sample (probing short-term memory and attention), continuous performance test (probing sustained attention), mathematical processing, and memory search (probing working memory). Anxiety and depression were assessed by the Hospital Anxiety and Depression scale (HADS). The total and individual-domain throughput scores (TPS) were compared between both groups using Student's *t* test. The presence of cognitive dysfunction, defined as total TPS <1.5 SD below the mean TPS of HC, was compared between both groups by χ^2 test. Within the SLE group, the relationships between prednisolone dose (daily [mg] or cumulative [gm]) and individual-domain TPS were first explored by bivariate correlations. Independent association between glucocorticoid dose and individual-domain TPS that showed significant bivariate associations with prednisolone dose was determined by multiple linear regression, with adjustment for potential clinically- and demographically-important cofounders.

Results: Ninety-six SLE patients and 96 HC were studied, 16 men (16.7%) were present in each group. The mean age $\pm$ SD of SLE patients and HC were 36.57 $\pm$ 11.4 and 33.61 $\pm$ 10.6 years ($p=0.073$), respectively. The mean $\pm$ SD duration of SLE, SLEDAI and daily and cumulative prednisolone doses were 98.85 $\pm$ 87.4 months, 3.37 $\pm$ 3.4, 11.01 $\pm$ 13.6mg and 16.92 $\pm$ 18.5gm, respectively. SLE patients had a significantly higher mean HADS-anxiety score than HC (6.25 $\pm$ 3.3 vs 4.62 $\pm$ 3.0, $p=0.001$) while the mean HADS-depression score was comparable between both groups ($p=0.093$). SLE patients had significantly shorter duration of education (12.92 $\pm$ 3.92 vs 15.86 $\pm$ 2.5 years, $p<0.001$), scored significantly worse across all the 8 ANAM domains, had a significantly lower mean total TPS [337.23 $\pm$ 94.4 vs 395.62 $\pm$ 87.6, $p<0.001$] and were significantly more prevalent of cognitive dysfunction as compared to HC (25.0% vs 7.3%, $p=0.001$). In SLE patients, a statistically significant negative correlation was found between daily prednisolone dose and TPS of mathematical processing ($r=-0.248$, $p<0.015$), while no significant correlation between cumulative glucocorticoid dose and any of the individual ANAM domain was found. In multivariate regression, daily prednisolone dose remained independently associated with lower TPS of mathematical processing ($\beta=-0.208$, $p=0.024$) after adjusting for age, gender, SLEDAI, total HADS, total TPS, serum albumin and 25-OH hydroxyvitamin D levels and duration of education in SLE patients.

Conclusion: Daily, but not cumulative glucocorticoid dose has an independent impact on the working memory of SLE patients. While how daily glucocorticoid dose affects working memory mechanistically requires further investigation, its impact on neurocognitive assessment in SLE patients cannot be underestimated.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.4228

FRI0245 RHEUMATOID FACTOR IN IGA, IGG AND IGM IMMUNOGLOBULIN CLASSES IN PRIMARY SJÖGREN'S SYNDROME

Maria Maślińska¹, Joanna Dmowska-Chalaba¹, Małgorzata Mańczak², Long Shen³, Lakshmanan Suresh⁴, Brygida Kwiatkowska¹. ¹National Institute of Geriatrics, Rheumatology and Rehabilitation, Early Arthritis Clinic, Warsaw, Poland; ²National Institute of Geriatrics, Rheumatology and Rehabilitation, Department of Gerontology and Public Health, Warsaw, Poland; ³Trinity Biotech, Autoimmune Division, Buffalo, NY, United States of America; ⁴Trinity Biotech, Autoimmune Division, Buffalo, NY, United States of America

Background: Primary Sjögren's syndrome (pSS) is an autoimmune disease with the autoantibodies overproduction, including rheumatoid factors (RF). An association of RFs with the disease activity has been already described, with RFs in IgA, IgG immunoglobulin classes suggested as potential biomarkers of immunological/clinical pSS features.

Objectives: Examining correlations of RF in IgM, IgA and IgG immunoglobulin classes with other autoantibodies, dry eye tests and histopathological assessment (focus score) of salivary gland inflammation.

Methods: We studied 76 patients, mean age 53 (SD=13); (67Female/9Male) with pSS diagnosis (criteria ACR/Eular 2017); mean disease duration from diagnosis 2.24 year. Laboratory tests performed: ESR, C-reactive protein(CRP), concentrations of gamma globulins (g/dl), RF serum concentration assessed using Immulisa Enhanced™ RF IgA, IgG, IgM Antibody ELISA IMMCO Diagnostics, Inc. As positive result of the RF-IgA and RF-IgG concentration > 25 EU/mL was considered, as positive RF-IgM > 12.5 EU/mL; a highly positive result set as > 100 EU/mL. Anti-Ro/SSA, and anti-La/SSB antibodies were detected by semiquantitative dot blot method. The eye dryness and keratoconjunctivitis sicca were confirmed with Schirmer's test (score of less than 5 mm/5') and the ocular staining score (OSS) using lissamine green and fluorescein staining and biopsy of minor salivary gland with the histopathological evaluation

(focus score-FS). The study was approved by the proper ethics committee. Differences between groups were analyzed with U Mann-Whitney test (continuous variables). Correlations between quantitative variables were assessed with the Spearman correlation coefficient. Statistical significance was set at $p<0.05$.

Results: The detection of RF in examined sera: RF- IgA: positive(+) 66% (n=50), negative (-) 34%(n=26); highly positive (++) 51%(n=39); RF-IgG: + 55% (n=42), - 45%(n=34), ++ 9% (n=7); RF-IgM: + 88% (n=67), - 12% (n=9), ++ 55% (n=42). In comparison of patients' groups: i/RF-IgA (+) vs. RF-IgA(-) : no difference in term of FS, OSS and Schirmer's test; in RF-IgA(+) group significantly higher anti SS-A antibodies ($p=0.002$); a significant difference in anti SS-A antibodies level ($p=0.028$) RF-IgA(++) and lower positive group (less than 100EU/mL); ii/RF-IgM(+) vs. RF-IgM(-): RF-IgM (+) significantly higher anti -SS-A antibodies ($p=0.007$); iii/RF-IgG (+) vs. RF-IgG(-): RF-IgG(+) significantly higher anti SS-B antibodies ($p=0.015$). Positive correlation was found between RF-IgA(+) and RF- IgG(+) ($\rho=0.647$) and RF- IgM(+) ($\rho=0.669$); RF-IgG(+) and RF-IgM(-) ($\rho=0.429$). Surprisingly no correlations found in studied group between concentrations of RF- IgA, IgG and IgM and WBC, C4, C3 complement component, FS, OSS, and Schirmer's test.

Conclusion: 1. rheumatoid factors in main three classes of gammaglobulins, particularly RF-IgA, strongly associate with anti-SSA and anti-SSB autoantibodies production. 2. RF - IgM and RF- IgA dominate over RF-IgG in pSS. 3. both RF-IgA and RF-IgM may be used as diagnostic tool for pSS. 4. Further research is needed to distinguish activity and role of RF- IgA based upon its presence in serum vs. in saliva.

REFERENCES:

- Peen E, Mellbye OJ, Haga HJ. IgA rheumatoid factor in primary Sjogren's syndrome. *Scand J Rheumatol.* 2009 Jan-Feb;38(1):46-9.
- García-Carrasco M, Mendoza-Pinto C, Jiménez-Hernández C, Jiménez-Hernández M, Nava-Zavala A, Riebeling C. Serologic features of primary Sjögren's syndrome: clinical and prognostic correlation. *Int J Clin Rheumatol.* 2012;7(6):651-659.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6365

FRI0246 CELLULAR/FIBROCELLULAR CRESCENT IS A 52-WEEK AND LONG-TERM POOR PROGNOSTIC FACTOR OF ACTIVE LUPUS NEPHRITIS

Aya Nawata, Kazuhisa Nakano, Shingo Nakayama, Yoshiya Tanaka. *University of Occupational and Environmental Health, Japan, The first department of internal medicine, Kitakyushu, Japan*

Background: Lupus nephritis (LN) is one of the most serious manifestation of systemic lupus erythematosus (SLE), associated with poor prognosis. LN exhibits a variety of histological findings including both inflammatory lesions such as crescent formation and immune complex (IC) deposition lesions. In current INS/RPS 2003 classification, all of them are classified as class III, IV and V. Recently, in the 2016 update of Oxford classification of IgA nephropathy, crescent formation (C) was added as an independent prognostic factor. Further examination of pathological and clinical prognostic factors for LN is required.

Objectives: To identify renal remission rate and clinico-pathological characteristics associated with renal non-remission at 52 weeks (52w) in LN patients

Methods: A single center retrospective study. We enrolled Japanese 152 patients of LN class III, IV, and V those who could observe for 52 w out of 274 SLE cases performed renal biopsy in our department between 1995 to 2017. After 52w after biopsy, they were classified as complete remission (CR), partial remission (PR) and non-remission (NR) according to ACR and LUNAR remission criteria by estimated glomerular filtration rate (eGFR) or serum creatinine (sCr) and proteinuria. Overall renal remission is defined as RR (CR + PR). The primary endpoint was the RR achieving rate, and the secondary endpoints were the baseline histological and clinical factors related to NR. Clinical factors: albumin (alb), IgG, C3, C4, CH50, anti-nuclear antibodies (Abs), anti- dsDNA Abs, anti-Sm Abs, anti-RNP Abs in the sera, complete blood count, urinalysis, presence of comorbidities (antiphospholipid antibody syndrome, hypertension), disease activity score (SLEDAI and BILAG score) and therapeutic drug [prednisolone (PSL), intravenous cyclophosphamide (IVCY), etc]. Histological factors: endocapillary proliferation, cellular/fibrocellular crescents, wire-loop lesion, hyaline thrombi, karyorrhexis, tuft necrosis, segmental sclerosis, global sclerosis, interstitial inflammation and vascular lesion.