the American College of Rheumatology (ACR)/European League Against Rheumatism (EULAR) classification criteria for SS were studied. SS patients were divided into three groups according to salivary flow using gum test (VL/SS: <5 mL/10 min. ($n=21$), L/SS: 5–10 mL/10 min. ($n=27$) and N/SS: ≥ 10 mL/10 min. ($n=10$)). All patients were examined SGUS by a single investigator who was blinded to device (TUS-A300; Canon Medical Systems, Tokyo, Japan) with a linear transducer (7.5–10MHz). The examination consisted of conventional B-mode US (US staging score), pulsed wave Doppler US (PD grading score) and SWE with quantitative assessment. US staging scores were assessed by glandular size, inhomogeneity and contrast of diaphragmatic muscle (stage 0 to 3). PD grading scores were graded by pulsed wave pattern in pulsed wave Doppler US at the internal SG facial arteries (grade 0 to 2). With the region-of-interest (ROI) placed over the stiffest areas of the lesion on SWE, the quantitative mean of the elasticity values were measured by shear wave velocity (Vs: m/s) and elasticity (E: kPa) for each lesion.

Results: The US staging scores of SS patients were 0.0% in stage 0; 17.2% in stage 1; 8.6% in stage 2; 74.1% in stage 3. The PD grading scores of SS patients were 20.7% in grade 0, 17.2% in grade 1, 62.1% in grade 2. The US staging and grading scores were significantly lower in N/SS patients (1.40 ± 0.70 , 0.10 ± 0.32) than in L/SS (2.74 ± 0.66 , $p<0.001$, 1.59 ± 0.69 , $p<0.001$) and in VL/SS (2.91 ± 0.30 , $p<0.001$, 1.81 ± 0.40 , $p<0.001$) patients. The elasticity value measure by Vs and E were significantly higher in N/SS patients than in VL/SS patients (Vs: 1.90 vs 1.56 m/s, $p<0.05$, E: 11.2 vs 7.57 kPa, $p<0.05$). The Vs and E were significantly decreased as US staging score (stage 1 vs 3: 1.91 vs 1.62 m/s, $p<0.05$, 11.3 vs 8.21 kPa, $p<0.05$) and PD grading score (grade 0 vs 2: 1.90 vs 1.61 m/s, $p<0.05$, 11.1 vs 8.13 kPa, $p<0.05$) increased.

Conclusions: The present study demonstrated that the tissue elasticity was increased due to inflammation and high viscosity in the SG at the early stage, but was decreased due to structural changes in the SG at the advanced stage of the

disease. The SWE may be a useful tool for elucidation of early stage pathological changes of the SG when salivary gland functions are not impaired in SS.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.2589

FRI0381

ARE THE ANTIPHOSPHOLIPID ANTIBODIES A "NEW" INDEPENDENT RISK FACTOR FOR ACCELERATED ATHEROSCLEROSIS

N. Stojilov¹, V. Boyadzieva¹, R. Rashkov¹, S. Stefanov². ¹Clinic of Rheumatology, Umla "Sv. Ivan Rilski", ²Clinic of Rheumatology, SBALDB, Sofia, Bulgaria

Background: The physiological function of phospholipids and their protein co-factors, which are aPL target, are well known. Beta 2 glycoprotein 1 is an important transport molecule that binds negatively charged particles to free circulation, including various lipoproteins, such as LDL. In this context, β 2GPI plays the role of protein co-factor of low density lipoprotein and is a key factor affecting serum levels of free LDL and total cholesterol, respectively. Its physiological function is suppressed by antibodies against it.

Objectives: We investigated the incidence of atherosclerosis in patients with antiphospholipid syndrome compared with systemic lupus erythematosus without aPL and healthy controls at pre-treatment sites.

Methods: We examined 219 people divided in three groups – APS (136), SLE,⁴² healthy controls.⁴¹

We performed an ultrasound examination of the carotid arteries, measuring intima-media thickness as well and evaluate the vessel wall for atherosclerotic plaques.

We performed calcium score on the coronary arteries, aorta and aortic valve as well.

Results: Between our groups we do not find statistically significant difference for BMI.

Comparative analysis for LDL-cholesterol showed higher APS median values (3.13 mmol/L) compared to other groups. Using the Kruskal-Wallis test, we have a statistically significant result for a direct correlation with the antiphospholipid syndrome ($p=0.001$). Patients with APS shows higher levels for LDL.

With the Kruskal-Wallis analysis, we found a statistically significant difference in IMT between the study groups for left ($p=0.005$) and right ($p=0.014$) carotid arteries.

With Mann-Whitney analysis, we do not detect statistically significant differences in IMT values between patients with primary antiphospholipid syndrome and those with secondary.

We investigated the frequency distribution of atherosclerotic plaques in individuals in the groups. In the right carotid artery, plaque was found in 18 (31.6%) patients with APS, 3 (7.3%) cases were recorded in healthy controls, and in the SLE group there were no reported cases. We establish a statistically significant correlation of carotid plaques in APS patients ($p\leq 0.001$).

In our study group of patients with APS is characterised by the highest incidence of positive CaScore, and its maximum values are significantly higher than the other two groups. The maximum Agatston score for patients with antiphospholipid syndrome is 908 HU, with SLE being 2.1 HU, with healthy controls – 233HU.

We investigate the levels of anti-ox LDL antibodies and we found that there is a correlation between the levels of aPL and anti-oxLDL.

Conclusions: The conclusion from our study is that the aPL could be considered for independent risk factor for accelerated atherosclerosis. The aPL are responsible for dyslipidemia in some cases blocking the transport molecules like β 2GPI.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6776

FRI0382

A STUDY OF MCP1 AND LIPOCALIN AS URINARY BIOMARKERS IN LUPUS NEPHRITIS

R. Ramamoorthy, T.N. Tamilselvam, B. Kumar. Institute of Rheumatology, Madras Medical College, Chennai, India

Background: Currently, major efforts have been undertaken to identify biomarkers that can predict impending lupus renal flare, development of chronic kidney disease or reflect renal histology at the time of the flare.

Objectives: This study aims to assess the correlation of urinary biomarkers MCP1 and NGAL with the disease activity in lupus nephritis.

Methods: This was a prospective study conducted in a tertiary care centre. 60 patients with SLE were recruited. They were divided into 3 groups, one with Active Lupus Nephritis ($n=22$), another with Inactive Lupus Nephritis ($n=20$) and a third formed of SLE patients with no renal involvement ($n=18$). For comparison another group of age and sex matched controls was taken ($n=20$). Disease activity was correlated with disease activity indices, baseline characteristics and biopsy. Urinary MCP1 and NGAL were measured. Statistical analysis using SPSS11.5 was

done to find the correlation between levels of urinary biomarkers and disease activity.

Results: In patients with active LN, both UMCP1/Cr and UNGAL/Cr were significantly elevated (92.78, 76.11 pg/ml, $p<0.001$). In both control group and SLE without renal involvement the values of UMCP1/Cr and UNGAL/Cr were normal (24.44, 22.22 pg/ml in control and 24.3, 22.80 pg/ml in SLE without renal involvement). In patients with inactive LN the values of UMCP1/Cr and UNGAL/Cr were observed to be significantly higher than control (44.18, 38.45 pg/ml, $p<0.005$) and lower than those of active LN. Values of UMCP1/Cr and UNGAL/Cr were found to be in close correlation with mean rSLEDAI scores of active LN¹⁰ and inactive LN (3.6).

Conclusions: Levels of urinary biomarkers UMCP1 and UNGAL were significantly elevated in active lupus nephritis and found to have excellent correlation with disease activity index and rSLEDAI scores.

REFERENCES:

- [1] Susianti H, Iriane VM, Dharmanata S, Handono K, Wijianti A, Gunawan A, Kalim H. Analysis of urinary TGF- β 1, MCP-1, NGAL, and IL-17 as biomarkers for lupus nephritis. *Pathophysiology* 2015 Mar;22(1):65–71. doi:10.1016/j.pathophys.2014.12.003. [Epub 2015 Jan 6].
- [2] Susianti H, et al. Urinary Neutrophil Gelatinase associated Lipocalin to monitor Lupus Nephritis Disease Activity. *Biomark insights* 2015;10:80–87.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.2184

FRI0383

CHANGES IN WHITE MATTER MICROSTRUCTURE CORRELATE WITH SF-36 MENTAL COMPONENT SUBSCORE IN INFLAMMATORY NPSLE

R.C. Monahan¹, L. Beaat- van de Voorde¹, C. Magro-Checa¹, T. Huizinga¹, H. Middelkoop², M. van Buchem³, I. Ronen³, A. Kaptein⁴, G. Steup-Beekman¹. ¹Rheumatology; ²Neurology; ³Radiology; ⁴Psychiatry, Leiden University Medical Center, Leiden, Netherlands

Background: The diagnosis and treatment of neuropsychiatric systemic lupus erythematosus (NPSLE) is challenging due to the lack of a diagnostic gold standard and controlled trials. Immunosuppressive therapy is prescribed for immune-mediated NPSLE manifestations, despite little evidence supporting its effectiveness. There is increasing evidence for the value of magnetization transfer imaging (MTI) in NPSLE. Recent research has demonstrated that white matter (WM) magnetic transfer ratio histogram peak height (MTR-HPH), a derived-MTI index, is a valuable radiological biomarker for the diagnosis and follow-up in inflammatory NPSLE.¹ It remains unknown whether the changes in WM MTR-HPH also correlate with the change in health-related quality of life (QoL) in these patients.

Objectives: To analyse the correlation between change in WM MTR-HPH and change in QoL in different subsets of NPSLE (inflammatory, ischaemic, non-NPSLE).

Methods: Patients that visited the Leiden University Medical Centre (LUMC) NPSLE clinic between 2007 and 2015 were included in this study. The attribution process of NP events to SLE and one of its underlying pathogenic mechanisms (ischaemic or inflammatory) was established by multidisciplinary consensus. All patients underwent MRI examination at two different time points and filled in the Short-Form 36 (SF-36). Summary scores were deducted from the SF-36, leading to a Physical Component subscore (PCS) and a Mental Component subscore (MCS) for QoL. Spearman rank correlation coefficient (SR) was used to correlate WM MTR-HPH and the overall difference in change between visits in MCS and PCS. Data was analysed per patient and per event.

Results: A total of 15 patients (mean age 39.5 ± 14.1 years, 93% female) were included. Thirty-one NPSLE events were present, of which 68% were inflammatory, 13% ischaemic and 19% non-NPSLE events. Average time between visits was 2.9 ± 1.5 years. The per patient analysis showed statistical significant correlation between WM MTR-HPH and MCS change ($SR=0.62$; $p=0.01$) and no effect on PCS change ($SR=0.09$; $p=0.76$). The per event analysis showed a significant correlation between change in WM MTR-HPH and MCS in inflammatory events ($SR=0.56$; $p=0.01$), but not in ischaemic ($p=0.20$) or non-NPSLE events ($p=0.65$). No correlation was observed between change in WM MTR-HPH and PCS in any of the subsets ($p=0.21$, $p=0.40$ and $p=0.91$ respectively).

Conclusions: We are the first to demonstrate a correlation between a radiological biomarker and change in the mental component of QoL in inflammatory NPSLE patients. Our study supplies evidence for the use of immunosuppressive therapy in inflammatory NPSLE and supports the use of this radiological biomarker as an outcome measure for future trials in NPSLE.