FRI0240

15-YEAR EXPERIENCE IN A MULTIDISCIPLINARY UNIT FOR THE FOLLOW-UP OF PREGNANCY IN RHEUMATIC INFLAMMATORY AND AUTOIMMUNE DISEASES

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Background: Pregnancies in women with inflammatory and autoimmune diseases are considered high-risk pregnancies, so close and ideally multidisciplinary control is necessary. Given the advances in treatment and identification of risk factors a higher percentage of patients manifest gestational desire.

Objectives: To describe our experience in a multidisciplinary unit (integrated by Rheumatologists and Obstetrics) and assess the complications in the evolution of pregnancies and treatments used in patients with inflammatory and autoimmune diseases.

Methods: Retrospective study of pregnancy outcome in patients with rheumatic diseases and follow-up in a multidisciplinary unit for 15 years (January 2003-December 2018). Demographic characteristics, maternal disease, comorbidities, previous abortions, presence of autoantibodies (AAb), number of births, fetal losses and abortions during follow-up, previous treatment and treatment during pregnancy and maternal and fetal complications were collected.

Frequencies and percentages were used in qualitative variables, mean $\pm$ SD in quantitative and for the comparison between groups Chi2 test (or Fisher test if appropriate) was used in categorical variables and Student T test (or U of Mann-Whitney if appropriate) in quantitative variables. Data was analysed using IBM SPSS v23.

Results: 141 patients (194 pregnancies) were registered with maternal average age at rheumatic disease diagnosis of 29.14 ± 6.6 years and average age at abortion/childbirth of 34.82 ± 4.63 years. 12.8% were smokers and 21.1% had comorbidity (hypothyroidism:10.8%, dyslipidemia:2.1%). Maternal diseases are collected in table 1.

50 abortions were registered prior to follow-up in our unit (0.35 abortions/mother). During follow-up 19 abortions were registered (0.13 abortions/mother). Frequencies of abortions/births are specified in table 1.

13.5% of pregnancies were pre-term (< 37 weeks) and a caesarean section (C-section) was performed in 26% of cases. C-section was more frequent among asymptomatic women with positive autoantibodies (n:15, 30%), patients with SLE (n:13, 17.3%), RA (n:6, 37.5%) and PsA (n:6, 37.5%).

The frequency of different AAb is found in table 2.

Anti-Ro carriers (36.6%) did not have higher frequency of abortions ($p = 0.798$) and only one case of heart block was recorded among them. Abortions were more frequent among women with positive antiphospholipid antibodies (14.3% compared to 4.3%) ($p = 0.013$).

In inflammatory diseases (PsA, RA, spondyloarthropathies) no abortions were registered.

TABLE 1

MATERNAL DISEASE	n (%)	n abortions	n births
Systemic Lupus Erythematosus (SLE)	80 (42.1%)	5	75
Asymptomatic women with positive autoantibodies	52 (27.4%)	2	50
Antiphospholipid syndrome (APS)	19 (10%)	4	15
Rheumatoid Arthritis (RA)	17 (8.9%)	0	17
Sjögren Syndrome	8 (4.2%)	2	6
Psoriatic Arthritis (PsA)	5 (2.6%)	0	5
Mixed Connective Tissue Disease	3 (1.6%)	1	2
Behçet Syndrome	2 (1.1%)	0	2
Systemic Sclerosis	2 (1.1%)	0	2
Spondyloarthritis	2 (1.1%)	0	2

TABLE 2

ANTIBODIES	n (%)
Antinuclear antibodies	115 (62.8%)
Anti-Ro	67 (36.6%)
Anticardiolipin antibodies IgG	51 (27.9%)
Antibodies to double-stranded DNA (anti-dsDNA)	35 (19.1%)
Anticardiolipin antibodies IgM	30 (16.4%)
Lupus Anticoagulant	25 (13.7%)
Rheumatoid Factor	23 (12.6%)
Anti-La	15 (8.2%)
Anti-citrullinated protein antibodies	12 (6.6%)
Anti-B2-glycoprotein I IgM	8 (4.4%)
Anti-B2-glycoprotein I IgG	1 (0.5%)

TABLE 3

PREVIOUS TREATMENT	n (%)	TREATMENT DURING PREGNANCY	n (%)
Hydroxychloroquine	97 (56%)	Acetylsalicylic acid	122 (62.5%)
Prednisone	23 (11.9%)	Hydroxychloroquine	119 (61.3%)
Methotrexate	6 (3.1%)	Prednisone	66 (34%)
TNF inhibitors	4 (2.1%)	Heparin	34 (17.3%)
Sulfasalazine	2 (1%)	Antibiotics	3 (1.5%)
Azathioprine	1 (0.5%)	Sulfasalazine	1 (0.5%)
Rituximab	1 (0.5%)	Chloroquine	1 (0.5%)
Leflunomide	0 (0%)	Methylprednisolone	0 (0%)
Mycophenolate Mofetil	0 (0%)	TNF inhibitors	0 (0%)

Intrauterine growth restriction (IUGR) was observed in 7 cases (3.7%) and pre-eclampsia in 6 (3%) being more frequent among patients with SLE (n:3 and n:2 respectively), APS (n:1 and n:1) and asymptomatic women with positive autoantibodies (n:2 and n:1). No difference was observed in complications rate between anti-Ro positive and anti-Ro negative women ($p = 0.047$).

Treatments used prior to and during pregnancy are shown in table 3.

Conclusion: In our series, as previously described in the literature, women with systemic autoimmune and inflammatory diseases have higher risk of abortion, pregnancy complications and instrumental delivery than general population. SLE and APS are most associated with these complications. Multidisciplinary close follow-up of these patients improves pregnancy outcomes.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.2278

FRI0241

PREGNANCY RATES AND PERINATAL OUTCOMES AMONG WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS IN COMPARISON TO GENERAL POPULATION

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Background: Systemic lupus erythematosus (SLE) can affect people of all ages, but it occurs most often during childbearing ages. It has been documented that the fertility rates in women with SLE is similar to those

Table 1. Fertility rates in women with SLE compared with those of age-matched general population

Year	Prevalent case, n	SLE		Total population†, n	General population		IRR (95%CI)	
		Pregnancy case, n	N. of pregnancy per 1,000 persons, IR (95%CI)		Pregnancy case, n	N. of pregnancy per 1,000 persons, IR (95%CI)	unadjusted	Age-adjusted
2013	10,516	313	29.76 (26.47,33.06)	13,073,224	508,442	38.89 (38.78,39.00)	0.77 (0.69,0.86)	0.68 (0.61,0.76)
2014	11,205	331	29.54 (26.36,37.72)	12,992,974	512,712	39.46 (39.35,39.57)	0.75 (0.67,0.83)	0.66 (0.60,0.74)
2015	11,400	350	30.70 (27.49,33.92)	12,877,547	489,404	38.00 (37.90,38.11)	0.81 (0.73,0.90)	0.74 (0.66,0.82)

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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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6531

FRI0242

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

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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

DOI: 10.1136/annrheumdis-2019-eular.7730

FRI0243

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

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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

DOI: 10.1136/annrheumdis-2019-eular.2517

FRI0244

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

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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