Results: RA patients had significantly higher serum level of YKL-40 than HC (92.1; 68.5-153.1 pg/ml vs 54.0; 41.7-83.2 pg/ml, $p<0.01$). Serum YKL-40 concentration was positively correlated with DAS 28 ($r=0.5$; $p<0.05$), erythrocyte sedimentation rate (ESR) ($r=0.5$; $p<0.05$), CRP ($r=0.8$; $p<0.05$), SAA ($r=0.6$; $p<0.05$) and MMP-3 ($r=0.6$; $p<0.05$). We found no relationship between the level of YKL-40 and articular radiographic changes.

Conclusion: Elevated serum concentration of YKL-40 in early RA is associated with clinical and laboratory indicators of disease inflammatory activity and increased level of MMP-3 - an immunological marker of joint destruction.

Disclosure of Interests: Elena Aleksandrova: None declared, Alexander Novikov: None declared, Elena Luchikhina Speakers bureau: Abbvie, Roche, Pfizer, Biocad, MSD, Sanofi, Johnson & Johnson, Glaxo, UCB, Celgene, Novartis, Consultant of: Abbvie, Biocad, Sanofi, Celgene, Dmitriy Karateev Speakers bureau: Abbvie, Roche, Pfizer, Biocad, MSD, Sanofi, Johnson & Johnson, Glaxo, UCB, Celgene, Novartis, Paid instructor for: Abbvie, Pfizer, Biocad, Sanofi, Novartis, Lilly, Galina Lukina Speakers bureau: Abbvie, Roche, Pfizer, Biocad, MSD, Sanofi, Johnson & Johnson, Glaxo, UCB, Celgene, Novartis, Paid instructor for: Abbvie, Biocad, Sanofi, Celgene

DOI: 10.1136/annrheumdis-2021-eular.2069

AB0838

ADHERENCE TO TREATMENT IN PATIENTS WITH RHEUMATIC PROFILE DEPENDING ON THE OPTION OF BASIC THERAPY

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Background: Treatment adherence is an important issue in actual clinical practice. As defined by the WHO, adherence to treatment is seen as the degree to which a patient's actions - taking medications, adhering to diet and other lifestyle interventions - correlate with following the doctor's recommendations. Treatment of patients with rheumatic diseases continues for many years, and often for life. The identification of factors associated with adherence to therapy will justify the implementation of a number of measures in order to increase the effectiveness of treatment of patients. Biological disease modifying antirheumatic drugs (bDMARDs) therapy involves more frequent visits of patients to a doctor with close monitoring of their condition, which may have an impact on adherence to treatment in this group of patients.

Objectives: To assess adherence to treatment of patients with rheumatological profile, depending on the basic therapy option.

Methods: A survey of 84 patients was conducted: 48 (57.1%) women and 36 (42.9%) men, mean age 51 years (36.8; 60.3). Most patients are observed with a diagnosis of rheumatoid arthritis - 48 (57.1%) people, with psoriatic arthritis - 26 (30.9%) and with ankylosing spondylarthritis - 10 (12.0%) people.

The patients were divided into 2 groups depending on the type of basic therapy: Group 1 (40 people) - patients receiving combined therapy with bDMARDs and methotrexate; Group 2 (44 people) - patients with methotrexate monotherapy.

Patients in group 1 received the following bDMARDs: 18 patients received sarilumab (200 mg sc once every 2 weeks), 22 people received secukinumab (150 mg sc once a month). All patients took methotrexate at an average dose of 17.5 (15.0; 20.0) mg / week and NSAIDs.

Adherence to treatment was assessed using the Morisky-Green scale. Each of the 4 points is evaluated according to the principle of answers to the question "yes-no", while the answer "yes" is estimated at 0 points, and the answer "no" - at 1 point. Patients who score 4 points are considered compliant (adherent); insufficiently committed and those at risk for the development of non-commitment - 3 points; not committed - 2 points or less.

Results: The majority of patients are seen by a doctor monthly - 45.2% (38) and once a quarter - 33.3% (28). Only 7.1% (6) people are observed once every 6 months and 4.8% (4) once a year, and 9.6% (8) are not observed at all.

The frequency of medical observations in the 1st group of patients was higher than in the 2nd: monthly - 60.0% (24) and 40.9% (18), every 3 months - 40.0% (16) and 45.5% (20), respectively ($p=0.072$ and $p=0.089$), and only patients of the 2nd group were observed once every 6 months (4.5% - 2 people) and once a year (9.1% - 4 people). There were no statistically significant differences in adherence indicators.

When assessing adherence to treatment according to the Morisky-Green scale: only 37.5% (15) of patients in group 1 and 29.6% (13) in group 2 ($p=0.12$) adhere to therapy, 30.0% are not adherent enough (12) and 22.7% (10) patients ($p=0.31$), not adhering to treatment - 32.5% (13) and 47.7% (21) people, respectively ($p=0.39$).

Conclusion: Thus, basic therapy bDMARDs with more frequent medical supervision does not affect adherence to treatment. Only about a third of patients are adherent to bDMARDs therapy.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3127

AB0839

A STUDY OF SERUM COMPLEMENT AND SERUM CALPROTECTIN LEVEL IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Serum calprotectin, also known as MRP8/14 or S100A8/A9, has gained attention in recent years as a candidate biomarker in inflammatory diseases like SLE.¹ Proteins of the complement pathway (serum C3 and C4) are linked to the pathogenesis of SLE and their levels have been measured as a means to assess the disease activity.²

Objectives:

- [1] To study the relation of serum complement and serum calprotectin levels to disease activity in SLE
- [2] To study the relation between serum complement and serum calprotectin level in SLE

Methods: Our study was a hospital based observational study conducted in a tertiary care centre in North-East India during the period of June 2019 to May 2020. A total of 102 patients of SLE were taken up for the study. Disease activity was assessed using SLEDAI-2K scores and serum calprotectin level was measured by ELISA. Serum C3 level was assessed by Nephelometric and C4 level by Turbidimetric immunoassay. The statistical significance was fixed at 5% level of significance ($p<0.05$) for all analysis.

Results: Our study found a predominantly female population (Female: Male ratio 24.5: 1) with majority of the patients (49.02%) in the 30-39 years age group. Higher calprotectin levels were seen in patients with higher disease activity (SLEDAI) and this relation was statistically significant ($r=0.84$, $p<0.001$). There was significant negative correlation between disease activity (SLEDAI) and serum C3 ($r=-0.35$, $p<0.001$) and serum C4 ($r=-0.4$, $p<0.001$) level. There was a significant negative correlation between complement levels and serum calprotectin levels ($r=-0.53$, $p<0.001$).

Conclusion: We found a significant positive correlation between serum calprotectin level and disease activity with a significant negative correlation between complement level and disease activity in SLE patients. There was a significant negative correlation between serum complement and serum calprotectin levels. These findings suggest serum calprotectin levels could be a substantial addition in the existing diagnostic array of tools in assessing lupus disease activity.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3531

AB0840

DIAGNOSIS VALUE OF INTERLEUKIN 23 IN SPONDYLOARTHRITIS

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Background: Interleukin 23 (IL-23) is a pivotal pro-inflammatory cytokine in the Th17/IL-23 axis which became the center of attention in researches during these last decades, especially during spondyloarthritis (1).

Objectives: We aimed to study the diagnosis value of IL-23 serum in spondyloarthritis.

Methods: We conducted a case-control study, including 144 subjects divided into 2 groups:

- G1: 72 patients meeting the Assessment of SpondyloArthritis International Society (ASAS) criteria for spondyloarthritis (SA)
- G2: 72 healthy controls matched for age and sex.

For each SA patient we collected the following parameters: BASDAI (Bath Ankylosing Spondylitis Disease Activity Index), ASDAS (Ankylosing Spondylitis Disease Activity Score), BASFI (Bath Ankylosing Spondylitis Functional Index), and BASRI (Bath Ankylosing Spondylitis Radiology Index).

The IL-23 level was measured using Enzyme-linked immunosorbent assay (ELISA).

Erythrocyte Sedimentation rate (ESR) and C-reactive protein (CRP) were also measured.

We performed a ROC analysis and computed the area under the curve (AUC) at IL-23 to diagnose SA patients.

Statistical analysis was performed using "IBM SPSS Statistics" software version 25.

Figure 1. AUC at IL-23 between SA patients 0.705 ($p<0.0001$)

Nevertheless, no correlation was found between serum IL-23 levels and the following parameters: ESR, CRP, BASDAI, ASDAS-CRP, BASFI and BASRI.

Results: The study included 57 men and 15 women. The mean age was 44.84 ± 13.42 years. The mean age at the onset of the disease was 35.97 ± 12.88 years. The disease duration was 8.54 ± 7.7 years.

Seventy-nine per cent of our patients had axial radiographic spondyloarthritis ($n=57$). Peripheral involvement was found in 45.8% ($n=33$). Eighteen patients had both axial and peripheral involvement concomitantly. Psoriasis was found in 36.1% of the cases ($n=26$).

The mean BASDAI and ASDAS-CRP were 3.21 ± 1.64 and 3.05 ± 1.51 , respectively.

The mean was BASFI 3.88 ± 2.69 . The mean was BASRI 5.26 ± 4.14 .

The mean ESR and CRP were 36.74 ± 29.38 mm/hr and 20.45 ± 25.19 mg/dL, respectively.

IL-23 level was significantly higher in patients compared to healthy controls (23.1 ± 2.72 pg/mL and 5.02 ± 0.59 pg/mL, respectively, $p<0.0001$).

As shown in Figure 1, the AUC value to distinguish between spondyloarthritis and healthy control was 0.705 ($p<0.0001$). IL-23 cut-off was 7.96 pg/mL (Sensitivity = 69.4%, specificity = 98.6%).

Conclusion: As reported to previous studies, our study showed that IL-23 is significantly higher in SA patients (2).

Interestingly, IL-23 was able to distinguish between SA patients and healthy controls with a cut-off of 7.96 pg/mL. This finding suggests that IL-23 may be practical for the diagnosis of SA.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3637

AB0841

ALTERED XANTHINE OXIDASE AND XANTHINE DEHYDROGENASE ACTIVITIES IN RED BLOOD CELLS AS A CONTRIBUTION TO AUTOIMMUNE ANEMIA APPEARANCE IN RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is severe autoimmune joint disease, accompanied by a wide variety of extra-articular manifestations. Anemia is one of the most common organ involvements in RA, being diagnosed in 36-65%

patients. Iron metabolism alterations, shortened RBC lifespan, and impaired erythropoiesis in bone marrow are believed to play a leading role in RA-related anemia development. These processes in RA can be mediated by increased effect of proinflammatory cytokines, including IFN γ and TNF α , and similar mechanisms could contribute to high xanthine oxidoreductase (XOR) expression. This enzyme makes multiple pathophysiological effects, some of which can be related to the development of anemia in RA. Reactive oxygen species generated by XOR are capable, in particular, of damaging cell membranes, exerting influence on iron mobilization from ferritin in liver, and inducing changes in intestinal iron absorption.

Objectives: Evaluation of changes in XOR interconvertible forms (xanthine oxidase and xanthine dehydrogenase) activities in RBC of RA patients.

Methods: The research was carried out in agreement with the WMA Declaration of Helsinki principles. 75 RA patients with verified RA were enrolled in the study. The diagnosis was verified using the ACR/EULAR criteria (2010). The reference group consisted of 35 healthy individuals. Xanthine oxidase (XO, EC 1.17.3.2) and xanthine dehydrogenase (XDG, EC 1.17.1.4) activities were measured in lysed red blood cells by spectrophotometric method as previously described [1]. The enzymatic activities were expressed as nmol/min/ml and normalized to 1×10^9 cells/ml. Statistical comparison tests were selected in according to common guidelines. Central tendencies were expressed as means $\pm$ SEM. Differences were considered significant when $p<0.05$.

Results: Mean age of RA patients was 43.9 ± 0.97 years, and mean RA duration was 8.5 ± 0.3 years. Extra-articular manifestations were diagnosed in 32 (42.7%) RA patients and 17 (53.1%) of them had anemia. We revealed substantial changes in XO and XDG activities in lysed RBC of RA patients with anemia. Increased XO activity and decreased XDG activity were observed in comparison with healthy controls ($p<0.001$ for both enzymes). In parallel with the increase in DAS28 index, significant growth of XOD/XDG coefficient was observed, which was caused by both XOD activity elevation and XDG activity reduction in lysed RBC ($p<0.001$ for both enzymes). Enzymatic activities depended also on the extra-articular RA manifestations. Mean XO activity was higher and mean XDG activity were lower in patients with extra-articular manifestations ($p<0.05$ for both enzymes), but the extent of changes was substantially less comparing to anemia.

Conclusion: Autoimmune inflammation in RA is accompanied by changes in enzymatic activities of XOR interconvertible forms and their ratio. Transformation of XDG into XO ultimately leads to significant increase in the generation of reactive oxygen species that have a damaging effect on lipids, proteins and other cellular components, and specifically in RBC. This fact may be one of the reasons for their premature damage and development of anemia in RA.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3639

AB0842

CESAREAN SECTION IN MEXICAN WOMEN WITH AUTOIMMUNE RHEUMATIC DISEASES

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Background: Rheumatic diseases occur among women of childbearing age, adverse events during pregnancy in rheumatic diseases have been frequently reported. Mexico has one of the largest prevalence of cesarean section in women which negatively impacts the product.

Objectives: The objective of this study is to describe the frequency of cesarean section in women with autoimmune rheumatic diseases compared to a control group.

Methods: We conducted a cross-sectional and retrospective study in patients from the pregnancy and rheumatic diseases clinic, and the Obstetrics department from the University Hospital "Dr. Jos E. Gonzlez" in Northeast Mexico. Women with autoimmune rheumatic diseases that gave birth between August 2017 to December 2020 were included. All the data, including the way of birth was retrieved from the clinical files.

Results: One hundred and twelve patients were included (56 in the rheumatic disease group and 56 women without rheumatic diseases), two of them suffered miscarriage (one from the rheumatic disease group and 1 from the control group) giving a total of 110 products. The mean age was 29.6 years for the rheumatic patients and 24.6 for the control group. The most frequent rheumatic disease was RA in 22 patients (39.2%), followed by SLE in 13 patients (23.21%). From the 56 pregnancies on the rheumatic disease group more than half ended by cesarean section ($n=33$, 58.92%) and there were 22 simple vaginal delivery. Table 1. On the control group there were 24 cesarean section procedures and