without SLE. On the other hand, the pregnancy adverse outcomes are common in pregnant women with SLE. However, the pregnancy rates in women with SLE was not fully understood. In addition, comparison of the pregnancy adverse outcomes with general population is limited.

Objectives: We estimated the pregnancy rates and adverse pregnancy outcomes in Korean women with SLE and compared them with women without SLE.

Methods: Among all women aged 15-49 years in the Korean National Health Insurance claim database from January 2013 to December 2015, pregnant women were identified by using ICD-10 code for delivery and abortion. Pregnant women were categorized into women with SLE and control group. Adverse pregnancy outcomes classified into five categories as follows: fetal loss, intrauterine growth retardation (IUGR), preterm delivery, pre-eclampsia or eclampsia, and gestational diabetes mellitus. Crude incidence rates (IRs) of pregnancy and adverse pregnancy outcomes were calculated. Incidence rate ratios (IRRs) of those were estimated and adjusted for age.

Results: In SLE, 994 pregnancy cases were observed during the study period. The crude estimated IRs of pregnancy were lower in SLE patients than general population (Table 1). Age-adjusted IRR was also lower in SLE patients (Table1). The adjusted-IRR of live birth in SLE pregnant women was 0.92 (95% CI 0.85 - 0.99) compared with control group. The adjusted-IRR of fetal loss, IUGR, and preterm delivery was 1.27 (95% CI 1.11 - 1.45), 4.52 (95% CI 3.45 - 5.91), and 3.25 (95% CI 1.62 - 6.52), respectively. The IRR of pre-eclampsia or eclampsia was 3.21 (95% CI 2.52 - 4.08), but those of gestational diabetes mellitus was not significant (IRR 0.89, 95% CI 0.80 - 1.00).

Conclusion: Pregnancy rates in SLE women were lower about 30% compared with general population. Pregnancy adverse outcomes were higher in SLE pregnant women with more than 4-fold IUGR and pre-eclampsia/eclampsia, 3.2-fold preterm delivery.

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FRI0242

SUBPOPULATION COMPOSITION OF INFLAMMATORY INFILTRATES OF THE MINOR SALIVARY GLAND AS AN ADDITIONAL DIAGNOSTIC CRITERION FOR PRIMARY SJOGREN'S SYNDROME

Evgenii Kuvardin¹, Irina Grigor'eva¹, Irina Bekhtereva², Valentina Myachikova¹.

¹Federal State Budgetary Institution "Almazov National Medical Research Centre" of the Ministry of Health of the Russian Federation, Saint-Petersburg, Russian Federation; ²Federal State Budgetary Institution "North-Western State Medical University named after I.I. Mechnikov", Saint - Petersburg, Russian Federation, Saint-Petersburg, Russian Federation

Background: Primary Sjogren's syndrome (pSS) is frequent nosological forms among the diffuse connective tissue diseases. Histological examination of the minor salivary gland (MSG) is important diagnostic method. The currently established histological criteria for pSS indicates 61.2-93.7% sensitivity and 61.2-100% specificity respectively, which makes the search for additional hallmark highly relevant. Immunohistochemical study of MSG is the most appropriate for this purpose.

Objectives: To study of the qualitative and quantitative compositions of cellular subpopulations minor salivary gland mononuclear foci as additional histological criteria of pSS.

Methods: The study included 56 patients with a definite diagnosis of pSS according to the criteria of ACREULAR 2016. The control group consisted of 19 healthy volunteers. The biopsy of the minor salivary gland was performed for all the subjects, followed by an immunohistochemical study to evaluate the expression of CD3, CD4, CD8, CD20, CD21, CD68, CD138. A statistical analysis of the data obtained during the study was carried out using the SPSS 23 statistical software for Windows (IBM, United States of America). Diagnostic threshold for each biomarker was determined by ROC analysis. Operating characteristic curve, area under the curve (AUC), specificity, sensitivity, diagnostic accuracy (DT), diagnostic thresholds (DP), positive likelihood ratio (LR+) and negative likelihood ratio (LR-) were also calculated. The construction of classification models, including several markers, was performed using linear discriminant analysis.

Results: The largest AUC were observed in CD3 - 0.795 [95% confidence interval (CI) 0.697 - 0.893] and CD20 - 0.796 (95% CI 0.698 -

0.894), which at the specified DP corresponded to the sensitivity of 67.9% (95% CI 54.04 - 79.71) and 71.4% (95% CI 57.79 - 82.7), specificity of 95% (95% CI 73.97 - 99.87) and 95% (95% CI 73.97 - 99.87). The CD21 marker was detected only in the PSS group. AUC for this biomarker was 0.652 (95% CI 0.525 - 0.778), sensitivity - 30.4% (95% CI 18.78 - 44.1), specificity - 100% (95% CI 82.35 - 100).

Using the method of discriminative analysis, we designed classification models that included various combinations of the markers under study. The combination of the decimal logarithms CD3 and CD68 had AUC 0.873 (95% CI 0.794 - 0.953), sensitivity - 76.8% (95% CI 63.58 - 87.02), specificity - 95% (95% CI 73.97 - 99.87).

Conclusion: CD3 and CD20 can be considered as additional histological criteria for pSS. CD21 was observed only in patients with pSS. The combined quantitative assessment of CD3 and CD68 had a greater diagnostic value compared to CD3 and CD68 separately.

Disclosure of Interests: None declared

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FRI0243

RECOVERY OF RENAL FUNCTION IN PATIENTS WITH LUPUS NEPHRITIS AND REDUCED RENAL FUNCTION

Jung Sun Lee¹, Wook Jang Seo², Ji Seon Oh¹, Seokchan Hong¹, Yong-Gil Kim¹, Chang-Keun Lee¹, Bin Yoo¹. ¹University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea, Rep. of (South Korea); ²Veterans Health Service Medical Center, Seoul, Korea, Rep. of (South Korea)

Background: Reduced renal function is associated with worse renal outcome in patients with lupus nephritis (LN). However, there is insufficient knowledge regarding renal function recovery in patients with LN with reduced baseline renal function.

Objectives: The present study aimed to investigate renal function recovery and related factors in patients with reduced baseline renal function.

Methods: The present retrospective longitudinal cohort study included patients with LN and reduced renal function. Reduced renal function was defined as an estimated glomerular filtration rate (eGFR) <60 mL/min/1.73 m². Recovery of renal function was determined by eGFR >60 mL/min/1.73 m² at 6 months after baseline, and factors associated with it were evaluated using logistic regression analysis.

Results: We included 90 patients with LN, with a mean eGFR value of 37.2 (± 13.9) mL/min/1.73 m². Forty-six patients (51.1%) recovered their renal function after 6 months. On multivariate analysis, hydroxychloroquine use (OR: 3.891, 95% CI: 1.196-12.653, p = 0.024), prolonged LN (OR: 0.926, 95% CI: 0.874-0.981, p = 0.009), and high-grade tubular atrophy (OR: 0.451, 95% CI: 0.208-0.829, p = 0.013) were associated with renal function recovery. During follow up, 25 patients were on end stage renal disease (ESRD). Kaplan-Meier analysis revealed that renal function recovery after 6 months and lower probability of ESRD are associated.

Conclusion: In patients with LN and reduced renal function, renal function recovery at 6 months was associated with use of hydroxychloroquine and inversely related to longer duration of LN and higher grade of tubular atrophy.

Disclosure of Interests: None declared

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FRI0244

MATHEMATICAL PROCESSING IS AFFECTED BY DAILY BUT NOT CUMULATIVE GLUCOCORTICOID DOSE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)

Anselm Mak¹, Rachel Teo², Nien Yee Kow¹, Preeti Dhanasekaran¹, Sen Hee Tay¹. ¹Yong Loo Lin School of Medicine, National University of Singapore, Medicine, Singapore, Singapore; ²Lee Kong Chian School of Medicine, Singapore, Singapore

Background: The impact of glucocorticoids on neurocognitive performance in patients with SLE is not fully understood.

Objectives: We aimed to study the effect of daily and cumulative doses of glucocorticoids on neurocognitive performance in patients with SLE using the computer-based Automated Neuropsychological Assessment Matrix (ANAM).

Methods: Consecutive patients with SLE and gender- and age-matched (±5 years) healthy control subject (HC) were studied. In a quiet and comfortable room, each subject underwent the 45-minute ANAM test under supervision which comprises simple reaction time (SRT) that probes neuromuscular efficiency, and 8 domains of neurocognitive assessment including 3 code substitution tests (probing learning and recall), spatial processing (probing visual perception and mental rotation), matching to

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

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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.

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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.