TBW negatively correlated with age (ρ=-0.25, p=0.02), disease duration (ρ=-0.30, p=0.005), BMI (ρ=-0.78, p=0.001) and the ocular component of the ESSPRI (ρ=-0.28, p=0.01), but not with the NSWSF or the ESSPRI oral component. When we compared the patients in the 25% percentile (group with the lowest % of water) vs. the remaining patients, the former group was older (56.6±8.1 vs. 54±14.2, p=0.02), with longer disease duration (12.4±5.9 vs. 10.8±7.12, p=0.03), lower scores at the Schirmer test (1 (range 0–8) vs. 2 (range 0–9), p=0.01), higher BMI (31.1±5.1 vs. 23.7±2.9, p=0.001) as well as with higher ESSPRI ocular domain scores (8.3±1.4 vs. 6.7±2.5, p=0.007). With the linear regression analysis, the variables that remained associated with the TBW were disease duration (β -0.22, p=0.001), BMI (β-0.76, p<0.001) and the ocular domain of the ESSPRI (β-0.15, p<0.001).

Conclusions: Patients with PSS had similar TBW percentage than controls. However among patients with PSS, the TBW had a negative correlation with the intensity of ocular symptoms independently of disease duration, age and BMI.

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AB0500 TOLERABILITY, EFFICACY AND IMMUNOGENICITY OF 23-VALENT PNEUMOCOCCAL VACCINE IN SLE PATIENTS

G.M. Tarasova, B.S. Belov, M.S. Sergeeva, S.K. Soloviev, E.A. Aseeva, N.G. Klukvina, T.V. Popkova, E.N. Alexandrova, A.A. Novikov, M.V. Cherkasova. *V.A.Nasonova Research Institute of Rheumatology, Moscow, Russian Federation*

Background: Concurrent infections turn out to be the second leading cause of death in systemic lupus erythematosus (SLE) pts after SLE per se. Immunization of SLE pts with pneumococcal vaccine is an important prophylactic approach to prevent severe lower respiratory tract (LRT) infections in SLE pts.

Objectives: To study the relevance of 23-valent pneumococcal vaccine for immunization of SLE pts.

Methods: The study included 30 SLE pts, 27 females, 3 males, aged 19 - 62 y. Duration of follow up (FUP) was 12 months in 24 pts, and 7–10 months – in 6 pts. High disease activity at the time of immunization was documented in 1 patient, low activity – in 20 pts, moderate – in 4 pts, and remission – in 5. 29 pts were treated with glucocorticosteroids (GCs), 23 – with hydroxychloroquine, 14 pts – with cytostatic (CS) agents. Twelve pts were on biological disease-modifying antirheumatic drugs (bDMARDs). One dose (0,5 ml) of 23-valent polysaccharide pneumococcal vaccine was administered subcutaneously. The duration of FUP was 7–12 months. Control visits were scheduled as follows: at baseline (Visit 1), at 1st, 3rd, and 12th months (Visit 4) after immunization. Standard clinical examination and lab tests, including blood immunology, were performed at each visit. Vaccine immunogenicity was evaluated based on the level of serum antibodies (AT) to Streptococcus pneumoniae capsular polysaccharide (VaccZymeTM PCP Ig 2 panels (The Binding Site Ltd, Birmingham, UK)) – 4 times during 1 year.

Results: No post-immunization complications were seen in 11 (36,7%) pts, local reactions of varying intensity lasting from 2 to 7 days were documented in 18 (60%) pts. One patient (3,3%) developed the local *type* III hypersensitivity reaction known as Arthus phenomenon. All symptoms subsided within 7 days after administration of antihistaminic agents and local GCs. Not a single vaccination-related SLE exacerbation episode was documented in 24 pts during the FUP. Significant (≥2-fold vs baseline) increase of serum AT levels to S. pneumoniae polysaccharide was observed during the FUP (Table).

In 10 (41,7%) out of 24 pts ("non-responders") more than 2-fold increase of anti-S. pneumoniae ATs was not achieved by 12th month of FUP. Among them 7 (70%) pts were receiving bDMARDs. 4 (28,6%) out of 14 "responders " were also treated with bDMARDs.

Non-severe pneumonia was documented in 2 out of 24 pts within1 year after vaccination; both cases successfully resolved after 7- and 5-days of oral antibiotic treatment in an out-patient setting. Both pts had episodes of pneumonia in past medical history. One of them had SLE-induced interstitial lung disease. This patient was treated with GCs, mycophenolate mofetil, and rituximab, no post-vaccination response was documented. The second patient had two previous pneumonia episodes, she demonstrated 4–5-fold increase in anti- S. pneumoniae AT titre; her therapy included GCs (10 mg/day) and hydroxychloroquine. There were no clinical or radiological symptoms of pneumonia in remaining 22 pts during the whole FUP.

Table. Anti-pneumococcal AT concentrations in SLE pts, Me (25,75 percentiles), n=24.

Visit	Visit 1 (baseline)	Visit 2 (1 mo)	Visit 3(3 mo)	Visit 4 (12 mo)
AT concentration Mg/L	**97,4[a]** (68,0; 128,1)	**407,8[b]** (231,2; 488,8)	**301,8[c]** (164,3; 424,6)	**265,5[d]** (120,0; 438,7)
		b-a, p =0,00006	c-a, p =0,00008	d-a, p =0,002

Conclusions: Obtained results are indicative of good tolerability, safety and immunogenicity of 23-valent pneumococcal vaccine in SLE pts. Further studies are necessary for more comprehensive evaluation of vaccine clinical efficacy.

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AB0501 THE ASSOCIATION BETWEEN GLUCOCORTICOIDS AND DAMAGE ACCRUAL IN PATIENTS WITH SLE USING GLUCOCORTICOID FOR LONG-TERM

G. Wang, X. Li, Z. Dou, W. Wang, R. Liu. *Rheumatology and Immunology, Anhui Provincial Hospital Affiliated to Anhui Medical University, Hefei, China*

Background: Systemic lupus erythematosus (SLE) is a chronic systemic autoimmune disease characterized by a relapsing-remitting course. Long-term prognosis of SLE patients remains poor [1]. Due to the effect of potent anti-inflammatory and immunosuppressive, glucocorticoids (GCs) remain the cornerstone of treatment in SLE. However, GCs produce several adverse reactions, most are time and dose dependent, limiting their clinical usefulness. Increased longevity with prolonged exposure to GCs and inflammatory insults might contribute to organ damage accrual, which retards further improvement of survival in these patients [2]. Assessment the extent of organ damage caused by SLE has been considered an important part of the assessment of prognosis. The Systemic Lupus International Collaborating Clinics/American College of Rheumatology (SLICC/ACR) Damage Index (SDI) is a validated instrument designed to measure irreversible damage resulting from SLE disease activity and its treatment. The study of damage accrual in patients with SLE caused by the long-term treatment of GCs is still not clear.In a large SLE cohort, followed prospectively, we determined to investigate the association between damage accrual with GCs, both cumulative prednisone dose and high-dose prednisone. The results of our study could shed more light on the risk/benefit ratio of GCs in long-term maintenance treatment with SLE patients.

Objectives: To evaluate the association between long-term glucocorticoids use and damage accrual in patients with systemic lupus erythematosus.

Methods: Medical records of 535 SLE patients from Department of Rheumatology and immunology of Anhui Provincial Hospital were reviewed. 512 patients were femal. The cohort's mean age was 38.27±12.84 years with mean disease duration of 7.33±5.75 years. Their Systemic Lupus International Collaborating Clinics/American College of Rheumatology Damage Index (SDI) scores were noted. (1) Univariate analysis and multivariable regression analysis were performed to determine factors associated with SDI. (2) Analysis were also performed to determine damage associated with cumulative prednisone dose and high-dose of prednisone (exposure to prednisone at a dosage of 60 mg/day for 1 month).

Results: (1) Among 535 patients in our cohort only 5 paitents (0.9%) had never been treated with glucocorticoids. A total of 192 patients (35.9%) had been treated with high dose of prednisone. In addition, 86.9% of patients had been treated with hydroxychloroquine. (2) The highest organ damage was musculoskeletal (n=79, 14.8%), followed by skin damage (n=35, 6.5%) and renal (n=28, 5.2%). Ninety patients were diagnosed with hypertension. (3) SDI scores were associated with age of onset, exposure to high-dose prednisone, hypertension.(4) Cumulative prednisone dose was associated with osteoporosis, osteonecrosis and hypertension; exposure to high-dose prednisone was associated with osteonecrosis, lupus nephritis and hypertension.

Conclusions: Long-term taking prednisone predicted damage accrual. The most common damage was osteoporosis, osteonecrosis and hypertension.

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AB0502 STRONG REDUCTION OF ANTI-MÜLLERIAN HORMONE IN SYSTEMIC LUPUS ERYTHEMATOSUS WOMAN OF REPRODUCTIVE AGE

C. Li, J. Xie, X. Wang, X. Liu, G. Chen. *Division of Rheumatology and Clinical Immunology, the First Affiliated Hospital of Guangzhou University of Chinese Medicine, Guangzhou, China*

Background: Systemic lupus erythematosus (SLE) is a clinically autoimmune disease characterized by production of autoantibodies and immune complex deposition. That induces multiple organ damages such as nephritis, pneumonitis and central nervous system (CNS) lupus et al. Moreover, SLE which mainly occurs in reproductive woman could threaten ovarian function. In recent years, ovarian reserve dysfunction in SLE are attracting increasing attentions. Especially cyclophosphamide (CYC) therapy was already well known as a higher risk to result in premature ovarian failure (POF) 1,2. However, few research has been performed in association between SLE itself and ovarian reserve. POF which is a critical cause of secondary amenorrhea and infertility still has not been treated effectively until now. Accordingly, an early precaution is important to make an informed decision about impaired ovarian reserve in SLE.

Objectives: To study the association between systemic lupus erythematosus (SLE) itself and strongly reduced Anti-Müllerian Hormone (AMH) values.

Methods: SLE women during reproductive ages 18–40 years were recruited compared with age-matched healthy controls (HC). AMH Levels and its relationship to clinical parameters and disease activity were investigated.

Results: Totally 91 SLE patients were enrolled (means ± SD age 28.38±5.80 years; SLE duration 47.15±44.70 months; SLE-2k scores 6.48±7.02). There were 73 subjects without cyclophosphamide therapy (SLE-CYCfree), 18 subjects previously exposed to CYC (SLE-CYC) and 79 HC. AMH values in SLE-CYC cases decreased significantly than HC and SLE-CYCfree (1.38±1.93 versus 4.10±3.40, *P*=0.002; 1.38±1.93 versus 3.62±3.61, *P*=0.013). No different was found between SLE-CYCfree and HC groups (*P*=0.377). Strong reduced AMH values (<0.5 μg/L) were identified in 12 of 73 (16.4%) SLE-CYCfree patients and 1 of 79 (1.3%) HC (*P*=0.001, OR=15.344). Furthermore, 10 (31.2%) SLE-CYCfree women aged ≥30 years had low AMH levels compared with 2 (4.9%) patients less than 30 years (*P*=0.004, OR=8.86). 29.6% (8/27) SLE populations over 3 year-duration of illness and 8.7% (4/46) in cases with less than 3 years were observed (*P*=0.046, OR=4.42). No difference reached statistical significance in SLEDAI-2K, Complement C3 and C4, IgG and IgM between SLE-CYCfree and SLE-CYC groups.

Conclusions: SLE was confirmed to be closely associated with low AMH levels. SLE could play a critical role in development of abnormal ovarian reserve. And moreover, over 3-year disease duration and ages over 30 years in reproductive-aged SLE women might enhance the risk of impaired ovarian reserve.

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AB0503 THE OUTCOME OF SYSTEMIC LUPUS ERYTHEMATOUS IN KYRGYZ PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOUS UNDER LONG-TERM OBSERVATION

G. Koilubaeva, E. Karimova, M. Dzhetybaeva, K. Dzhailobaeva, A. Dzhumakadyrova. *Rheumatology, National Center of Cardiology and Internal Medicine Named After Academician M. Mirrahimov, Bishkek, Kyrgyztan*

Background: Systemic lupus erythematosus (SLE) is a devastating disease affecting different organs, ultimately leading to organ failure and death. To date, there are no data regarding the real-life picture of SLE in Kyrgyzstan.

Objectives: Analysis of SLE outcome in Kyrgyz patients under long-term observation.

Methods: The study involved 50 patients under prospective study treated in the NCCIM from January 2012 to August 2016 with SLE at the age of 27 years (median - 27 [23; 36])., with disease duration about 1 year (median - 1 [0.3, 3.0]), including 45 women and 5 men. The outcome of SLE was estimated as the number of exacerbations based on the SFI index (moderate or severe), irreversible organ damage by SDI, death, remission (complete or drug related). Remission was defined as complete if for the patients, who were not receiving any treatment, no clinical and immunological SLE activity was recorded. Drug remission was registered when clinical and immunological disease activity was absent in patients receiving supporting doses of prednisolone (from 5 mg to 10 mg) and receiving the following cytostatic drugs: 200 - 400 mg per day of PLQ or 100 - 150 mg per day of AZA or 7.5 mg of MTX per week.

Results: During the 3-year-long dynamic monitoring, in 50 patients observed 2 years after the initial examination 62 cases of exacerbation of SLE were registered (median, 2.0 [1.5, 2.5]). Out of these there were 36 severe (58%) and 26 moderate outbreaks (42%). Severe exacerbations were mainly related to kidneys - in 42 patients (84%), 7 out of which experienced simultaneous exacerbation of articular syndrome, 5 lupus dermatitis, 2 patients had CNS damage in the form of visual and audial hallucinatory syndrome with encephalopathy and bilateral pyramidal insufficiency (1) and encephalopathy with anxiety disorders (1). Moderate exacerbations were mainly caused by the lesions of skin and joints (20), myositis (1), in one case there was a necrotizing vasculitis of the lower extremities. The main causes of SLE breakouts were: for 33 patients (66%) - low compliance (when the patients themselves stop taking GC and cytostatics), for the remaining 17 patients (34%) - exacerbation of the SLE process.

Towards the end of monitoring the development SDI was the result of accumulation of organ damage caused by the disease itself (61%) as a result of: ischemic stroke (3), reduced GFR less than 50 ml per minute (4) due to heavy lupus nephritis, paresis of the right motor oculi (1), changes in the retina (1), pulmonary fibrosis (1), and pulmonary arterial hypertension (1). Over the entire period of careful dynamic study of the 50 patients no fatalities were recorded. Remission was achieved in 10 patients (20%) out of 50. The majority of patients had drug remission (9), except for one patient with baseline nephritis, dermatitis, arthritis, which was in complete remission during three years.

Conclusions: During the three years of medical observations remission was achieved in 20% of patients, most of them with drug remission (90%). 62 cases of SLE exacerbation were registered, with a predominance of severe outbreaks (58%), mainly caused by low compliance (53.2%). Development SDI was mainly due to the accumulation of organ damage caused by the disease itself (61%).

References:

[1] It is necessary to improve the rheumatology service in the regions of the country.

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AB0504 PREGNANCY OUTCOME AND ITS RELEVANT FACTORS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS AND RHEUMATOID ARTHRITIS

H. Takei[1], Y. Kaneko[2], T. Takeuchi[1]. *[1]Division of Rheumatology, Department of Internal Medicine, Keio University School of Medicine; [2]Division of Rheumatology, Department of Internal Medicine, Department of Internal Medicine, Keio University, Tokyo, Japan*

Background: Pregnancy outcome is one of the major concerns to manage systemic lupus erythematosus (SLE) and rheumatoid arthritis (RA) since they often affect women in reproductive ages. However, the predictive factors of poor pregnancy outcome and disease flare during pregnancy have not fully investigated.

Objectives: To elucidate the factors affecting the pregnancy outcome in patients with systemic erythematosus (SLE) and rheumatoid arthritis (RA).

Methods: Patients with SLE and RA in our university between 2012 and 2016 who experienced pregnancy were retrospectively reviewed. Medical information was collected from their chart.

Results: Thirty six pregnancies in 26 SLE patients and 26 pregnancies in 21 RA patients were identified. Among SLE pregnancies, the mean age, disease duration and prednisolone dose were 32.7±4.6, 8.9±7.7 years and 5.6±4.1 mg/day, respectively. The disease activity was well controlled (the mean SLEDAI, 2.4±2.1). Live birth pregnancies were 31 (86.1%) and fetal loss occurred in 5 pregnancies (3 spontaneous abortions, 1 ectopic gestation and 1 hydatidiform mole). The mean dose of prednisolone was significantly lower in the pregnancies with live birth than those with fetal loss (4.9±3.4 vs 11.3±3.3mg/day, p=0.02), while proteinuria, SLEDAI, history of lupus nephritis, positivity of antiphospholipid antibodies and anti-SSA/Ro antibodies were not significantly different between the two groups. Maternal lupus flare occurred in 6 (16.7%) during pregnancy or after the delivery and was significantly associated with proteinuria at the time of conception (p=0.02). Low body birth occurred in 9 (29.0%) and was also significantly associated with proteinuria at the time of conception (p=0.002). Among RA patients, the mean age and disease duration were 33.5±5.6 and 9.9±7.4 years. The mean DAS28-ESR, CDAI and HAQ were 2.18±0.88, 3.07±4.10 and 0.30±0.50, respectively and 14 achieved DAS28-ESR remission (<2.6). Seven (26.9%) discontinued biological agents before conception while 8 (34.6%) continued to use biological agents. Although 5 (19.2%) experienced the disease flare during pregnancy, all 26 pregnancies were live birth. The patients who discontinued biological agents more frequently experienced the disease flare than those who continued, during pregnancy or postpartum within 1 year after delivery (85.7% vs 25%, p=0.04).

Conclusions: High live birth rates were observed in both SLE and RA pregnancies on the condition of well-controlled disease activity. In SLE pregnancies, less prednisolone dose at the time of conception may be associated with live birth. SLE pregnancies with proteinuria and RA pregnancies with discontinuation of biological agents are associated with disease flare and should be cautiously monitored.

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