

PV001 / #510

POSTER VIEWING WALK: T1  
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### CLINICAL PERFORMANCE OF A MULTIPARAMETRIC AUTOANTIBODY PROFILE FOR SYSTEMIC AUTOIMMUNE DISEASE DIAGNOSIS

Albert Pérez Isidro<sup>1</sup>, Collin Dexter Adao Abe<sup>2</sup>, María José Martínez<sup>1</sup>, Noemí De Moner<sup>1</sup>, Mary Ann Aure<sup>3</sup>, Carmen Andalucía<sup>3</sup>, Irene Fernández Alonso<sup>4</sup>, Marta Pérez Moreno<sup>5</sup>, María Carme Villà Blasco<sup>5</sup>, Ricard Cervera<sup>6</sup>, José Alfredo Gómez-Puerta<sup>2</sup>, Gerard Espinosa<sup>6</sup>, Odette Viñas<sup>1</sup>, Estíbaliz Ruiz-Ortiz<sup>1</sup>

<sup>1</sup>Hospital Clínic de Barcelona, Immunology Department, Barcelona, Spain, <sup>2</sup>Hospital Clínic Barcelona, Rheumatology Department, Barcelona, Spain, <sup>3</sup>Werfen Autoimmunity, Research And Development, San Diego, United States of America, <sup>4</sup>Werfen Spain & Portugal, Autoimmunity Unit, Barcelona, Spain, <sup>5</sup>Hospital General de Granollers, Clinical Laboratory, Granollers, Spain, <sup>6</sup>Hospital Clínic Barcelona, Autoimmune Diseases Department, Barcelona, Spain

**Background and Aims:** Systemic autoimmune diseases (SAID) are characterized by the presence of autoantibodies and some of those are included in the classification criteria. The particle based multi-analyte technology (PMAT- Aptiva®) is a novel system based on antigen covered paramagnetic particles with unique signatures. It allows users to obtain different autoantibody results simultaneously. The study aimed to evaluate the clinical performance of the new Aptiva® CTD Essential reagents in a cohort of patients from Hospital Clínic de Barcelona.

**Methods:** The cohort included consecutive samples of patients with (n=222) and without SAID (n=70). The diagnoses of patients consist of systemic lupus erythematosus (SLE, n=45), Sjögren syndrome (SjS, n=20), systemic sclerosis (SSc, n=87), mixed connective tissue disease (MCTD, n=6), anti-synthetase syndrome (AS, n=4), overlap syndromes (n=28) and other SAID (n=32). Anti-dsDNA, Sm, Ribo-P, Ro60/SSA, La/SSB, Ro52, U1-RNP, Jo-1, Centromere, Scl-70, and DFS70 autoantibodies were measured by PMAT and compared to EIA, CIA, FEIA or immunoblot.

**Results:** Using PMAT, the area under curve (AUC) ranged between 0.64-0.90 for all biomarkers, showing adequate sensitivity and specificity. The best positive-likelihood ratio (>10) was found for anti-Sm, Jo-1, Centromere and Ribo-P. Additionally, all PMAT results correlated with other methods for all biomarkers except for anti-Sm and Jo-1 (only ImmunoBlot). Good qualitative agreement (Cohen's *kappa* >0.7) was also observed, except for anti-Ribo-P, Sm and Jo-1 (only Immunoblot).

**Conclusions:** Aptiva® CTD Essential (PMAT) is a suitable option to SAID diagnosis, showing good clinical performance. In contrast to isolated biomarker testing, the PMAT profile could give more information to clinicians improving the SAID diagnostic procedure.

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### RHEUMATOID FACTOR: ISOTYPES OR NOT?

Maria Infantino<sup>1,2</sup>, Boaz Palterer<sup>3</sup>, Silvia Pancani<sup>2</sup>, Maurizio Benucci<sup>4</sup>, Mariangela Manfredi<sup>2</sup>, [Nicola Bizzaro](#)<sup>5</sup>

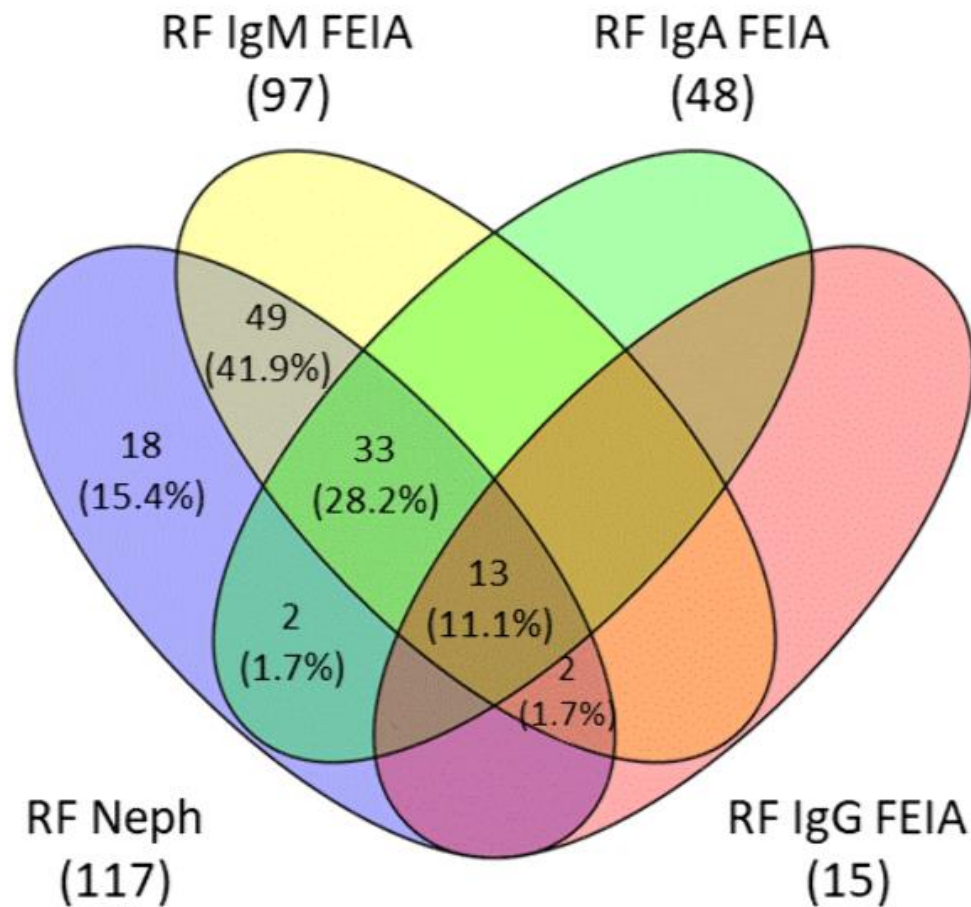
<sup>1</sup>Ospedale San Giovanni di Dio, Laboratorio Immunologia Allergologia, Florence, Italy, <sup>2</sup>San Giovanni di Dio Hospital, Immunology And Allergology Laboratory, Florence, Italy, <sup>3</sup>Department of Clinical and Experimental Medicine, University Of Florence, Florence, Italy, <sup>4</sup>San Giovanni di Dio Hospital, Rheumatology Unit, Florence, Italy, <sup>5</sup>Laboratory of Clinical Pathology, San Antonio Hospital, Azienda Sanitaria Universitaria Integrata, Udine, Udine, Italy

**Background and Aims:** Rheumatoid factors (RFs) are useful for diagnosis and classification of rheumatoid arthritis (RA). Nephelometric and turbidimetric techniques, mainly detecting IgM RF but without revealing the antibody isotype, are the common diagnostic methods in clinical routine. Given the recent development of isotype-specific immunoassays, the detection of IgG, IgM and IgA RFs represents an interesting challenge. The aim of the study was the evaluation of isotype-specific tests compared to traditional nephelometry.

**Methods:** We tested 117 consecutive serum samples that were RF-positive at nephelometry (BNII nephelometric analyser, Siemens) for IgA, IgG, and IgM RF isotypes by a fluoroimmunoassay (FEIA) on the Phadia 250 instrument (ThermoFisher). Fifty-five subjects had RA and 62 were non-RA (Sjögren's syndrome, crioglobulinemia, undifferentiated arthritis).

**Results:** Distribution of test results (see Venn diagram) showed that 18 sera (15.4%) were positive only by nephelometry, two were IgA RF monopositive and the remaining 97 sera were all positive for IgM RF isotype (with or without IgG and IgA RF). Positive findings did not correlate with RA or non-RA. ROC curves provided an AUC of 0.568, 0.546, 0.626, and 0.617 for IgA, IgG, IgM, and nephelometry, respectively. Spearman rho correlation coefficients between nephelometric total RF and IgM isotype was moderate (0.657), and weak between total RF and IgA (0.396) and IgG (0.360)

isotypes.



**Conclusions:** Despite its low specificity, measurement of total RF by nephelometry seems still the most performing method. As IgM, IgA and IgG RF isotypes showed a moderate correlation with total RF measurement, their diagnostic use remains controversial.



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### **NOVEL MULTIPARAMETRIC TEST FOR GLUTEN RELATED DISEASES**

Jennifer Orth<sup>1</sup>, Torsten Matthias<sup>2</sup>

<sup>1</sup>AESKU.DIAGNOSTICS, Research & Development, Wendelsheim, Germany, <sup>2</sup>AESKU.KIPP Institute, Research & Development, Wendelsheim, Germany

**Background and Aims:** The increasing importance of the serological biomarkers for screening and diagnosis of Gluten related disorders (GRD), their differential performance, the lack of head-to-head comparison, and the reliability of those isolated or combined antibodies to reflect the intestinal damage show the need for new testing strategies and techniques in this field. Development of a novel test system for evaluating and directly comparing of all reliable markers was developed.

**Methods:** The AESKUBLOTS® GRD is a membrane-bound enzyme immunoassay for the quantitative overall determination of IgA and/or IgG antibodies against gliadin, DGP (deamidated gliadin peptides), tTG (tissue transglutaminase), tTG neo-epitope (tTG crosslinked to gliadin peptides), TG 3 (tissue transglutaminase 3), mTG neo-epitope (microbial transglutaminase crosslinked to gliadin peptides), mTG (microbial transglutaminase) and PT-gliadin (digested gliadin by Frazer et al. in 1959) in human serum or plasma.

**Results:** The measuring range for this test system is about 0-300 U/ml. For selected serums, linearity was determined between dilution and antibody concentration with  $R^2 > 0.95$ . Analytical sensitivity, expressed as Limit of Blank 1.47 U/ml and Limit of Detection 3.32 U/ml, is set for all antigens. Overall test precision determining Intra-assay, Inter-assay, and batch variability was  $16.33 \pm 1.16 \%$ .

**Conclusions:** This novel test system is a unique and powerful tool to support diagnosing and monitoring of GRDs, such as celiac disease or non-celiac-wheat sensitivity.

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**THE RENAL PREDICTIVE ROLE OF ANCA IN PATIENTS WITH OTHER AUTOIMMUNE DISEASES- SERIES OF CASES**

Ana-Maria Ramazan, Emilia Murtaza, Ana Marjineanu  
Emergency County Clinical Hospital "Sf Apostol Andrei", Rheumatology, Constanta, Romania

**Background and Aims:** Anti-neutrophil cytoplasmic antibodies (ANCA) are a family of autoantibodies that react with proteins predominantly expressed in cytoplasmic granules of polymorphonuclear neutrophil. The strongest association with ANCA is found in the small vessel vasculitides like granulomatosis with polyangiitis and microscopic polyangiitis and in 30%–40% of patients with eosinophilic granulomatosis with polyangiitis and anti-GBM disease, too. ANCA with different specificities have been described in diseases such as systemic lupus erythematosus (SLE), rheumatoid arthritis, inflammatory bowel disease, endocarditis, chronic infections, hematopoietic malignancies. We try to understand the common issues from clinical background.

**Methods:** 3 cases of patients with established diagnosis who developed chronic and aggressive renal involvement

**Results:** First case is a 52 years old women with articular onset and low titers of antinuclear antibodies, classified as SLE, who had developed after 10 years a renal involvement associated with pANCA. The patient was nonresponder to cyclophosphamide, mycophenolate mofetil and needed hemodialysis in a short period of time. Second case, is a 52 old man with seropositive erosive rheumatoid arthritis who developed after 2 years a rapid-progressive renal involvement with high titers of pANCA, being nonresponder to cyclophosphamide, mycophenolate mofetil and rituximab. Third case is an 39 old man with family history of SLE who began with hemolytic anemia, then articular and serosal involvements for a few years, followed a chronic renal involvement with pANCA antibodies.

**Conclusions:** ANCA could have a predictive role of aggressive renal involvement and impose us the enhancement of immunosuppressive therapy to keep renal function.

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**AUTOIMMUNE/INFLAMMATORY SYNDROME INDUCED BY ADJUVANTS (ASIA) – PAST, PRESENT, AND FUTURE IMPLICATIONS**

Mahmoud Alrais<sup>1</sup>, Naim Mahroum<sup>1</sup>, Isa Seida<sup>1</sup>, Abdulrahman Elsalti<sup>2</sup>

<sup>1</sup>Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey, <sup>2</sup>Istanbul Medipol University, International Faculty Of Medicine, Istanbul, Turkey

**Background and Aims:** Adjuvants, as the name indicates, are adjoined material aimed to assist in functioning as when added to vaccines they are meant to boost the effect and strongly stimulate the immune system. While the response of the immune system can be uncontrollable; the autoimmune/inflammatory syndrome induced by adjuvants (ASIA) was introduced to address possible adverse reactions, of autoimmune and inflammatory nature, adjuvants may cause.

**Methods:** While ASIA, as a syndrome, was coined and defined in 2011; reports describing patients with vague and nonspecific clinical symptoms following vaccinations appeared much earlier. In other words, ASIA came to define, arrange, and unite the variety of symptoms, related to autoimmunity, caused not by the vaccine itself, rather by the adjuvant part of the vaccine such as aluminum, among others.

**Results:** Accordingly, the introduction of ASIA enabled better understanding, proper diagnosis, and early treatment of the disorder. Furthermore, ASIA was shown to be associated with almost all body systems and various rheumatic and autoimmune diseases such as SLE, APS, and systemic sclerosis. In addition, the correlation between COVID-19 and ASIA was noticed during the pandemic.

**Conclusions:** Hereby, we viewed ASIA from different aspects including the adjuvant part, the pre-ASIA period, the syndrome, and the medical literature since the introduction of ASIA in addition to COVID-19. It is important to clarify, that vaccines are among, if not the, most effective means of fighting infectious diseases however, we believe that vaccines manufacturing is not above criticism, particularly when it comes to added substances possessing a risk of side effects.



PV006 / #45

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## **RHEUMATOLOGICAL DISEASE INFLUENCED SELF DIETARY PREPARATION**

Abdulkadir Sahan<sup>1,2</sup>, Adem Ozkan<sup>3</sup>, Sumeyye Aydın<sup>1,2</sup>

<sup>1</sup>Süleymaniye Foundation, Natural Medicine Institute, Istanbul, Turkey, <sup>2</sup>Süleymaniye Foundation, Natural Medicine Institute, Istanbul, Turkey, <sup>3</sup>Süleymaniye Foundation Natural Medicine Institute, Natural Medicine Institute, Istanbul, Turkey

### **Background and Aims:** Rheumatological Disease Influenced Self Dietary Preparation

**Introduction:** The importance of diet in many different diseases is known and new effects are added every day. Patients that have chronic fatigue, joint pain (seasonal variability) and resistant dyspepsia symptoms have food intolerance dependent autoimmune disease (FIDAD). Treatment changes after 5-year follow-up of 73 patients with five groups of rheumatological diseases were observed. The patients were evaluated according to their previous and subsequent symptom severity, drug use, and examination results.

**Methods:** Material-Method: Physical examination and joint pain examination, blood tests and stool analysis were performed every three months. In the follow-up of the patients, the standard treatment protocol was gradually reduced depending on the decrease in the symptoms according to the ACR disease and treatment evaluation criteria.

**Results:** Result: Nearly all patient treatment aim to collect information on the anniversary of them follow up at years 1 and 2 (year 1 = 40 /73 (54.7%); year 2 = 55/73 (75.3%), with half of the trials requesting intermediate follow-up data at 3 years (70/73 (95.8%). A similar pattern is present between years 3 and 5, with all trials collecting data annually (from year 5 = 70/73 (95.8%); from years 5 to 6 = 71/73 (97.2%).

**Conclusions:** Discussion: Diet is important effect of rheumatological disease. Nonetheless, additional evidence is needed to suggest that diet is the trigger for this remission in patients. The fact that diet is a trigger and when it is removed, patients go into remission cannot be ignored. Despite this, it is obvious that a drop of benefit is guiding in the follow-up and treatment of diseases.

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**CYTOKINES' LEVELS IN PLASMA OF PATIENTS WITH MYALGIC ENCEPHALOMYELITIS /  
CHRONIC FATIGUE SYNDROME**

Sabine Gravelisina<sup>1</sup>, Anda Vilmane<sup>1</sup>, Simons Svirskis<sup>1</sup>, Santa Rasa-Dzelzkaleja<sup>1</sup>, Zaiga Nora-Krukle<sup>1</sup>, Angelika Krumina<sup>2</sup>, Modra Murovska<sup>1</sup>

<sup>1</sup>Rīga Stradiņš University, Institute Of Microbiology And Virology, Riga, Latvia, <sup>2</sup>Rīga Stradiņš University, Department Of Infectology, Riga, Latvia

**Background and Aims:** Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS) is a complex multisystem disease with such symptoms as profound fatigue, post-exertional malaise, unrefreshing sleep, cognitive impairment, orthostatic intolerance, and pain. The cause of ME/CFS is currently unknown, but a combination of genetic and environmental factors appears to be relevant. Difficulties in detecting objective laboratory markers for ME/CFS diagnosis have stimulated many researchers over the past 30 years, and with research consistently suggesting immune system involvement, cytokine studies have been prominent in attempts to find objective biomarkers to separate ME/CFS from control samples and to stratify patients' cohort. The aim of this study was to analyze cytokines levels in the plasma of patients with ME/CFS in comparison to healthy individuals.

**Methods:** Detection of IL-2, IL-17, IL-6, IL-21, IL-23, TNF- $\alpha$  un IFN- $\gamma$  levels in plasma samples of 107 ME/CFS patients and 46 healthy individuals was carried out using Luminex multiplex technology.

**Results:** Median concentrations of IL-2, IL-6, IL-21 in plasma samples of patients with ME/CFS and control group were as follows - IL-2: 5.83 and 26.50 pg/ml, IL-6: 0.95 pg/ml and 6.86 pg/ml, IL-21: 12.79 pg/ml and 38.79 pg/ml, respectively.

**Conclusions:** Significant differences are found in IL-2, IL-6, and IL-21 levels between patients with ME/CFS and healthy controls ( $p=0.0171$ ;  $p=0.0027$ ;  $p=0.05$ , respectively) allowing to use of them in the ME/CFS diagnostic algorithm. **Acknowledgments** This research was funded in part by the Latvian Science Council's Fundamental and Applied Research project Nr. LZP-2019/1-0380, and by EU H2020 project Vira, No.952376



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**OVERLAP SYNDROMES IN AUTOIMMUNE DISEASES: A FIVE-YEAR REVISED EXPERIENCE OF AN AUTOIMMUNITY CLINICAL DIAGNOSIS LABORATORY.**

Ana Albuquerque, Maria Sousa, Rita Ribeiro, Catarina Castaldo, José Sousa  
LABORATORIO GERMANO DE SOUSA, Autoimmunity, Lisboa, Portugal

**Background and Aims:** Overlap syndromes are a diverse group of conditions that have clinical features and meet classification criteria for more than one well-characterized rheumatic disease. They usually present sub acutely with clinical manifestations that can affect different organ systems. The spectrum of overlap syndromes includes mixed connective tissue disease (MCTD), anti-synthetase syndrome and polymyositis/scleroderma (PM/Scl) overlap syndrome.

**Methods:** The authors present a 5-year revised casuistic as a reference clinical laboratory center in autoimmune diseases diagnosis, focusing on indirect immunofluorescent patterns, specific and associated antibodies found in mixed connective tissue disease (MCTD), anti-synthetase syndrome and polymyositis/scleroderma (PM/Scl) overlap syndromes.

**Results:** Our findings corroborate the general overlap syndrome prevalence stated in recent literature. Some specifications were noted in mixed connective tissue disease (MCTD).

**Conclusions:** Overlap syndromes are generally less common than the conditions that include them. The prevalence of certain specific autoantigens is particularly linked to overlap syndromes, such as RNP in MCTD. Overlap syndromes provide unique opportunities to understand the links between autoimmunity and end-organ immune targeting.

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**POSTTRANSLATIONAL MODIFICATIONS IN PSORIASIS AND PSORIATIC ARTHRITIS, A SYSTEMATIC LITERATURE REVIEW**

Omar-Javier Calixto<sup>1</sup>, Maria-Alejandra Meneses-Toro<sup>1</sup>, Edward Camilo Vera Parra<sup>1</sup>, Juan-Manuel Bello-Gualtero<sup>1</sup>, Consuelo Romero-Sanchez<sup>1,2</sup>, Sandra-J Perdomo<sup>2</sup>

<sup>1</sup>Universidad Militar Nueva Granada, School Of Medicine, Clinical Immunology Group, Bogota, Colombia, <sup>2</sup>Universidad El Bosque, School Of Dentistry, Cellular And Molecular Immunology Group/ Inmubo, Bogota, Colombia

**Background and Aims:** Psoriasis (PsO) and psoriatic arthritis (PsA) are inflammatory complex conditions. Posttranslational modifications influence almost all aspects of normal cell biology and pathogenesis. The aim of this systematic review was to collect all the published evidence regarding posttranslational modifications in PsO and PsA, and the main outcome was to evaluate an association between disease outcomes and specific posttranslational modifications in PsO and PsA

**Methods:** A systematic electronic search was performed in Medline, PubMed, Cochrane, Virtual Health Library, and Embase databases. A total of 587 articles were identified; 59 were evaluated after removing duplicates and scanning, of which 47 were included. A descriptive analysis was conducted, grouping results according to the type of posttranslational modification evaluated. The protocol was registered at PROSPERO database.

**Results:** Four post-translational modifications were described: phosphorylation, carbamylation, glycosylation, and citrullination. The anti-CCP and anti-CarP have been evaluated in rheumatoid arthritis, and now there is information that suggests that these antibodies may be helpful to improve the PsA diagnosis and demonstrate a correlation with worse disease progression (erosions, polyarticular involvement, and poor treatment response). Glycosylation were associated with increased inflammation and, phosphorylation products related to the expression of SIRT2, pSTAT3 or the presence of Th17 and cytokine IL-22 suggesting a new therapeutic target.

**Conclusions:** The posttranslational modifications often play a key role in modulating protein function in PsO or PsA correlate with disease outcomes. The phosphorylation, carbamylation, glycosylation, and citrullination were identified associated with diagnosis and prognosis

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**IMPACT OF TNF ALPHA GENE POLYMORPHISM ON THE ANTI-TNF BIOTHERAPY EFFICACY IN TUNISIAN PATIENTS WITH CHRONIC INFLAMMATORY RHEUMATISM**

Yours Gorgi<sup>1</sup>, Sahar Marnissi<sup>1</sup>, Mariem Moalla<sup>2</sup>, Ines Mahmoud<sup>2</sup>, Tarak Dhaouadi<sup>1</sup>, Aicha Ben Tekaya<sup>2</sup>, Takaya Raoudha<sup>2</sup>, Leila Abdelmoula<sup>2</sup>, Taieb Ben Abdallah<sup>1</sup>, Imen Sfar<sup>1</sup>  
<sup>1</sup>Hôpital Charles Nicolle. Tunis LR03SP01, Of Immunology, Tunis, Tunisia, <sup>2</sup>Hôpital Charles Nicolle. Tunis, Of Rhumatology, Tunis, Tunisia

**Background and Aims:** To analyze the impact of G/A TNF-308 SNP on biotherapy response in patients with rheumatoid arthritis (RA) and ankylosing spondylitis (AS) and to look for a correlation between the allelic variants and the production of anti-drug antibodies (ADA) as well as the variation of circulating drug levels (CBA).

**Methods:** A cross-sectional, observational and analytic multicentric cohort study was conducted in 32 RA and 41 AS. All patients were divided into subgroups according to the type of anti-TNF used (INF: infliximab, ADL: adalimumab, ETA: etanercept). Samples of 168 voluntary blood donors served as controls. Genotyping of TNF alpha G/A -308 SNP's was performed by PCR-RFLP technique. CBA levels and ADA concentration were **realized by ELISA using commercial kits, Promonitor®**

**Results:** In RA patients, the molecular study revealed that the heterozygous -308 GA genotype had a statistically significant impact ( $p=0.039$ ) on the variation of the DAS28 score compared to the homozygous AA genotype. Moreover, this genotype showed a significant association ( $p=0.005$ ) on the variation of the CBA, independently of the type of anti-TNF and in ETA subgroup ( $p=0.013$ ). Nevertheless, this SNP did not correlate with the variation of the immunogenicity of these bio-drugs. In AS patients, no significant impact of this SNP was observed.

**Conclusions:** The G/A TNF-308 SNP can be considered as a predictor of the variation of therapeutic efficacy in RA patients treated with anti-TNF drugs. A prospective study conducted in a larger number of patients would be attractive to confirm the preliminary results of this cohort.



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### **CASES OF MCTD AND MORPHEA DISEASE IN THE GENERAL HOSPITAL OF IOANNINA**

Panagiotis Christodoulou<sup>1</sup>, Maria Gianniki<sup>2</sup>, Chrisanthi Maria Tsiogka<sup>3</sup>, Maria Lolou<sup>2</sup>, Vasileios Skepastianos<sup>2</sup>, Lambros Papageorgiou<sup>1</sup>, Anna Papadima<sup>1</sup>, Dimitrios Bougias<sup>2</sup>, Niki Tsifetaki<sup>2</sup>, Nikolaos Zotos<sup>1</sup>

<sup>1</sup>General Hospital of Ioannina, Department Of Biopathology, Ioannina, Greece, <sup>2</sup>General Hospital of Ioannina, Department Of Rheumatology, Ioannina, Greece, <sup>3</sup>General Hospital of Ioannina, Department Of Paediatrics, Ioannina, Greece

**Background and Aims:** Mixed connective tissue disease (MCTD) is a rare autoimmune disorder that is characterized by features commonly seen in three different connective tissue disorders: systemic lupus erythematosus, scleroderma, and polymyositis. Although MCTD can affect people of all ages, it appears to be most common in women under age 30. Morphea (localized scleroderma) is an autoimmune rare skin condition characterized by painless, small discolored or red/purple patches on the skin that develop firm white or ivory centers.

**Methods:** We examined and studied 31 cases of MCTD during the past decade in comparison with 15 myositis cases and 102 with scleroderma. Diagnosis was made by ELISA and immunofluorescence dark field microscopy. We have with these methods identified 31 cases of morphea the last decade, among 102 cases of sclerosis (30%). Morphea is diagnosed based on findings of skin examination, immunofluorescence Antibody detection and skin biopsy.

**Results:** All of 31 cases presented symptoms of joint pain and arthritis. All of the patients had positive UnRNP ENA and positive fine speckled ANA (3,2% 1/320, 29% 1/640, 19,3% 1/1280, 19,3% 1/2560, 12,9% 1/5120) , 29% had positive Ro52 ENA, 22,5% had positive Rf. 77,4% presented Raynaud phenomenon. 93,5% of the patients were women and 29,5% smokers.

**Conclusions:** MCTDB is a relatively rare autoimmune disease which mainly affects women and presents itself with joint pain and a variety of lab profile findings. Morphea is a complicated disease which demands a thorough and olistic approach of the patient and fine assessment of both clinical examination findings and lab results.

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**TEMPERATURE, PH DEPENDENCY AND ACTIVITY OF MICROBIAL  
TRANSGLUTAMINASE AND ITS GLIADIN CROSS-LINKED NEO-COMPLEXES**

Torsten Matthias, Patricia Wusterhausen, Ajay Ramesh  
AESKU.KIPP Institute, Research & Development, Wendelsheim, Germany

**Background and Aims:** Microbial transglutaminase (mTG) is a survival factor for bacteria and is heavily used as a food additive in the processed food industry. Being an enzyme, its temperature and pH range of activity are sensitive. Study the mTG temperature and pH operating ranges by exploring its capacity to cross-link gliadin peptides.

**Methods:** After optimizing the conditions to cross-link gliadin peptides by mTG (Zedira, Germany), temperature and pH dose-response curves were explored. Gliadin peptides, mTG, and cross-linked products were analyzed on SDS gels.

**Results:** mTG showed activity at 60°C by cross-link gliadin peptides. Also, various processed food products are not boiled during production processes. On the other hand, the mTG-gliadin docked complexes turn more immunogenic when heated to 90°C. Most probably, more epitopes are exposed to the immune system during denaturation. Concerning the pH impact on mTG activity, the enzyme is active at pH 4.0 and above.

**Conclusions:** Generally, during processed food preparation, the mTG cross-linked complexes are created before heating or boiling. The resulting covalent isopeptide bonds are incredibly resistant to the luminal proteases. During meal intake, gastric acidity is neutralized, and the pH can reach 4.5. Many children and adults consume acid-suppressive medications, infants and the elderly have a higher gastric pH, and alkaline reflux is not rare. Temperature and pH do not jeopardize the mTG induced cross-linking of gliadin peptides during food preparation. The stomach pH allows those cross-linked complexes to pass and reach the gut lumen.

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**ASSOCIATION OF HIGH CALCITRIOL SERUM LEVELS AND ITS HYDROXYLATION EFFICIENCY RATIO WITH DISEASE RISK IN SLE PATIENTS WITH VITAMIN D DEFICIENCY**

Mónica R. Meza-Meza<sup>1</sup>, Adolfo I. Ruiz-Ballesteros<sup>1</sup>, Karen Pesqueda-Cendejas<sup>1</sup>, Bertha Campos-López<sup>1</sup>, Paulina E. Mora-García<sup>1</sup>, Margarita Montoya-Buelna<sup>1,2</sup>, Melissa Rivera-Escoto<sup>1</sup>, Isela Parra-Rojas<sup>1,3</sup>, Barbara Vizmanos<sup>1</sup>, Sergio Cerpa-Cruz<sup>4</sup>, Ulises De La Cruz-Mosso<sup>1</sup>

<sup>1</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Red De Inmunonutrición Y Genómica Nutricional En Las Enfermedades Autoinmunes, Guadalajara, Jalisco, Mexico, <sup>2</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Laboratorio De Inmunología, Guadalajara, Jalisco, Mexico, <sup>3</sup>Universidad Autónoma de Guerrero, Facultad de Ciencias Químico-Biológicas, Laboratorio De Investigación En Obesidad Y Diabetes, Chilpancingo de los Bravo, Guerrero, Mexico, <sup>4</sup>Hospital Civil de Guadalajara Fray Antonio Alcalde, Departamento De Reumatología, Guadalajara, Jalisco, Mexico

**Background and Aims:** Calcidiol deficiency in systemic lupus erythematosus (SLE) is more frequent than in healthy subjects (HS); it is associated with clinical activity in SLE. Although calcidiol is considered the best indicator of vitamin D serum status, its deficiency could not reflect its hydroxylation efficiency and calcitriol levels. The aimed was to assess the association of calcidiol and calcitriol serum levels and its hydroxylation efficiency with clinical and renal activity risk in SLE patients.

**Methods:** Cross-sectional study in 308 SLE and HS women; calcidiol and calcitriol serum levels were evaluated by immunoassays.

**Results:** SLE patients showed lower serum calcidiol vs. HS (21.2 vs. 24.2 ng/mL;  $p < 0.001$ ). Active SLE patients presented higher calcidiol/calcitriol ratio vs. inactive patients (2.78 vs. 1.92 pg/ng;  $p = 0.02$ ), and SLE patients with renal activity showed calcidiol deficiency (19.5 vs. 25.3 ng/mL;  $p < 0.04$ ), higher calcitriol levels (47 pg/mL vs. 41.5 pg/mL;  $p = 0.02$ ), and calcidiol/calcitriol ratio (2.13 vs. 1.54 pg/ng;  $p < 0.02$ ) than patients without renal activity. Calcidiol was negatively correlated with calcitriol ( $r = -0.26$ ;  $p = 0.001$ ), and urine proteins ( $r = -0.39$ ;  $p < 0.01$ ); calcitriol was positively correlated with blood lymphocytes count ( $r = 0.30$ ;  $p < 0.001$ ), and negatively with the glomerular filtration rate ( $r = -0.28$ ;  $p = 0.001$ ); and the calcitriol/calcidiol ratio was positively correlated with urine proteins ( $r = 0.38$ ;  $p < 0.01$ ). The calcidiol deficiency (OR=2.27; 95% CI= 1.15-4.49;  $p < 0.01$ ), high calcitriol levels (T3<sup>rd</sup>, OR=4.19, 95% CI=2.23-7.90;  $p < 0.001$ ), and a high calcitriol/calcidiol ratio score (T3<sup>rd</sup>, OR=5.93, 95% CI: 3.08-11.5;  $p < 0.001$ ) were associated with SLE.

**Conclusions:** A pattern of calcidiol deficiency, high calcitriol serum levels and high vitamin D hydroxylation efficiency were associated with SLE risk.



PV014 / #588

**POSTER VIEWING WALK: T2**  
**16-03-2023 3:00 PM - 4:00 PM**

**COOPERATIVE BUT DISTINCT ROLE OF MEDULLARY THYMIC EPITHELIAL CELLS AND DENDRITIC CELLS IN THE PRODUCTION OF REGULATORY T-CELLS IN THE THYMUS**

Mitsuru Matsumoto, Junko Morimoto  
Tokushima University, Institute For Enzyme Research, Tokushima, Japan

**Background and Aims:** Regulatory T-cells (Tregs) are produced in the thymus to establish self-tolerance and agonistic stimuli by self-Ags play a pivotal role in this process. Although two types of APCs, medullary thymic epithelial cells (mTECs) and dendritic cells (DCs), are responsible for presenting self-Ags together with co-stimulatory/cytokine signals, the distinct role of each APC in producing Tregs remains enigmatic.

**Methods:** We have approached this issue by depleting the mTECs and DCs using mice expressing diphtheria toxin receptors driven by Aire and CD11c promoters, respectively.

**Results:** Depletion of mTECs showed a more profound effect on Treg production quantitatively and qualitatively compared with that of DCs followed by the development of distinct organ-specific autoimmune lesions in the hosts. Because self-Ags produced by mTECs are transferrable to DCs through a process known as Ag transfer, we monitored the process of Ag transfer using mice expressing GFP from TECs. Although GFP expressed from total TECs was effectively transferred to DCs, GFP expressed from cortical TECs (cTECs) was not, suggesting that mTECs are the predominant source of self-Ags. We also found that GFP expressed not only from mature mTECs but also from immature mTECs was transferred to DCs, suggesting that a broad spectrum of molecules was subjected to Ag transfer during the mTEC development. Interestingly, the numbers of re-circulating non-Tregs with producing IL-2, an important source for Treg expansion in the thymus, were reduced only in the mTEC-depleted mice.

**Conclusions:** These results suggested the cooperative but distinct role of mTECs and DCs in the production of Tregs to avoid autoimmunity.

PV015 / #14

**POSTER VIEWING WALK: T2  
16-03-2023 3:00 PM - 4:00 PM**

**NON-ADHERENCE TO A HEALTHY DIETARY PATTERN, INADEQUATE VITAMIN D INTAKE, AND CALCIDIOL DEFICIENCY ARE RELATED TO HIGH CARDIOMETABOLIC RISK IN SLE PATIENTS AND HEALTHY SUBJECTS**

Adolfo I. Ruiz-Ballesteros<sup>1</sup>, Alejandra Betancourt-Núñez<sup>1</sup>, Mónica R. Meza-Meza<sup>1</sup>, Melissa Rivera-Escoto<sup>1</sup>, Karen Pesqueda-Cendejas<sup>1</sup>, Barbara Vizmanos<sup>1</sup>, Isela Parra-Rojas<sup>1,2</sup>, Bertha Campos-López<sup>1</sup>, Margarita Montoya-Buelna<sup>1,3</sup>, Sergio Cerpa-Cruz<sup>4</sup>, Ulises De La Cruz-Mosso<sup>1</sup>, Paulina E. Mora-García<sup>1</sup>

<sup>1</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Red De Inmunonutrición Y Genómica Nutricional En Las Enfermedades Autoinmunes, Guadalajara, Jalisco, Mexico, <sup>2</sup>Universidad Autónoma de Guerrero, Facultad de Ciencias Químico-Biológicas, Laboratorio De Investigación En Obesidad Y Diabetes, Chilpancingo de los Bravo, Guerrero, Mexico, <sup>3</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Laboratorio De Inmunología, Guadalajara, Jalisco, Mexico, <sup>4</sup>Hospital Civil de Guadalajara Fray Antonio Alcalde, Departamento De Reumatología, Guadalajara, Jalisco, Mexico

**Background and Aims:** Unhealthy dietary patterns (DPs), nutritional, and serum vitamin deficiencies such as hypovitaminosis D (calcidiol) could be implicated as risk factors to high clinical disease activity and worse cardiometabolic outcomes in autoimmune diseases. However, the relationship of these factors is still unclear in systemic lupus erythematosus (SLE) patients. The aim of this study was to assess the relationship between DPs, vitamin D intake, and calcidiol serum levels with cardiometabolic risk in SLE patients and healthy subjects (HS).

**Methods:** 358 women participants: 183 SLE patients and 175 healthy subjects (HS) were included in this cross-sectional study.

**Results:** All participants with non-adherence to a healthy DP presented higher values of waist circumference (WC), waist to hip ratio (WHR), triglycerides (TG), cardiometabolic indexes risk scores, and lower HDL-C serum levels; besides, in HS the non-adherence to the healthy DP provided 1.88-fold higher risk to calcidiol deficiency. Moreover, an inadequate vitamin D intake was associated with 2.27-fold higher risk to present non-healthy WC (>80 cm) ( $p<0.01$ ), 1.99-fold higher risk to android WHR ( $WHR \geq 85$ ) ( $p=0.02$ ), and 1.83-fold higher risk to excess weight ( $BMI \geq 25 \text{ kg/m}^2$ ) ( $p=0.02$ ). Regarding vitamin D serum levels, calcidiol deficiency ( $<20 \text{ ng/mL}$ ) was associated with 1.7-fold higher risk to excess weight ( $p=0.03$ ), 2.92-fold higher risk to lower HDL-C ( $HDL-C <40 \text{ mg/dL}$ ) ( $p<0.001$ ), and 1.99-fold higher risk to high TC serum levels ( $TC \geq 150 \text{ mg/dL}$ ) ( $p=0.02$ ).

**Conclusions:** Non-adherence to a healthy DP, inadequate vitamin D intake, and calcidiol deficiency were related to high cardiometabolic risk in SLE patients and HS.

PV016 / #326

**POSTER VIEWING WALK: T2**  
**16-03-2023 3:00 PM - 4:00 PM**

**IMMUNOGLOBULIN (IG) A DEFICIENCY AND NASOPHARYNGEAL MICROBIOME.**

Nikolaos Zotos<sup>1</sup>, Chrisanthi Maria Tsiogka<sup>2</sup>, Maria Gianniki<sup>3</sup>, Maria Lolou<sup>3</sup>, Vasileios Skepastianos<sup>3</sup>, Panagiotis Christodoulou<sup>1</sup>, Lambros Papageorgiou<sup>1</sup>, Anna Papadima<sup>1</sup>, Dimitrios Bougias<sup>3</sup>, Niki Tsifetaki<sup>3</sup>

<sup>1</sup>General Hospital of Ioannina, Department Of Biopathology, Ioannina, Greece, <sup>2</sup>General Hospital of Ioannina, Department Of Paediatrics, Ioannina, Greece, <sup>3</sup>General Hospital of Ioannina, Department Of Rheumatology, Ioannina, Greece

**Background and Aims:** Immunoglobulin (Ig) A deficiency is the most common primary immunodeficiency defined as decreased serum level of IgA in the presence of normal levels of other immunoglobulin isotypes Aim of this research is to study the oropharyngeal microbiota changes to patients with IgA primary deficiency

**Methods:** The study included 57 patients with known IgA primary immunodeficiency that visited a Regional Hospital with respiratory disease with known IgA primary immunodeficiency. Nasopharyngeal cultures were taken examined by the Microbiology Departments and urine samples were tested for pneumococcal soluble antigen during 2021.

**Results:** 3 nasopharyngeal cultures developed S.pneumoniae and 3 urine samples were positive for pneumococcal antigen. 1 nasopharyngeal culture developed Haemophilus influenzae.

**Conclusions:** Streptococcus pneumoniae is a common agent of respiratory infections between patients with IgA primary immunodeficiency...



PV017 / #496

**POSTER VIEWING WALK: T3**

**16-03-2023 3:00 PM - 4:00 PM**

**ASSESSMENT OF ANKYLOSING SPONDYLITIS PATIENTS' KNOWLEDGE OF NSAID ADVERSE EFFECTS**

Cyrine Abid<sup>1</sup>, Afef Feki<sup>2</sup>, Syrine Zanned<sup>2</sup>, Samar Ben Jmea<sup>2</sup>, Mohamed Hedi Kallel<sup>2</sup>, Rim Akrou<sup>2</sup>, Hela Fourati<sup>2</sup>, Sofien Baklouti<sup>2</sup>, Fatma Makni-Ayadi<sup>2</sup>

<sup>1</sup>Hedi Chaker public hospital, Rheumatology, Sfax, Tunisia, <sup>2</sup>Hedi Chaker public hospital, Rheumatology, sfax center, Tunisia

**Background and Aims:** NSAIDs (non-steroidal anti-inflammatory drugs) are the basic treatments for spondyloarthritis. Their frequent and long-term use is not without risks, hence the interest in evaluating the knowledge of patients with ankylosing spondylitis (AS) of the adverse effects of NSAIDs.

**Methods:** This was a retrospective descriptive study including 28 patients with Ankylosing spondylitis (meeting the modified New York criteria) collected in a rheumatology department. Patients were asked about their knowledge of NSAID adverse effects.

**Results:** The mean age of our patients was 40.6 years [18,65]. The sex ratio was 1.8 men to 1 woman. The duration of the disease was 6.8 years. Forty percent of the patients were on biotherapy. Eighty-five percent of the patients were aware of the adverse effects of NSAIDs: 60% of the patients knew that NSAIDs can cause gastric problems, 36% knew that NSAIDs can impair renal function, 21% knew that they can impair liver function, 6% knew that they can increase complications of infections, 2% knew that they can cause hematological toxicity.

**Conclusions:** These results suggest that the majority of our patients are aware of the adverse effects of NSAIDs, which are mainly gastric and renal. This knowledge is essential to be more vigilant about the risks of long-term NSAID use.

PV018 / #213

**POSTER VIEWING WALK: T3**  
**16-03-2023 3:00 PM - 4:00 PM**

**COMPARISON OF ASSAYS USED FOR THERAPEUTIC DRUG MONITORING OF ANTI-TNFA INHIBITORS IN INFLAMMATORY BOWEL DISEASE**

Stefania Cheli<sup>1</sup>, Diego Savino<sup>1</sup>, Emilio Clementi<sup>2,3</sup>, Dario Cattaneo<sup>1</sup>

<sup>1</sup>ASST Fatebenefratelli Sacco University Hospital, Unit Of Clinical Pharmacology, Milan, Italy, <sup>2</sup>Fatebenefratelli-Sacco Hospital, University of Milano, Department Of Biomedical And Clinical Sciences, Milan, Italy, <sup>3</sup>IRCCS Eugenio Medea, Scientific Institute, Bosisio Parini, Italy

**Background and Aims:** Therapeutic Drug Monitoring (TDM) emerged as a tool to optimize anti-TNF $\alpha$  therapy, as loss of clinical response to anti-TNF $\alpha$  treatment leads to disease relapse. However, there can be significant variation in drug and antibody anti-drug (ADA) concentrations obtained by different methods. The aim of this work was to compare three different assays for measuring drug and ADA serum concentrations.

**Methods:** We evaluated drug and ADA levels with three ELISA assays used in clinical practice in 120 IBD children treated with either Adalimumab or Infliximab. The correlation between results was checked by Passing-Bablok regression and Pearson correlation coefficient. The significant clinical deviation was statistically checked based on the Bland-Altman plot. In addition, Cohen's kappa statistic was estimated to measure the level of agreement between the two diagnostic approaches.

**Results:** Regarding Infliximab analysis, a high correlation between the three tests was found (1<sup>st</sup> comparison:  $r^2=0.92$ ; 2<sup>nd</sup>:  $r^2=0.81$ ; 3<sup>rd</sup>:  $r^2=0.76$ ,  $P>0.05$ ). The Passing-Bablok regression analysis determined an excellent comparability of data sets. Similarly, Adalimumab concentrations were positively correlated (1<sup>st</sup> comparison:  $r^2=0.95$ ; 2<sup>nd</sup>:  $r^2=0.84$ ; 3<sup>rd</sup>:  $r^2=0.89$ ,  $P>0.05$ ) and a good agreement was found with Passing-Bablok regression for each pair of assays. For both drugs, pairwise comparison by Cohen's kappa showed a perfect agreement.

**Conclusions:** All three assays seem suitable for TDM of Infliximab and Adalimumab. However, we found systematic biases of anti-TNF drugs trough levels between assays; this bias could affect interpretation, therefore the use of the same assay is suggested during the follow up of an individual patient.

PV019 / #116

**POSTER VIEWING WALK: T3  
16-03-2023 3:00 PM - 4:00 PM**

## **A CASE REPORT OF SECUKINUMAB-INDUCED DISCOID LUPUS ERYTHEMATOSUS**

Gabija Jasionyte<sup>1</sup>, Goda Seskute<sup>1</sup>, Rita Ruginiene<sup>1,2</sup>, Donatas Petroska<sup>3</sup>, Irena Butrimiene<sup>1</sup>  
<sup>1</sup>Faculty of Medicine, Vilnius University, Clinic Of Rheumatology, Orthopaedics Traumatology, And Reconstructive Surgery, Institute Of Clinical Medicine, Vilnius, Lithuania, <sup>2</sup>State Research Institute Centre for Innovative Medicine, Department Of Experimental, Preventive And Clinical Medicine, Vilnius, Lithuania, <sup>3</sup>Faculty of Medicine, Vilnius University, Department Of Pathology, Forensic Medicine And Pharmacology, Institute Of Biomedical Sciences, Vilnius, Lithuania

**Background and Aims:** Secukinumab is a monoclonal interleukin 17A inhibitor that has proved its efficacy in the management of rheumatic diseases such as psoriatic arthritis and ankylosing spondylitis (AS). There are a few reports of drug-induced lupus erythematosus (DILE) associated with secukinumab.

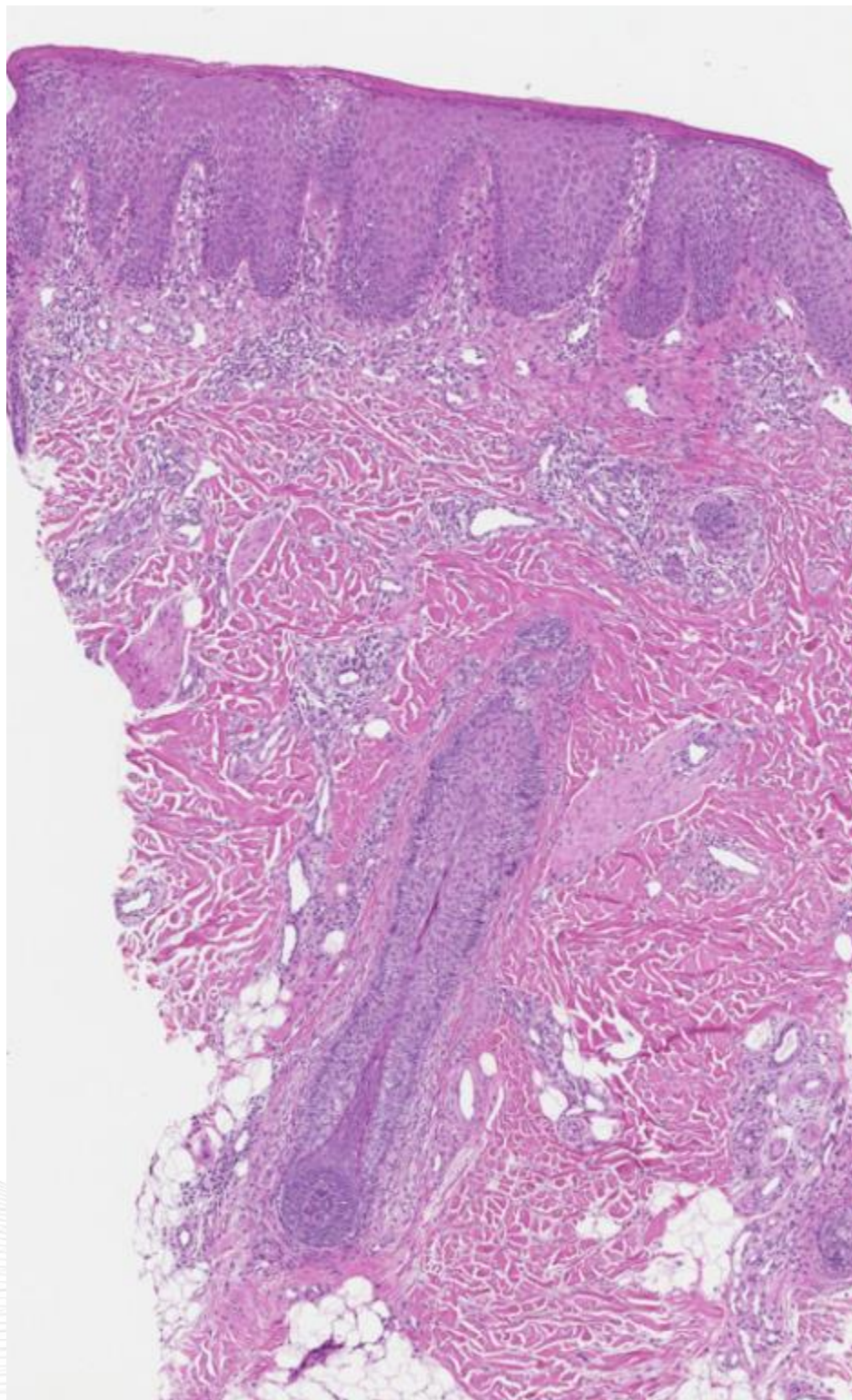
**Methods:** We present the case of a 37-year-old woman with AS who developed cutaneous DILE after starting secukinumab.

**Results:** The patient with an 11-year history of pain in the lower back and diagnosis of HLA-B\*27 positive AS was treated with non-steroidal anti-inflammatory drugs, sulfasalazine, methotrexate, later – etanercept, and adalimumab. Due to inadequate response to previous medicines, the treatment was switched to secukinumab 150 mg subcutaneously every 30 days following weekly loading. After three months the patient developed an itchy area of alopecia on the back of the head (**Figure 1**). Dermoscopy revealed a few erythematous plaques with irregular boundaries and a loss of hair follicles. The antinuclear antibodies were not elevated and no changes in C3 and C4 complement levels were observed. Skin biopsy showed parakeratosis and psoriasiform acanthosis with perivascular, periadnexal, and dermo-epidermal junction lymphocytic infiltration (**Figure 2**). These changes were compatible with the diagnosis of discoid lupus erythematosus. Topical clobetasol was prescribed. Secukinumab was changed to infliximab (TNF-alpha inhibitor) with a subsequent satisfactory clinical response. The lesion is gradually resolving and new hair is growing back.









**Conclusions:** DILE can occur in AS patients treated with IL-17A inhibitors. It should be included in the differential diagnosis when new skin lesions appear using secukinumab.

PV020 / #110

**POSTER VIEWING WALK: T3**  
**16-03-2023 3:00 PM - 4:00 PM**

**DEVELOPMENT AND EVALUATION OF I-TRACKER ETANERCEPT AND I-TRACKER ANTI-ETANERCEPT KITS: FAST AND INNOVATIVE CHEMILUMINESCENT ASSAYS FOR THE MONITORING OF PATIENTS TREATED WITH ETANERCEPT**

Georges Khater, Guillaume Noguier, Simon Davière, Virginie Guilbert, Amandine Puig, Luxziyah Akilan  
Theradiag, Seine Et Marne, Croissy Beaubourg, France

**Background and Aims:** Etanercept, a TNF $\alpha$  blocker, is a drug widely used for the treatment of rheumatoid arthritis, ankylosing spondylitis and psoriasis. Theradiag has just developed innovative assays for the quantification of Etanercept and Anti-Etanercept antibodies on the fully automated random access i-Track10 chemiluminescent analyzer.

**Methods:** Analytical performances were assessed with spiked and clinical human serum samples. Etanercept from serum samples was captured by magnetic microparticles coupled with a neutralizing anti-TNFR2 monoclonal antibody and detected with a non-neutralizing anti-Etanercept monoclonal antibody conjugated to acridinium ester. Anti-Etanercept antibodies were captured according to Etanercept coupled magnetic microparticles and detected with the use of Etanercept conjugated to acridinium ester. Light emission was linked to the quantity of Etanercept, or anti-Etanercept antibodies, present in the sample.

**Results:** Etanercept measurement showed high accuracy (recovery was between 99% and 114%). High precision was reached for both assays (CV were respectively below 11.2% and 6.2% for Etanercept and Anti-Etanercept assays) and no interference was seen with biologic agents. The dynamic ranges of the assays were 0.1 to 6  $\mu\text{g/mL}$  for Etanercept and 10 to 500 ng/mL for anti-Etanercept antibodies. i-Tracker results were compared to respective ELISA based Lisa-Tracker assays and showed excellent correlations ( $R^2 = 0.92$  for Etanercept assay and  $R=0.95$  for Anti-Etanercept assay).

**Conclusions:** i-Tracker kits are innovative assays which exhibit fast (time to results < 40min), accurate and reproducible results. i-Tracker kits are valuable tools for the monitoring of patients treated with Etanercept.



PV021 / #398

POSTER VIEWING WALK: T3  
16-03-2023 3:00 PM - 4:00 PM

## THE ROLE PLAYED BY GENDER, RACE AND RELIGION A IN FIBROMYALGIA

Jacob Ablin

Sackler School of Medicine, Internal Medicine, Bronx, Israel

**Background and Aims:** The role played by Gender, race and religion a in fibromyalgia Research points towards the fact that racial and ethnic minorities suffer more serious outcomes as a result of chronic pain, as well as higher disability and limitation of work. Racial differences have also been identified both in clinical as well as experimental pain, particularly when comparing African Americans with non-Hispanic whites. In a range of chronic pain conditions, including osteoarthritis and migraine, more severe levels of pain have been documented among individuals belonging to ethnic and racial minorities. Religiosity and spirituality are often considered to provide resilience and support to individuals suffering from chronic disease, but their role in chronic pain is less clear. Moreover, self – efficacy and cognitive constructs such as internal locus of control are often considered to be beneficial in the management of chronic pain, and are considered targets for cognitive behavioral treatment (CBT), but their interaction with religious belief in not obvious. Finally, the role of gender in chronic pain is both well-known as well as somewhat mysterious. Chronic pain conditions such as FMS are known to be more prevalent among females. The etiology of these differences is not well understood although it is tempting to consider hormonal influences.

**Methods:** A naarrative Review

**Results:** Not applicable

**Conclusions:** Physicians treating patients suffering from chronic pain and FMS, should be aware of the complex roles of race, ethnicity, religion, and gender on their patients

PV022 / #445

POSTER VIEWING WALK: T3  
16-03-2023 3:00 PM - 4:00 PM

### CLINICAL SYMPTOMS IN PATIENTS WITH PRIMARY AND SECONDARY FIBROMYALGIA IN BULGARIA

Valentina Reshkova, Rasho Rashkov  
Medical university, "st. Ivan Rilski" Multiprofile University Hospital For Active Treatment, Sofia, Bulgaria

**Background and Aims:** Fibromyalgia (FM) is characterized by a chronic widespread pain, general fatigue, anxiety, depression, sleep disturbances and functional disorders. FM affects both women and men in 9:1 to 20:1 ratio. Osteoarthritis, systemic lupus erythematosus and other diseases have often been and continue to be associated with fibromyalgia. The incidence rate of secondary FM in SLE and OA patients is around 20%. The purpose of this clinical study is to analyze anxiety and depression in patients with primary and secondary fibromyalgia.

**Methods:** In prospective study eighty-three patients with primary FM, 39 patients with FM and osteoarthritis (OA), 23 patients with FM and systemic lupus erythematosus (SLE), 27 patients with SLE and 36 healthy subjects were included. The present study compared chronic pain, anxiety and depression in patients with primary FM, patients with SLE, FM + OA, FM + SLE and healthy subjects.

**Results:** Based on the HADS clinical parameter, anxiety and depression are a statistically significant difference of the control group, as compared to patients with primary FM, FM + OA, FM + SLE ( $p < 0,05$ ) and no difference in patients with SLE ( $p = 0,77$ ). There was no significant difference in HADS depression scores between the three groups of fibromyalgia patients. There was no significant difference in terms of the clinical parameter of depression between the SLE and FM + SLE groups.

**Conclusions:** The comparison between the patient groups is important to evaluate the disease activity and the treatment to be recommended.

PV023 / #446

**POSTER VIEWING WALK: T3  
16-03-2023 3:00 PM - 4:00 PM**

**PHYSICAL AND MENTAL COMPONENTS SUMMARY IN PATIENTS WITH PRIMARY AND SECONDARY FIBROMYALGIA**

Valentina Reshkova<sup>1</sup>, Rasho Rashkov<sup>2</sup>

<sup>1</sup>Medical university, "st. Ivan Rilski" Multiprofile University Hospital For Active Treatment, София, Bulgaria, <sup>2</sup>Medical university, "st. Ivan Rilski" Multiprofile University Hospital For Active Treatment, Sofia, Bulgaria

**Background and Aims:** Fibromyalgia (FM) is widespread and covers different age groups, most commonly occurring between 20 and 50 years. Patients with rheumatic diseases - osteoarthritis (OA) and systemic lupus erythematosus (SLE), have an accompanying / secondary FM. The presence of secondary fibromyalgia in SLE and OA has been investigated by various authors and is found in approximately 20% of these patients.

**Methods:** The purpose of this clinical trial is to analyze correlations under clinical manifestations of primary vs. secondary FM. The present study is prospective and has been performed at the Clinic of Rheumatology of the University Hospital "St. Ivan Rilski" and "Focus 5" Center, Sofia for the period September 2013 - September 2017. Eighty three patients with primary FM, 39 patients with FM + OA, 23 patients with FM + SLE, 27 patients with SLE and 36 healthy subjects were included.

**Results:** The present study analyse the relationship of clinical manifestations and physical (PCS) and mental component summary (MCS) in patients with primary and secondary fibromyalgia (FM) compared with a control group of healthy volunteers.

**Conclusions:** Each clinical sign was found to contribute to the physical component summary and the three clinical features selected based on statistical significance ( $p < 0.05$ ) contributed to a small extent to the modelling of physical health. Each clinical sign was found to contribute to the mental component summary and the three clinical features selected based on statistical significance ( $p < 0.05$ ) contributed to a small extent to the modelling of mental health.



PV024 / #349

**POSTER VIEWING WALK: T3  
16-03-2023 3:00 PM - 4:00 PM**

## **DEPRESSION: A MODIFIABLE RISK FACTOR FOR POOR OUTCOMES IN FIBROMYALGIA**

Bala Munipalli<sup>1</sup>, Madeleine Allman<sup>2</sup>, Mohit Chauhan<sup>3</sup>, Shehzad Niazi<sup>3</sup>, Fernando Rivera<sup>1</sup>, Andy Abril<sup>1</sup>, Benjamin Wang<sup>1</sup>, Mikolaj Wieczorek<sup>4</sup>, David Hodge<sup>4</sup>, Dacre Knight<sup>1</sup>, Adam Perlman<sup>1</sup>, Abd Moain Abu Dabrh<sup>1</sup>, Daniel Dudenkov<sup>1</sup>, Barbara Bruce<sup>3</sup>

<sup>1</sup>Mayo Clinic, Medicine, Jacksonville, United States of America, <sup>2</sup>University of Houston, Psychology, Houston, United States of America, <sup>3</sup>Mayo Clinic, Psychiatry, Jacksonville, United States of America, <sup>4</sup>Mayo Clinic, Statistics, Jacksonville, United States of America

**Background and Aims:** Background: About 4 out of 10 fibromyalgia patients suffer from depression. The European Alliance of Associations for Rheumatology (EULAR) guidelines recommend using antidepressants to treat fibromyalgia. Objective: To determine predictors of improved outcomes following a multicomponent treatment program.

**Methods:** Design: We designed this longitudinal treatment outcome study to evaluate the prevalence of depression symptoms in patients diagnosed with fibromyalgia at a tertiary care facility, and the impact of depression on functional outcomes after completing a multicomponent fibromyalgia treatment program. Patients: This study included 411 adult patients with fibromyalgia who completed a multicomponent treatment program for fibromyalgia. Expert physicians performed comprehensive evaluations following American College of Rheumatology (ACR) criteria to confirm fibromyalgia before referral to the program. Measurements: Functional status was assessed using the Fibromyalgia Impact Questionnaire Revised (FIQR). Depression was evaluated with the Center for Epidemiologic Study of Depression (CES-D) measure. Measures were administered prior to participation in the program and approximately 5 months following completion of the program.

**Results:** The cohort had a high prevalence of depressive symptoms (73.2% had depression at admission). Higher depression scores at baseline predicted poorer outcomes following multicomponent treatment. Effectively treated depression resulted in improved functioning at follow-up.

**Conclusions:** The current data links depression to poorer outcomes in patients with fibromyalgia. Depression is an important modifiable factor in the management of fibromyalgia. Guidelines should reflect the importance of assessing and effectively treating depression at the time of diagnosis of fibromyalgia, to improve functional outcomes.

PV025 / #483

POSTER VIEWING WALK: T3  
16-03-2023 3:00 PM - 4:00 PM

**ASSESSMENT OF ANKYLOSING SPONDYLITIS PATIENTS' KNOWLEDGE OF  
BIOTHERAPY TREATMENT BY THE BIOSECURE QUESTIONNAIRE**

Cyrine Abid<sup>1</sup>, Afef Feki<sup>2</sup>, Samar Ben Jmea<sup>2</sup>, Mohamed Hedi Kallel<sup>2</sup>, Rim Akrou<sup>2</sup>, Hela Fourati<sup>2</sup>, Fatma Makni-Ayadi<sup>2</sup>, Sofien Baklouti<sup>2</sup>

<sup>1</sup>Chu hedi chaker sfax, Rhumatologie Sfax, Sfax, Tunisia, <sup>2</sup>Hedi Chaker public hospital, Rheumatology, sfax center, Tunisia

**Background and Aims:** Patients followed for spondylitis and treated with biotherapy must have the competence of self-management of this treatment to decrease the risks of their long-term use.

**Methods:** A retrospective descriptive and analytical study using a multiple linear regression model with bootstrapping, including 20 patients with ankylosing spondylitis treated with biotherapy, co-listed in a rheumatology department. Patients completed the BioSecure questionnaire. Scores were calculated by domain and then by a total score/100. In this study, differences were considered significant when the p-value was less than or equal to 0.1 (<10%)

**Results:** There were 20 patients. The mean age was 40 years [18-66]. The sex ratio M/F was 2.25. The mean disease duration was 6.8 years. The mean duration of treatment with biotherapy was 34.3 [4-96]. The types of biotherapy were Etanercept (n = 3), Infliximab (n = 8), Adalimumab (n = 1), Golimumab (n = 1) and Certolizumab (n = 7). Regarding the BioSecure questionnaire, the overall mean was 41.7 [34.578.7]. For the distribution by domains, the overall average for the infections and fever domain was 51.1/100, for vaccination 51.6/100 and for knowledge about scheduled surgery and dental hygiene 37.7/100. The results of the questionnaire were not influenced by gender (p=0.183) but influenced by age (p=0.00009), by the length of time of treatment with biotherapy (p=0.1) and by the length of time of the disease (p=0.012).

**Conclusions:** In our study, the factors that influence the knowledge of APS patients about self-management of biotherapy are age, length of treatment with biotherapy and length of disease.

PV027 / #607

**POSTER VIEWING WALK: T4**  
**16-03-2023 3:00 PM - 4:00 PM**

### **SARS-COV2 AS SECOND HIT IN DORMANT ANTIPHOSPOLIPID SYNDROME**

Claudia Cobilinschi, Ioana Saulescu, Elena Juganaru, Andrei Mihăilescu, Daniela Opriș-Belinski, Andra Balanescu  
Sf. Maria Clinical Hospital, Rheumatology And Internal Medicine, Bucharest, Romania

**Background and Aims:** Antiphospholipid syndrome (APS) is a chronic autoimmune disorder characterized by thrombotic or pregnancy-related events due to the presence of antiphospholipid antibodies. The COVID-19 induced coagulopathy has been confirmed in the past two years but its potential to trigger or enhance APS is yet unclear.

**Methods:** Case presentation.

**Results:** A 71-year-old female diagnosed with systemic lupus for more than a decade with dominant skin and joint involvement currently in remission under hydroxychloroquine and methotrexate associates positive serology for lupus anticoagulant and anti-cardiolipidin antibodies but no history of thrombotic or obstetric events under prophylaxis with antiplatelet treatment. Three months after developing COVID-19 pneumonia treated with remdesivir, the patient was admitted for pain and swelling of the left lower limb. Both elevation of D-dimers and Doppler ultrasound confirmed deep popliteal venous thrombosis and anticoagulation was initiated with favorable outcome and no clot-related complications.

**Conclusions:** The SARS-COV2 infection is responsible for a marked proinflammatory state that can lead to microvascular injury due to endothelial disturbances, as is APS. Moreover, the two conditions can synergize leading to thrombotic events. Although the patient was free of clinical symptoms more than a decade, SARS-COV2 infection enhanced the thrombotic state and acted as the second hit needed for developing thrombosis. Vigilance in such dormant patients is mandatory in COVID era to promptly add specific anticoagulation when needed.



PV028 / #323

**POSTER VIEWING WALK: T4**  
**16-03-2023 3:00 PM - 4:00 PM**

### **ALARMIN IN IDIOPATHIC INFLAMMATORY MYOPATHIES (IIM)**

Eleonora Antonelli<sup>1</sup>, Mario Andrea Piga<sup>1</sup>, Ilaria Claudi<sup>1</sup>, Maria Giovanna Danieli<sup>1</sup>, Sebastiano Gangemi<sup>2</sup>

<sup>1</sup>Clinica Medica, Scienze Cliniche E Molecolari, Torrette di Ancona, Italy, <sup>2</sup>School and Operative Unit of Allergy and Clinical Immunology, Clinical And Experimental Medicine, Messina, Italy

**Background and Aims: BACKGROUND:** Alarmins are endogenous peptides released after cell damage with a pro-inflammatory and immune stimulating action. Recently they have been found to play a role in different autoimmune and immune mediated diseases, among them Idiopathic Inflammatory Myopathies.

**Methods: METHODS:** We previously searched on PubMed the principal alarmins involved in IIM and then we matched the words ((Idiopathic Inflammatory Myopathies) OR (IIM)) AND ((High Mobility Group Box1) OR (HMGB1)), AND (defensin\*), AND (Heat Shock Protein), AND (IL-1a), AND (IL-31), AND (IL-33), AND (granulysin), AND (LL-37)

**Results: RESULTS:** HMGB1 promotes up-regulation of MHC-I on muscle fibers making them target of the immune system. HMGB1 may impair the release of calcium, causing premature fatigue development, and it can reduce muscle regeneration. A-defensin 1-3 was elevated in anti-aminoacyl-tRNA synthetase positive patients and it is involved in lung fibrosis. IL-1a, IL-33, IL-31 correlated with disease activity and were reduced after the introduction of steroid therapy. The expression of granulysin on CD8+ T cells correlates with steroid resistance in polymyositis whereas LL-37 may act as an inducer of Interferon-I system. The abnormalities of ubiquitin-proteasome system were prevalent in inclusion body myositis (IBM) causing accumulations of altered proteins.

**Conclusions: CONCLUSIONS:** We reported the correlation of specific alarmins with different pattern of the disease. Alarmins may have a prognostic role or act biomarkers of disease activity, and they may become new targets for therapies.

PV029 / #343

**POSTER VIEWING WALK: T4  
16-03-2023 3:00 PM - 4:00 PM**

**A SUCCESSFUL USE OF SUBCUTANEOUS IMMUNOGLOBULIN IN A MAN WITH  
ANTISYNTHEASE SYNDROME OVERLAPPED WITH INTERSTITIAL LUNG DISEASE**

Davide Palmeri<sup>1</sup>, Antonietta Apricena<sup>2</sup>, Maria Francesca Cozzi<sup>1</sup>, Alberto Paladini<sup>1</sup>, Maria Giovanna Danieli<sup>1</sup>

<sup>1</sup>Clinica Medica, Scienze Cliniche E Molecolari, Torrette di Ancona, Italy, <sup>2</sup>Allergologia ed Immunologia Clinica, Dipartimento Di Scienze Mediche, TORINO, Italy

**Background and Aims:** Anti-synthetase syndrome (ASS) is clinically characterized by inflammatory myopathy, interstitial lung disease (ILD), mechanic's hands, arthritis, and Raynaud's phenomenon. Laboratory tests show antibodies directed against aminoacyl transfer RNA synthetases (t-RNA). We reported a case of a 50-year-old man affected by anti-Jo1 positive ASS with ILD, treated with 20% SCIg as maintenance therapy.

**Methods:** In November 2012, a patient came to our attention with myalgias, fatigue, severe muscle weakness in all four limbs, mechanic's hands, Raynaud's phenomenon, and dyspnoea. Blood tests showed a marked increase in serum CK (2710 U/l) and the presence of anti-Jo1 antibodies. Electromyography showed an inflammatory pattern. Spirometry showed moderate to severe restrictive deficit (FVC 55%, TLC 73%) and HRTC confirmed the presence of early ILD.

**Results:** We started with high dose oral prednisone treatment, slowly tapered, in combination with IVIg at an immunomodulatory dose (2g/kg / day in 2 days). After six months, the patient achieved clinical and laboratory remission, so the IVIg treatment was switched to 20% SCIg (8 g/week). The patient underwent both HRTC, which did not show any progress of the ILD, and spirometry which showed an improvement of the restrictive deficit with a stable value of the DLCO.

**Conclusions:** We presented the case of a patient with ASS and ILD, in whom the use of IVIg and 20% SCIg was successful not only in achieving muscle remission, but also in improving lung function.

PV030 / #604

**POSTER VIEWING WALK: T4  
16-03-2023 3:00 PM - 4:00 PM**

### **MALIGNANT MIMICKER OF LUMBAR PAIN IN YOUNG MALE**

Claudia Cobilinschi<sup>1</sup>, Andreea Bîrlez<sup>2</sup>, Ionuț Rusu<sup>3</sup>, Elena Juganaru<sup>1</sup>, Daniela Opreș-Belinski<sup>1</sup>, Andra Balanescu<sup>1</sup>

<sup>1</sup>Sf. Maria Clinical Hospital, Rheumatology And Internal Medicine, Bucharest, Romania, <sup>2</sup>Ploiești City Hospital, Rheumatology, Ploiești, Romania, <sup>3</sup>Ploiești City Hospital, Neurosurgery, Ploiești, Romania

**Background and Aims:** A seminoma is a malignant germ cell tumour that can be found in the testicle or, more uncommonly, the mediastinum or other extra-gonadal sites. It usually affects young male patients aged 15 to 35. Lumbar pain as first onset feature in germ cell neoplasia is rare, thus making it challenging to diagnose.

**Methods:** Case presentation.

**Results:** A 21-year-old male patient is admitted to the Rheumatology Department for intense lumbar pain with paresthesia and weakness on left lower limb, aggravating in the last two weeks prior to hospitalization. Due to significant recent weight loss and elevated inflammatory markers, a lumbar MRI was performed that revealed a large tumoral mass encompassing the T12, L1, L2 vertebral bodies, extensive lysis of the vertebrae and severe L2-L3 foraminal stenosis due to site tumor. Further, a thoracic CT confirmed a mediastinal mass affecting large vessels and trachea. Neurosurgical approach was applied for tumor removal and sampling. Histological and immunohistochemical staining showed a nonlymphoid proliferation and suggested a malignant germ cell seminoma. Patient was referred to the Oncology team to proceed with staging and specific therapy.

**Conclusions:** Lumbar pain due to metastatic spinal cord compressions should lead clinicians to investigate seminoma in young males, since prompt therapeutic intervention is mandatory.



PV031 / #327

**POSTER VIEWING WALK: T4**  
**16-03-2023 3:00 PM - 4:00 PM**

**ALLERGIC DISEASES IN COMMON VARIABLE IMMUNODEFICIENCY. A MONOCENTRIC CASE SERIES AND REVIEW OF THE LITERATURE.**

Ilaria Claudi<sup>1</sup>, Maria Francesca Cozzi<sup>2</sup>, Antonietta Apricena<sup>3</sup>, Maria Giovanna Danieli<sup>2</sup>  
<sup>1</sup>Postgraduate School of Allergy and Clinical Immunology, Dipartimento Di Scienze Cliniche E Molecolari, ANCONA, Italy, <sup>2</sup>Clinica Medica, Scienze Cliniche E Molecolari, Torrette di Ancona, Italy, <sup>3</sup>Allergologia ed Immunologia Clinica, Dipartimento Di Scienze Mediche, TORINO, Italy

**Background and Aims:** The most common symptomatic inborn error of immunity (IEI) of adulthood is Common variable immunodeficiency (CVID). CVID is characterized by variable of clinical manifestations, both infectious and non-infectious, including autoimmune and allergic diseases. They can also be the first presentation resulting in a delay in diagnosis. Allergies and autoimmune diseases (AIDs) have long been observed in IEI. To study the incidence of allergies and AIDs in a population with CVID, through a monocentric case series and review of the literature.

**Methods:** We performed a retrospective analysis of our series of 78 adult patients affected by CVID, diagnosed accordingly to the ESID criteria and followed-up in our Centre.

**Results:** We observed the presence of allergic diseases in 12 patients (15.3%) with drug intolerance (n=8), allergic rhinitis (n=2) and bronchial asthma (n=2). We documented AIDs in 34 patients (43%). Main diseases comprised immune thrombocytopenic purpura (ITP, n=11) and autoimmune hemolytic anaemia (AIHA, n=3). Moreover, a third of these patients suffered from at least two or more AIDs. According to the literature, allergic diseases in patients with IEI are present in 15-20%. They are bronchial asthma, atopic dermatitis, allergic rhinitis, and food allergy. AIDs are reported in 29-41% of patients with IEI, ITP, AHIA, and psoriasis.

**Conclusions:** Allergies and AIDs are frequent in patients with CVID. They can be the first manifestation of the disease and cause a delayed diagnosis of disease. It is thus important to exclude the presence of a deficit of the immune system in patients with AIDs and allergies.

PV032 / #291

**POSTER VIEWING WALK: T4**  
**16-03-2023 3:00 PM - 4:00 PM**

### **IS CHRONIC FATIGUE A RHEUMATIC DISEASE?**

Gabriela Riemekasten<sup>1</sup>, Hanna Grasshoff<sup>2</sup>

<sup>1</sup>University Clinic SH, Rheumatology And Clinical Immunology, Luebeck, Germany, <sup>2</sup>University of Lübeck, Rheumatology And Clinical Immunology, Luebeck, Germany

**Background and Aims:** Fatigue is an important and severe symptom in systemic autoimmune diseases with a high impact in daily activities and with a high prevalence. It can also occur without any underlying autoimmune disease as a result of infections or traumas. Recent studies indicate the involvement of autoantibodies in the pathogenesis of disease.

**Methods:** Therefore, we will summarize the current state in the literature as well as own research data on autoantibodies in patients with fatigue either in the context of autoimmune diseases or of other disease.

**Results:** There is growing evidence that autoantibodies play an important role in the pathogenesis of fatigue associated with autoimmune diseases as well as in primary ME/CSF. Several autoantibodies directed to G protein-coupled receptors and other proteins show abnormalities in their ab levels and in their relations to other autoantibodies. The latter indicates cross-reactivities, which was recently shown by our group. Autoantibodies directed to  $\beta_2$  adrenergic receptors seem to play a key role in this disease and could also explain the vasculopathy observed in patients with fatigue. Accordingly, several therapies targeting ab levels are now under consideration such as the aptamer BC 007 or B cell targeting therapies. However, we and others have shown that the anti-GPCR ab levels are refractory to immunosuppressive drugs. Whether those drugs can affect the quality of the abs or the ab correlations remains to be studied.

**Conclusions:** Like fibromyalgia, fatigue seems to be an autoimmune disease with dysregulated autoantibodies. Further research is necessary to understand the role of antibodies in patients with fatigue.

PV033 / #252

**POSTER VIEWING WALK: T4  
16-03-2023 3:00 PM - 4:00 PM**

**COULD JACK INHIBITORS ADVANCE THE TREATMENT OF MULTICENTRIC  
RETICULOHISTIOCYTOSIS: A CASE REPORT.**

Miral Hamed<sup>1</sup>, Amina Bougaila<sup>2</sup>, Samar Al-Emadi<sup>1</sup>

<sup>1</sup>Hamad medical corporation, Rheumatology, Doha, Qatar, <sup>2</sup>Hamad medical corporation, Internal Medicine, Doha, Qatar

**Background and Aims:** Multicentric Reticulohistiocytosis(MRH) is a rare multisystem macrophage disorder of unknown etiology. It manifests clinically with widespread papulonodular cutaneous eruptions and progressive erosive symmetrical polyarthritis. It might also involve bones, tendons, muscles, eyes and nearly almost any organ. It has been associated with underlying internal malignancies in about one-fourth of the cases. MRH is an uncommon disease with no clear guideline for management. To date, there are only a few cases of MRH with no clear consensus on its management.

**Methods:** We describe a case of refractory MRH that showed marked clinical improvement with Tofacitinib .



**Results:**



Figure 1: perioral lesions on 2018



Figure 2. Lesions on 2019 (A) lesions on dorsum of the hand, (B) lesions on the antecubital fossa area, (c) perioral lesions.





Figure 3. Lesions on 2021 (A) lesions on dorsum of the hand, (B) lesions on the antecubital fossa area, (c) perioral lesions.

A 40 year old man presented with multiple cutaneous and mucosal brownish papules, followed by polyarthritis (fig1-2). Autoimmune and Malignancy workup were negative. Labial biopsy confirmed the diagnosis of MRH. He failed different treatment regimens as steroids, Methotrexate, Cyclophosphamide, Mycophenolate, etanercept. while being maintained on Adalimumab with partial response, he developed new corneal lesion. He was shifted to Tofacitinib tablet 5 mg twice daily and kept on low dose prednisolone. The patient had noticeable improvement with regression of skin rash, improvement of joints tenderness and regression of corneal lesion (fig 3).

**Conclusions:** We report this case of MRH with dramatic clinical improvement using Tofacitinib as JAK inhibitor to treat MRH. Since IL-6 was found to be elevated as a pro-inflammatory response in MRH, furthermore, the success of JAK inhibition in rheumatoid arthritis and psoriatic arthritis, JAK 1 inhibition has been reported to be used as a target for MRH treatment. To our knowledge, there are only 2 case reports using JAK inhibitors (Tofacitinib and Upadacitinib). Our case adds to the growing literature the possibility of using JAK inhibitors as a new alternative to disease-modifying antirheumatic drug refractory MRH.



PV034 / #310

**POSTER VIEWING WALK: T4**  
**16-03-2023 3:00 PM - 4:00 PM**

### **INTERMEDIATE UVEITIS AS AN ONSET OF BEHCET DISEASE**

Araks Davtyan<sup>1</sup>, Anna Hovakimyan<sup>2</sup>, Valentina Vardanyan<sup>3</sup>, Lilit Sevoayn<sup>4</sup>  
<sup>1</sup>Zilfyan Eye Care center, Cornea And Uveitis Service, Yerevan, Armenia, <sup>2</sup>S.Malayan Eye Center, Cornea Uveitis Department, yerevan, Armenia, <sup>3</sup>Mikaelyan Institute of Surgery, Rheumatology, Yerevan, Armenia, <sup>4</sup>YSMU, 1st clinical hospital, Cardiology, Yerevan, Armenia

**Background and Aims:** Intermediate uveitis is subset of uveitis where the predominant site of inflammation is in vitreous and accounts about 15% of all cases of uveitis. 85%-90% of intermediate uveitis are bilateral, idiopathic with no association with systemic disease or infection. Most common systemic association are multiple sclerosis, sarcoidosis, syphilis, tuberculosis.

**Methods:** During 2011-2021 period of time 324cases of uveitis (from 1725cases of uveitis) associated with behcet cases were seen at Cornea Uveitis Department. Only 3 cases of intermediate uveitis as initial presentation were associated with behcet disease

**Results:** 2 cases of intermediate uveitis (25y/o male, 12y/o female) were seen with bilateral intermediate uveitis, the 3rd case 27y/o male at the presentation had intermediate uveitis only in the right eye. In all cases systemic workup was negative. The treatment was initiated with Betamethasone periocular injections. Due to recurrences patients were placed on Azathioprine 100mg/day and Metipred with tapering. After 4-5 years of initial manifestation the recurrences presented with hypopyon uveitis 2 cases (25y/o male, 12 y/o female), and only one retinal infiltrate in the right eye in the 3rd case (25y/o male), genital ulcer for the first time. Patient was referred to rheumatologist who proved the Behcet diagnosis with positive HLAB51. In other 2 cases the diagnosis was proved after 3 recurrences of hypopyon uveitis when they presented with oral/genital ulcers. Patient received Remicade 4 times, VA was improved dramatically.

**Conclusions:** Above mentioned cases demonstrate atypical ocular manifestation of Behcet disease and highlight the importance of collaboration between ophthalmologists and rheumatologists to deal with atypical cases.

PV035 / #575

**POSTER VIEWING WALK: T4  
16-03-2023 3:00 PM - 4:00 PM**

## **RHEUMATOID ARTHRITIS AMONG PREGNANT WOMEN IN GHANA AND AFRICA**

Linda Appiagyei

Cape Coast Teaching Hospital, General Nurse, Cape Coast, Ghana

**Background and Aims:** Rheumatoid Arthritis (RA) is an autoimmune disease, which affects the pregnant women of both Ghana and Africa. The overall prevalence of RA during the child bearing condition was observed to be 5% in Africa. The study has aimed at the epidemiological analysis of RA during pregnancy in Ghana and Africa.

**Methods:** The research study was conducted using a secondary research technique. In other words, it can be said that this choice of secondary research design is justified since there is no scope for the selection of live participants in the research. In other words, it can be said that since primary research studies are already available for this topic, secondary research design (systematic literature review) was performed.

**Results:** The results have shown that a mass percentage of pregnant women population is affected by RA in both Ghana and Africa. This percentage has to be reduced in future by initiating the therapeutic procedures by performing an early diagnosis of the disease.

**Conclusions:** Autoimmune conditions during pregnancy results in increasing complications. Therefore, the treatment process should be initiated as soon as the symptoms are observed. Since both Ghana and Africa do not comprise of advanced healthcare systems, the overall prevalence of this disease has been found to be high. Reference Ampofo RO, Osei-Sarpong C, Botwe BO. Rheumatoid arthritis among autoimmune diagnosed patients: A pilot study at Africa's third largest hospital. Tropical Journal of Medical Research. 2016 Jul 1;19(2):88-93.

PV036 / #487

**POSTER VIEWING WALK: T5**  
16-03-2023 3:00 PM - 4:00 PM

### VASCULITIDES WITH RHEUMATOLOGICAL EXPRESSION

Rim Ben Chehida, Marwa Bekey, Afef Feki, Samar Ben Jmea, Rim Akrouf, Mohamed Hedi Kallel, Hela Fourati, Fatma Makni-Ayadi, Sofien Baklouti  
Hedi Chaker public hospital, Rheumatology, sfax center, Tunisia

**Background and Aims:** Vasculitides correspond to inflammation of blood vessels of any size. Our objective was to describe the clinical and biological aspects as well as the types and etiologies of vasculitis in a rheumatology department.

**Methods:** This is a retrospective study of 20 cases of vasculitis, collected in a rheumatology department between 2004 and 2022.

**Results:** The mean age of the patients was 65 years.

The circumstances of discovery were: polyarthralgia in 3 patients, spinal pain in 4 patients, and polyarthralgia associated with spinal pain and extra-articular manifestations in 13 patients.

A biological inflammatory syndrome was found in 18 patients.

Abnormalities of the blood count were: anemia in 4 patients, thrombocytosis in 1 patient, and hyperleukocytosis in 3 patients.

In the immunological workup, 3 patients had positive anti-nuclear antibodies, 1 patient had positive anti-neutrophil cytoplasm antibodies and 1 patient had a rheumatoid factor and positive anti-citrullinated peptide antibodies.

Of these 20 patients, 16 had primary vasculitis with a distribution as follows: 11 patients had Horton's disease, 2 patients had Wegener's disease, 1 patient had Churg and Strauss disease, 1

1 patient had Takayasu disease and 1 patient had Binswanger's disease. One patient had vasculitis secondary to rheumatoid arthritis and 3 patients had undetermined vasculitis,

2 patients were treated with corticosteroid therapy and Endoxan, 4 patients were treated with corticosteroid therapy and Methotrexate and 10 patients were treated with corticosteroid therapy alone.

**Conclusions:** Vasculitis is a not rare pathology in rheumatology. Its diagnosis is often difficult because the initial manifestations are often unspecific and misleading.



PV037 / #485

**POSTER VIEWING WALK: T5**  
**16-03-2023 3:00 PM - 4:00 PM**

**RHEUMATOID ARTHRITIS HIDING A CASCADE OF AUTOIMMUNE DISEASES: A COINCIDENCE? COMMON PATHOGENESIS?**

Rim Ben Chehida<sup>1</sup>, Samar Ben Jmea<sup>1</sup>, Afef Feki<sup>1</sup>, Rim Akrouit<sup>1</sup>, Mohamed Hedi Kallel<sup>1</sup>, Hela Fourati<sup>1</sup>, Fatma Makni-Ayadi<sup>2</sup>, Sofien Baklouti<sup>1</sup>

<sup>1</sup>Hedi Chaker public hospital, Rheumatology, sfax center, Tunisia, <sup>2</sup>Sfax medicine faculty - Sfax - Tunisia, Research Lab " Molecular Bases Of Human Diseases, Sfax, Tunisia

**Background and Aims:** Multiple autoimmune syndrome (MAIS) is a condition in which a patient has at least three 3 autoimmune pathologies probably result from a common genetic background. There are 3 types of MIAS. In this case report, we will discuss the incidental discovery of a SAIM responding to both type 2 and 3 in a known patient with rheumatoid arthritis on methotrexate.

**Methods:** We report a case of a patient with RA on methotrexate with hepatic cytolysis above 10 times normal rate

**Results:** Mrs. B.A., 56 years old, was admitted for the exploration of cytolysis above 10 times the normal rate. She had a history of Rheumatoid arthritis under methotrexate 7.5 mg/week.

A pharmacological investigation found little evidence that methotrexate was involved in this cytolysis.

In the presence of exaggerated psychomotor slowness, we discovered a profound HASHIMOTO autoimmune hypothyroidism.

An immunological work-up revealed very high levels of NAA levels with positive typing of anti-PM-SCL100 antibodies suggesting a myositis-scleroderma overlap syndrome.

We also detected an asymptomatic primary biliary cirrhosis with a series of positive antibody levels: anti-mitochondrial M2 antibody; anti-sp100 antibody, anti M2 3 E antibodies. Biermer's disease was confirmed with a positive anti-gastric parietal cell antibody level and a hypovitaminosis Gougerot-Sjögren's disease was suspected in front of an ocular dry syndrome, a clinic suggestive of dry mouth syndrome confirmed by histological evidence.

**Conclusions:** SAIM is a rare entity. The association of multiple autoimmune diseases in the same patient suggests a common genetic background between these diseases. Hence the need to monitor patients to detect SAIM.

PV038 / #263

POSTER VIEWING WALK: T5  
16-03-2023 3:00 PM - 4:00 PM

### CLINICAL FEATURES OF PATIENTS WITH IDIOPATHIC GRANULOMATOUS MASTITIS AT A TERTIARY MEDICAL CENTER

Bhavna Ferm<sup>1</sup>, Nirali Sanghavi<sup>2</sup>, Xianhong Xie<sup>3</sup>, Susan Fineberg<sup>3</sup>, Sonali Lanjewar<sup>3</sup>, Anjali Gupta<sup>3</sup>, Anand Kumthekar<sup>3</sup>, Bibi Ayesha<sup>3</sup>

<sup>1</sup>Lahey Hospital and Medical Center, Rheumatology, Burlington, United States of America, <sup>2</sup>Westchester Medical Center, Internal Medicine, Valhalla, United States of America, <sup>3</sup>Montefiore Medical Center, Medicine, Bronx, United States of America

**Background and Aims:** Idiopathic granulomatous mastitis (IGM) is benign, inflammatory disease of breasts characterized by non-caseating granulomas. Our objective was to identify and compare clinical, laboratory, and histopathological features among individuals with IGM across patients with complete remission and relapse.

**Methods:** We queried databases at our institution (1990-2021) to include females  $\geq 18$  years with biopsy-proven diagnosis of IGM, excluding patients with breast cancer, lymphoproliferative disorders, solid organ malignancy, foreign body reaction in breast, plasma cell mastitis, and ductal ectasia. Remission was defined as three-month period without recurrence of symptoms or imaging findings. Relapse was defined as recurrence after three months of remission. Clinical and histopathological features were compared using two-sample t-tests (continuous variables) and chi-squared tests (categorical variables).

**Results:** 27 patients met inclusion criteria for analyses and had unilateral disease. Mean age was 35.8 years ( $\pm$  SD 9.4 years) and mean BMI of 31.7 kg/m<sup>2</sup> ( $\pm$  SD 6.7 kg/m<sup>2</sup>). We had 41% Hispanic and 19% African American patients. 93% patients had at least one full-term pregnancy prior to diagnosis, and 30% were on oral contraceptives. Eighteen patients had complete remission and nine relapsed. Patients with remission were treated with antibiotics, six of which received steroids and methotrexate while one received steroids only. Three patients with relapse and 14 with remission had abscess formation confirmed on histopathology ( $p=0.04$ ).

**Conclusions:** No differences were identified in clinical or laboratory features of patients with relapse compared to those in remission. Patients with remission had higher number of abscesses. Identifying key histopathological findings in patients may guide prognosis and treatment.

PV039 / #387

**POSTER VIEWING WALK: T5**  
**16-03-2023 3:00 PM - 4:00 PM**

### **CLINICAL ASPECTS OF IGG4-RELATED DISEASE THROUGH 3 OBSERVATIONS**

Adil Rkiouak, Nawal Sahel, Meryem Zaizae, Zineb Bougrini, Bilal Talamoussa, Youssef Sekkach  
mohammed V Military hospital, Internal Medecine A, Rabat, Morocco

**Background and Aims:** IgG4-Related disease (IgG4-RD), formerly known as IgG4-related autoimmune polyexocrinopathy, is an emerging disease. Its incidence and prevalence are poorly known because it is an uncommon disease. It is probably underestimated and sometimes confused with several pathologies. Diagnosis is based on histological examination which shows dense lymphoplasmocytic infiltration in the organ affected associated with IgG4-positive plasma cells (immunohistochemistry), organ fibrosis and obliterating venulitis.

**Methods:** The purpose of this study was to report 3 cases of IgG4-Related disease diagnosed in the Department of Internal Medicine A of the Military Hospital Mohammed V in Morocco, on the basis of clinical and radiological criteria as well as therapeutic response.

**Results:** The age of onset of the disease is classically between the fourth and fifth decade, with an average age at diagnosis of about 46 years. The sex ratio is in favor of a male predominance, with some variations. The clinical signs, relatively misleading, and are not specific. The typical histological aspect of the disease is diffuse lymphocytic infiltration, irregular fibrosis, an obliterating vasculitis, and an IgG4 / IgG ratio that must be higher than 40%. Mostly corticosteroid sensitive, other molecules, reported in the literature, have proven to be effective. The evolution is generally favorable under corticosteroid therapy which remains the gold standard. Our patients were all put on corticosteroids with clinical and radiological improvement. Recently rituximab can also be used as induction therapy.

**Conclusions:** Further advances will allow to better define the homogeneous group of IgG4-RD patients in future clinical, epidemiological and basic research studies on the disease.



PV040 / #193

POSTER VIEWING WALK: T5  
16-03-2023 3:00 PM - 4:00 PM

### THE RELATIONSHIP OF ADIPOCYTOKINES LEVELS WITH CARDIOVASCULAR RISK FACTORS IN SYSTEMIC LUPUS ERYTHEMATOSUS

Liubov Kondrateva<sup>1</sup>, Tatyana Popkova<sup>1</sup>, Tatiana Panafidina<sup>1</sup>, Yulia Gorbunova<sup>1</sup>, Elena Gerasimova<sup>1</sup>, Michail Diatroptov<sup>2</sup>

<sup>1</sup>V.A.Nasonova Research Institute of Rheumatology, Systemic Lupus Erythematosus, Moscow, Russian Federation, <sup>2</sup>V.A.Nasonova Research Institute of Rheumatology, Immunology Laboratory, Moscow, Russian Federation

**Background and Aims:** To determine relationship of leptin and adiponectin levels with cardiovascular risk factors in patients with systemic lupus erythematosus (SLE).

**Methods:** The study included 48 women and 3 men with SLE without diabetes mellitus. The median age of patients was 40[31;48] years. Glucocorticoids (GC) were received by 84% of patients, hydroxychloroquine – by 76%, immunosuppressants – by 20%, biological agents – by 10%. The control group included 36 participants matched in sex, age and body mass index (BMI) with SLE patients. The levels of adipocytokines (leptin and adiponectin) were assessed by ELISA. The following cardiovascular risk factors were studied: age, smoking status, BMI, waist circumference (WC), blood pressure (BP), HOMA-IR index, apolipoprotein B (ApoB) levels.

**Results:** The leptin levels in SLE were 26.9 [7.5;67.6] ng/ml, and in the control group - 13.0 [7.9;16.5] ng/ml ( $p=0.001$ ), the adiponectin concentrations were 9.0 [5.0;10.1]  $\mu\text{g/ml}$  and 7.7[5.4;10.3]  $\mu\text{g/ml}$ , respectively ( $p=0.9$ ). Leptin levels correlated with BMI ( $r=0.67$ ,  $p<0.0001$ ), WC ( $r=0.58$ ,  $p<0.0001$ ), HOMA-IR ( $r=0.6$ ,  $p<0.001$ ), disease duration ( $r=0.34$ ,  $p=0.01$ ), SLEDAI 2K ( $r=-0.51$ ,  $p<0.001$ ), SLICC damage index ( $r=0.35$ ,  $p=0.01$ ), duration of GC use ( $r=0.37$ ,  $p<0.01$ ). Relationships between adiponectin levels and any risk factors, SLE activity, and therapy were not found.

**Conclusions:** Elevated serum leptin levels in SLE compared to healthy participants were associated with obesity and insulin resistance, increased disease duration, long-term GC use, but with a decrease in SLE activity. The concentrations of adiponectin in SLE were similar to those in the control group, did not depend on the disease characteristics and cardiovascular risk factors.

PV041 / #197

POSTER VIEWING WALK: T5  
16-03-2023 3:00 PM - 4:00 PM

### **OBESITY AND OVERWEIGHT PHENOTYPES BASED ON BODY MASS INDEX AND SERUM LEPTIN LEVELS IN WOMEN WITH RHEUMATOID ARTHRITIS**

Liubov Kondrateva<sup>1</sup>, Tatyana Popkova<sup>1</sup>, Yulia Gorbunova<sup>1</sup>, Tatiana Panafidina<sup>1</sup>, Elena Gerasimova<sup>2</sup>

<sup>1</sup>V.A.Nasonova Research Institute of Rheumatology, Systemic Lupus Erythematosus, Moscow, Russian Federation, <sup>2</sup>Nasonova Research Institute of Rheumatology, Department Of Systemic Rheumatic Diseases, Moscow, Russian Federation

**Background and Aims:** To identify obesity/overweight phenotypes based on the body mass index (BMI) and serum leptin levels assessment in patients with rheumatoid arthritis (RA).

**Methods:** A total of 75 women with RA (50 [38;61] years old) were enrolled in the study: 35 antirheumatic drugs-naïve pts with early RA ( $\leq 12$  months) and 40 pts with long-term RA ( $> 12$  months). Long-term RA pts were treated with glucocorticoids (38%), methotrexate (53%), leflunomide (18%), biological agents (30%). Leptin concentrations  $> 11.1$  ng/ml corresponded to hyperleptinaemia. Three main obesity/overweight phenotypes were distinguished: "classic" (BMI  $\geq 25$  kg/m<sup>2</sup> + hyperleptinemia), "healthy" (BMI  $\geq 25$  kg/m<sup>2</sup>, without hyperleptinemia), "hidden" or "latent" (BMI  $< 25$  kg/m<sup>2</sup> + hyperleptinemia), as well as "normal weight" (BMI  $< 25$  kg/m<sup>2</sup>, without hyperleptinemia).

**Results:** The "classic" phenotype of obesity/overweight was diagnosed in 41%, the "healthy" – in 7%, the "hidden" – in 19%. There were no significant differences between early and long-term RA. Insulin concentrations were: 7.6[4.8;15.0]  $\mu$ U/mL in the "classic", 6.8[4.6;9.5]  $\mu$ U/mL in the "hidden", 4.5[4.1;7.6]  $\mu$ U/ml in the "healthy" phenotype, and 4.3[3.0;5.2]  $\mu$ U/ml at "normal weight" (p=0.005). HOMA-IR index were: 1.78[1.17;3.61], 1.71[1.00;2.29], 1.25[0.91;1.66] and 0.95[0.61;1.18], respectively (p=0.001). Median age was 57[48;61] years in the "classic" phenotype, 56[39;64] years in the "hidden" phenotype, 42[39;58] years in the "healthy" phenotype, and 38[32;44] years at "normal weight" (p=0.004).

**Conclusions:** The majority of RA patients had the "classic" obesity/overweight phenotype, while the "healthy" phenotype was quite rare, mainly at a younger age. In 19% of patients, the presence of a "latent" phenotype was confirmed, which, in terms of metabolic disorders, is an intermediate stage between "normal weight" and "classic" obesity.

PV042 / #212

**POSTER VIEWING WALK: T5**  
**16-03-2023 3:00 PM - 4:00 PM**

### **AUTOIMMUNITY COMPLICATING MULTIPLE SCLEROSIS**

Anca Gherasim<sup>1</sup>, Teodora Ganea<sup>1</sup>, Beatrice Bucur<sup>1</sup>, Luiza Pana<sup>1</sup>, Razvan Ionescu<sup>1,2</sup>  
<sup>1</sup>Colentina Clinical Hospital, Internal Medicine, Bucharest, Romania, <sup>2</sup>UMF "Carol Davila",  
Bucharest, Internal Medicine, Bucharest, Romania

**Background and Aims:** Background and aims: Multiple sclerosis (MS) is an inflammatory disease of the central nervous system (CNS) affecting predominantly young women. Rheumatoid arthritis (RA) is an inflammatory autoimmune disease affecting predominantly, also, young women.

**Methods:** We report the case of a 59 years old woman with MS (since 2010), developing RA 7 years later. The patient was treated at the time with interferon based therapy. She, then, developed articular manifestations and high titres of anti citrullinated peptide antibodies (ACPA), that allowed the diagnosis of seropositive RA.

**Results:** The question is how to treat such a patient, associating these two diseases, since Methotrexate is no longer efficacious. There is, of course the option of corticotherapy, as well as other disease modifying drugs.

**Conclusions:** having to deal with two (apparently) different diseases that share common risk factors, might raise serious therapeutic dilemmas, pertaining to the pathogenic mechanisms of the diseases and to the different targets of the therapy.



PV043 / #340

**POSTER VIEWING WALK: T5**  
**16-03-2023 3:00 PM - 4:00 PM**

### **DOCK8 MUTATION IN PATIENT WITH JIA AND SJÖGREN'S SYNDROME**

Violetta Opoka-Winiarska<sup>1</sup>, Edyta Brzozowska<sup>2</sup>, Katarzyna Bochenek- Dudkowska<sup>2</sup>, Monika Lejman<sup>3</sup>

<sup>1</sup>Medical University of Lublin, Department Of Pediatric Pulmonology And Rheumatology, Lublin, Poland, <sup>2</sup>University Children's Hospital in Lublin, Department Of Pediatric Pulmonology And Rheumatology, Lublin, Poland, <sup>3</sup>Medical University of Lublin, Independent Genetic Diagnostics Laboratory, Lublin, Poland

**Background and Aims:** Most rheumatic diseases are considered idiopathic, although genetic mutations have been reported to cause the disease in the context of congenital immunodeficiency among patients with pronounced rheumatic phenotypes. DOCK8 deficiency is a rare autosomal recessive primary immunodeficiency. Various clinical manifestations of DOCK8 deficiency have been described so far, such as cytopenia, haemolytic anemia, uveitis, autoimmune hypothyroidism, vasculitis, arthritis, and enteritis.

**Methods:** We present a clinical case of a 15-year-old female patient diagnosed with polyarticular JIA, secondary Sjögren's syndrome, bronchial asthma and leukopenia. Due to the complexity of presented symptoms, the diagnostics was extended by genetic tests - Whole Exome Sequence tests.

**Results:** The final result of the WES study showed de novo mutations in the DOCK8 gene. We believe that the identified genetic defect may be responsible for the phenotype observed in the patient.

**Conclusions:** Our observation confirms the link between autoimmunity and immunodeficiency. Autoimmune disease can also be the main or first symptom of a congenital immunodeficiency disease.

Genetic research helps to elucidate the cause of some rheumatic diseases that were previously considered idioaptic.

PV044 / #269

**POSTER VIEWING WALK: T6**  
**16-03-2023 3:00 PM - 4:00 PM**

**POSSIBLE ROLE OF MICROPARTICLES ANALYSIS AS PREDICTOR OF ANTIFOSFOLIPIDS SYNDROME CLINICAL FEATURES.**

Elisa Tinazzi, Giulio-Luigi Bonisoli, Giuseppe Argentino, Ruggero Beri, Federica Maiolini  
Azienda Ospedaliera Universitaria Integrata di Verona, Medicina Generale B, Verona, Italy

**Background and Aims:** APS is an autoimmune disease, causing thrombosis and obstetric complications. It is yet described the association between APS and microparticles' production, so we aimed to study any possible relation to APS clinical features.

**Methods:** Centrifugating blood samples from 22 patients and 18 controls, we obtained platelet poor plasma. Through flow cytometry we identified microparticles (MPs) populations from platelet (CD42<sup>+</sup>, pMPs) and endothelial cells (CD146<sup>+</sup>, eMPs). With Annexin V (AnnV) we divided eMPs from apoptotic/activated cells (aeMPs, AnnV<sup>+</sup>) and from resting cells (reMPs, AnnV<sup>-</sup>). Similarly, pMPs were divided in activated platelets derived (AnnV<sup>+</sup>, ppMPs), and from other platelets (AnnV<sup>-</sup>, opMPs). Patients were sorted by antibodies positivity, and neurological, cardiovascular, dermatological, hematological and obstetrics features. Disease Complexity Score (DCS) was built assigning one point for each feature. Statistical analysis was assessed by Double-sided Welch's T-test

**Results:** APS patients showed increased percentage of eMPs and opMPs. No statistically significance difference was found in patients with and without cardiovascular nor hematological manifestations. Neurological features were associated to increased opMPs while the presence of obstetrics' event to a reduced percentage of reMPs ( $p = 0,019$ ). Neurological, hematological, and obstetric patients had a higher DCS, and lower ppMPs trend. No difference was found related to antibodies' subclass.

**Conclusions:** Our data underlined that endothelium and platelets could be targets of APS and their status may be linked to disease activity and features and that clinical features are associated to different microparticles which may represent a possible predictors of clinical manifestations.

PV045 / #394

**POSTER VIEWING WALK: T6  
16-03-2023 3:00 PM - 4:00 PM**

**CLINICAL DELPHI ON APL NEGATIVIZATION: REPORT FROM THE APS STUDY GROUP  
OF THE ITALIAN SOCIETY FOR RHEUMATOLOGY (SIR-APS)**

Silvia G Foddaj<sup>1</sup>, Savino Sciascia<sup>2</sup>, Cristiano Alessandri<sup>3</sup>, Alessia Alunno<sup>4</sup>, Laura Andreoli<sup>5</sup>, Alice Barinotti<sup>1</sup>, Antonia Calligaro<sup>6</sup>, Valentina Canti<sup>7</sup>, Francesco Carubbi<sup>4</sup>, Irene Cecchi<sup>1</sup>, Cecilia Chighizola<sup>8</sup>, Fabrizio Conti<sup>3</sup>, Giacomo Emmi<sup>9</sup>, Antonella Fioravanti<sup>10</sup>, Fabio Fischetti<sup>11</sup>, Franco Franceschini<sup>5</sup>, Maria Gerosa<sup>8</sup>, Ariela Hoxha<sup>12</sup>, Maddalena Larosa<sup>13</sup>, Maria Grazia Lazzaroni<sup>5</sup>, Cecilia Nalli<sup>5</sup>, Giulia Pazzola<sup>14</sup>, Massimo Radin<sup>1</sup>, Bernd Raffeiner<sup>15</sup>, Veronique Ramoni<sup>16</sup>, Elena Rubini<sup>1</sup>, Gian Domenico Sebastiani<sup>17</sup>, Simona Truglia<sup>3</sup>, Maria Letizia Urban<sup>9</sup>, Dario Roccatello<sup>1</sup>, Angela Tincani<sup>18</sup>

<sup>1</sup>University of Turin, Cmid-nephrology And Dialysis Unit (erk-net Member), Center Of Research Of Nephrology, Rheumatology, And Rare Diseases, Interregional Coordinating Center Of The Network Of Rare Diseases Of Piedmont And Aosta Valley, G. Bosco Hospital And University Of Turi, Turin, Italy, <sup>2</sup>University Center of Excellence on Nephrologic, Rheumatologic and Rare Diseases (ERK- net, ERN-Reconnect and RITA-ERN Member) with Nephrology and Dialysis Unit and Center of Immuno-Rheumatology and Rare Diseases (CMID), Coordinating Center of the Interreg, San Giovanni Bosco Hub Hospital And University Of Turin, Turin, Italy, Turin, Italy, <sup>3</sup>Sapienza Università di Roma, Italy, Reumatologia, Lupus Clinic, Dipartimento Di Medicina Interna E Specialità Mediche, Turin, Italy, <sup>4</sup>University of L'Aquila, San Salvatore Hospital, L'Aquila, Italy, Internal Medicine And Nephrology Unit, Department Of Life, Health And Environmental Sciences, Turin, Italy, <sup>5</sup>University of Brescia, Department Of Clinical And Experimental Sciences, Brescia, Italy, <sup>6</sup>University of Padua, Padua, Italy, Rheumatology Unit, Department Of Medicine., Turin, Italy, <sup>7</sup>IRCCS San Raffaele Scientific Institute, Milan, Italy., Internal Medicine, Turin, Italy, <sup>8</sup>University of Milan, Milan, Italy., Division Of Rheumatology, Department Of Clinical Sciences And Community Health, Ospedale Gaetano Pini, Turin, Italy, <sup>9</sup>Internal Interdisciplinary Medicine Unit, Lupus Clinic, Department of Experimental and Clinical Medicine, University Of Firenze, Firenze, Italy, Turin, Italy, <sup>10</sup>Rheumatology Unit, Department of Medicine, Surgery and Neuroscience, Azienda Ospedaliera Universitaria Senese, Siena, Italy, Turin, Italy, <sup>11</sup>Rheumatology Unit, SUGI and Clinical University Department of Medical, Surgery and Health Sciences, University Of Trieste, Trieste, Italy, Turin, Italy, <sup>12</sup>University of Padua, Padua, Italy., Internal Medicine, Turin, Italy, <sup>13</sup>ASL3, Genova, Italy., Rheumatology, Department Of Locomotor System, turin, Italy, <sup>14</sup>Rheumatology Unit, Department of Internal Medicine., Azienda Usl-irccs Di Reggio Emilia, Università Di Modenae Reggio Emilia, Reggio Emilia, Italy, Turin, Italy, <sup>15</sup>Azienda Sanitaria dell'Alto Adige, Bolzano, Italy., Rheumatology Unit, Department Of Medicine., Turin, Italy, <sup>16</sup>Ospedale di Lodi, Italy, Internal Medicine, Turin, Italy, <sup>17</sup>Ospedale San Camillo-Forlanini, Roma, Italy, U.o.c. Reumatologia., Turin, Italy, <sup>18</sup>Spedali Civili and University of Brescia, Rheumatology And Clinical Immunology Unit, Brescia, Italy

**Background and Aims:** The rate of antiphospholipid antibody (aPL) negativization in antiphospholipid syndrome (APS) patients is uncertain, but it is estimated to be as high as 8%. Currently, a consensus definition of aPL negativization is lacking, as well as international recommendations on how to approach treatment in patients with a persistent aPL-negative



seroconversion. The aim of the Delphi survey was to evaluate the clinical approach and level of consensus among SIR-APS experts in different clinical scenarios.

**Methods:** survey methodology.

**Results:** A structured survey was circulated among 30 experts. Up to 90% of the interviewed experts agreed on defining aPL negativization as the presence of two negative determinations, 1 year apart (90%). Almost full consensus exists among experts in some clinical settings, including: (1) the role of aPL negativization in the management of a thrombotic event determined by concomitant presence of cardiovascular risk factors, both modifiable and not modifiable (90%); (2) approach to young patients with triple aPL positivity who experienced pulmonary arterial thrombotic events and tested negative for aPL detection after 5 years of vitamin K antagonist (VKA) treatment (90%); (3) the use of "extra criteria" aPL antibody testing before pondering VKA suspension (93%).

**Conclusions:** A substantial agreement exists among experts on how to define aPL negativization. VKA suspension should be embraced with extreme caution, particularly in case of previous thrombotic events and/or triple aPL positivity. Nevertheless, VKA cessation might be considered when risk factors are carefully monitored/treated and the presence of "extra criteria" aPL is ruled out.

PV046 / #230

**POSTER VIEWING WALK: T6**  
**16-03-2023 3:00 PM - 4:00 PM**

**COVID-19 THROMBOSIS AND ANTI-PHOSPHOLIPID ANTIBODIES: A REAL PARTNERSHIP, NOT INDEPENDENT ACTORS**

Francisco Javier Gil-Etayo<sup>1</sup>, Sara Garcinuño<sup>2</sup>, Raquel Díaz-Simón<sup>3</sup>, Daniel Enrique Pleguezuelo<sup>4</sup>, Oscar Cabrera-Marante<sup>4</sup>, Manuel Serrano<sup>4</sup>, Antonio Serrano<sup>4</sup>, Antonio Lalueza<sup>3</sup>  
<sup>1</sup>Hospital Universitario de Salamanca, Hla/molecular Biology, Salamanca, Spain, <sup>2</sup>Instituto de Investigación Sanitaria Hospital 12 de Octubre (imas12), Immunology, Madrid, Spain, <sup>3</sup>Hospital Universitario 12 de Octubre, Internal Medicine, Madrid, Spain, <sup>4</sup>Hospital Unversitario 12 d4 Octubre, Immunology, Madrid, Spain

**Background and Aims:** COVID-19 thrombosis resembles the antiphospholipid syndrome, characterized by vascular or gestational thrombosis and presence of antiphospholipid antibodies (aPL). Although the persistence, lasting of aPL and thrombi in infectious diseases has been widely studied, this phenomenon is not well characterized in COVID-19.

**Methods:** A prospective study with 360 COVID-19 patients followed-up for 6 months was performed. Criteria aPL included in Sidney classification, as well as extra-criteria aPL including anti-B2GPI IgA and anti-phosphatidylserine/prothrombin IgG/M and anti-SARS-CoV-2 IgG antibodies were determined at acute phase and >12 weeks later. 143 healthy volunteers of the same age-range distribution were created as reference group

**Results:** The study of the prevalence of aPL in COVID-19 patients and the reference population with the same age-range did not show significant differences. The presence of aPL in both determinations was associated with thrombosis (OR: 2.33 and 3.71), finding the strong agreement for classic aPL and anti-B2GPI IgA (Weighted kappa: 0.92). It was observed that there were at least two different thrombotic mechanisms: Thrombosis-associated aPL occurred belated with a median of 17 days after hospital admission (IQR: 6–28) vs. 4 days for the rest (IQR: 3–7). Finally, SARS-CoV-2 infection did not seem to induce aPL de novo, since anti-SARS-CoV-2 antibodies levels increased during convalescence, aPL hardly changed.

**Conclusions:** In COVID-19 thrombosis at least two different mechanisms could co-exist, an early immune-mediated thrombosis after infection and later-aPL-mediated thrombosis, with SARS-CoV2 as a second hit. The presence of aPL in COVID-19 patients is not associated with the infection.

PV047 / #234

**POSTER VIEWING WALK: T6**  
**16-03-2023 3:00 PM - 4:00 PM**

**NOVEL MYOSITIS-RELATED AUTOANTIBODIES IN PATIENTS WITH IDIOPATHIC  
INFLAMMATORY MYOPATHY: A SINGLE CENTRE EXPERIENCE**

Eleni Patrikiou<sup>1</sup>, Christos Liaskos<sup>1</sup>, Vicky Syrmou<sup>1</sup>, Evaggelia Papagianni<sup>1</sup>, Theodora Simopoulou<sup>1</sup>, Thomas Scheper<sup>2</sup>, Wolfgang Meyer<sup>2</sup>, Dimitrios Bogdanos<sup>1</sup>  
<sup>1</sup>University General Hospital of Larissa, Faculty of Medicine, School of Health Sciences, University of Thessaly, Department Of Rheumatology And Clinical Immunology, Larissa, Greece, <sup>2</sup>EUROIMMUN AG, Institute Of Experimental Immunology, Lübeck, Germany

**Background and Aims:** Idiopathic inflammatory myopathies (IIM) are systemic autoimmune mainly consisted of dermatomyositis (DM), polymyositis (PM) and antisynthetase syndrome (ASS) associated with pulmonary fibrosis. Disease-specific and disease-related autoantibodies are present in IIM patients and assist diagnosis and prognosis. The aim of our study was to determine the prevalence of 4 recently discovered autoantibodies in our cohort.

**Methods:** We performed a retrospective cohort study to retest serum from DM/PM/ASS cases. A new line blot assay were used to assess reactivity against 16 old plus 4 new myositis associated autoantigens. In more details 94 patients were tested by the EUROLINE immunoblot harboring the antigens Mi-2 $\alpha$ , Mi-2 $\beta$ , TIF1 $\gamma$ , MDA5, NXP2, SAE1, Ku, PM-Scl100, PM-Scl75, Jo-1, SRP, PL-7, PL-12, EJ, OJ, Ro-52, cN-1A added by Ha, Ks and Zo.

**Results:** Reactivity against at least 1 autoantigen was found in 86.2% patients. The most frequently autoreactivity was found against Ro-52 (42.5%). In addition reactivity against Mi-2 $\alpha$ , Mi-2 $\beta$ , TIF1 $\gamma$ , MDA5, NXP2, SAE1, Ku, PM-Scl100, PM-Scl75, Jo-1, SRP, PL-7, PL-12, EJ, OJ, cN-1A, Ha, Ks and Zo varied in our cohort compared to others and was found in 2.1, 4.2%, 9.6%, 4.2%, 2.1%, 2.1%, 10.6%, 6.4%, 6.4%, 20.2%, 3.2%, 6.4%, 3.2%, 2.1%, 1.1%, 2.1%, 0%, 1.1%, and 0% respectively. In patients with reactivity against aminoacyl-tRNAsynthetase, anti-Ro52 co-reactivity were found in 14/19 (73.6%) anti-Jo1, 3/6 (50%) anti-PL7, 2/3 (66.7%) anti-PL12, 2/2 (100%) anti-EJ, 0/1 (0%) anti-OJ and 1/1 (100%) anti-Ks positive patients.

**Conclusions:** The presence of disease-related autoantibodies is well documented in IIM but the prevalence of antigen-specific reactivities largely depend on the origin of the patients and the stratification of the underlying clinical phenotype, as it is evident from single-centre studies.



PV048 / #383

**POSTER VIEWING WALK: T6**  
**16-03-2023 3:00 PM - 4:00 PM**

**INTERTWINED BY ANTI-NXP2 ANTIBODY POSITIVITY**

Elena Juganaru, Claudia Cobilinschi, Cosmin Constantinescu, Alexandra Constantinescu, Daniela Opriş-Belinski, Andra Balanescu  
Sf. Maria Clinical Hospital, Rheumatology And Internal Medicine, Bucharest, Romania

**Background and Aims:** Idiopathic inflammatory myopathies (IIM) are a group of systemic conditions targeting skeletal muscles and other vital organs depending on the phenotype. The presence of anti-NXP2 antibodies associates with dysphagia, calcinosis and subcutaneous edema and indicates a higher risk of underlying malignancy.

**Methods:** Case presentation.

**Results:** We present the cases of two patients, namely an 82-year-old male diagnosed with adult-onset polymyositis (PM) and a 66-year-old female with dermatomyositis (DM). Both had significant cardio-vascular and metabolic comorbidities like type 2 diabetes. Patients presented with severe proximal muscle weakness, complete dysphagia and dysphonia and tested positive for anti-NXP2 antibodies. Extensive screening for neoplasia was performed for both patients, with negative results in the female with DM, but with early diagnosis of squamous cell carcinoma in the esophagogastric junction in the male. The female patient required temporary percutaneous endoscopic gastrostoma placement, immunosuppression with cyclophosphamide and intravenous immunoglobulin therapy, while the male showed complete remission of dysphagia after high dose methylprednisolone, despite associated neoplasia. He was referred to the oncologist. Unlike the male, the female also exhibited calcinosis and limb oedema. None had pulmonary involvement.

**Conclusions:** Older age at disease onset, refractory dysphagia, diabetes or the presence of anti-NXP2 antibodies are considered risk factors for an underlying cancer in myositis patients aged over 40. Cancer rates are consistently higher in DM than PM. Underlying neoplasia can be diagnosed at the onset of the rheumatic disease or it can occur later. Repeated screening is required especially in the first five years after diagnosis.

PV049 / #412

**POSTER VIEWING WALK: T6**  
**16-03-2023 3:00 PM - 4:00 PM**

### **REFRACTORY LUNG INVOLVEMENT IN COVID-19 INDUCED OVERLAP SYNDROME**

Elena Juganaru, Claudia Cobilinschi, Cosmin Constantinescu, Daniela Opreș-Belinski, Andra Balanescu  
Sf. Maria Clinical Hospital, Rheumatology And Internal Medicine, Bucharest, Romania

**Background and Aims:** MDA-5 dermatomyositis (DM) is a rare subtype of DM characterized by rapidly progressive interstitial lung disease and aggressive vascular and visceral involvement.

**Methods:** Case presentation

**Results:** A 31-year-old female patient presented with polyarthrititis of the small joints of the hands, erythematous-papular rash on the face and arms, severe digital ulcerations, calcinosis and Raynaud's. Symptoms started a week after the onset of SARS-CoV2 infection. Laboratory tests showed high inflammatory syndrome, normal muscle enzymes and a scleroderma-like capillaroscopic pattern. Patient tested positive for anti-MDA5, anti-Mi2, anti-centromer and anti-Ro52 antibodies. The diagnosis of MDA5-amyopathic DM and CREST syndrome was established. HRCT confirmed bilateral pulmonary nodules, extended diffuse ground-glass areas. Corticotherapy, immunomodulatory drugs (mycophenolate mofetil, hydroxychloroquine) and vasodilators were started, with no significant clinical benefits followed by cyclophosphamide, bosentan and topical tacrolimus. Pulmonary re-assessment revealed progression of lesions. Rituximab, oral tacrolimus and nintedanib were initiated. After two months, the patient developed severe *Pneumocystis jirovecii* pneumonia and discontinued immunosuppressives while on antifungal and antibiotic treatment. Digital ulcerations reappeared, so vasodilators and intravenous immunoglobulins were administered. Patient is to be reevaluated at three months to assess skin and lung outcome.

**Conclusions:** There is limited data regarding the efficacy of the aforementioned drugs in amyopathic DM or DM-CREST overlap but refractory cases require rapid escalation of standard therapeutic approach. As previously suggested, SARS-CoV2 infection can represent a trigger for severe autoimmune conditions.

PV050 / #267

**POSTER VIEWING WALK: T6  
16-03-2023 3:00 PM - 4:00 PM**

**TREATMENT OF ANTI-MDA5 ANTIBODY POSITIVE DERMATOMYOSITIS WITH PLASMA EXCHANGE AND TOFACITINIB: A CASE REPORT**

Filip Miric<sup>1,2</sup>, Srdjan Novak<sup>1,2</sup>

<sup>1</sup>University of Rijeka, Faculty Of Medicine, Rijeka, Croatia, <sup>2</sup>Clinical hospital center Rijeka, Department Of Rheumatology And Clinical Immunology, Rijeka, Croatia

**Background and Aims:** Anti-melanoma differentiation-associated gene 5 antibody (anti-MDA5-Ab) positive dermatomyositis (DM) is a rare systemic autoimmune disease characterized by amyopathy or hypomyopathy with typical skin symptoms and rapidly progressive interstitial lung disease (RP-ILD). It is often refractory to immunosuppressive therapy and has poor prognosis.

**Methods:** The data were collected from the medical archive of the Department of Rheumatology at Clinical Hospital Center Rijeka.

**Results:** A 55-year-old woman presented with fever, cough, erythema on both upper eyelids, Gottron's papules and ulcerative and erosive erythema on elbows. The laboratory tests revealed elevated serum level of ferritin and lactate dehydrogenase; creatine kinase, C-reactive protein and erythrocyte sedimentation rate were normal. Based on the characteristic appearance of the cutaneous symptoms, diagnosis of clinically amyopathic dermatomyositis (CADM) was suspected. The diagnosis was supported by the pathological finding of the skin biopsy and presence of high titer of anti-MDA5-Ab. Chest computed tomography (CT) and lung biopsy revealed ILD. She received a 3 day course of pulse methylprednisolone at 500 mg/day, but the condition was complicated by the development of glucocorticoid psychosis so therapy was discontinued. Considering ILD progressed rapidly and patient started oxygen therapy, we initiated plasma exchange (performed 4 times) and tofacitinib 5 mg twice a day. Furthermore, patient showed progressive clinical improvement; her skin symptoms were relieved, the titer of anti-MDA5-Ab decreased and follow up chest CT after 2 months showed amelioration.

**Conclusions:** The present case demonstrated the potential utility of plasma exchange and tofacitinib in treatment of anti-MDA5-Ab positive DM.



PV051 / #423

**POSTER VIEWING WALK: T6**  
**16-03-2023 3:00 PM - 4:00 PM**

**THE UNAVOIDABLE PROGRESSION OF AN INTERSTITIAL LUNG FIBROSIS  
ASSOCIATED WITH ANTI JO1 MYOSITIS - CASE REPORT**

Georgiana Strugariu<sup>1,2</sup>, Cristina Pomirleanu<sup>1,2</sup>, Codrina Ancuta<sup>2,3</sup>

<sup>1</sup>Rehabilitation Hospital, Rheumatology, Iasi, Romania, <sup>2</sup>University of Medicine and Pharmacy, Rheumatology, Iasi, Romania, <sup>3</sup>Rehabilitation Hospital, Rheumatology 2, Iasi, Romania

**Background and Aims:** Acknowledgements: We thank to radiology departments from Rehabilitation Hospital, Arhimed Clinic and Affidea Clinic, Iasi. Background and aim: Interstitial lung fibrosis (ILD) associated with myositis syndromes (myositis-ILD) are a challenge for rheumatologists. Anti-Jo-1 – antibodies are specific for a particular form of myositis syndrome with lung involvement, known as AntiSynthetase syndrome.

**Methods:** Methods: We present the case of a 40-year-old woman who was admitted in 2015 to our rheumatology department with a spectrum of symptoms: recently onset non-erosive inflammatory hands and wrists polyarthritis, proximal myalgia, fever and a 10-year-old Raynaud's phenomenon. ANA positivity with specificity for anti-Jo-1 antibodies and basal ILD on high-resolution computer tomography (HRCT) revealed a Myositis-ILD. A complex annual assessment was followed including HRCT and pulmonary functional testing, muscle enzymes, immunological panel, inflammatory markers, capillaroscopy.

**Results:** Results: Although asymptomatic, ILD as a non-specific interstitial pneumonia (NSIP) with basal ground glass opacities was detected on HRCT at baseline. A progressive fibrosing ILD phenotype affecting 30% of the lung, honey-combing lesions on HRCT and significant pulmonary functional decline was reported 7 years later, despite immunosuppressants therapy and glucocorticoids. We emphasize significant improvement of joint and muscle disease although persistently high titer of anti-Jo-1 antibody and systemic inflammation, as well a predominant neoangiogenesis abnormalities in systematic capillaroscopic assessment.

**Conclusions:** Jo1 positive myositis-ILD has a progressive course from NSIP pattern to usual interstitial pneumonia (UIP) pattern raising the risk for a poor prognostic. A holistic therapeutic approach is further necessary based on rituximab biological therapy and/or antifibrotic drugs to preserve the remaining pulmonary function.

PV052 / #504

POSTER VIEWING WALK: T6  
16-03-2023 3:00 PM - 4:00 PM

**INFLAMMATORY MYOPATHY AND MYASTHENIA GRAVIS COEXISTENCE: CASE REPORT AND LITERATURE REVIEW**

Filippo Vesentini<sup>1</sup>, Margherita Zen<sup>2</sup>, Sara Bindoli<sup>3</sup>, Luca Iaccarino<sup>4</sup>, Paolo Sfriso<sup>3</sup>, Andrea Doria<sup>5</sup>  
<sup>1</sup>Rheumatology Unit, University of Padua, Department Of Medicine-dimed, Padova, Italy, <sup>2</sup>University Hospital of Padua, Department Of Medicine, Padova, Italy, <sup>3</sup>University of Padova Italy, Dimed- Rheumatology Unit, Padova, Italy, <sup>4</sup>University of Padova, Rheumatology Unit, Department Of Medicine–dimed, Padova, Italy, <sup>5</sup>University of Padova, Rheumatology, Padova, Italy

**Background and Aims:** We describe a case of overlapping inflammatory myopathy (IM) and myasthenia gravis (MG) and review the literature regarding this topic. The aimed at identifying clinical or serological features that characterize this association.

**Methods:** We performed a systematic research on Pubmed including the words “myasthenia”, “myositis” and “inflammatory myopathy” from 2013 until today. Articles not available in English and cases of overlapping IM/MG during checkpoint inhibitors therapy were excluded.

**Results:** We found 55 cases of coexisting IM/MG (Table 1). IM and MG occurred simultaneously in the majority of cases (61%), IM followed MG in 29%, IM preceded MG in 9%. Common clinical presentation included bulbar/ocular symptoms (81%) and fatigable weakness (71%). Myositis-specific antibodies (MSA) were rarely detected (13%). Association with thymus pathology was described in 61% of cases, while no clear association with other neoplasia was found. Data regarding therapy and treatment outcomes were dishomogeneous. In our case, a 82 years-old male with 1.5 year-history of paraneoplastic seronegative IM (colon adenocarcinoma) developed arm and neck hyposthenia, dysphagia with mild CPK elevation. High titres of anti-Acetylcholine receptor antibodies were found; CT scan was negative for thymus enlargement and cancer recurrence. Patient was treated with immunoglobulin, high-dose

**methylprednisolone and pyridostigmine, with complete recovery.**

TABLE 1	N. of cases	Age or mean age at second disease onset	M/F or gender	Bulbar or ocular symptoms/fatigable weakness	elevation CK/presence of MSA	Mean lag time between diagnosis	MG before IM/concurrent/IM before MG	Thymus pathology	Treatment: Pyridostigmine/steroids/IVIG/others	Treatment response
Paik et al 2014	6,00	49,30	3/3	5/6; 5/6;	5/6; 2/6	NA	6/6 concurrent	2/6 (Thymic hyperplasia)	6/6; 4/6; 4/6; 1/6 MMF	Symptoms resolution: 6/6; 2/6 worsened with steroids
Uchio et al 2019	10,00	60,10	4/6	5/9 1 NA; NA	8/10; 0/9 1 NA	7,1	6/10 MG; 3/10 concurrent; 1/10 IM	7/10	3/10; 9/10; 2/10; TCR 3/10; CsA 1/10; PEX 1/10	CK normalization in 6/10 (others data NA)
Garibaldi et al 2020	13,00	53,30	6/7	10/13; 12/13	11/11 (2 NA); 0/13	2,23	3/13 MG; 9/13 concurrent; 1/13 IM	10/13	NA; 13/13; 5/13; AZA 11/13; CsA 6/13; MTX 2/13; PEX 4/13	CK normalization 12/13
Huang et al 2019	7,00	43,70	1/6	7/7; 3/7	7/7; 1/4 (3 NA)	3,57	4/7 MG; 3/7 concurrent	4/7	MTX 4/7; PEX 2/7; TCR 2/7; RTX 3/7; CsA 1/7	Inactive disease 6/6 (1/6 off treatment); 1 patient died
Santos et al 2017	4,00	42,75	3/1	4/4; 3/4	4/4; 1/4	1,21	2/3 concurrent; IM 1/3 (1 NA)	2/4	NA; 3/4; 3/4; AZA 3/4; MMF 3/4; MTX 2/4	Asymptomatic 2/4; 1 patient died
Priemer et al 2018	1,00	61,00	M	0/1; 0/1	NA; NA	NA	NA	Yes	NA; 1/1; PEX 1/1	Patient died (myocarditis)
Zhou et al 2019	1,00	69,00	M	1/1; 1/1	1/1; 0/1;	0	concurrent	No	NA; 1/1; 1/1	Improved muscle strength and dysphagia
Iqbal et al 2019	1,00	77,00	M	0/1; 0/1	1/1; 0/1	0	concurrent	No	NA; 1/1; MMF 1/1	Moderate symptoms improvement with decrease in CK
Gómez et al 2015	1,00	69,00	M	1/1; 0/1	1/1; 1/1	2	1 MG	No	1/1; 1/1; 1/1; MTX 1/1	Improvement in strength and swallowing
Lambrinides et al 2019	1,00	67,00	NA	1/1; 0/1	1/1; NA	0	concurrent	No	1/1; 1/1; 1/1	NA
Kanbayashi et al 2021	1,00	79,00	M	1/1; 1/1	0/1; 0/1	1	1 MG	No	1/1; 1/1; 1/1;	Symptoms improvement
Seton et al 2013	1,00	46,00	F	1/1; NA	1/1; NA	0	concurrent	Yes	1/1; 1/1	Symptoms improvement
Kon et al 2013	1,00	64,00	F	1/1; NA	1/1; NA	17	1 MG	Yes	1/1	Patient died (myocarditis)
Lin et al 2014	1,00	40,00	F	1/1; NA	1/1; 0/1	0	concurrent	yes	NA; 1/1	CK reduction and symptoms improvement
Zeb et al 2022	1,00	67,00	F	1/1; NA	1/1; 1/1	3	1 IM	NA	1/1; 1/1; 1/1	Symptoms improvement
Jiang et al 2022	1,00	41,00	F	1/1; NA	1/1; 0/1	0	concurrent	Yes	1/1; 1/1; 1/1	CK and symptoms normalization after drugs and surgery
Scanganello et al 2021	1,00	82,00	F	1/1; NA	1/1; 0/1	0	concurrent	NA	0/1; 1/1; 0/1; PEX 1/1	Patient died
Jasim et al 2013	1,00	59,00	M	1/1; 1/1	1/1; NA	0	concurrent	Yes	1/1; 1/1; 0/1; AZA 1/1	Remission on therapy
Shah et al 2015	1,00	70,00	M	1/1; NA	1/1; NA	0	concurrent	Yes	1/1; 1/1; 1/1	Symptoms improvement
Stefanou et al 2016	1,00	72,00	F	1/1; 1/1	1/1; 0/1	0	concurrent	Yes	1/1; 1/1; 0/1; AZA 1/1	Complete clinical remission
Our case, 2022	1,00	82,00	M	1/1; NA	1/1; 0/1	1,5	1 IM	No	1/1; 1/1; 1/1	Complete clinical remission
<b>TOTAL</b>	<b>56,00</b>	<b>51,88125</b>	<b>25:30; M:F ratio 1:1.2</b>	<b>45/55 (81%); 27/38 (71%)</b>	<b>49/53 (92%); 6/46 (13%)</b>	<b>3,149387755</b>	<b>16/54 MG (29%); 33/54 concurrent (61%); 5/54 IM (9%)</b>	<b>33/54 (61%)</b>		

**Conclusions: IM and MG can, although rarely, coexist: negative MSA, bulbar/ocular symptoms and fatigability in IM patients can represent hallmarks for IM/MG coexistence**



**and suggest diagnostic work-up for MG and thymoma, also in the light of myasthenic crisis risk with high-dose steroids.**

PV053 / #644

POSTER VIEWING WALK: F1  
17-03-2023 11:50 AM - 12:50 PM

### SHARED SEQUENCES BETWEEN EBV, SARS-COV-2 AND HLA CLASS I MOLECULE-BINDING MOTIFS WITH A POTENTIAL ROLE IN AUTOIMMUNITY

Yekbun Adiguzel<sup>1</sup>, Naim Mahroum<sup>2</sup>, Sylviane Muller<sup>3,4,5</sup>, Miri Blank<sup>6</sup>, Gilad Halpert<sup>6</sup>, Yehuda Shoenfeld<sup>6</sup>

<sup>1</sup>ATILIM UNIVERSITY, Medical Biology, Ankara, Turkey, <sup>2</sup>Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey, <sup>3</sup>University of Strasbourg Institute for Advanced Study, Institute For Advanced Study, Strasbourg, France, <sup>4</sup>Centre National de la Recherche scientifique–Université de Strasbourg, Biotechnology and Cell Signalling Unit, Neuroimmunology And Peptide Therapeutics Team, Strasbourg Drug Discovery And Development Institute, Strasbourg, France, <sup>5</sup>University of Strasbourg, Fédération Hospitalo-universitaire Omicare, Fédération De Médecine Translationnelle De Strasbourg, Strasbourg, France, <sup>6</sup>Sheba Medical Center, Zabludowicz Center For Autoimmune Diseases, Tel Aviv, Israel

**Background and Aims:** Epstein-Barr virus (EBV) and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) are extraordinary in their ability to activate autoimmunity as well as to induce diverse autoimmune diseases.

**Methods:** As a possible common mechanism of autoimmunity induction, we investigated 8mers with shared 5mers of SARS-CoV-2, EBV, and human proteins, which were predicted as epitopes binding to the same human leukocyte antigen (HLA) supertype representatives.

**Results:** There were eight such SARS-CoV-2 and EBV peptide sequences. Among them, six had 5mers in the human proteome, which were also predicted to be sequences binding to the same alleles as that of the corresponding viral peptide sequences. Numerous such human peptide sequences with a high hydrophobicity have predicted-affinities to HLA-A\*02:01. The remaining fewer peptide sequences are probable epitopes binding to HLA-A\*02:01, HLA-B\*40:01, HLA-B\*27:05, HLA-A\*01:01, and HLA-B\*39:01.

**Conclusions:** The carriers of the identified serotypes could be under a higher or additional risk of autoimmune response induction upon getting infected, through molecular mimicry-based mechanisms common to SARS-CoV-2 and EBV infections. Moreover, shared peptides between the host and the pathogens need to be eliminated during vaccine development due to the risk of autoimmune induction in the susceptible individuals. Accordingly, this study highlights its importance since the risk could be spanning a broader spectrum of pathogens with a common molecular mimicry-based mechanism of autoimmunity induction.

PV054 / #348

POSTER VIEWING WALK: F1  
17-03-2023 11:50 AM - 12:50 PM

**NUMBER OF SIMILAR PEPTIDES BETWEEN THE PROTEINS SIGNIFICANTLY EXPRESSED IN NETS INDUCED IN SAMPLES OF PATIENTS WITH SLE AND LN, AND SARS-COV-2, COMPARED TO PROTEIN-LENGTHS**

Yekbun Adiguzel<sup>1</sup>, Yehuda Shoenfeld<sup>2</sup>

<sup>1</sup>ATILIM UNIVERSITY, Medical Biology, Ankara, Turkey, <sup>2</sup>Ariel University, Department Of Medicine, Tel Aviv, Israel

**Background and Aims:** Earlier we performed an *in-silico* study on 148 proteins, which were reported in the literature, to be significantly expressed in neutrophil extracellular traps (NETs) that were induced in granulocyte rich supernatants of patients with systemic lupus erythematosus (SLE) and lupus nephritis (LN). With a different perspective, here we aim to perform a different evaluation of the data in that study, by comparing the protein lengths and the number of SARS-CoV-2 similar peptides.

**Methods:** Sequences of 148 NETs-related human proteins reported in the literature were obtained from Uniprot and NCBI. Their blastp searches were performed at NCBI, by limiting the searches to SARS-CoV-2. We eliminated redundant results and results with less than 50% identity. Protein lengths and the number of SARS-CoV-2 similar peptides were compared.

**Results:** Different from our expectations, highest number of similar peptides were not observed in case of proteins with the highest lengths. Those proteins with the highest lengths and the number of similar peptides will be evaluated to understand possible evolutionary and mechanistic basis of this observation. E.g., the protein with the highest number of similar peptides, Cystatin-A, was rather a short protein, compared to the rest of proteins under study. Cystatin is a protein with endopeptidase inhibitor activity. Higher number of similar peptides with Cystatin-A can have an evolutionary basis, like homology or providing an evolutionary advantage to the virus.

**Conclusions:** Highest number of similar peptides shared between the 148 NETs-related human proteins under study and SARS-CoV-2 were not observed in case of the proteins with the highest lengths.



PV055 / #422

**POSTER VIEWING WALK: F1**  
**17-03-2023 11:50 AM - 12:50 PM**

**STUDY OF AMYLOID A SERUM LEVELS OF PATIENTS WITH COVID 19 DISEASE**

Maria Bantadaki, Maria Zacharia, Alexandra Fleva, Panagiota Lazidou, Maria Varsami, Chrysavgoula Mirachtsi, Maria-Elina Bessina, Anastasia Giannakou  
PAPAGEORGIOU GENERAL HOSPITAL, Immunology-histocompatibility, THESSALONIKI, Greece

**Background and Aims:** COVID-19 pandemic is spreading worldwide and the scientific community is looking for possible molecular correlations with the disease. Serum amyloid A (SAA) proteins are a family of molecules that are normal components of serum. Acts as a direct opsonin, being one of the most prominent factors in the acute phase response. Aim of this study was to test SAA values in patients who came from 1/12/2020 to 19/2/2021 for the first time to the Emergency Department with symptoms of Covid 19 disease and the Sars-Cov-2 virus was detected by molecular method (RT-PCR).

**Methods:** A total of 91 randomly selected patient serum samples were tested. The analysis included the quantification of SAA in a BN II System analyzer (Siemens) by the method of nephelometry.

**Results:** Out of the total serum samples, only 2 patients had normal SAA values (<6.4 mg / L) and in only 6 patients the value was <50 mg / L. In 83 patients (91.2%) the values were >100 mg / L. Of these, in 53 patient samples the value was > 500mg / L (58.2%), while in 26 it was > 1000 mg / L (28.5%) with a maximum value of 1950 mg / L.

**Conclusions:** It is apparent that SAA values shows a significant increase in Sars-Cov-2 virus infection and could possibly be correlated and used as a reliable biomarker to the acute phase of the disease. More studies are needed to understand the correlations, taking into account the various virus mutations.

PV056 / #434

**POSTER VIEWING WALK: F1**  
17-03-2023 11:50 AM - 12:50 PM

**POSSIBLE CORRELATION OF SERUM AMYLOID A LEVELS WITH THE PROGNOSIS IN COVID 19**

Maria Bantadaki, Maria Zacharia, Panagiota Lazidou, Alexandra Fleva, Maria Varsami, Chrysavgoula Mirachtsi, Maria Stavropoulou, Anastasia Giannakou  
PAPAGEORGIOU GENERAL HOSPITAL, Immunology-histocompatibility, THESSALONIKI, Greece

**Background and Aims:** Covid 19 disease ranges from mild symptoms to respiratory distress syndrome (ARDS) and to organ failure and death. Biomarkers have always played an important role in clinical decision making regarding infectious diseases. Serum amyloid A (SAA) is one of the most important factors in the acute phase of immune response. Aim of this study was to test SAA values in patients who came from 1/12/2020 to 19/2/2021 for the first time to the Emergency Department with symptoms of Covid 19 disease and by molecular testing Sars-cov 2 virus was detected. The patients who were taken to the Intensive Care Unit (ICU) were studied in detail.

**Methods:** A total of 91 randomly selected patient serum samples were tested. The analysis included the quantification of SAA in a BN II System analyzer (Siemens) by the method of nephelometry.

**Results:** In all the samples examined, 89 patients (97.8%) had increased SAA values. Patients who were taken to the ICU had SAA values > 100mg / L (87.5%). Also, 70.8% of these patients had SAA values > 500mg / L, while 25% had SAA values > 1000mg / L.

**Conclusions:** To date, there is no effective biomarker for assessing the severity and early prediction of the progression of Covid 19 disease. The identification of high risk cases will allow the appropriate therapeutic intervention as well as in the correct distribution of resources.

PV057 / #375

**POSTER VIEWING WALK: F1**  
17-03-2023 11:50 AM - 12:50 PM

**"THE BRIGHT SIDE" OF COVID-19 IN A PATIENT WITH SYSTEMIC LUPUS  
ERYTHEMATOSUS**

Claudia Cobilinschi, Sinziana Daia-Iliescu, Ioana Saulescu, Daniela Opreș-Belinski, Andra Balanescu  
Sf. Maria Clinical Hospital, Rheumatology And Internal Medicine, Bucharest, Romania

**Background and Aims:** Literature provides little data on the impact of COVID-19 infection on the disease course and outcome in SLE patients. Case reports point to the viral infection or the vaccine itself as a trigger of autoimmune diseases, including new-onset SLE. Moreover, symptoms of SARS-COV2 infection mimick rheumatic conditions, thus delaying proper diagnosis.

**Methods:** Case presentation.

**Results:** A 58-year-old female patient presents with facial and chest rash, myalgia, significant fatigue after sun exposure. The patient was repeatedly investigated for anemic syndrome and persistent lymphopenia with osteomedullary biopsy revealing normocellular hematogenous marrow. Upon admission, she exhibits severe pancytopenia, high ESR and normal CRP, hypocomplementemia, and intensely positive ANA, anti-dsDNA, anti-Sm and anti-Ro. No renal involvement was noted. The diagnosis of SLE is confirmed and treatment with methylprednisolone and hidroxychloroquine is initiated. Imaging and endoscopy reveal no secondary causes for cytopenia. Despite corticosteroid pulse and cyclophosphamide, pancytopenia worsens, so the patient receives intravenous immunoglobulins. However, shortly after, the patient displays fever, chills and mild cough. Infection with SARS-COV2 is confirmed complicated with interstitial pneumonia, so that antiviral treatment is initiated. Two weeks post-infection, the patient presents in good state and rash improvement, with remission of cytopenia and hypocomplementemia. Immunosuppressive treatment is continued, with periodic reassessment according to organ involvement.

**Conclusions:** SARS-COV-2 has been associated with unstable rheumatic disease after or before infection, requiring treatment escalation or change. COVID-19 shares common manifestations in patients with SLE, possibly through a common mechanism of aberrant inflammation. SLE can hide the viral infection or the latter can be responsible for lack of response to conventional therapy. The case highlights the favorable evolution of newly-diagnosed lupus after SARS-COV2 infection treated with antivirals.



PV058 / #337

**POSTER VIEWING WALK: F1**  
17-03-2023 11:50 AM - 12:50 PM

**IMMUNOLOGY OF SARS-COV-2 INFECTION IN CHILDREN: EXPERIENCE OF REPUBLIC OF MOLDOVA**

Ninel Revenco, Rodica Eremciuc, Elena Dolapciu  
`Nicolae Testemitanu` State University of Medicine and Pharmacy from Republic of Moldova,  
Pediatric Department, Chisinau, Moldova

**Background and Aims:** Children exhibit a broad range of clinical outcomes from SARS-CoV-2 infection, with the majority having minimal to mild symptoms. Host immune responses to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), especially in children, are still under investigation. Aim of the study was to compare the association of clinical history and the clinical presentation of the disease with the development of IgG antibodies against SARS-CoV-2 in paediatric patients.

**Methods:** We initiated a cross-sectional observational study in a Covid Paediatric Unit from Chisinau involving patients under 18 years with positive RT-PCR for COVID-19. The development of specific IgG antibodies was measured. Factors as comorbidities, duration, and severity of symptoms was analyzed.

**Results:** During the study period, 47 study subjects with a positive RT-PCR test result for SARS-CoV-2 were included. Mean age:  $6.53 \pm 0.98$  years (CI: 0.1; 17.9). Among these, 59,57% were girls, and 40,43% were boys. Most reported cases of infected children were attributed to contact with an infected family member. Signs and symptoms in children and adolescents were similar to those in adults, but were lower in frequency in children. Children often experience robust antibody production within the first 3 weeks post infection and an estimated seroconversion time to IgG antibodies in the first week. Additionally, there is an increase in IgG specific B-cell rates in children with SARS-CoV-2, indicating a rapid and effective humoral immune response.

**Conclusions:** There is no clear association between the duration of the symptoms associated with SARS-CoV-2 infection and the IgG units generated in paediatric patients with COVID-19.

PV059 / #610

**POSTER VIEWING WALK: F1**  
**17-03-2023 11:50 AM - 12:50 PM**

### **COVID-19, A POTENTIAL TRIGGER FOR PYODERMA GANGRENOSUM?**

Elena Juganaru<sup>1</sup>, Ioana Saulescu<sup>1,2</sup>, Andrei Mihăilescu<sup>1</sup>, Elena Gradinaru<sup>1</sup>, Ruxandra Ciofu<sup>3</sup>, Claudia Cobilinschi<sup>1,2</sup>, Andra Balanescu<sup>1,2</sup>

<sup>1</sup>Sf. Maria Clinical Hospital, Rheumatology And Internal Medicine, Bucharest, Romania, <sup>2</sup>Carol Davila University of Medicine and Pharmacy, Rheumatology, Bucharest, Romania, <sup>3</sup>Sf. Maria Clinical Hospital, Surgery, Bucharest, Romania

**Background and Aims:** Pyoderma gangrenosum (PG) is an uncommon neutrophilic dermatosis that most commonly presents as painful purulent ulcers. More than half of the cases are associated with systemic diseases like inflammatory bowel disease, hematologic disorders and arthritis. Clinical and histologic findings are nonspecific, so extensive differential diagnosis is imposed.

**Methods:** Case presentation.

**Results:** A 71-year-old male patient with type II diabetes and recent history of COVID, was admitted for two painful necrotic ulcers located on the right elbow and left calf that occurred three months prior. Examination revealed three more erythematous-squamous papules on the left forefoot and elbow. Blood tests showed leukocytosis, neutrophilia, elevated inflammatory markers and positivity of two antiphospholipid antibodies. Since no prior thrombotic events were confirmed, prophylaxis with low molecular weight heparin was administered. Vascular occlusive disorders, venous disease or diabetic ulcers were excluded based on the clinical distribution of skin lesions, Doppler ultrasonography and absence of clinical response to antibiotic therapy and local debridement. Anti-nuclear antibodies, ANCA, complement fractions and cryoglobulins were within normal range. Screening for neoplasia or inflammatory bowel disease was negative. Histopathology exam confirmed neutrophilic infiltrate. Decrease in ulcer size within one month of high-dose corticosteroids and cyclophosphamide was obtained, thus confirming criteria for PG. Skin graft was still required for the calf ulcer with favorable outcome.

**Conclusions:** PG is a rare disorder which should be considered in painful ulcers, since prompt specific treatment can lead to wound healing in more than half of patients. Extensive screening for PG etiologies should also include COVID infection or antiphospholipid syndrome.

PV060 / #318

**POSTER VIEWING WALK: F1**  
**17-03-2023 11:50 AM - 12:50 PM**

### **COVID 19 AND THYROID FUNCTION**

Chrisanthi Maria Tsiogka<sup>1,2</sup>, Nikolaos Zotos<sup>2</sup>, Maria Gianniki<sup>3</sup>, Maria Lolou<sup>3</sup>, Vasileios Skepastianos<sup>3</sup>, Panagiotis Christodoulou<sup>2</sup>, Lambros Papageorgiou<sup>2</sup>, Anna Papadima<sup>2</sup>, Dimitrios Bougias<sup>3</sup>, Niki Tsifetaki<sup>3</sup>

<sup>1</sup>General Hospital of Ioannina, Department Of Paediatrics, Ioannina, Greece, <sup>2</sup>General Hospital of Ioannina, Department Of Biopathology, Ioannina, Greece, <sup>3</sup>General Hospital of Ioannina, Department Of Rheumatology, Ioannina, Greece

**Background and Aims:** Covid 19 is an infectious *disease* caused by the SARS-CoV-2 virus that can provoke a harmful immune response in several cases. The aim of this research is to study the effect of Covid 19 to thyroid function.

**Methods:** 65 patients (mean age 68 years old, 71,2% male) with Covid 19 respiratory disease confirmed by RT-PCR arrived at a regional hospital the last semester of 2021. TSH, FT4, FT3 serum levels were recorded the first the day of their admission. Patients with known thyroid disease were excluded.

**Results:** 52 % of the patients had reduced levels of both TSH and fT3 at the time of their admission compared to baseline. At the time of their discharge 79% of these patients were euthyroid.

**Conclusions:** A mild temporary reduction in TSH and FT4 was observed. Most of the patients turned euthyroid by the end of their hospitalization.



PV061 / #609

**POSTER VIEWING WALK: F1**  
**17-03-2023 11:50 AM - 12:50 PM**

## **URTICARIAL VASCULITIS AS ONSET FEATURE IN PRIMARY SJOGREN'S SYNDROME**

Elena Juganaru<sup>1</sup>, Claudia Cobilinschi<sup>1,2</sup>, Andreea Bîrlez<sup>3</sup>, Ciprian Jurcut<sup>4</sup>

<sup>1</sup>Sf. Maria Clinical Hospital, Rheumatology And Internal Medicine, Bucharest, Romania, <sup>2</sup>Carol Davila University of Medicine and Pharmacy, Rheumatology, Bucharest, Romania, <sup>3</sup>Ploiești City Hospital, Rheumatology, Ploiești, Romania, <sup>4</sup>Dr. Carol Davila Central Military Emergency Hospital, Internal Medicine, Bucharest, Romania

**Background and Aims:** Sjogren's syndrome (SS) is a chronic autoimmune disease mainly targeting the exocrine glands, but sometimes associating extra-glandular manifestations. Xerosis, purpura, Raynaud's phenomenon, cutaneous vasculitis, annular erythema are the main forms of skin involvement. Cutaneous vasculitis occurs in 4-10% of patients with primary SS. Nevertheless, urticarial lesions, macules, papules and ulcerations are also possible.

**Methods:** Case presentation

**Results:** A 26-year-old female patient with no significant medical history was admitted for diffuse erythematous rash, urticarial lesions on lower limbs and marked angioedema of lips. No allergic/infectious trigger could be identified upon admission. She complained of xerophthalmia and arthralgia in small joint of both hands and wrists. Blood tests disclosed lymphopenia, elevated inflammatory markers, C3 hypocomplementemia and high IgG values. Positive anti-nuclear, anti-SSA and anti-Ro52 antibodies were identified in high titres, anti-dsDNA and anti-C1q being negative. Schirmer's test was intensely positive in both eyes. Gland ultrasound described parotid parenchymal inhomogeneity and three enlarged submandibular lymph nodes with inflammatory pattern. Therefore, the diagnosis of primary SS was established. Screening for the main aetiologies of urticarial lesions was negative, so SS-associated urticarial vasculitis was considered the most likely skin diagnosis. Treatment with oral methylprednisolone and methotrexate was initiated, with favourable response over the next week and no skin relapses.

**Conclusions:** Urticarial vasculitis is a rare entity in SS and histopathologic testing can reveal leukocytoclasia. The development of cutaneous vasculitis as well as lymphadenopathies or lymphopenia may represent additional risk factors for other extra-glandular manifestations in SS, including non-Hodgkin lymphoma. Thus, constant monitoring is imposed in patients at risk.

PV062 / #325

**POSTER VIEWING WALK: F2**  
17-03-2023 11:50 AM - 12:50 PM

### **NEW ONSET PERIPHERAL SPONDYLOARTHRITIS IN POST COVID-19 INFECTION**

Codruta Bran<sup>1,2</sup>, Alexandru Nemtoi<sup>2</sup>, Eugen Ancuta<sup>3</sup>, Rodica Chirieac<sup>4</sup>, Codrina Ancuta<sup>4,5</sup>  
<sup>1</sup>St.John Emergency Hospital, Rheumatology, Suceava, Romania, <sup>2</sup>Suceava University, Faculty Of Medicine And Biological Sciences, Suceava, Romania, <sup>3</sup>Elena Doamna Hospital, Research Department, Iasi, Romania, <sup>4</sup>SANOCARE, Research, Iasi, Romania, <sup>5</sup>University of Medicine and Pharmacy, Rheumatology, Iasi, Romania

**Background and Aims:** **Background and Aims:** **AIM:** to discuss a challenging case of peripheral spondyloarthritis (pSpA) with the onset in post COVID-19 infection.

**Methods:** Review of patient's file since her diagnosis

**Results:** We describe the case of a 39-year old woman with no significant medical history. In January 2021 she had a mild COVID-19 infection; a month later, inflammatory arthralgias appeared, followed by bilateral tibio-tarsal arthritis, with high inflammatory syndrome (ESR=88 mm/h, CRP=10.31 mg/dl); she was first referred to an orthopaed, who recommended oral glucocorticoids, with no improvement. Three month later she arrived to the rheumatologist, who started oral NSAIDs and established the diagnosis of HLA B27 positive pSpA with bilateral sacroiliitis (fulfilling ASAS criteria); the best clinical and biological response was obtained with sulfasalazine; the patient was in remission in less than 6 months, and sulfasalazine was tapered to 1.5 g/day.

**Conclusions:** We reported a difficult case of a young patient with pSpA with the onset in the post COVID infection.

PV063 / #141

**POSTER VIEWING WALK: F2**  
17-03-2023 11:50 AM - 12:50 PM

**HYPER PRODUCTION OF ANTI SPIKE ANTIBODIES AND RHEUMATOLOGICAL  
MANIFESTATIONS: COINCIDENCE OR PATHOGENESIS?**

Marc Golstein, Serge Steinfeld  
clinique Saint-Jean, Rheumatology, Bruxelles, Belgium

**Background and Aims:** We report the observational study of 124 patients having developed rheumatological manifestations which occurred after vaccination with an RNA vaccine(120/124) or an DNA vaccine (4/124).

**Methods:** All patients were seen at the same center over a 12 months period. None of the patients had a history of rheumatological disease or developed rheumatological disease during the follow-up. All patients underwent serological testing for SARS-CoV-2 after vaccination and the results were very strongly positive

**Results:** Of 124 patients, 37 are men (median range 51.6 y) and 87 (median range 54,6 y) are women, and 73 (58.9%) had polymyalgia, 38 (30.6%) bi-arthritis of the ankles, 1 mono arthritis of the ankle, 13 (10.4%) arthritis of the fingers, hand or wrist, 9 (7%) had arthritis of both knees, 1 mono arthritis of the knee, 2 arthritis of the hips and 1 had seronegative polyarthritis. In 19 cases we see a combination of rheumatological symptoms. Most of the symptoms appeared after the 2nd or 3rd dose of vaccine (103/124). Overproduction of Anti-spike antibodies (> 2080 BAU/ml) was found in 104 cases (84%) At the beginning, biological findings showed an increase in SR mm/h( 41W/46.5M and/or CRP mg/l ( 14.6W/21.3M) only in 40/124 patients (32%), especially in women (32/40 -80%). Although most patient had no inflammatory abnormalities, they were symptomatic and they received a low dose of 8 mg methyl prednisolone/day with a clinical improvement ( 120/124)

**Conclusions:** Although we can not exclude a coincidence , the striking similarities between these 124 patients over a short period of time might suggest some pathogenic causation .



PV064 / #570

**POSTER VIEWING WALK: F2**  
**17-03-2023 11:50 AM - 12:50 PM**

## **COVID-19 AND CELIAC DISEASE – INFECTIONS AND AUTOIMMUNITY AGAIN**

Mona Habra, Naim Mahroum

Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey

**Background and Aims:** Severe Acute Respiratory Distress Syndrome Coronavirus-2 (SARS-CoV-2) is the causative viral agent of the COVID-19 pandemic, starting from 2019 until today. Transmission by respiratory droplets made hand-hygiene, social distancing, and masks the most effective measures in containing the spread of the virus. The characteristic Spike (S) protein on the surface of the virus enables the virus to invade host cells by binding to the angiotensin-converting enzyme 2 (ACE2) receptors on the host cells, especially on respiratory epithelial cells. Moreover, the serine protease TMPRSS2 is needed to prime the S protein to help facilitate host invasion.

**Methods:** In addition, intestinal enterocytes possess both ACE2 and TMPRSS2, resulting in intestinal symptoms. The invasion of the intestines causes mucosal epithelial damage especially to tight junctions leading to increased permeability known as “leaky-gut syndrome”. This deterioration of the intestinal barrier in COVID-19 is considered one of the major ways in the pathogenesis of celiac disease (CD) as sensitization to gluten occurs in genetically predisposed individuals.

**Results:** High levels of anti-tissue transglutaminase (tTG) antibodies, a specific predictor of CD, were documented in both acute and long-term recovered COVID-19 patients. Furthermore, growing evidence supports the autoantibodies production possibility by the viral inflammation and immune response dysregulation or “cytokine storm” known to lead to various autoimmune diseases. For instance, new-onset diabetes mellitus has been documented in COVID-19 patients.

**Conclusions:** Hereby, we focused on SARS-CoV-2 as an infectious trigger for CD, bringing back the focus on the role of viral infections in autoimmune diseases.

PV065 / #560

**POSTER VIEWING WALK: F2**  
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**THE DIFFERENCES IN THE RATE OF COVID-19 AMONG PATIENTS WITH PSORIATIC ARTHRITIS TREATED WITH BIOLOGICAL AGENTS: A BIG DATA ANALYSIS BASED ON VIGIBASE**

Naim Mahroum, Nicola Bragazzi  
Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey

**Background and Aims:** biological agents used in psoriatic arthritis (PsA) designed as biologic disease modifying antirheumatic drugs (bDMARDs) have improved dramatically the course and prognosis of the disease. While bDMARDs have a lower side effect profile when compared to conventional DMARDs (cDMARDs), the association with infectious side effects has been increasing. The concern generated by such side effects became greater during the pandemic of COVID-19. Therefore, by analyzing a big data (VigiBase) we aimed to assess the rate of COVID-19 among patients with PsA treated with bDMARDs.

**Methods:** VigiBase, a pharmacovigilance data based on adverse drug reactions (ADRs) collected on behalf of the World Health Organization (WHO) from more than 120 countries all over the world. The bDMARDs used for PsA and their reported ADRs related to COVID-19, such as SARS-CoV-2 test positive, or COVID-19 pneumonia were collected and analyzed. The proportional reporting ratio (PRR) was used for this aim and compared between the drugs.

**Results:** Upadacitinib was found to have the highest rate of ADRs related to COVID-19 in the three ADRs evaluated, COVID-19, SARS-CoV-2 test positive, and COVID pneumonia. Upadacitinib was followed by risankizumab.

**Conclusions:** among the drugs analyzed, upadacitinib and risankizumab demonstrated the highest PRR associated with COVID-19. The mechanisms of action of the drugs and its involvement in the immune response to SARS-CoV-2 is the most comprehensive explanation of our findings. While the pandemic is still ongoing, treating physician should take this risk into consideration and make sure their patients are vaccinated against COVID-19.

PV066 / #492

**POSTER VIEWING WALK: F2**  
17-03-2023 11:50 AM - 12:50 PM

**A DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF RECOMBINANT C1 ESTERASE INHIBITOR (C1-INH) IN THE TREATMENT OF POST-VIRAL FATIGUE SYNDROME**

Isaac Melamed<sup>1</sup>, Chris Murray<sup>1</sup>, Melinda Heffron<sup>1</sup>, Heather Penn<sup>1</sup>, Joseph Harper<sup>2</sup>  
<sup>1</sup>ImmunoE, Clinical Research, Centennial, United States of America, <sup>2</sup>Pharming Group N.V.,  
Medical Affairs, Warren, NJ, United States of America

**Background and Aims:** Some patients who have recovered from COVID-19 are experiencing post-viral fatigue syndrome accompanied by neurological symptoms. The role of infectious agents in acute-onset neuropsychiatric changes has been described in other infectious disease models. We have investigated several responsible immune players; one of which is C1. We are currently conducting a double blind, randomized, crossover study examining the role of recombinant C1-INH to treat post-viral fatigue syndrome.

**Methods:** Participants are randomized into 2 arms in a 1:1 ratio: Participants who receive IV C1-INH (RUCONEST) once a week for 8 weeks and then crossover to receive placebo once a week for 8 weeks (Arm 1) and participants who receive placebo once a week for 8 weeks and crossover to C1-INH once a week for 8 weeks. To date, 19 participants have been enrolled in this ongoing trial; mean age is 46 years of age and the group is predominantly female (15/19, 78.9%). Study evaluations were completed at 3 timepoints: Screening/baseline, end of the first treatment phase (Visit 9), and end of the crossover treatment phase (Visit 17). Neuropsychological assessments included the BRIEF – A, RBANS, the BD1 II, the DBI II, and MoCA. Additionally, patient-rated questionnaires were employed, and immunological biomarkers such as IgG subclasses and TH1/TH2 cytokine levels were measured.

**Results:** Participants showed improvement in all neuropsychological assessments after receiving C1-INH, including decreased depression and improved cognitive function.

**Conclusions:** Interim results indicate that recombinant C1-INH can improve neuropsychological symptoms associated with post-viral fatigue syndrome.



PV067 / #187

**POSTER VIEWING WALK: F2**  
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**OPSOCLONUS-MYOCLONUS SYNDROME IN A PATIENT AFTER CORONAVIRUS DISEASE - COVID-19**

Svetlana Perminova, Rustem Gayfutdinov  
Kazan State Medical University, Department Of Neurology, Neurosurgery And Medical Genetics, Казань, Russian Federation

**Background and Aims:** Opsoclonus-myooclonus syndrome (OMS) is a rare disorder characterized by three main symptoms: opsoclonus, myoclonus and cerebellar ataxia as well as neurological signs. Aim. Describe a clinical case of opsoclonus-myooclonus syndrome developed on day 16 since the onset of COVID-19 coronavirus disease.

**Methods:** On day 16 since the onset of the coronavirus disease patient had low-intensity spasms of face, head, limbs with a tendency to increase, accompanied by unsteady gait started. Symptoms progressed to the point of inability to move by himself, speech became slurring.

**Results:** On day 23 since the onset of the coronavirus disease patient had spasms are chaotic, multiple in nature; increase in intensity by excitement and attempts to move. Speech is poorly articulated, voice is trembling, the patient is emotionally unstable. Anosmia. Involuntary oscillatory eyeballs movements intensify with convergence, persist when eyes closed with eyelid fluttering. Against the background of symptomatic, detoxification and antibacterial therapy - cardiac arrest. Autopsy: edema, strangulation sulcus of the brain. Concomitant diseases include lower lobe right-sided pneumonia. As a result of the diagnostic procedures, opsoclonus-myooclonus syndrome associated with COVID-19 coronavirus disease was confirmed. The cause of death was the addition of secondary bacterial pneumonia, in circumstances of progressing multiple organ dysfunction syndrome, leading to restricted cerebral perfusion, followed by a fatal outcome.

**Conclusions:** Coronavirus disease - COVID-19 can be associated with various neurological symptoms and, as global experience shows, during COVID-19 pandemic, such complications may become more. Knowing the key manifestations of OMS contributes to their accurate diagnosis and the correct choice of therapy.

PV068 / #360

**POSTER VIEWING WALK: F2**  
**17-03-2023 11:50 AM - 12:50 PM**

**BIOMARKERS, CITOKYNE AND GENDER AT THE COVID'S TIME**

Paola Sabatini<sup>1</sup>, Roberta Carusone<sup>2</sup>, Giuliana Avallone<sup>2</sup>, Patrizia Amato<sup>1</sup>, Gaetano Cicchitto<sup>3</sup>, Anna Maria D'Ursi<sup>4</sup>

<sup>1</sup>Umberto I Hospital, Nocera Inferiore, Diagnostic Service, Nocera Inferiore, Italy, <sup>2</sup>Umberto I Hospital, Diagnostic Service, Nocera Inferiore,, Italy, <sup>3</sup>PO SCARLATO, Medicine, SCAFATI, Italy, <sup>4</sup>UNIVERSITY OF SALERNO, Pharmacy, FISCIANO, Italy

**Background and Aims:** Evaluating any differences in the immune response in the COVID-19 pandemic and relationship with probable Long COVID disease in a gender perspective

**Methods:** 101 men and 60 women, were subjected to the serological dosage of immunoglobulins and cytokines with clinical and therapeutic data sheet related to laboratory data.

**Results:** The study data showed: In consideration of age and gender in both men and women with COVID-19, the cytokine IL-6 is the most produced, A higher production of IL-6 and IL-1 $\beta$  is observed in men compared to women ( $p < 0.05$ ).

**Conclusions:** The prospective randomized experimental study conducted, highlighted gender differences in the immune response which would also justify the different severity of the clinical picture observed in patients with SARS-CoV-2. The cell-based response is characterized by a hyper-production of pro-inflammatory cytokines in men compared to women. As for the response on a humoral basis, an increased production of IgA, IgG and IgM immunoglobulins is observed in men unlike women. It can be hypothesized that a combination of different factors (sexual, biological and gender specific factors such as the presence of predisposing factors) could explain the different morbidity and mortality related to COVID-19 in men and women. Sex differences, risk of infection, biomarkers can affect pathogenetic mechanisms, disease severity and outcome in patients with COVID-19, and the possibility of long COVID disease. A targeted therapeutic approach, which includes active immunization treatment such as vaccines in a gender perspective, could ensure the effectiveness of the therapy, the outcome and to get precision medicine.

PV069 / #281

**POSTER VIEWING WALK: F2**  
17-03-2023 11:50 AM - 12:50 PM

**LONG COVID-19 AND AUTOIMMUNITY: ARE WE OPENING PANDORA'S BOX?**

Ana Albuquerque, Maria Sousa, Rita Ribeiro, José Sousa, Catarina Castaldo  
LABORATORIO GERMANO DE SOUSA, Autoimmunity, Lisboa, Portugal

**Background and Aims:** Coronavirus 2019 disease (COVID-19) is still ongoing almost three years after the beginning of this pandemic. Although major disease complications are now coming to our clinical settings, autoimmune diseases like thyroiditis, Kawasaki disease, Guillain-Barre syndrome, as well as other autoantibody detection has revealed the potential of COVID-19 in inducing autoimmune response.

**Methods:** We revised 1 year of Long COVID-19 patients focusing in primary disease history and severeness, vaccination time frame, inflammatory markers and autoantibodies detection as well as autoimmune symptoms manifestation in their recovery period.

**Results:** All of our patients had preexisting conditions, and although disease was time limited, it was long and aggressive, as they all required hospitalization for hemodynamic and proinflammatory response control. Monitoring of Long COVID-19 markers and several autoantibodies associated with systemic or local autoimmune response in the clinical laboratorial settings has been challenging, as the great majority haven't had any autoimmune disease clinical manifestations.

**Conclusions:** Although recent studies show that patients with Long COVID-19 will have maintained autoimmune systemic response as long as 6 months, the burden of being monitored for a long period of time as for the detection of several autoantibodies isn't always associated with autoimmune disease. This evaluation is time consuming and brings in a high level of patient anxiety. Eventually, some of them may get an autoimmune disease diagnostic making it worthwhile to open Pandora's box.



PV070 / #44

**POSTER VIEWING WALK: F3**  
17-03-2023 11:50 AM - 12:50 PM

**BIOLOGICAL THERAPY IN PATIENTS WITH RHEUMATOID ARTHRITIS: COST PER RESPONDER MODEL**

Daria Gerasimova<sup>1</sup>, Elena Gerasimova<sup>2</sup>, Oksana Zakharova<sup>1</sup>, Tatyana Popkova<sup>2</sup>  
<sup>1</sup>I.M. Sechenov First Moscow State Medical University (Sechenov University), Institute Of Pharmacy, Moscow, Russian Federation, <sup>2</sup>Nasonova Research Institute of Rheumatology, Department Of Systemic Rheumatic Diseases, Moscow, Russian Federation

**Background and Aims:** The decision about biological therapy for patients with rheumatoid arthritis (RA) should be made taking into account the results of pharmacoeconomic researches. A cost per responder (CPR) model is used as a comprehensive clinical and economic analysis. To compare CPR between different groups of biologic agents in patients with RA.

**Methods:** A total of 240 patients with moderate or high disease activity RA were included in the study. Patients were divided into 3 groups (n=80 in each group): group 1 received B cell-depleting agent (rituximab), group 2 – TNF-alpha ( $\alpha$ ) inhibitors (infliximab, adalimumab, etanercept, golimumab, or certolizumab pegol), group 3 –interleukin-6 inhibitor (tocilizumab). The groups were comparable by sex, age, and duration of disease. A good response on DAS28 (current DAS28 scores of 3.2 and reductions in DAS28 of more than 1.2 after 12 month) was accepted as a response to therapy.

**Results:** There was a significant decrease in RA activity after 12 months of biological therapy in all 3 groups. A good response on DAS28 was observed more frequently in group 3 (56.3%) compared to group 1 (11.5%,  $p<0.05$ ) and group 2 (22.5%,  $p<0.05$ ). CPR (using DAS28 as the responder definition) in group 3 was RUB 1094772.6; and that was 3.3 times lower than in group 1 (RUB 3587662.2,  $p<0.05$ ) and 2.3 times lower than in group 2 (RUB 2545747.3,  $p<0.05$ ).

**Conclusions:** Biologic agents significantly reduce RA activity. CPR were lower for RA patients treated with interleukin-6 inhibitor than with B cell-depleting agent or TNF- $\alpha$  inhibitors.

PV071 / #331

**POSTER VIEWING WALK: F3**  
**17-03-2023 11:50 AM - 12:50 PM**

**THE INFECTIOUS COMPLICATION IN A PATIENT WITH LUPUS NEPHRITIS TREATED WITH LOW-DOSE COMBINATION OF CYCLOSPORINE A AND MYCOPHENOLATE MOFETIL**

Tatiana Panafidina<sup>1</sup>, Tatyana Popkova<sup>1</sup>, Yulia Gorbunova<sup>1</sup>, Elena Gerasimova<sup>1</sup>, Alexander Lila<sup>2</sup>  
<sup>1</sup>V.A.Nasonova Research Institute of Rheumatology, Systemic Lupus Erythematosus, Moscow, Russian Federation, <sup>2</sup>V.A.Nasonova Research Institute of Rheumatology, Head Of The Institute, Moscow, Russian Federation

**Background and Aims:** The calcineurin inhibitors(CNIs) belong to a group of immunosuppressive agents that block T-cell activation. A new therapeutic approach of lupus nephritis(LN) is a multitarget therapy: CNIs with mycophenolate mofetil(MMF).Here is a case report of LN and infectious complication in a SLEpatient treated with low-dose combination of cyclosporine A(CSA) and MMF.

**Methods:** A 40-year-old woman(caucasoid) is observed. The first symptoms were at the 25years (2006), the SLE was diagnosed in 10.2011(after childbirth). History: arthritis and Raynaud's phenomenon (2006,2010), LN (class IV, with nephrotic syndrome-2011), nervous system (migraine with aura, sensorimotor polyneuropathy of the lower extremities, dysuria-2011), thrombocytopenia (2011), positive anti-ds-DNA, anti-Sm, ANA, hypocomplementemia (2011). Therapy: prednisolone(max 40mg/day), cyclophosphamide(total 5000mg, 2011-2012years), rituximab(1000 mg No. 2, 2012-2013years), MMF 2.5-1 g/day(2012 -2017years), hydroxychloroquine(HCQ). Low disease activity was achieved in 2016-12.2020years: therapy with prednisolone 5mg/day and HCQ 200mg/day.

**Results:** In 12.2020 there was a disease relapse-isolated persistent proteinuria 1.3g/day. Repeated nephrobiopsy: membranous glomerulonephritis(class V). The prednisolone dose was increased from 5 to 30mg/day, MMF 2 g/day was added, HCQ. After 5 months-proteinuria1.2g/day. A decision was made to switch to multitarget therapy: a combination of MMF 1g/day and CSA 150mg/day(2 mg/kg/day) from 06/14/2021 to 09/28/2021.During this period, panaritium of the 2nd toe of the right foot(07.2021) and purulent bursitis of the right elbow joint(08.2021) developed, proteinuria decreased to 0.6g/day. Due to recurrent purulent infection, the patient was transferred to monotherapy of MMF 1-2 g/day+prednisone 10-7.5mg/day+HCQ, proteinuria 0.18 g/day by 03.2022.

**Conclusions:** Multitarget therapy with CSA and MMF is effective in treating LN, but can lead to purulent infectious complications.

PV072 / #286

**POSTER VIEWING WALK: F3**  
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**MONOCYTE ACTIVATION IN AUTOIMMUNE RHEUMATIC DISEASES ASSOCIATED WITH  
ATHEROSCLEROSIS**

Elena Gerasimova<sup>1</sup>, Tatyana Popkova<sup>1</sup>, Tatiana Kirichenko<sup>2</sup>, Alexander Markin<sup>2</sup>, Yuliya Markina<sup>2</sup>, Daria Gerasimova<sup>3</sup>, Anasnastya Bogatyreva<sup>2</sup>

<sup>1</sup>V.A.Nasonova Research Institute of Rheumatology, Department Of Systemic Rheumatic Diseases, Moscow, Russian Federation, <sup>2</sup>Petrovsky National Research Centre of Surgery", A.p. Avtsyn Research Institute Of Human Morphology, Moscow, Russian Federation, <sup>3</sup>I.M. Sechenov First Moscow State Medical University (Sechenov University), Institute Of Pharmacy, Moscow, Russian Federation

**Background and Aims:** The pro-inflammatory activation of monocytes may responsible for the the tendency to chronic inflammation, which underlies autoimmune rheumatic diseases (ARDs) and atherosclerosis. It is known that atherosclerosis progression is accelerated in patients with ARDs. The aim of this study is to investigate the association of monocyte activation and carotid atherosclerosis in ARDs patients.

**Methods:** Isolation of monocytes was carried out according to the standard procedure for obtaining a leukocyte fraction in a Ficoll gradient and subsequent selection of CD14 + cells using magnetic separation. After isolation, the cells were cultured in X-Vivo medium. To assess the degree of monocyte activation, cells were stimulated by the addition of LPS. Monocyte activation was expressed as a ratio of LPS-stimulated/basal secretion of TNF- $\alpha$ . Secretion of TNF- $\alpha$  was determined by ELISA.

**Results:** Totally 24 participants with ARDs (15 rheumatoid arthritis (RA), 9 systemic lupus erythematosus (SLE)) mean aged 50.4(13.3) years were included in the study. Monocyte activation was significantly lower in atherosclerosis group 8.1(8.1) vs. 21.0(15.2),  $p=0.015$ , that is, in non-atherosclerosis group basal TNF- $\alpha$  secretion was 196.7(233.7), LPS-stimulated secretion – 2122.3 (839.9) pg/ml; in atherosclerosis group, the basal secretion was 330.4(272.9), LPS-stimulated secretion – 1528.7(759.7) pg/ml. At the same time, in atherosclerosis group, monocyte activation was the same in patients with RA and SLE, and non-atherosclerosis group, activation was significantly higher in patients with RA ( $p=0.029$ ).

**Conclusions:** A study on a larger number of patients will clarify the link between monocyte activation and atherosclerosis associated with ARDs.



PV073 / #386

**POSTER VIEWING WALK: F3**  
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**ASSESSING THE INFLAMMATORY STATUS OF PATIENTS WITH A NEW, RELIABLE AND PRECISE HIGH-THROUGHPUT CALPROTECTIN ASSAY**

Anna Melone, Dominik Vogt, Alexander Ohmann, Tonino Gerber, Joana Afonso, Clara Moniz, Dmitrii Guschin, Christian-Benedikt Gerhold, Thomas Schuster  
BÜHLMANN Laboratories AG, Development, Schönenbuch, Switzerland

**Background and Aims:** Serum calprotectin plays an important pro-inflammatory role in the innate immune and is a promising marker with several potential applications in rheumatoid arthritis, juvenile idiopathic arthritis and systemic onset juvenile idiopathic arthritis. A high throughput test on clinical chemistry analyzers is now available with the turbidimetric BÜHLMANN sCAL<sup>®</sup> turbo to reliably and precisely determine serum calprotectin levels.

**Methods:** Assay characteristics were established according to CLSI guidelines (CLSI C28-A3, EP05-A3, EP07-A3, and EP09-A3). The latter was performed with 111 samples using 3 lots of BÜHLMANN sCAL<sup>®</sup> turbo over 3 days and compared to another commercially available assay.

**Results:** The analytical measuring range from 0.23 to 15 µg/mL, extended to 225 µg/mL with an additional dilution in an automated rerun on a clinical chemistry analyzer, is suitable to address the described pathologies. 160 self-declared healthy adults (m/w) aged 18 to 83 years exhibit reference limits of 1.77 and 1.10 µg/mL when sampled either in native tube or tube with gel separator and processed within 3.4 hours after collection respectively. With a within-laboratory precision up to 5.1% and a reproducibility up to 11.1% the method is precise, reliable and suitable for routine use. Tested concentrations of oral and injectable pharmaceuticals showed no interference. Hemolyzed samples are not recommended. It shows good comparison to existing assays with a bias of 2.45% (Bland-Altman) and a slope of 1.16 (Passing Bablok).

**Conclusions:** The BÜHLMANN sCAL<sup>®</sup> turbo is a high throughput quantitative method performed on clinical chemistry analyzers to reliably and precisely assess the inflammatory status of patients.

PV074 / #189

POSTER VIEWING WALK: F3  
17-03-2023 11:50 AM - 12:50 PM

### **EFFICACY OF CURCUMIN SUPPLEMENTATION IN PATIENTS WITH RHEUMATOID ARTHRITIS: A SYSTEMATIC REVIEW**

Konstantinos Gkiouras<sup>1</sup>, Ioannis Myrogiannis<sup>2</sup>, Maria Grammatikopoulou<sup>1</sup>, Dimitrios Bogdanos<sup>1</sup>  
<sup>1</sup>University General Hospital of Larissa, Faculty of Medicine, School of Health Sciences, University of Thessaly, Department Of Rheumatology And Clinical Immunology, Larissa, Greece, <sup>2</sup>Aristotle University of Thessaloniki, Medicine, Thessaloniki, Greece

**Background and Aims:** The aim of this study was to systematically review and meta-analyze the evidence on the efficacy of curcumin supplementation in rheumatoid arthritis (RA).

**Methods:** MEDLINE/PubMed was searched to identify relevant RCTs. The research question was: In patients with RA (P), what is the efficacy of curcumin supplementation (I) compared to placebo (C) on disease activity indicators (O)? The outcomes of interest involved reductions in the 28-item disease activity score (DAS28), tender and swollen joint count (TJC and SJC), C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR). Data was synthesized with the standardized mean differences (SMD) or mean differences (MD) under random-effects models. Statistical heterogeneity was assessed with the  $I^2$  statistic. Analyses were conducted using the R language.

**Results:** Five double-blind RCTs matched the inclusion criteria, the majority using female patients. All RCTs employed a double-blind methodology, however their results were not based on intention-to-treat analyses. Following curcumin supplementation, the DAS28 was reduced (RCTs: 4, SMD=-2.37, 95% CI:-4.07--0.68,  $p=0.0061$ ). In addition, TJC and SJC failed to decrease significantly (RCTs: 3, MD=-5.09, 95% CI -16.68-6.51,  $p=0.1996$ ; RCTs: 3, MD=-5.13, 95% CI:-15.94-5.69,  $p=0.1783$ , respectively). Moreover, curcumin supplementation resulted in a significant drop in the CRP but not ESR (RCTs: 3, SMD=-2.61, 95% CI:-4.75 to -0.48,  $p=0.0162$ ; RCTs: 5, MD=-48.22, 95% CI: -116.06-19.63,  $p=0.1197$ , respectively). All analyses demonstrated a substantial level of statistical heterogeneity ( $I^2>0.90\%$ ).

**Conclusions:** This review revealed mixed results regarding the efficacy of curcumin supplementation in RA. Furthermore, substantial heterogeneity precludes firm conclusions mainly due to the presence of studies which stood out as outliers.

PV075 / #200

POSTER VIEWING WALK: F3  
17-03-2023 11:50 AM - 12:50 PM

### ORTHOREXIA NERVOSA TRAITS IN PATIENTS WITH RHEUMATOID ARTHRITIS

Konstantinos Gkiouras<sup>1</sup>, Maria Sifakaki<sup>2</sup>, Maria Grammatikopoulou<sup>1</sup>, Dimitrios Bogdanos<sup>1</sup>

<sup>1</sup>University General Hospital of Larissa, Faculty of Medicine, School of Health Sciences, University of Thessaly, Department Of Rheumatology And Clinical Immunology, Larissa, Greece, <sup>2</sup>International Hellenic University, Nutritional Sciences & Dietetics, Thessaloniki, Greece

**Background and Aims:** Orthorexia nervosa (ON) is an atypical eating disorder characterized by an obsession with “healthy” eating patterns. High orthorexic traits are often exhibited in chronic diseases. The aim of the study was to assess the relationship between ON and remission, in patients with rheumatoid arthritis (RA).

**Methods:** Patients with RA filled in an online, structured questionnaire (demographic and disease characteristics and the ORTO-15 tool). Higher values of the ORTO-15 indicate worsening ON tendencies. Correlations and differences were evaluated with the Spearman’s rho coefficient and the Mann-Whitney *U* test, respectively. Logistic regression was used to examine the possible effect of ORTO-15 score on remission with its results being presented as odds ratio (OR) along with the 95% confidence intervals (CIs). All analyses were performed with SPSS and the *R* language.

**Results:** The median body mass index (BMI) was 25.7 kg/m<sup>2</sup> and was correlated with the ORTO-15 score ( $\rho=0.224$ ,  $p=0.009$ ). The ORTO-15 score correlated with age ( $\rho=0.187$ ,  $p=0.043$ ), but not with RA duration ( $\rho=0.038$ ,  $p=0.665$ ) and did not differ between smokers and non-smokers. The ORTO-15 score did not increase the odds of being in remission (OR=1.01, 95% CI: 0.92–1.10,  $p=0.901$ ). Furthermore, ZTNB regressions revealed a non-significant, negative association of ORTO-15 score with the days in remission (exponentiated coefficient=0.94, 95% CI: 0.85–1.03,  $p=0.153$ ) and a significant negative association of ORTO-15 score with the days of having flare-ups (exponentiated coefficient=0.90, 95% CI: 0.81–0.99,  $p=0.045$ ).

**Conclusions:** In patients with RA, ON tendencies may be associated with BMI and age, and might affect the time of flare-ups.



PV076 / #241

**POSTER VIEWING WALK: F3**  
17-03-2023 11:50 AM - 12:50 PM

**A FATAL CASE OF METHOTREXATE INTOXICATION IN A PATIENT WITH RA**

Alisa Kirakosyan<sup>1</sup>, Sargsyan Seda<sup>1</sup>, Anush Mardyan<sup>2</sup>, Vahan Mukuchyan<sup>2</sup>  
<sup>1</sup>Erebuni Medical Center, Rheumatology, Yerevan, Armenia, <sup>2</sup>Nairi Medical Center,  
Rheumatology And Immunology, Yerevan, Armenia

**Background and Aims:** The aim of this abstract is to raise the awareness of unintentionally use of methotrexate (MTX) for the treatment of rheumatoid arthritis (RA) which can be fatal

**Methods:** A 66-year-old female patient was admitted to the rheumatology department with complaints of ongoing nausea, diarrhea with blood, oral ulcers, skin rash and weakness. The patient unknowingly started to use MTX 10 mg every day for 13 days continuously. On Day 7 a sudden impairment was noticed with loss of consciousness, apnea, bradycardia passing to cardiac arrest, anisocoria. The patient was immediately intubated. The cardiopulmonary resuscitation was unsuccessful and an hour later the biological death was declared.

**Results:** MTX is highly efficient and must be prescribed to every RA patient, unless it is contradicted or not well tolerated . Due to misunderstandings the patient had been exposed to over six times more dose of MTX weekly, which combined with additional symptoms caused severe thrombocytopenia, ending in fatal intracranial bleeding, despite all the measures taken.

**Conclusions:** To conclude, despite the fact that MTX is one of the most effective medications for RA treatment, when prescribing it, maximum awareness is required in the communication between the patient and their rheumatologist. The rheumatologist must be fully sure that the patient has understood the prescription correctly and is well aware of the possible side effects. There is a thin line between therapeutic and potentially lethal doses of MTX. Considering this specific case, we are obligated to have the clearest communication with our patients in order to avoid fatal outcomes.

PV077 / #508

**POSTER VIEWING WALK: F3**  
17-03-2023 11:50 AM - 12:50 PM

**THE BURDEN OF NON-SPECIFIC TESTING IN PRIMARY CARE PRACTICE – AN ASSESSMENT OF TIME TO DIAGNOSIS IN RHEUMATOID ARTHRITIS**

Jessica Murphy<sup>1</sup>, Veena Joy<sup>1</sup>, Teofilo Borunda Duque<sup>2</sup>

<sup>1</sup>Thermo Fisher, Medical And Scientific Affairs, Lansdale, United States of America, <sup>2</sup>Rhodes Group, Diagnostic Optimization, Albuquerque, United States of America

**Background and Aims:** Treatment of Rheumatoid Arthritis (RA) early in the disease course can significantly impact patient quality of life by preventing the development of joint erosion and slowing down disease progression. Timely diagnosis is a critical aspect of early treatment. Most patients initially present within a primary care (PC) setting where a variety of non-specific tests/test algorithms are used. We reviewed 8 years' worth of RA real-world laboratory data to assess time to diagnosis (TTD) between different tests/test combinations.

**Methods:** Data extraction spanning 2014 – 2021 was pulled from a US laboratory, using Rheumatoid Factor (RF) and Anti-Cyclic Citrullinated Peptide (CCP) positivity as the primary inclusion criteria. Additionally, sex, age, ordering physician specialty, ICD-10 codes, test order date and test codes (ESR, CRP, ANA screen, RF isotypes) were pulled longitudinally.

**Results:** This data set includes 3,024 patients with RA (RA ICD code). Of these, 45% were first suspected and evaluated within PC. TTD between patients initially tested with only CRP or ESR had a median TTD of 920 days and those tested with ANA only had a median TTD of 685 days. Those tested with RF+CCP or RF+CCP+ANA had a median TTD of 367 days and 290 days, respectively.

**Conclusions:** Our data set highlights the impact of test methods on TTD of RA patients, with tests combinations more specific for RA significantly decreasing TTD. Further analysis will be conducted to determine downstream implications resulting between these diagnostic delays. Standardizing and implementing initial testing algorithms could potentially decrease RA TTD, and directly impact burden of care.

PV078 / #27

**POSTER VIEWING WALK: F3**  
17-03-2023 11:50 AM - 12:50 PM

**INVESTIGATION FOR DISEASE ACTIVITY OF RHEUMATOID ARTHRITIS (RA) AND THERAPEUTIC EFFECT OF OSTEOPOROSIS IN RHEUMATOID ARTHRITIS PATIENTS COMBINED WITH OSTEOPOROSIS TREATED BY ROMOSUZUMAB (ROMO)**

Gensuke Okamura, Hideki Tsuboi  
Osaka Rosai Hospital, Department Of Orthopedic Surgery, Sakai Osaka, Japan

**Background and Aims:** It has been reported that inhibition of sclerostin promotes TNF-dependent inflammatory joint destruction in basic research. We investigated the disease activity of RA and the therapeutic effect of osteoporosis in RA patients combined with osteoporosis treated by ROMO.

**Methods:** 42 patients followed up for 12 months after the administration of ROMO at our hospital were included. Disease activity and bone mineral density (BMD) were investigated before and 12 months after ROMO administration.

**Results:** Of the 42 cases (2 males, 40 females, average age 75.2 years), 8 were in the TNF group, and 21 in the non-TNF group, 13 were in non-bio group. The mean values of DAS28-CRP, DAS28-ESR, and CDAI in the TNF group were (1.75, 3.32, and 4.25) before administration and (1.49, 2.79, and 3.11) after administration. Those in the non-TNF group were (2.04, 2.77, and 5.81), and (1.85, 2.63, and 5.10). Those in the non-bio group were (2.25, 3.12, and 5.23) and (2.08, 3.12, and 4.89). Disease activity of RA was improved in the TNF group. The rate of change in BMD were 9.48% in the lumbar spine, 3.08% in the total hip, and 4.93% in the femoral neck.

**Conclusions:** 12 months after ROMO administration, the disease activity of RA in the TNF group was significantly improved, and BMD also improved significantly in all.



PV079 / #137

POSTER VIEWING WALK: F3  
17-03-2023 11:50 AM - 12:50 PM

**DIAGNOSTIC VALUE OF DIFFERENT AUTOANTIBODES IN ALBANIAN PATIENTS WITH RHEUMATOID ARTHRITIS**

Margarita Prifti-Kurti

Hospital Center, Department Of Laboratory, Tirana, Albania

**Background and Aims:** The aim of this study was to determine the diagnostic role of anti-cyclic citrullinated peptide antibodies , rheumatoid factor including RF isotypes in patients with rheumatoid arthritis.

**Methods:** This prospective study included 126 consecutive patients sent from the Rheumatology Clinic of the University Hospital Center of Tirana. In all the RA patients, ACPA, RF screen, RF IgA, IgM, IgG isotypes were tested using ELISA.

**Results:** The age of RA patients ranged from 17 to 78 years and 84% of them were females. The prevalence rates of ACPA and RF were 54.4 % and 44.4 % respectively. 35% of patients resulted positive for both specific serological markers ACPA and RF. Positive results with two or three RF isotypes detected together were observed in 38.8% of patients. The RF isotype pattern IgM +/- IgA+ was found in 13.5% of patients, whereas RF isotype patterns IgA+/- IgG+ and IgM+/-IgG+ have been detected at a rate of 1.6% respectively.

**Conclusions:** The RF and ACPA positivity rates in the RA Albanian patients were found lower compared to the results reported in other populations. IgA RF positivity, combined with IgM RF positivity, are more frequently found than other RF isotypes. The specific RA markers studied, provide an important support for the diagnosis of RA. The presence of RF isotypes increases diagnostic specificity. So we recommended using the combination of these different types of autoantibodies in clinical practice for better diagnostic or even therapeutic options.

PV080 / #202

POSTER VIEWING WALK: F4  
17-03-2023 11:50 AM - 12:50 PM

**BACTERIOLOGICALLY-CONFIRMED RELAPSE OF PULMONARY TUBERCULOSIS IN A FILIPINO MALE WITH ANKYLOSING SPONDYLITIS: A CASE REPORT**

Elaine Tan, Rica Kezia King, Leandro Jose Dado, Evan Glenn Vista  
St. Luke's Medical Center - Quezon City, Section Of Rheumatology, Quezon City, Philippines

**Background and Aims:** Patients with rheumatologic diseases are at risk for acquiring Mycobacterium tuberculosis infection. In The Philippines, where tuberculosis is considered endemic, this risk is increased. Treatment armamentarium becomes limited in the background of such infection.

**Methods:** We present the case of a 57 year old Filipino male, known case of Ankylosing Spondylitis since 2010, presenting with low back pain and classical “bamboo spine” findings on lumbosacral x-ray. Latent tuberculosis was ruled out after a negative Mantoux Test. Patient however presented with fever, chronic cough, and weight loss in 2017, after which Mycobacterium tuberculosis – Polymerase Chain Reaction (MTB-PCR) results were positive. He took quadruple therapy of Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol which rendered him cured of tuberculosis.

**Results:** In 2022, patient had relapse of pulmonary tuberculosis, complicated by jaundice, anemia (Hemoglobin = 10.3 mg/dL), and hyperuricemia (Uric Acid = 14.40 mg/dL). Low back pain was present, with elevated acute-phase reactants (Erythrocyte Sedimentation Rate = > 130 by Westergren Method, C Reactive Protein = 24 mg/L). Ankylosing Spondylitis Disease Activity Score (ASDAS) Score = 4.63 revealing very high disease activity.

**Conclusions:** Patients with Ankylosing Spondylitis are at high risk for acquiring Mycobacterium tuberculosis infections; yet treatment armamentarium remains limited. Such paradox exists, and this report highlights the need for further treatment options.

PV081 / #34

**POSTER VIEWING WALK: F4**  
**17-03-2023 11:50 AM - 12:50 PM**

**POST COVID-19 AUTO-IMMUNE RHEUMATIC DISEASES (AIRDS) AND OUTCOME: A TERTIARY CARE CENTRE EXPERIENCE.**

Danveer Bhadu<sup>1</sup>, Shah Khan<sup>2</sup>, Rudra Goswami<sup>3</sup>, Uma Kumar<sup>4</sup>

<sup>1</sup>All India Institute of Medical Institute, Associate Professor, Department Of Rheumatology, Delhi, India, <sup>2</sup>All India Institute of Medical Institute, Professor, Department Of Orthopedics, Delhi, India, <sup>3</sup>All India Institute of Medical Institute, Department Of Rheumatology, Delhi, India, <sup>4</sup>All India Institute of Medical Institute, Professor, Department Of Rheumatology, Delhi, India

**Background and Aims: Introduction:** Several studies have reported the presence of autoantibodies in patients with COVID-19 in different frequencies and the clinical spectrum of autoimmune-related manifestations ranges from organ-specific to systemic autoimmune and inflammatory conditions. **Objective:** The aim of this study was to know association of various types of AIRDs after COVID-19 infection and their prognosis.

**Methods:** Consecutive, previously healthy, post-COVID-19 patients with history of musculoskeletal problems were subjected for autoimmune screening tests (RF, Anti-CCP, ANA By IIF, ANCA by IIF, ENA by LIA and HLA-B27). Those patients who fulfilled the inclusion and exclusion criteria were enrolled in this study. Inclusion criteria: History of symptomatic COVID-19 infection confirmed by RTPCR test. Auto-Immune Rheumatic Diseases (AIRDs) symptoms within 2 months of symptomatic COVID-19 infection. Patient fulfilling criteria of AIRDs as per existing classification or diagnosed by expert rheumatologist. Exclusion criteria: Any symptoms suggestive of AIRD prior to COVID-19 infection.

**Results:** Total 15 patients who had evidence of AIRDs were enrolled in this study. Male to female ratio was 8:7. Five patients fulfilled the criterion for rheumatoid arthritis (RA), 2 patients for granulomatosis polyangiitis (GPA), 2 patients for axial spondyloarthritis SpA), one each for dermatomyositis, possible Behchet's disease, urticarial vasculitis, seronegative arthritis, nonspecific tenosynovitis and enthesitis. All patients responded well with conventional treatment regime except one GPA patient who initially responded to induction therapy but had relapse after 6 months and succumbed to his illness.

**Conclusions:** Almost every type of AIRDs can be triggered by COVID-19 infection and most of them have good response with conventional treatment regime.



PV082 / #478

**POSTER VIEWING WALK: F4**  
17-03-2023 11:50 AM - 12:50 PM

**HTS GLOVE: A NEW SAFE AND EASY TOOL FOR EVALUATING FINGER JOINT  
FUNCTION IN RHEUMATOID ARTHRITIS PATIENTS.**

Alberto Sulli<sup>1</sup>, Paolo Clini<sup>1</sup>, Alessio Signori<sup>2</sup>, Tamara Vojinovic<sup>1</sup>, Guglielmo Bruzzone<sup>3</sup>, Emanuele Gotelli<sup>1</sup>, Maurizio Cutolo<sup>1</sup>

<sup>1</sup>IRCCS Ospedale Policlinico San Martino, University of Genova, Laboratory Of Experimental Rheumatology And Academic Division Of Clinical Rheumatology, Department Of Internal Medicine And Medical Specialities, Genoa, Italy, <sup>2</sup>University of Genova, Genoa, Italy, Department Of Health Sciences (dissal), Section Of Biostatistics, Genoa, Italy, <sup>3</sup>IRCCS Ospedale Policlinico San Martino, University of Genova, Genoa, Italy, Geriatrics, Department Of Internal Medicine And Medical Specialities, Genoa, Italy

**Background and Aims:** In the field of Rheumatology the engineered Hand Test System (HTS) glove demonstrated a good ability in differentiating RA patients from healthy population (*Patanè M, et al. Joint Bone Spine 2022*). The use of HTS glove to assess RA hand disability at different time-points was investigated in comparison with standard clinimetric indexes of disease activity/disability.

**Methods:** Eighty RA patients performed HTS glove tests at baseline, and fifty-six patients were re-tested after six months. The HTS glove provided three quantitative parameters [Touch Duration (TD), Movement Rate (MR) and Inter Tapping Interval (ITI)] which were correlated with clinimetric indexes such as DAS28-CRP, CDAI, SDAI, Health Assessment Questionnaire-Disability Index (HAQ-DI), Grip strength, VAS, Patient Global Assessment (PGA), and laboratory values (CRP, ESR). Also the variation of both HTS glove parameters and clinimetric indexes, between first and second assessment, were analysed.

**Results:** HTS glove parameters (TD, ITI and MR) showed statistically significant correlations ( $p < 0.05$ ) with clinimetric indexes at both measurements. A statistically significant variation during follow-up of HTS glove parameters of the fingers that have performed the worst or best HTS test at baseline was also detected ( $p < 0.02$ ), while traditional clinimetric indexes did not show a statistically significant variation.

**Conclusions:** Besides its usefulness in quantify hand disability in relation to traditional clinimetric indexes, the HTS glove seems to offer a new safe and easy tool for evaluating hand joint function by measuring the speed of finger movements in RA patients.

PV083 / #482

**POSTER VIEWING WALK: F4**  
17-03-2023 11:50 AM - 12:50 PM

**FOLIC ACID SUPPLEMENTATION DECREASES METHOTREXATE EFFICACY AND DELAYS CLINICAL RESPONSE IN RHEUMATOID ARTHRITIS PATIENTS**

Alberto Sulli, Tamara Vojinovic, Adriano Lercara, Elisa Alessandri, Emanuele Gotelli, Sabrina Paolino, Maurizio Cutolo  
IRCCS Ospedale Policlinico San Martino, University of Genova, Laboratory Of Experimental Rheumatology And Academic Division Of Clinical Rheumatology, Department Of Internal Medicine And Medical Specialities, Genoa, Italy

**Background and Aims:** Folic acid (FA) supplementation is frequently prescribed to prevent adverse effects during methotrexate (MTX) treatment. The administration of FA remains controversial, given the influence on the efficacy of MTX. This study evaluated the effects of FA supplementation on efficacy and safety of low-dose MTX in rheumatoid arthritis (RA).

**Methods:** 184 RA patients who started low-dose MTX were retrospectively evaluated. No other serious comorbidities were present. Two groups of patients were considered: 96 supplemented with FA and 88 not-supplemented. Prednisone (PDN) and MTX dose, disease activity score (DAS28-CRP) and adverse events (AEs) were recorded at 0-3-6-9-12-24 months. Follow-up was performed until MTX discontinuation, new cs/biologic DMARD addition or need for FA supplementation.

**Results:** DAS28 decreased in both groups of patients, but at three months DAS28 was found significantly lower ( $p < 0.05$ ) in patients without FA supplementation, when compared with patients taking FA supplementation. Patients without FA supplementation required statistically significant lower doses of both prednisone and MTX during the follow-up ( $p < 0.05$ ). Mild and not critical AEs were found in 16% of FA supplemented, as well as in 32% of FA not-supplemented patients (increase of transaminases, nausea and gastrointestinal intolerance). Management of AEs was successful in the majority of cases by either discontinuing MTX for two weeks or adding FA if required.

**Conclusions:** FA administration decreases the efficacy of the treatment, delaying the clinical response and leads to the need for higher doses of both PDN and MTX during follow-up. MTX treatment might be started without FA supplementation, deferring the FA use until potential AEs appearance.

PV084 / #220

POSTER VIEWING WALK: F4  
17-03-2023 11:50 AM - 12:50 PM

**EXAMINATION OF NUTRITIONAL STATUS OF PATIENTS WITH RHEUMATOID ARTHRITIS  
IN NINJA 2019**

Shigeyoshi Tsuji

Nippon Life Hospital, Orthopaedic Surgery, Osaka, Japan

**Background and Aims:** **[Background]** Few reports have quantitatively assessed nutritional status in patients with rheumatoid arthritis **[Objective]** To examine the nutritional status of patients with rheumatoid arthritis using the clinical nutrition index CONUT (Controlling Nutrition Status).

**Methods:** **[Methods]** 5277 patients (Japanese nationwide RA database: NinJa) . The CONUT score is a nutritional index that scores the serum albumin level, serum total cholesterol level, and total lymphocyte count. Malnutrition levels are classified into normal (score 0-1) and mild (score 2-4), moderate (score 5-8), and severe (score 8-12) requiring nutritional intervention. The average age of the target patients was  $66.8 \pm 12.9$  years, the sex was 1133 males and 4144 females, and the duration of illness was  $13.1 \pm 10.8$  years.

**Results:** **[Results]** The average CONUT score was  $1.5 \pm 1.4$ . By age group, it was  $1.6 \pm 1.5$  for 65 years or older (3354 cases) and  $1.3 \pm 1.2$  for under 65 years (1923 cases), which were significantly higher in the 65 years or older group ( $p < 0.001$ ). Malnutrition levels were normal in 56.24%. Mild 40.88%, moderate 2.69% and severe 0.02% requiring nutritional intervention totaled 43.76%. Furthermore, the average CONUT score of the hospitalized group (124 cases) due to infectious disease (pneumonia) was  $2.33 \pm 2.16$ , and that of the non-hospitalized group due to infectious disease (5153 cases) was  $1.46 \pm 1.36$ , showing a significant difference between the two groups ( $p < 0.001$ ).

**Conclusions:** **[Conclusions]** Active nutritional intervention is required for patients with rheumatoid arthritis.



PV085 / #362

**POSTER VIEWING WALK: F4**  
**17-03-2023 11:50 AM - 12:50 PM**

### **RHUPUS OVERLAP SYNDROME**

Senthamil Selvan Veerasamy

Khoo Teck Puat Hospital, Alexandra Health, Medicine, Singapore, Singapore

**Background and Aims:** Seronegative Rheumatoid Arthritis is about 20-25% of all RA cases. Of which, 10% of seronegative RA patients have overlap syndrome with other autoimmune disorders such as SLE and Sjogren's. Less than half of these numbers would include a RA and SLE, otherwise known as Rhupus overlap.

**Methods:** 48 year old Chinese female presented with symmetrical polyarthritis, involving MCP, PIP and wrist joint, diagnosed as Seronegative Rheumatoid arthritis in view of Anti CCP and Rh factor Negative and treated with Methotrexate. In 2022 May again, admitted with eye pain due to anterior scleritis, loss of hair and mouth ulcers. Clinical and laboratory investigations confirmed as SLE.

**Results:** 2021 November FBC Hb 10.2, RF and Anti CCP negative 2022 May (2nd presentation) ANA 1/640 Homogeneous; dsDNA 108 ENA profile: Anti Ro positive X-ray of hands and other joints normal

**Conclusions:** Our patient has Rhupus Flare (Seronegative RA and SLE overlap syndrome). She is treated with Methotrexate and prednisolone. Her eye pain improved and mouth ulcers resolved. Hydroxychloroquine was added in a few weeks time. Patient's condition was clinically stable afterwards. References: Rhupus syndrome 1. Antonini L, et al. Rhupus: a systemic literature review. Autoimmunity Reviews. 2020; 19: 102612. 2. Icen M, Nicola PJ et al. Systemic lupus erythematosus features in rheumatoid arthritis and their effect on overall mortality J Rheumatol. 2009; 36: 50-57.

PV086 / #53

**POSTER VIEWING WALK: F4**  
**17-03-2023 11:50 AM - 12:50 PM**

**TOFACITINIB TREATMENT IN SPONDYLOARTHRITIS.**

Danveer Bhadu<sup>1</sup>, Rudra Goswami<sup>2</sup>, Uma Kumar<sup>3</sup>

<sup>1</sup>All India Institute of Medical Institute, Associate Professor, Department Of Rheumatology, Delhi, India, <sup>2</sup>All India Institute of Medical Institute, Department Of Rheumatology, Delhi, India, <sup>3</sup>All India Institute of Medical Institute, Professor, Department Of Rheumatology, Delhi, India

**Background and Aims:** Recently tofacitinib has been approved for the treatment of SpA by FDA. Though, safety and efficacy data for tofacitinib in SpA are very limited. Aim of this study was to see the treatment response and safety of tofacitinib in SpA patients.

**Methods:** SpA patients (age>18 years) who fulfilled the inclusion and exclusion criteria were enrolled. Clinical details were collected including disease activity before and after 2 months of tofacitinib therapy. Side effects of tofacitinib like drug intolerance, thrombotic event, infection etc were also monitored actively. **Inclusion criteria** SpA patients diagnosed as per ASAS classification criteria. Juvenile Idiopathic Arthritis-Enthesitis Related diagnosed as per ILAR classification criteria. Patients with high or very disease activity (as per ASDAS-ESR or CRP) **Exclusion criteria:** Active or chronic infection Past history of thrombotic events

**Results:** Total 35 patients (M:F=33:2) were recruited and the mean age was 31 years. Study population included 27 adult SpA (77%), 6 JIA-ERA (17%) and 2 reactive arthritis (6%) patients. Axial symptoms, peripheral joint, uveitis and HLA-B27 positivity was reported in 100%, 51%, 8.5% and 94% respectively. Disease activity was reported as very high, high, moderate and inactive disease in 37%, 67%, 0% & 0% and 3%, 17%, 40% & 40% pre and post treatment respectively. Treatment response ( $\Delta$ change in ASDAS score) reported as major improvement, clinically significant improvement and no improvement in 37%, 49% and 14% of the patients respectively. Only one patient (3%) had reactivation of herpes zoster.

**Conclusions:** Tofacitinib is effective and safe drug for the treatment of SpA patients.

PV087 / #497

**POSTER VIEWING WALK: F4**  
**17-03-2023 11:50 AM - 12:50 PM**

### **OXIDATIVE STRESS MARKERS IN ANKYLOSING SPONDYLITIS**

Meriam Messedi<sup>1</sup>, Dana Jallouli<sup>1</sup>, Aida Elleuch<sup>1</sup>, Wassim Guidara<sup>1</sup>, Samar Ben Jmea<sup>2</sup>, Khansa Ben Hassen<sup>1</sup>, Hela Fourati<sup>2</sup>, Fatma Makni-Ayadi<sup>1</sup>

<sup>1</sup>Sfax medicine faculty - Sfax - Tunisia, Research Lab " Molecular Bases Of Human Diseases, Sfax, Tunisia, <sup>2</sup>Hedi Chaker public hospital, Rheumatology, sfax center, Tunisia

**Background and Aims:** An imbalance between oxidants and antioxidants can lead to oxidative stress (OA), characterized by escalating cell damage. OA has been increasingly recognized as a contributing factor in human pathologies. The present study was aimed at investigating OA markers in ankylosing spondylitis (AS) patients.

**Methods:** 80 AS patients and 100 healthy control were enrolled in this study. Parameters of OA including homocysteine, acid uric, total bilirubin, gamma-glutamyl transferase (GGT) and catalase activities, and lipid and protein oxydation markers were assed using standard methods. Statistical analyses were performed with SPSS software (v 23.0).

**Results:** Plasma levels of advanced oxidation protein products, malondialdehyde and GGT activity were significantly higher in AS patients compared to the control. However, glutathione peroxidase and catalase activities and glutathione levels were reduced in the same group. No statistical difference was reported for the other biological markers. In AS patients, GGT activity and AOPP levels were positively correlated with the disease functional index. None of the studied parameters was correlated with the disease activity index.

**Conclusions:** Our resultas showed that some markers of OA might play a role in the onset and development of AS and could represent a target for therapeutic drug.



PV088 / #428

POSTER VIEWING WALK: F4  
17-03-2023 11:50 AM - 12:50 PM

## SEXUALLY ACQUIRED REACTIVE ARTHRITIS MIMICKING AXIAL SPONDYLOARTHRITIS

Zsófia Kardos<sup>1</sup>, Enikő Lengyel<sup>2</sup>

<sup>1</sup>Borsod County Academic Hospital, Rheumatology, Miskolc, Hungary, <sup>2</sup>Borsod County Academic Hospital, Dermatology, Miskolc, Hungary

**Background and Aims:** In April 2019, a 35-year-old male patient with acute low back pain was admitted to Neurology. CT scan showed disc herniation compressing the right S1 root and bilateral sacroiliitis.

**Methods:** In May, he required several knee punctures, CRP value was over 200mg/l. Septic arthritis appeared, but no pathogens were cultured. He was referred to Rheumatology: axial spondyloarthritis was diagnosed based on his musculoskeletal status, HLA-B27 positivity and former CT scan.

**Results:** No source of infection was found, biological therapy was started. During the 5th infliximab treatment, urticaria and lumps appeared. Due to hypersensitivity, he was switched to adalimumab. During this time skin lesions corresponding to contact dermatitis appeared on the palms (he newly worked with chemicals). Then he developed sore throat and cough. After some week upper respiratory tract symptoms appeared again. Behind skin symptoms the possibility of psoriasis arose. Anti-TNF treatment was switched to anti-IL17. His palm symptoms disappeared, but erythematous, sometimes follicular papules appeared all over his body. The role of secukinumab was raised, therefore switched to certolizumab. He achieved remission for 1 year, both joint and skin symptoms completely disappeared. During dermatological consultation verrucous-like growths were detected on the penis and foreskin. Treponema pallidum positivity was confirmed.

**Conclusions:** Looking back, the primary ulcer could appear in the spring of 2019, together with low back pain. Due to biological therapy, the secondary syphilis symptoms were prolonged and recurrent. After adequate treatment of the infection, his musculoskeletal symptoms completely disappeared, but anti-Treponema IgM titer remained persistently high even after 1 year.

PV089 / #117

**POSTER VIEWING WALK: F4**  
**17-03-2023 11:50 AM - 12:50 PM**

### **SPECT/CT AS DIAGNOSTIC VALUE IN AXIAL SPONDYLOARTHRITIS**

Seung-Jae Hong<sup>1</sup>, Sang-Hyon Kim<sup>2</sup>, Hyun-Sook Kim<sup>3</sup>

<sup>1</sup>Kyung Hee University College of Medicine, Kyung Hee University Medical Center, Department Of Rheumatology, Seoul, Korea, Republic of, <sup>2</sup>Keimyung University Dongsan Medical Center, Internal Medicine, Daegu, Korea, Republic of, <sup>3</sup>Soonchunhyang university Seoul hospital, Internal Medicine, Seoul, Korea, Republic of

**Background and Aims:** Spondyloarthritis (SpA) is characterized by inflammatory back pain. MRI was a gold standard for the detection of sacroiliac joints. However, bone SPECT/CT can be considered as another option.

**Methods:** Patients with low back pain or other joint pain who underwent bone SPECT/CT were selected for inclusion in this study through a retrospective review of medical records in a single center. Semi-quantitative visual scoring methods of bone SPECT/CT were used. For visual scoring, a score of 0 was assigned when the tracer uptake of the sacroiliac joint is less than the uptake of the sacrum; a score of 1, was assigned when equal; and a score of 2 was assigned when the tracer uptake of the sacroiliac joint is greater than that of the sacrum. A score of 2 on either side of sacroiliac joints was considered positive in bone SPECT/CT.

**Results:** A total of 443 patients were included (40 patients with axSpA). 24 patients were radiologic axSpA. The sensitivity, specificity, and positive and negative predictive values of bone SEPECT/CT for axSpA were 87.5%, 56.5%, 16.6%, and 97.8%, respectively. The negative predictive value for non-radiologic axSpA was 97.8%. In ROC curve analysis, bone SPECT/CT showed good performance for diagnosing axSpA compared to MRI (area under the curve, (AUC), 0.720 for bone SPECT-CT, 0.899 for MRI).

**Conclusions:** In patients with low back pain, bone SPECT/CT has high sensitivity and negative predictive value for axSpA. When MRI is unavailable in certain patients, bone SPECT/CT might be considered as an alternative test for identifying axSpA.

PV090 / #178

**POSTER VIEWING WALK: F5**  
**17-03-2023 11:50 AM - 12:50 PM**

### **A RARE CASE OF LUPUS CYSTITIS WITH HYDROURETERONEPHROSIS**

Andra-Patricia Stanciu<sup>1</sup>, Andreea-Iulia Trandafir<sup>1</sup>, Ioana Saulescu<sup>1,2</sup>, Catalin Belinski<sup>3</sup>, Violeta-Claudia Bojinca<sup>1,2</sup>, Andra Balanescu<sup>1,2</sup>

<sup>1</sup>Saint Mary Clinical Hospital, Internal Medicine And Rheumatology, Bucharest, Romania, <sup>2</sup>Carol Davila University of Medicine and Pharmacy, Rheumatology, Bucharest, Romania, <sup>3</sup>Dr Professor Dimitrie Gerota Emergency Hospital, Urology, Bucharest, Romania

**Background and Aims:** Lupus cystitis is a rare form of urinary involvement in systemic lupus erythematosus (SLE) (0.01% to 2% of SLE patients).

**Methods:** A 30-year-old patient with a history of SLE with lupus enteritis, mesangial proliferative lupus nephritis and psychiatric involvement presented to the emergency room for intense lumbar pain, urinary urgency and incontinence associated with severe abdominal pain, vomiting and ileus. Laboratory findings revealed hypocomplementemia, increased inflammatory markers, positive ANA with positive anti-dsDNA and anti-ribosomal P protein antibodies. Abdominal CT showed bilateral grade III hydroureteronephrosis, bladder with diffusely thickened walls and reduced capacity, pyloric antrum and bowel wall edema with target sign and moderate ascites. Cystoscopy revealed urothelial hypertrophy and erythema and hypertrophic ureteral orifices. Urinary tuberculosis was ruled out by PCR.

**Results:** The diagnosis was severe SLE flare with lupus enteritis and lupus cystitis with secondary grade III hydroureteronephrosis. Treatment consisted of pulse-therapy with methylprednisolone followed by oral prednisone and long-term hydroxychloroquine and mycophenolate mofetil. Also, ureteral stenting was performed. The evolution was favorable with clinical improvement, reduction of intestinal edema and remission of hydroureteronephrosis.

**Conclusions:** Lupus cystitis is an uncommon manifestation of SLE that is frequently associated with another rare manifestation of SLE – lupus enteritis. It is worth mentioning that the patient had risk factors for lupus cystitis: concomitant lupus enteritis, neuro-psychiatric involvement, low complement and positive anti-dsDNA antibodies. Although it is rare, lupus cystitis must be taken into account in SLE patients presenting with urinary and/or digestive symptoms as it can lead to severe complications like renal failure.



PV091 / #15

**POSTER VIEWING WALK: F5**  
**17-03-2023 11:50 AM - 12:50 PM**

**NUTRITIONAL, BIOCHEMICAL, AND CLINICAL DETERMINANTS OF HYPERURICEMIA IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS: RELATIONSHIP WITH CLINICAL AND RENAL DISEASE ACTIVITY**

Bertha Campos-López<sup>1</sup>, Mónica R. Meza-Meza<sup>1</sup>, Karen Pesqueda-Cendejas<sup>1</sup>, Adolfo I. Ruiz-Ballesteros<sup>1</sup>, Melissa Rivera-Escoto<sup>1</sup>, Isela Parra-Rojas<sup>1,2</sup>, Juan Vargas-Morales<sup>3</sup>, Paulina E. Mora-García<sup>1</sup>, Barbara Vizmanos<sup>1</sup>, Margarita Montoya-Buelna<sup>1,4</sup>, Sergio Cerpa-Cruz<sup>5</sup>, Ulises De La Cruz-Mosso<sup>1</sup>

<sup>1</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Red De Inmunonutrición Y Genómica Nutricional En Las Enfermedades Autoinmunes, Guadalajara, Jalisco, Mexico, <sup>2</sup>Universidad Autónoma de Guerrero, Facultad de Ciencias Químico-Biológicas, Laboratorio De Investigación En Obesidad Y Diabetes, Chilpancingo de los Bravo, Guerrero, Mexico, <sup>3</sup>Universidad Autónoma de San Luis Potosí., Facultad De Ciencias Químicas, San Luis Potosi, Mexico, <sup>4</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Laboratorio De Inmunología, Guadalajara, Jalisco, Mexico, <sup>5</sup>Hospital Civil de Guadalajara Fray Antonio Alcalde, Departamento De Reumatología, Guadalajara, Jalisco, Mexico

**Background and Aims:** Systemic lupus erythematosus (SLE) is the prototypical autoimmune disease considered an independent risk factor for cardiovascular disease mortality. Currently, uric acid is described as a novel biomarker associated with cardiometabolic outcomes. However, nutritional and serum determinants that influence hyperuricemia development in autoimmune diseases have not been fully elucidated. This study aimed to assess the nutritional, biochemical, and cardiometabolic determinants of hyperuricemia and its relationship with clinical variables in SLE patients.

**Methods:** A cross-sectional study was conducted on 167 SLE patients and 195 control subjects (CS). Nutrient intake, anthropometry, biochemical, and cardiometabolic indexes were evaluated.

**Results:** In SLE patients an adequate protein (OR=0.4;  $p=0.04$ ) and carbohydrate (OR=0.2;  $p=0.01$ ) intakes were associated with a lower risk of hyperuricemia. SLE patients with hyperuricemia presented a higher risk of clinical (OR=2.2;  $p=0.03$ ) and renal activity (OR=3.4;  $p<0.01$ ), as well as triglycerides  $\geq 150$  mg/dL (OR=3.6;  $p<0.01$ ), hs-CRP  $\geq 1$  mg/L (OR=3.1;  $p<0.01$ ), Kannel score  $\geq 3$  (OR=2.5;  $p=0.02$ ), BMI  $\geq 25$  kg/m<sup>2</sup> (OR=2.2;  $p=0.02$ ). Oppositely, serum levels of HDL-C  $\geq 40$  mg/dL (OR=0.2;  $p<0.01$ ) were associated with a lower risk of hyperuricemia. According to the pharmacotherapy administered, prednisone treatment was associated with a high risk of hyperuricemia (OR=4.7;  $p<0.001$ ). In contrast, the hydroxychloroquine treatment was associated with a lower risk of hyperuricemia (OR=0.4;  $p=0.02$ ).

**Conclusions:** In conclusion, SLE patients with hyperuricemia presented a high risk of clinical and renal activity as well as worse cardiometabolic status. Notably, an adequate intake of protein, carbohydrates, healthy HDL-C serum levels, and hydroxychloroquine treatment could be determinants of lower risk of hyperuricemia.

PV092 / #126

**POSTER VIEWING WALK: F5**  
17-03-2023 11:50 AM - 12:50 PM

**PREVALENCE OF ANTI-CARDIAC TROPONIN I ANTIBODIES IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS**

Kok-Yong Fong<sup>1,2</sup>, Terrance Chua<sup>2,3</sup>, Julian Thumboo<sup>1,2</sup>

<sup>1</sup>Singapore General Hospital, Rheumatology And Immunology, Singapore, Singapore, <sup>2</sup>NUS, Duke-nus Medical School, Singapore, Singapore, <sup>3</sup>National Heart Centre Singapore, Cardiology, Singapore, Singapore

**Background and Aims:** Autoantibodies have been associated with lupus cardiac involvement. A 29-kDa heart reactive autoantibody was identified in lupus sera as anti-cardiac troponin I (anti-cTnI). The prevalence of this autoantibodies was determined in a cohort of lupus patients.

**Methods:** Sera were obtained from 109 lupus patients, 103 rheumatic diseases patients (primary antiphospholipid syndrome, rheumatoid arthritis, polymyositis), 50 acute myocardial infarction (AMI) patients and 120 healthy controls. The 29-kDa anti-cardiac troponin I antibodies were assayed by immunoblots and characterised by peptide mass fingerprinting using the MALDI-TOF-MS analysis. Relevant clinical and autoantibodies data were obtained by chart review.

**Results:** Thirteen of the 109 lupus patients had anti-cTnI antibodies. The control group comprising 55 primary antiphospholipid syndrome, 42 rheumatoid arthritis and 6 polymyositis patients, 50 AMI patients and 120 healthy individuals all had negative assays. The 6 polymyositis patients had a positive band of lower molecular weight, established as skeletal troponin I protein. Lupus patients positive for anti-cTnI antibodies and those without, did not show significant differences in age, ethnic distribution, disease manifestations, cardiac involvements or disease duration. The autoantibodies profiles (anti-cardiolipin antibodies, false-positive VDRL, lupus anticoagulants, anti-Ro, anti-La, anti-Sm, anti-RNP) did not show significant differences between the groups.

**Conclusions:** Anti-cTnI antibodies were detected only in lupus patients and 12% of the cohort had these antibodies. They may be related to cardiac manifestations sometime in the course of their disease. Acknowledgements: Xu Qian, Tin Soe Kyaw, Connie Tse



PV093 / #444

**POSTER VIEWING WALK: F5**  
17-03-2023 11:50 AM - 12:50 PM

**DISEASE ACTIVITY AND CLINICAL REMISSION IN SYSTEMIC LUPUS ERYTHEMATOSUS:  
COMPARISON BETWEEN PATIENT AND PHYSICIAN PERSPECTIVES BY MEANS OF  
PATIENT REPORTED OUTCOMES (PROS)**

Micaela Fredi<sup>1</sup>, Chiara Orlandi<sup>2</sup>, Martina Salvi<sup>3</sup>, Chiara Bazzani<sup>3</sup>, Cecilia Nalli<sup>3</sup>, Laura Andreoli<sup>4</sup>, Franco Franceschini<sup>1</sup>

<sup>1</sup>ASST Spedali Civili and University of Brescia, Rheumatology Unit And Departement Of Clinical And Experimental Sciences, BRESCIA, Italy, <sup>2</sup>Rheumatology and Clinical Immunology Unit, Brescia, Asst Spedali Civili Brescia, BRESCIA, Italy, <sup>3</sup>ASST Spedali Civili Brescia, Uo Rheumatology And Clinical Immunology, brescia, Italy, <sup>4</sup>ASST Spedali Civili and University of Brescia, Rheumatology Unit And Departement Of Clinical And Experimental Sciences, Brescia, Italy

**Background and Aims:** In clinical practice, it is not rare to observe a discordance between patient's and physician's global assessment (PGA and PhGA). The purpose was to evaluate the presence of PGA/PhGA discrepancy in patients with SLE in clinical remission and to evaluate how this discrepancy affects PROs.

**Methods:** we included adult SLE patients consecutively followed from March to July 2021 fulfilling the definition of clinical remission on treatment according to Zen et al. (1). PGA and PhGA were rated on a visual analogue scale (0-100mm). To analyse the discrepancy between PGA/PhGA, the [PGA-PhGA] variable was calculated, considering as discordant a difference  $\geq 25$ mm as proposed(2). All the subjects completed the following questionnaires: Health Assessment Questionnaire, SF36 Health Survey, State-Trait Anxiety Inventory, Self-rating Depression Scale and Insomnia Severity Index.

**Results:** The study included 93 women and 13 men with median age of 48 and median duration 227 months. In 22,7% [PGA-PhGA]  $\geq 25$ . Patients in the discordant group were older (median 58, vs 46 years,  $p=0,0043$ ) and less frequently achieved the definition of clinical remission off corticosteroids (16,7% vs 57,3%,  $p<0.001$ ) than concordant. No differences were found in gender, SLE duration, serology, disease activity or damage and other treatment. Moreover, discordant patients had a significant worse performance in all the PROs evaluated.

**Conclusions:** We demonstrated that a considerable discordance between patients and physicians could be found, and patients with a higher PGA also presented worse scores at PROs. Potential causes for discordance could be more related to the presence of non-inflammatory processes, than clinical manifestations or damage related to SLE. (1) Zen et al 2015;74:2117–2122 (2)Neville C,2000;27:675-9



PV094 / #320

**POSTER VIEWING WALK: F5**  
17-03-2023 11:50 AM - 12:50 PM

**AN UNCOMMON MANIFESTATION OF SYSTEMIC LUPUS ERYTHEMATOSUS AS  
LIBMAN-SACKS ENDOCARDITIS AND ASCITES**

Julija Mironova<sup>1,2</sup>, Rūta Marčiukaitytė<sup>2</sup>, Dalia Miltinienė<sup>1,2</sup>, Irena Butrimiene<sup>1,2</sup>

<sup>1</sup>Vilnius University Hospital Santaros Clinics, Rheumatology Department, Vilnius, Lithuania, <sup>2</sup>Vilnius University, Faculty Of Medicine, Vilnius, Lithuania

**Background and Aims:** Nonbacterial thrombotic endocarditis (NBTE) is a rare condition, commonly manifested in patients with hypercoagulable state. Patients with malignancy, antiphospholipid syndrome (AFS), or systemic lupus erythematosus (SLE) are the most affected populations. Libman-Sacks endocarditis, which is a form of NBTE, is the most common cardiac manifestation in SLE, with approximately 11% of lupus patients being affected. Isolated ascites is also an uncommon symptom of SLE. This case follows a woman whose underlying diagnosis of SLE was elusive at presentation.

**Methods:** A case report.

**Results:** A 62-year-old female was diagnosed with breast cancer in 2018. In 2021 she developed severe fatigue, lost 16 kg and was found to have ascites. In September 2021 cancer progression was ruled out by a diagnostic laparoscopy with multiple biopsies. The patient was diagnosed with acute vein thrombosis in 2022. Also, a heart ultrasound has been performed where a mitral valve vegetation was observed. She has been admitted to the Vilnius University Hospital Santaros Clinics' Rheumatology department due to generalized weakness, weight loss, recurring ascites, leukopenia and mitral valve vegetation. Immunological tests showed positive ANA, anti-dsDNA, DFS70, AKA Ig GAM. The mitral valve vegetation was considered as Libman-Sacks endocarditis. Due to a clinical presentation patient has been diagnosed with SLE and secondary AFS. The treatment with prednisolone and hydroxychloroquine has been started, resulting in reduced ascites and lower disease activity.

**Conclusions:** This is a case of an uncommon manifestation of SLE as Libman-Sacks endocarditis and chylous ascites. Patient's history of breast cancer should also raise questions in terms of differential diagnosis.

PV095 / #260

**POSTER VIEWING WALK: F5**  
17-03-2023 11:50 AM - 12:50 PM

**TRANSITIONING FROM SEROLOGICALLY ACTIVE TO PAST EPSTEIN-BARR VIRUS INFECTION COINCIDES WITH REDUCTION OF DISEASE ACTIVITY IN PATIENTS WITH ACTIVE SYSTEMIC LUPUS ERYTHEMATOSUS**

Rada Miskovic<sup>1,2</sup>, Ivica Jeremic<sup>2,3</sup>, Danijela Miljanovic<sup>4</sup>, Andja Cirkovic<sup>5</sup>, Milka Grk<sup>6</sup>, Milica Basaric<sup>7</sup>, Sanvila Raskovic<sup>1,2</sup>, Ana Banko<sup>4</sup>

<sup>1</sup>University Clinical Center of Serbia, Clinic Of Allergy And Clinical Immunology, Belgrade, Serbia, <sup>2</sup>University of Belgrade, Medical Faculty, Belgrade, Serbia, <sup>3</sup>Institute of Rheumatology, Department For Scientific Research And Education, Belgrade, Serbia, <sup>4</sup>Medical Faculty, University of Belgrade, Institute Of Microbiology And Immunology, Belgrade, Serbia, <sup>5</sup>Medical Faculty, University of Belgrade, Institute For Biomedical Statistics, Belgrade, Serbia, <sup>6</sup>Medical Faculty, University of Belgrade, Institute Of Human Genetics, Belgrade, Serbia, <sup>7</sup>Institute of Rheumatology, Department For Physical Medicine And Rehabilitation, Belgrade, Serbia

**Background and Aims:** The reactivation of Epstein-Barr virus infection (EBV) has been implicated in the pathogenesis of systemic lupus erythematosus (SLE). We aimed to investigate serological EBV infection profile in SLE patients with active disease and its change during the SLE treatment.

**Methods:** We conducted prospective study that included 51 patients with active SLE (clinical SLEDAI 2K $\geq$ 4). Sera from SLE patients were tested for the following anti-EBV antibodies: anti-EBNA-1 IgG, anti-VCA IgG and IgM, and anti-EA/D IgG and IgM. Clinical and laboratory reassessment was performed after 6 months.

**Results:** All patients were exposed to EBV infection during the lifetime. There were 30 (61.2%) patients with active EBV infection according to serological profile initially. Almost 80% (24/30) of them transitioned to the past EBV infection after the follow-up period ( $p < 0.001$ ). There was a significant decrease in disease activity after 6 months measured by SLEDAI 2K ( $p < 0.001$ ) and PGA ( $p < 0.001$ ). Level of all anti-EBV antibodies significantly changed during the study period, except for anti-EA/D IgM. From 24 patients that transitioned to past EBV infection, 62.5% (15/24) achieved SLEDAI 2K $\leq$ 4, however that didn't differ compared to those whose EBV infection status didn't change ( $p = 0.308$ ).

**Conclusions:** SLE patients with active disease have high prevalence of active EBV infection. Transitioning from serologically active to past Epstein-Barr virus infection coincides with the reduction of disease activity.

PV096 / #114

**POSTER VIEWING WALK: F5**  
17-03-2023 11:50 AM - 12:50 PM

**UTILITY OF ANTI-DSDNA AUTOANTIBODIES VS ANTI-DNA CRITHIDIA LUCILAE IN THE DIAGNOSIS OF SYSTEMIC LUPUS ERYTHEMATOSUS IN CLINICAL PRACTICE**

Annika Nack<sup>1</sup>, Susana Holgado<sup>1</sup>, Joan Climent-Martí<sup>1</sup>, Jordi Camins Fàbregas<sup>2</sup>, Vera Ortiz-Santamaria<sup>2</sup>

<sup>1</sup>Hospital Germans Trias i Pujol, Rheumatology, Badalona, Spain, <sup>2</sup>Hospital General de Granollers, Rheumatology, Granollers, Spain

**Background and Aims:** Anti-dsDNA antibodies are frequently detected in patients with Systemic Lupus Erythematosus(SLE). They are usually determined by ELISA. Immunofluorescence(IF) using the parasite Crithidia lucilae(CL) is less used. The aim of this study is to determine anti-DNA by CL in patients with positive ANA and anti-DNA by ELISA and to analyze whether there is a relationship between meeting SLE ACR-EULAR-2019 criteria and anti-DNA-CL positivity.

**Methods:** Retrospective observational study carried out at Germans Trias i Pujol University Hospital and Hospital General de Granollers. Patients with ANA $\geq$ 1/320 and ELISA-DNA $\geq$ 100 IU/mL between 2018 and 2021 were collected. All of them underwent IF-CL test. Analytical and clinical data were collected and classification criteria for SLE ACR-EULAR-2019 were applied.

**Results:** 111 patients were included. 85% of the 31 patients with a positive CL test, met SLE criteria. 80 patients had a negative CL result, and of these only 11.3% (n=9) met SLE classification criteria. A statistically significant relationship ( $p<0.05$ ) was observed between the positive CL test and SLE criteria. 87.5% (n=35) of patients  $\leq$ 65years with negative CL test did not meet SLE criteria compared to 12.5% (n=5) who did. In contrast, 88.2% of patients with a positive CL test met SLE criteria ( $p<0.005$  using Fisher's exact test). No statistically significant relationship was found in patients  $>$  65 years ( $p=0,273$ ).

**Conclusions:** Anti-DNA-CL test could be useful to discriminate anti-DNA positive patients by ELISA and low suspicion of SLE in patients  $<$ 65years old. In patients  $>$ 65years anti-DNA-CL test doesn't discriminate between those who meet SLE criteria and those who don't.



PV097 / #425

**POSTER VIEWING WALK: F5**  
17-03-2023 11:50 AM - 12:50 PM

**“ANTI-RO/SSA-ANTIBODIES AND ELECTROCARDIOGRAPHIC ABNORMALITIES IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): PRELIMINARY DATA OF A MULTIDISCIPLINARY STUDY IN A MONOCENTRIC COHORT”**

Eleonora Pedretti<sup>1</sup>, Stefania Bertocchi<sup>1</sup>, Riccardo Rovelli<sup>1</sup>, Andrea Drera<sup>2</sup>, Francesco Ravasio<sup>2</sup>, Mauro Riccardi<sup>2</sup>, Lisa Serafini<sup>2</sup>, Enrico Vizzardi<sup>2</sup>, Ilaria Cavazzana<sup>1</sup>, Micaela Fredi<sup>1</sup>, Franco Franceschini<sup>1</sup>

<sup>1</sup>ASST Spedali Civili of Brescia, University of Brescia, Rheumatology And Clinical Immunology, Brescia, Italy, <sup>2</sup>ASST Spedali Civili of Brescia, University of Brescia, Cardiology, Brescia, Italy

**Background and Aims:** Cardiovascular involvement is common in patients with Systemic Lupus Erythematosus (SLE). Previous studies suggesting that anti-Ro/SSA-positivity is an independent risk factor for marked QTc prolongation [1]. The aim of this study is to estimate the prevalence of QTc-prolongation in a monocentric cohort and possible correlation with anti-Ro/SSA-antibodies.

**Methods:** An electrocardiographic study (ECG) was proposed to SLE patients consecutively attending our Lupus Clinic from November 2021 to March 2022. All were tested for anti-Ro/SSA-antibodies. Exclusion criteria: severe valvulopathies, hypertrophic/dilated cardiomyopathy, implantation of pacemaker or implantable-cardioverter-defibrillator. QTc was calculated using the Bazett's formula and QTc-prolongation was defined according to American College of Cardiology (ACC)/American Heart Association (AHA) recommendations (QTc>470ms for males, QTc>480ms for females) [2].

**Results:** 141 patients accepted to undergo an ECG: 130 females, 11 males; median age 52 [IQR 42-59], median disease duration 21 years [14-31]. Sixty-eight patients were positive for anti-Ro/SSA-antibodies. Median QTc was 415 [IQR 394-436]ms; only 4 had a prolonged QTc (Table 1). No significant differences were observed between anti-Ro/SSA-positive vs. negative patients in term of QTc intervals (416 [395-437]ms vs 413 [392-432]ms; p=0,545). Other electrocardiographic alterations were found; none of these patients had a QTc-prolongation.

**Conclusions:** These preliminary data show a lower prevalence of QTc prolongation compared to previous studies [1], with no differences between anti-Ro/SSA-positive and anti-Ro/SSA-negative patients. Further analyses will be available with: data from 24-hours-ECG and characterization of anti-Ro/SSA-antibodies. [1] Lazzerini et al, Journal of the American Heart Association.2021 [2] Drew et al.

Circulation.2010

**Table 1.** Features of patients with prolonged QTc

	<b>Age</b>	<b>Anti-Ro/SSA</b>	<b>QTc</b>	<b>Cardiovascular risk factors</b>
<b>1</b>	56	Positive	492 ms	none
<b>2</b>	57	Negative	488 ms	HT, D
<b>3</b>	60	Positive	480 ms	HT
<b>4</b>	63	Positive	508 ms	D
HT: hypertension; D: dyslipidaemia				

PV098 / #13

**POSTER VIEWING WALK: F5**  
**17-03-2023 11:50 AM - 12:50 PM**

**CRP SERUM LEVELS ARE ASSOCIATED WITH HIGH CARDIOMETABOLIC RISK AND CLINICAL DISEASE ACTIVITY IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS**

Karen Pesqueda-Cendejas<sup>1</sup>, Isela Parra-Rojas<sup>1,2</sup>, Paulina E. Mora-García<sup>1</sup>, Margarita Margarita Montoya-Buelna<sup>1,3</sup>, Adolfo I. Ruiz-Ballesteros<sup>1</sup>, Mónica R. Meza-Meza<sup>1</sup>, Bertha Campos-López<sup>1</sup>, Melissa Rivera-Escoto<sup>1</sup>, Barbara Vizmanos<sup>1</sup>, Sergio Cerpa-Cruz<sup>4</sup>, Ulises De La Cruz-Mosso<sup>1</sup>

<sup>1</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Red De Inmunonutrición Y Genómica Nutricional En Las Enfermedades Autoinmunes, Guadalajara, Jalisco, Mexico, <sup>2</sup>Universidad Autónoma de Guerrero, Facultad de Ciencias Químico-Biológicas, Laboratorio De Investigación En Obesidad Y Diabetes, Chilpancingo de los Bravo, Guerrero, Mexico, <sup>3</sup>Universidad de Guadalajara, Laboratorio De Inmunología, Guadalajara, Mexico, <sup>4</sup>Hospital Civil de Guadalajara Fray Antonio Alcalde, Departamento De Reumatología, Guadalajara, Jalisco, Mexico

**Background and Aims:** Systemic lupus erythematosus (SLE) patients have a higher frequency of cardiovascular risk factors such as C-reactive protein (CRP) than the general population. CRP is considered a cardiovascular disease marker that could be related to SLE clinical disease activity. This study was aimed to assess the association between CRP with cardiometabolic risk and clinical disease activity in SLE patients

**Methods:** A comparative cross-sectional study was conducted in 176 female SLE patients and 175 control subjects (CS) with a median of 38 and 33 years old respectively; SLE patients were classified by the 1997 SLE-ACR criteria and the clinical disease activity by the Mexican-SLEDAI (Mex-SLEDAI). CRP and lipid profile (Triglycerides, Cholesterol, HDL-C, and LDL-C) were quantified by turbidimetry and colorimetric-enzymatic assays, respectively

**Results:** SLE patients had higher CRP levels than CS (SLE: 5mg/L vs. CS= 1.1mg/L;  $p < 0.001$ ). In SLE patients CRP levels  $\geq 3$  mg/L were associated with a higher risk to cardiometabolic risk status assessed by LAP index (OR=3.01; IC:1.04-8.7;  $p = 0.04$ ), triglycerides/HDL-C index (OR=5.2; IC: 2.1-12.8;  $p < 0.001$ ), Kannel index (OR= 3.1; IC:1.1-8.1;  $p = 0.03$ ), Castelli index (OR= 6.6; IC:2.5-17.8;  $p < 0.001$ ), and high clinical disease activity (OR= 2.5; IC:1.03-6.2;  $p = 0.04$ ; and  $\beta$  coefficient =5.8; IC: 2.5-9.4;  $R^2=0.15$ ;  $p = 0.001$ )

**Conclusions:** High CRP levels were associated with high cardiometabolic risk and clinical disease activity in SLE patients.



PV099 / #490

**POSTER VIEWING WALK: F5**  
17-03-2023 11:50 AM - 12:50 PM

**A CASE REPORT: SYSTEMIC LUPUS ERYTHEMATOSUS AND SJOGREN'S SYNDROME  
ASSOCIATED WITH MUCOSA ASSOCIATED LYMPHOID TISSUE LYMPHOMA:  
TREATMENT OPTIONS**

Karolina Staškuvienė<sup>1,2</sup>, Irena Butrimienė<sup>1,2</sup>, Ieva Talijūnienė<sup>1,2</sup>, Danutė Povilėnaitė<sup>1,2</sup>  
<sup>1</sup>Vilnius University Hospital Santaros Clinics, Rheumatology Department, Vilnius,  
Lithuania, <sup>2</sup>Vilnius University, Faculty Of Medicine, Vilnius, Lithuania

**Background and Aims:** Patients with systemic rheumatic autoimmune diseases are at higher risk of developing non-Hodgkins lymphomas. Sjogren's syndrome (SS) places a higher risk of lacrimal gland mucosa associated lymphoid tissue (MALT) lymphoma compared to patients who suffer from systemic lupus erythematosus (SLE).

**Methods:** A case report.

**Results:** In 2010 a 25-year-old female patient during her pregnancy was diagnosed with SLE and membranous nephropathy (lupus nephritis fifth class). A treatment according to Euro lupus scheme was started: intravenous methylprednisolone 1 g daily pulse therapy for 3 days followed by oral prednisolone 10 mg daily; intravenous cyclophosphamide pulse therapy (total dose 6 g); azathioprine 100 mg and hydroxychloroquine 400 mg daily. After few years azathioprine was discontinued because of medicament hepatitis and capillaritis. Since 2015 the disease flare up (proteinuria has progressed) and the treatment with mofetil mycophenolate 1 g daily was prescribed. In 2018 rheumatologists diagnosed secondary SS from parotid gland biopsy and found an inflammatory in right accessory parotid gland and submandibular lymph node. The second biopsy was taken and the diagnosis of MALT lymphoma was confirmed. There was no evidence of systemic lymphoma progression and the treatment with rituximab was started. According to Euro lupus treatment protocol mofetil mycophenolate 1 g daily was continued and cyclosporine 50 mg daily was added.

**Conclusions:** In literature there are only several case reports published about non-gastric MALT lymphoma for patients who suffered from SLE and secondary SS at the same time. Rituximab is the main medication who showed successful results to control SLE, SS and induces a complete remission of MALT lymphoma.

PV100 / #133

**POSTER VIEWING WALK: F6**  
**17-03-2023 11:50 AM - 12:50 PM**

**PURSuing APPROPRIATENESS IN ANTIPHOSPHOLIPID ANTIBODIES TESTING:  
 FEASIBILITY STUDY WITH A REFLEX TEST APPROACH FOR ANTI-BETA-2-  
 GLYCOPROTEIN I DOMAIN 1**

Maria Infantino<sup>1</sup>, Silvia G Foddai<sup>2</sup>, Mariangela Manfredi<sup>1</sup>, Maurizio Benucci<sup>3</sup>, Irene Cecchi<sup>3</sup>, Massimo Radin<sup>2</sup>, Alice Barinotti<sup>2</sup>, Elena Rubini<sup>2</sup>, Savino Sciascia<sup>2</sup>  
<sup>1</sup>San Giovanni di Dio Hospital, Immunology And Allergology Laboratory, Florence, Italy, <sup>2</sup>University Center of Excellence on Nephrologic, Rheumatologic and Rare Diseases (ERK-net, ERN-Reconnect and RITA-ERN Member) with Nephrology and Dialysis Unit and Center of Immuno-Rheumatology and Rare Diseases (CMID), Coordinating Center of the Interreg, San Giovanni Bosco Hub Hospital And University Of Turin, Turin, Italy, Turin, Italy, <sup>3</sup>San Giovanni di Dio Hospital, Rheumatology Unit, Florence, Italy

**Background and Aims:** We evaluate the effectiveness of the reflex approach in testing for anti-β2GPI–D1 IgG antibodies (aβ2GPI-D1) of aβ2GPI positivity in a real world setting (development cohort) and validate it in an external setting (validation cohort).

**Methods:** The development cohort was constituted by a population screened for aPL from January 2021 to May 2022. Samples were tested for ab2GPI-D1 only when ab2GPI testing obtained positive results. In the validation cohort, consecutive patients at high clinical suspicion for antiphospholipid syndrome referred from 2019 to 2022 were tested for aPL, including ab2GPI-D1 regardless the ab2GPI status. Sera were tested by CLIA-QUANTA-Flash, Inova Diagnostics, San Diego, CA.

**Results:** Out of 5250 requests, 283 samples included in the development cohort resulted positive for ab2GPI (5.4%). Of those, 81 (28.6%) resulted positive for ab2GPI-D1 (Table 1). In the validation cohort, out of the 489 tested patients, ab2GPI antibodies resulted positive in 201 (41.1%) cases. ab2GPI-D1 antibodies were positive in 73 patients (36.3%). In 7 cases, low-borderline titers of ab2GPI-D1 were observed in the absence of positive ab2GPI antibodies (mean titer 25.73 CU/mL±2.3CU/mL). None of these 7 patients presented with thrombotic events.

		aβ2GPI-D1+ve	
		Development Cohort (N.283)	Validation Cohort (N.489)
aβ2GPI	Moderate-high titers (>40 CU/mL)	73(25.8%)	61(12.4%)
	Low titers (20-40 CU/mL)	8(2.8%)	12(2.4%)

**Conclusions:** Up to 28% and 36% of patients with ab2GPI tested positive also for ab2GPI-D1 antibodies in the development and validation cohort, respectively. Our study supports the

feasibility of ab2GPI-D1 reflex algorithm to further investigate aPL positive results, especially when ab2GPI antibodies are detected to moderate-high titers.



PV101 / #219

**POSTER VIEWING WALK: F6**  
**17-03-2023 11:50 AM - 12:50 PM**

**LACK OF HARMONIZATION OF IMMUNOASSAYS FOR RHEUMATOID FACTOR ISOTYPES**

Maria Infantino<sup>1</sup>, Boaz Palterer<sup>2</sup>, Silvia Pancani<sup>1</sup>, Maurizio Benucci<sup>3</sup>, Mariangela Manfredi<sup>1</sup>, Nicola Bizzaro<sup>4</sup>

<sup>1</sup>San Giovanni di Dio Hospital, Immunology And Allergology Laboratory, Florence, Italy, <sup>2</sup>Department of Clinical and Experimental Medicine, University Of Florence, Florence, Italy, <sup>3</sup>San Giovanni di Dio Hospital, Rheumatology Unit, Florence, Italy, <sup>4</sup>Laboratory of Clinical Pathology, San Antonio Hospital, Azienda Sanitaria Universitaria Integrata, Udine, Udine, Italy

**Background and Aims:** Rheumatoid arthritis (RA) is a systemic autoimmune disease characterised by the presence of autoantibodies that are used for classification of the disease. Though routine diagnostics is commonly restricted to measuring rheumatoid factor (RF) and anti-citrullinated protein antibodies, the detection of RF isotypes IgM, IgG and IgA, may increase the power of RA serodiagnosis by reducing the number of seronegative patients as well as provide prognostic information. The agglutination-based RF assays, such as nephelometry or turbidimetry, are unable to differentiate between isotypes. We compared three different immunoassays used in current laboratory practice to detect RF isotypes.

**Methods:** We tested 117 consecutive serum samples positive for total RF both at nephelometry and turbidimetry (Spearman correlation coefficient = 0.948) from 55 RA and 62 non-RA subjects (F:M ratio 1.8:1, mean age = 59.0 ± 15.0 years). IgA, IgG, and IgM isotypes of RF were tested by immunoenzymatic (ELISA, Technogenetics), fluoroenzymatic (FEIA, ThermoFisher) and chemiluminescence (CLIA, YHLO Biotech Co.) immunoassays. Agreement among methods for IgA, IgG, and IgM isotypes was calculated by Cohen's kappa.

**Results:** Correlation among methods ranged from 0.580 (RF IgM CLIA vs. FEIA) to 0.05 (RF IgG CLIA vs. FEIA) (Table).

			RF IgM		RF IgA		RF IgG	
			FEIA	ELISA	FEIA	ELISA	FEIA	ELISA
RF IgM	ELISA	k	0.412		0.440		0.147	
		p	<0.001		<0.001		0.002	
	CLIA	k	0.846	0.378	0.520	0.486	0.049	0.398
		p	<0.001	<0.001	<0.001	<0.001	0.155	<0.001

**Conclusions:** The poor agreement among assays observed in this study indicates substantial lack of harmonization and, at the moment, precludes any reliable clinical use of measuring RF isotypes.

PV102 / #282

**POSTER VIEWING WALK: F6**  
 17-03-2023 11:50 AM - 12:50 PM

**EXPLORING EU5 PATIENT DEMOGRAPHICS IN THE RHEUMATOID ARTHRITIS SWITCHING MARKET BY MECHANISM OF ACTION**

Emily Hettel, Kara Murray, Maxine Yarnall  
 Spherix Global Insights, Market Research, Rheumatology, Exton, United States of America

**Background and Aims:** This research sought to identify trends within rheumatologist prescribing of advanced therapies in rheumatoid arthritis (RA) patients, assessing demographics including age, comorbidities, disease severity, and risk profiles.

**Methods:** An independent market analytics firm collaborated with 236 EU5 rheumatologists from July 20 through August 22, 2022 to conduct a retrospective chart review of 1,271 rheumatoid arthritis patients who were recently switched from one advanced treatment to another.

**Results:** Across available treatment options in RA, TNFs continue to dominate in earlier lines of therapy with AMOAs finding a place later in rheumatologists' arsenal. Meanwhile, abatacept and rituximab are most frequently prescribed in later lines to older patients experiencing a higher amount of risk factors and having previously failed other biologics/JAKs.

	<b>Mean Patient Age</b>
TNFs	51
JAKs	52
IL-6s	53
abatacept (T-Cell)	<b>59</b>
rituximab (B-Cell)	<b>55</b>

RA patient severity at the most recent switch is higher among those prescribed abatacept and rituximab. Substantial differences in disease manifestations exist among abatacept and rituximab compared to other MOAs, most notably high blood pressure and cardiovascular risk profile, diabetes, cancer, and family history of PsA or RA.

	<b>At Most Recent Switch</b>		
	<b>Mild</b>	<b>Moderate</b>	<b>Severe</b>
TNFs	23%	59%	18%
JAKs	6%	68%	27%
IL-6s	12%	61%	27%
T-Cell (abatacept)	9%	61%	<b>30%</b>
B-Cell (rituximab)	5%	52%	<b>43%</b>

	TNFs	JAKs	IL-6s	T-Cell (abatacept )	B-Cell (rituximab)
Cancer/history of cancer	2%	2%	1%	2%	8%
Chronic fatigue syndrome	7%	4%	6%	6%	10%
Chronic pulmonary disease	3%	3%	4%	14%	7%
Depression or anxiety	12%	13%	18%	14%	17%
Diabetes	10%	9%	9%	18%	19%
Family history of PsA or RA	6%	8%	3%	8%	10%
High blood pressure/hypertension	24%	27%	24%	35%	35%
High cardiovascular risk	23%	16%	17%	26%	35%
Hyperlipidemia/dyslipidemia	17%	16%	18%	23%	20%
Menopause	15%	28%	18%	21%	18%
Osteopenia	10%	14%	13%	24%	13%

**Conclusions:** Rheumatologists often gravitate towards T-Cell and B-Cell inhibitors, abatacept and rituximab, for the treatment of older patients who suffer from more progressive disease and multiple comorbidities and have previously failed advanced therapies.



PV103 / #336

**POSTER VIEWING WALK: F6**  
**17-03-2023 11:50 AM - 12:50 PM**

**CLINICAL EVALUATION FOR THE DETECTION OF ANTIBODIES ASSOCIATED WITH SJOGREN'S SYNDROME IN A SPANISH COHORT ON THE APTIVA SYSTEM**

Andrea Seaman<sup>1</sup>, Marcos Lopez-Hoyos<sup>2</sup>, Michael Mahler<sup>1</sup>, Juan Irure-Ventura<sup>2</sup>, Michelle Amio<sup>1</sup>, Edward Wahl<sup>1</sup>, Marychel Tiongson<sup>1</sup>, Carmen Andaluca<sup>1</sup>, Elena Gonzalez-Lopez<sup>2</sup>, Adriel Roa-Bautista<sup>2</sup>

<sup>1</sup>Werfen - Autoimmunity, Research And Development, San Diego, United States of America, <sup>2</sup>Hospital Universitario Marques de Valdecilla, Immunology, Santander, Spain

**Background and Aims:** The detection of anti-SS-A/Ro and anti-SS-B/La antibodies is important in the diagnosis of Sjögren's Syndrome (SjS) and have been known to be present years before clinical symptoms. Historically, anti-Ro antibodies were detected using a mixture of Ro52 and Ro60. However, more recently it was discovered that both proteins are part of individual antibody system (Ro60 being the more relevant SjS target). The adoption of fully automated solid phase assays is increasing in clinical laboratories worldwide. This study aimed to evaluate the clinical performance of Aptiva CTD Essential Reagent (including anti-Ro52, anti-Ro60 and anti-SS-B) based on a novel fully automated particle-based multi-analyte technology (PMAT) using a cohort of SjS samples from Spain.

**Methods:** Samples from a total of 76 SjS patients along with 780 individuals with other disease were tested on the Aptiva CTD Essential Reagent (PMAT, research use only, Inova Diagnostics, San Diego, USA) which includes anti-Ro60, anti-Ro52 and anti-SS-B. Clinical performance was assessed for all analytes including sensitivity, specificity, odds ratios and area under the curve (AUC).

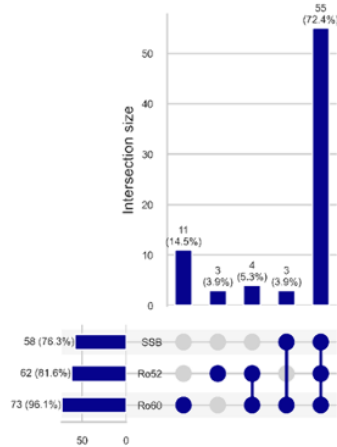
**Results:** Anti-Ro52, anti-Ro60 and anti-SS-B included in the PMAT reagent showed good clinical performance (see Table)

1).

Table 1 – Clinical performance of Aptiva PMAT analytes

Analyte	Ro52	Ro60	SS-B
Sensitivity % (95% CI)	81.6 (71.4 – 88.7)	96.1 (89.0 – 98.6)	76.3 (65.6 – 84.5)
Specificity % (95% CI)	95.5 (93.8 – 96.8)	89.7 (87.4 – 91.7)	97.1 (95.6 – 98.0)
Odds Ratio (95% CI)	94.3 (48.3 – 183.5)	212.9 (69.3 – 652.4)	106.1 (54.3 – 207.1)
AUC	0.944 (0.909 – 0.978)	0.967 (0.939 – 0.995)	0.961 (0.933 – 0.988)

AUC=area under the curve; CI=confidence interval



Seventy-two percent (55/76) of the samples from SjS patients were positive for all three analytes, with 14.5% (n=11) positive for anti-Ro60 only, 3.9% (n=3) positive for anti-Ro52 only. All anti-SS-B positive samples were positive for either anti-Ro52 or anti-Ro60 and 100.0% (n=76) were positive for at least one of the three analytes.

**Conclusions:** The Aptiva CTD Essential anti-Ro52, anti-Ro60 and anti-SS-B analytes showed good clinical performance in the cohort of SjS patients. As expected, the overlap of positivity between the anti-Ro52, anti-Ro60 and anti-SS-B is high, however, monospecific anti-Ro52 and anti-Ro60 samples highlight the need for both analytes in the diagnostic testing algorithm.

PV104 / #214

**POSTER VIEWING WALK: F6**  
17-03-2023 11:50 AM - 12:50 PM

### UNMET NEEDS FOR SJÖGREN'S SYNDROME IN THE US

Emily Hettel<sup>1</sup>, Maxine Yarnall<sup>2</sup>

<sup>1</sup>Spherix Global Insights, Rheumatology, Exton, United States of America, <sup>2</sup>Spherix Global Insights, Market Research, Rheumatology, Exton, United States of America

**Background and Aims:** There is a high unmet need for new pharmacological treatment options in Sjögren's Syndrome. Rheumatologists are dependent on use of many over the counter products and steroids, but do not have any approved options that treat the underlying disease.

**Methods:** An independent market analytics firm surveyed 100 US rheumatologists for an analysis of the Sjögren's market. Data were collected via an online survey fielded July 28 through August 16, 2021, which included physician demographics, patient management, patient treatment, and perceptions of new drugs in an untapped market.

**Results:** Majority of surveyed physicians agree the need for new pharmacological treatment options for Sjögren's is high and only 7% are satisfied with their current treatment options since they rely heavily on therapies that offer limited symptomatic benefit but have no options to treat the underlying disease. Data collected shows biologics approved for other rheumatic conditions are often used off-label to manage the constellation of Sjögren's symptoms; doctors estimate that 29% of their Sjögren's patients are biologic-eligible, primarily because of ineffectiveness of traditional csDMARD therapies. Rituximab is the most prescribed off-label B cell depletor, followed by the TNFi, adalimumab.

	Initial Treatment
rituximab	40%
adalimumab	22%
belimumab	12%
etanercept	12%
abatacept	10%
infliximab	7%
ustekinumab	1%

**Conclusions:** With little advanced therapy options in the Sjögren's market, development of new therapeutic options is imperative to advance treatment. Current off-label use of rituximab and TNF inhibitors demonstrates rheumatologists are ready and willing to use advanced therapeutics to manage their patients.



PV105 / #293

POSTER VIEWING WALK: F6  
17-03-2023 11:50 AM - 12:50 PM

**THE CROATIAN PRIMARY SJÖGREN'S SYNDROME ORAL HEALTH STUDY: ORAL STATUS AND ORAL HEALTH-RELATED QUALITY OF LIFE**

Ana Glavina<sup>1</sup>, Ivona Bozic<sup>2</sup>, Katica Parat<sup>1</sup>, Dijana Perković<sup>2</sup>, Dusanka Martinovic Kaliterna<sup>2</sup>, Dolores Biocina Lukenda<sup>1</sup>, Mislav Radic<sup>2</sup>

<sup>1</sup>Study of Dental Medicine, School of Medicine, University of Split, Department Of Oral Medicine And Periodontology, Split, Croatia, <sup>2</sup>University Hospital Split, Division Of Rheumatology And Clinical Immunology, Split, Croatia

**Background and Aims:** To determine salivary flow rate, oral and periodontal status, OHRQoL, objective (ESSDAI) and subjective (ESSPRI, 6-items-VAS-SS, Profile of Fatigue) indexes, and serum antibody reactivity in patients with primary Sjögren's Disease (pSD).

**Methods:** Thirty-one patients with pSD and 31 control subjects participated in this cross-sectional, single-center study. The unstimulated whole salivary flow rate (UWSFR) and stimulated whole salivary flow rate (SWSFR), salivary pH, DMFT index, periodontal pocket depth (PPD), clinical attachment level (CAL), interincisal distance, OHRQoL, objective (ESSDAI) and subjective (ESSPRI, 6-items-VAS-SS, Profile of Fatigue) indexes were analyzed. Biochemical analysis of serum from a blood sample was performed.

**Results:** The mean DMFT index of pSD patients was  $23.74 \pm 7.28$  compared with control subjects ( $20.77 \pm 5.73$ ), without statistical significance ( $P=0.08$ , T-test). The prevalence of periodontitis was the same in pSD patients and control subjects (83.87% vs. 77.42%), without statistical significance ( $P=0.348$ ,  $\lambda^2$  test). ESSDAI correlated positively with UWSFR ( $P < 0.001$ ,  $r = 0.708$ , Spearman's rank coefficient), SWSFR ( $P < 0.001$ ,  $r = 0.743$ ), and total OHIP-49 score ( $P < 0.001$ ,  $r = 0.949$ ). There was no association between periodontitis and the observed autoantibodies (anti-Ro/SSA, anti-La/SSB, anti-TRIM21, RNP) ( $P=0.631$ ,  $P=0.530$ ,  $P=0.469$ , and  $P=0.640$ , respectively; Fisher's exact test).

**Conclusions:** Primary SD patients have decreased salivary flow and salivary pH, poor oral health, decreased interincisal distance, high prevalence of periodontitis, and worse OHRQoL. The strong and statistically significant association of the objective parameter of the pSD (ESSDAI) with parameters of the oral cavity (UWSFR, SWSFR) shows that oral status is significantly related to the severity of the underlying disease.

PV106 / #467

**POSTER VIEWING WALK: F6**  
17-03-2023 11:50 AM - 12:50 PM

### **SJOGREN'S SYNDROME TRIGGERED BY AN ENTEROVIRUS**

Joana Viegas<sup>1,2</sup>, Ana Vilas<sup>2</sup>

<sup>1</sup>Centro Hospitalar Universitário Lisboa Norte - Hospital Santa Maria, Medicina 2f, Lisboa, Portugal, <sup>2</sup>Centro Hospitalar Universitário Lisboa Norte - Hospital de Santa Maria, Medicina 2f, Lisboa, Portugal

**Background and Aims:** Introduction: Sjögren's syndrome (SS) is the most common autoimmune disease among older women. Still, its pathophysiology isn't fully understood, with several factors (genetic, endogenous and exogenous, such as viral infections) playing a role.

**Methods:** Clinical case: 89-year-old woman with chronic venous insufficiency who fell and therefore reduced her mobility. Two weeks later she began a left pleuritic chest pain, cough and dyspnea. On hospital admission she had bilateral alveolar infiltrates, left pleural effusion (LPE), right pulmonary thromboembolism (PTE) and infarction and left popliteal deep venous thrombosis (DVT). She had WBC 7600/uL, R-CP 19mg/dL, AST 96U/L, ALT 73U/L, GGT 423U/L, ALP 658U/L, bilirubin 0.5mg/dL. An old woman with LPE, DVT and PTE suggested malignancy. The acute onset, pulmonary alveolar infiltrates, high R-CP and altered liver tests could also indicate infection. On thoracocentesis, 1.5lt of an hematic exudative fluid was drained and no malignant cells were identified. The pleural biopsy only showed inflammation. Investigation ruled out neoplasm and most infections. Coxsackie and Echovirus were IgM+ IgG-. Full clinical remission followed. After discharge she began dryness of eyes, mouth and skin. On reevaluation, she had Echovirus IgG+, anti-Ro60+++ , anti-Ro52+ and anti-La+.

**Results:** SS was confirmed and the timeline pointed Echovirus as the trigger.

**Conclusions:** Discussion: Viruses induce an immune response which can result in tissue damage by several mechanisms, such as induction of self-antigen production or an exaggerated immune response. The relation between SS and some viral infections is well documented. Enterovirus induced SS, however, is rarely reported and is supported by this case.

PV107 / #443

**POSTER VIEWING WALK: F6**  
17-03-2023 11:50 AM - 12:50 PM

**THE RISK OF INFECTIONS IN ADULT PATIENTS WITH SYSTEMIC LUPUS  
ERYTHEMATOSUS IN IN TREATMENT WITH IMMUNOSUPPRESSANTS: REAL-WORLD  
DATA**

Richard Borrelli, Nicolò Rashidy, Elena Saracco, Federico Meli, Federica Corradi, Iuliana Badiu, Stefania Nicola, Luisa Brussino  
University of Turin c/o AO Ordine Mauriziano, Medical Science Department, Turin, Italy

**Background and Aims:** Systemic Lupus Erythematosus (SLE) is a chronic inflammatory illness that involves various organs and tissues, mostly affecting women of childbearing age. Infections occur more frequently in patients with SLE but, to date, only few studies used real-world data to assess the risk of immunosuppressants.

**Methods:** 168 participants were included; 51 were excluded per exclusion criteria. Patients were divided into three groups. The first one compared patients receiving biologics to those receiving conventional therapy (CT); the second compared patients receiving HCQ + CT to those receiving HCQ alone. The last one compared patients 18 to 50 to those above 50 years old.

**Results:** The use of biologics + CT increased the risk of infection vs CT alone (OR= 1.66) but was not statistically significant [CI (0.50; 5,58)]. Patients receiving HCQ+ CT vs HCQ alone were evaluated; their risk of infection was increased (OR = 1.25) but not statistically significant [CI(0.46; 3.43)]. The last cluster compared patients aged 18 to 50 vs those over 50; unlike the previous groups, the result was statistically significant (OR= 0.44, CI (0.20; 0.95))

**Conclusions:** Real-world data were relevant in estimating the risk of infections for patients receiving CT and/or biologics. The latter increased the risk of infections but was not statistically significant as well as combination of HCQ + CT vs HCQ alone. On the other hand, patients over 50 years old showed a greater risk of infections. This study has some limitations (number of recruited patients, varied definition of infective episodes) which need further evaluations to be properly assessed.



PV108 / #208

**POSTER VIEWING WALK: F6**  
17-03-2023 11:50 AM - 12:50 PM

### **LUPUS NEPHROPATHY AFTER HYDROXYCHLOROQUINE CESSATION?**

Simona Caraiola<sup>1</sup>, Dragos Casu<sup>2</sup>, Elena Armasoiu<sup>2</sup>, Laura Voicu<sup>2</sup>, Teodora Melinte<sup>2</sup>, Razvan Ionescu<sup>2</sup>, Sonia Balanica<sup>2</sup>, Sorina Badelita<sup>2</sup>, Gabriela Lupusoru<sup>2</sup>

<sup>1</sup>Colentina Clinical Hospital, Internal Medicine 3, Bucharest, Romania, <sup>2</sup>Colentina Clinical Hospital, Internal Medicine 3, pipera, Romania

**Background and Aims:** Hydroxychloroquine (HCQ) has been shown to reduce the frequency of disease flares, contribute to the maintenance of remission, prolong the onset of disease and reduce the risk of complications in patients with systemic lupus erythematosus (SLE).

**Methods:** We present the case of a 69-year-old female patient, with SLE since 1978 (cutaneous, hematological and articular involvement), associated with antiphospholipid syndrome (history of ischemic stroke and typical serology). Also known with atherosclerotic peripheral artery disease, arterial hypertension and type 2 diabetes, she has been controlled for many years with HCQ, coumarin anticoagulant and a low dose of methylprednisolone, along with the treatment of comorbidities.

**Results:** In January 2021 the electrocardiogram showed prolonged QTc interval, which led to the cessation of HCQ. Following that, in February 2022 she was admitted with autoimmune hemolytic anemia and thrombocytopenia due to active lupus. The hematologist increased the dose of Prednisolone with the resolution of hematological findings. In March 2022 our evaluation showed no signs of active disease except for proteinuria (0.7 g/24h). Since we didn't have any other signs of active lupus, including bland urinalysis, negative anti dsDNA antibodies we referred the patient to a nephrologist, who decided to perform a biopsy. The result concluded that proteinuria was due to diabetic nephropathy. The potential etiology is lupus nephropathy, antiphospholipid nephropathy or diabetic nephropathy.

**Conclusions:** This case shows that a patient can experience a flare after HCQ cessation even after a long period of controlled disease and that not all proteinuria in a SLE patient is due to SLE.

PV109 / #171

**POSTER VIEWING WALK: F6**  
 17-03-2023 11:50 AM - 12:50 PM

**MANAGEMENT AND TREATMENT OF SYSTEMIC LUPUS ERYTHEMATOSUS IN UK VS. EU MARKETS**

Emily Hettel, Ryan Rex, Sawyer May, Maxine Yarnall  
 Spherix Global Insights, Market Research, Rheumatology, Exton, United States of America

**Background and Aims:** Systemic lupus erythematosus (SLE) patients present significant challenges in management. This study aims to uncover differences in physician perceptions and real-world treatment patterns and outcomes among moderate to severely active patients in the EU5 (France, Italy, Spain, Germany, and UK).

**Methods:** 1,279 moderate-to-severe adult SLE patient records were collected in collaboration with 289 EU5 rheumatologists via an online survey platform from November 2021 through January 2022. Further, 253 EU5 rheumatologists reported their perceptions on the management of SLE in the EU5 via an online survey platform between August 2022 through September 2022.

**Results:** Compared to the rest of the EU5, UK rheumatologists report a higher unmet need for new pharmacologic options for SLE, with a greater proportion of respondents stating these patients are extremely challenging to manage.

	<b>High unmet need in SLE</b>	<b>Extreme challenge to manage SLE</b>
France	39%	35%
Germany	54%	48%
Italy	40%	46%
Spain	48%	50%
<b>UK</b>	<b>74%</b>	<b>66%</b>

UK physicians report higher rates of flares and a lower physician global assessment score, but prescribe advanced therapies less frequently than their EU counterparts.

	<b># of Flares</b>
France	1.02
Germany	1.15
Italy	0.83
Spain	1.20
<b>UK</b>	<b>1.33</b>

	<b>% on hydroxychloroquine</b>	<b>% on belimumab</b>
France	47%	12%
Germany	36%	16%

Italy	44%	17%
Spain	37%	14%
<b>UK</b>	<b>60%</b>	<b>6%</b>

**Conclusions:** UK physicians perceive a higher unmet need and difficulty in treating SLE patients compared to other EU markets surveyed, though prescribe approved advanced therapy options less often.



PV110 / #491

**POSTER VIEWING WALK: F6**  
**17-03-2023 11:50 AM - 12:50 PM**

**THE INDISPENSABLE ROLE OF HYDROXYCHLOROQUINE IN THE TREATMENT OF SYSTEMIC LUPUS ERYTHEMATOSUS**

Nune Manukyan<sup>1</sup>, Valentina Vardanyan<sup>1,2</sup>, Suzanna Vardanyan<sup>1,2</sup>, Anna Sargsyan<sup>1,2</sup>, Sona Mardoyan<sup>1,2</sup>

<sup>1</sup>MIKAELYAN INSTITUTE OF SURGERY, Rheumatology, Yerevan, Armenia, <sup>2</sup>Mikaelyan Institute of Surgery, Rheumatology, Yerevan, Armenia

**Background and Aims:** Antimalarial drug hydroxychloroquine (HCQ) plays a crucial role in the treatment of SLE. HCQ is recommended for all patients with SLE. HCQ deficit occurred worldwide during Covid-19 outbreak, as for a period of time it was used for the treatment of this novel infection. The rheumatologists tried to replace this drug by using other immunosuppressants. Find the correlation between flares and stopping using drugs.

**Methods:** We analysed the data of 99 women (mean age  $45.5 \pm 13.9$  years/), who stopped use of HCQ from March till September 2020 and had flares.

**Results:** The HCQ was replaced by either azathioprine (AZA), or methotrexate (MTX), or mycophenolate mofetil (MMF). On AZA flares occurred in 49 patients (49.5 %), MTX in 21(21.2%), and MMF in 29(29.3 %) patients respectively. Particularly, on AZA the following signs occurred: cytopenia in 22 (44.9%), arthritis in 16 (32.7%), rash in 23 (46.9), alopecia in 23 (46.9%), and proteinuria in 6 (12.2%) patients; on MTX cytopenia in 4 (19 %), arthritis in 1 (4.8 %), rash in 3(14.3 %), and alopecia in 10(47.6 %) patients, on MMF cytopenia in 5 (17.2%), arthritis in 11(17.9%), rash in 8(27.6%), and alopecia in 8 (27.6%) patients.

**Conclusions:** Hydroxychloroquine provides long term remission and prevents new flares. The replacement by new cytostatic immunosuppressants may cause flares. On more time proved, HCQ has indispensable role in the treatment of SLE. However, it is necessary to conduct new additional head-to-head studies to compare efficacy of HCQ with other antirheumatic drugs in mild and moderate cases of SLE.

PV111 / #611

**POSTER VIEWING WALK: F6**  
17-03-2023 11:50 AM - 12:50 PM

**A CASE OF SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) RESPONSIVE TO BELIMUMAB THERAPY.**

Irene Ridolfi, Stefania Nicola, Iuliana Badiu, Federica Corradi, Luisa Brussino  
University of Turin c/o AO Ordine Mauriziano, Medical Science Department, Turin, Italy

**Background and Aims:** F.A.M. is a patient affected by SLE with articular, neurological and serosal involvement; at diagnosis(2003) she presented polyarthralgia, lymphopenia (WBC 6040cells/mcl, L 400cells/mcl), positivity ANA (1:640 AC-1), anti-DNA 78 I.U./ml, CRP 87.8mg/dl, C4 0.06g/dl, ESR 40 mm/h and anti-SSA 52kDa >1650 U. The patient was treated with hydroxychloroquine, azathioprine and sub-continuous systemic steroids, with modest disease control. Due to multiple airway and urinary tract infections and an episode of right optic neuritis, cholelithiasis with acute cholecystitis and pericarditis, azathioprine was suspended in 2018. In 2019, the patient manifested a new flare of the disease, with low-grade fever (max 38°C), oral aphthosis, exertional dyspnea, polyarthralgia and arthrosinovitis of the right knee. Blood chemistry shows Hb 11.7 g/dl, MCV 90fl, MCHC 32.6g/dl, WBC 6190cells/mcl (L 400 cells/mcl), anti-DNA 61 I.U./ml, C4 0.05 g/dl, ESR 42mm/h and CRP 28.9mg/L (SLEDAI-2k:12). After initial treatment with oxygen, high-dose steroids and empiric cephalosporin iv., prophylaxis with trimethoprim/sulfemethoxazole and prednisone 25 mg/day orally was prescribed but with rapid disease recurrence during de-scalation (at dose of 12.5 mg/day).

**Methods:** belimumab 200 mg/week sc. was started in combination with hydroxychloroquine and oral prednisone; it is effective in exacerbated extrarenal SLE as an adjunctive first line-therapy according to LG EULAR-2019.

**Results:** in the following months the inflammation indexes and the complement were normal with occasional arthralgias; the prednisone was reduced up to 5mg/day.

**Conclusions:** the case described confirms the efficacy of belimumab; SLEDAI-2k > 10, maintenance prednisone dose >7.5 mg/day and musculoskeletal and serological involvement supported the good probability of response to treatment.

PV112 / #569

**POSTER VIEWING WALK: S1**  
**18-03-2023 12:10 PM - 1:10 PM**

## **INFECTIONS AND CELIAC DISEASE – A LONG STORY**

Mohamad Aosama Alrifaj, Naim Mahroum  
Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey

**Background and Aims:** Celiac disease (CD) is a chronic autoimmune disease with a global prevalence of 1%. It is known to develop after ingestion of gluten-rich foods in genetically susceptible individuals. Variants in HLA-DQA1 and HLA-DQB1 genes encoding the alpha and beta chains of DQ2 and DQ8 proteins, are seen in more than 90% of patients

**Methods:** Genetic predisposition is necessary but not sufficient to develop CD, as only low percent of genetically predisposed individuals develop CD. Typical CD manifests with diarrhea alongside findings of malabsorption. Gluten is composed of unusual repetitive sequences of amino acids which make it difficult to fully digest the large peptides formed. By crossing intestinal lamina propria these peptide activate both innate and adaptive immune system causing an inflammatory cascade.

**Results:** Environmental factors play an important role in the pathogenesis of CD. An increased number of respiratory infections during the first 18 months of life seems to increase the risk of developing CD in later years

**Conclusions:** Additionally, there are rising evidence on the involvement of EBV and Enteroviruses in the pathogenesis of CD. Moreover, gastrointestinal infections have been listed as a risk factor for CD. For instance, rotavirus, the most common cause of acute gastroenteritis globally has been implicated as an environmental trigger of CD by two mechanisms: molecular mimicry and bystander activation. In our review, we aimed to elaborate on the correlation between infections and the development of CD.



PV113 / #567

**POSTER VIEWING WALK: S1**  
**18-03-2023 12:10 PM - 1:10 PM**

## **INFECTIONS AND TYPE 1 DIABETES – A LONG-LASTING RELATION**

Abdulrahman Elsalti<sup>1</sup>, Naim Mahroum<sup>2</sup>

<sup>1</sup>Istanbul Medipol University, International Faculty Of Medicine, Istanbul, Turkey, <sup>2</sup>Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey

**Background and Aims:** Type 1 diabetes mellitus (T1D), previously known as insulin-dependent or juvenile diabetes, is a chronic disease characterized by an autoimmune-induced pancreatic damage resulting in the destruction of beta cells. Although less common than type 2 diabetes mellitus, acute and life-threatening complications such as diabetic ketoacidosis may be fatal and mostly develop in children and teenagers. Prevention methods are not fully clear, but maintaining a healthy lifestyle is crucial as adjunctive to therapy. Treating type 1 DM is challenging particularly as the disease is not curable, and heavily depends on the individual patient, strict insulin regimens to maintain glucose levels under control.

**Methods:** While T1D has a multifactorial background including several genes and environmental factors; various infections mainly viruses are a leading environmental trigger of the disease. The strong correlation between infections and T1D, is a vivid proof of a historical bond between infection and autoimmunity.

**Results:** This review focuses on viruses, a factor strongly associated with the development of T1D, including Group B Coxsackie Virus (CVB), Rubella, Epstein Barr Virus (EBV) and recently the SARS-CoV-2 (COVID-19).

**Conclusions:** In fact, viruses have been implicated not only in triggering T1D, but also a subtype named as fulminant type 1 diabetes characterized by an unexplained rapid onset. Moreover, two proposed mechanisms in which viruses might possibly trigger T1D is either through direct damage led by viral persistence or through excessive activation of cytokines aimed initially to stop viral replication nevertheless may as well cause collateral cellular damage.

PV114 / #568

**POSTER VIEWING WALK: S1**  
**18-03-2023 12:10 PM - 1:10 PM**

**EBV-ASSOCIATED AUTOIMMUNE DISEASES - FUTURE HOPES OF PROPHYLACTIC AND THERAPEUTIC VACCINE**

Maisam Savaf<sup>1</sup>, Naim Mahroum<sup>2</sup>

<sup>1</sup>Istanbul Medipol University, International School Of Medicine, İSTANBUL, Turkey, <sup>2</sup>Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey

**Background and Aims:** EBV, one of the most common human viruses, infects more than 90% of the world population and has been associated with various autoimmune and malignant diseases, hence imparting a serious burden on human health. EBV is transmitted mainly through the saliva by infecting epithelial cells found in the oropharyngeal region in addition to infecting B-cells.

**Methods:** To gain entry, EBV binds to CD21 receptors. EBV remains dormant in the host cells for a long time. Little is known regarding the mechanisms of EBV-induced disease including transforming healthy cells to malignant cells. There remains a surprising scarcity of knowledge concerning the establishment of an immune response.

**Results:** Therefore, having a prophylactic EBV vaccine would prevent the spread of the virus, while a therapeutic vaccine could kill the infected cells, thus preventing the emergence of malignancy. Prophylactic vaccines mainly work on the induction of an antibody response that will prevent EBV from infecting its target cells, so a recombinant envelope protein vaccine will be useful as EBV requires multiple envelope proteins. Besides, targeting multiple EBV glycoproteins together (gH/gL, gB and gp350) could synergistically induce highly effective EBV neutralizing activity.

**Conclusions:** Despite decades of research efforts, there is no approved vaccine against EBV mainly due to the complexity of the virus life cycle, limited animal models and drug delivery systems, lack of high throughput methods, and inadequate rigorous computational modelling. To facilitate the assessment of an effective vaccine, we aimed to discuss some proposed vaccines, their mechanisms, and future implications.

PV115 / #566

**POSTER VIEWING WALK: S1**  
**18-03-2023 12:10 PM - 1:10 PM**

## **INFECTIONS IN THE IMMUNE INTERPLAY OF INFLAMMATORY BOWEL DISEASE**

Isa Seida, Zeynep Betul Balcioglu, Kamyar Neyestani, Naim Mahroum  
Istanbul Medipol University, International School Of Medicine, Istanbul, Turkey

**Background and Aims:** The relationship between IBD and infection was described very early in the aftermath of the identification of Crohn's disease and Ulcerative colitis. This relationship demonstrates that infections be it viral, bacterial, or parasitic, impact the pathology of IBD on multiple levels.

**Methods:** Infections achieve a harmful role in the prognosis of IBD mainly via the concept of "dysbiosis". The latter is characterized by microbial dysregulation that results in a hyperinflammatory environment in the gut which allows for the precipitation of the pathologies needed for IBD to develop.

**Results:** Among others, organisms contributing to the dysregulation observed include *Mycobacteria*, *E. coli*, *C. difficile*, *Campylobacter*, as well as viral agents like CMV and EBV. Furthermore, SARS-COV-2 the virus responsible for the current COVID-19 pandemic has been linked to IBD emergence and flares. However, its paramount to understand that the role of microbes in IBD is not restricted to worsening the prognosis. Appropriately utilizing microbial compounds such as probiotics, postbiotic, prebiotics and synbiotics has been shown to alleviate the clinical syndromes experienced in IBD.

**Conclusions:** Moreover, various studies have linked infections with certain helminths and yeasts to protection against IBD. This is further backed by the fact that IBD is predominantly a disease of developed countries which experience less helminthic and yeast infections. The interplay between infection and IBD, the focus of this review, is multifaceted and can either protect against or exacerbate IBD, further researching the topic is vital for allowing us to use them to improve the quality of life of IBD patients.



PV116 / #356

**POSTER VIEWING WALK: S1**  
**18-03-2023 12:10 PM - 1:10 PM**

**RELATIONSHIP OF DIETARY MALNUTRITION AND EXCESS WEIGHT WITH  
CARDIOMETABOLIC RISK AND CLINICAL DISEASE ACTIVITY IN RHEUMATOID  
ARTHRITIS PATIENTS**

Melissa Rivera-Escoto<sup>1</sup>, Bertha Campos-López<sup>2</sup>, Mónica R. Meza-Meza<sup>2</sup>, Paulina E. Mora-García<sup>2</sup>, Adolfo I. Ruiz-Ballesteros<sup>2</sup>, Karen Pesqueda-Cendejas<sup>2</sup>, Isela Parra-Rojas<sup>2,3</sup>, Margarita Montoya-Buelna<sup>2,4</sup>, Sergio Cerpa-Cruz<sup>5</sup>, Ulises De La Cruz-Mosso<sup>2</sup>

<sup>1</sup>Universidad de Guadalajara, Neurociencias, Guadalajara, Jalisco, Mexico, <sup>2</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Red De Inmunonutrición Y Genómica Nutricional En Las Enfermedades Autoinmunes, Guadalajara, Jalisco, Mexico, <sup>3</sup>Universidad Autónoma de Guerrero, Facultad de Ciencias Químico-Biológicas, Laboratorio De Investigación En Obesidad Y Diabetes, Chilpancingo de los Bravo, Guerrero, Mexico, <sup>4</sup>Universidad de Guadalajara, Centro Universitario de Ciencias de la Salud, Laboratorio De Inmunología, Guadalajara, Jalisco, Mexico, <sup>5</sup>Hospital Civil de Guadalajara Fray Antonio Alcalde, Departamento De Reumatología, Guadalajara, Jalisco, Mexico

**Background and Aims:** Rheumatoid arthritis (RA) is a systemic autoimmune condition with a higher cardiovascular disease risk. Dietary malnutrition and overweight could exacerbate cardiometabolic risk and clinical disease activity in RA patients. The study aimed to evaluate the relationship between dietary malnutrition and excess weight with cardiometabolic risk and clinical disease activity in RA patients and healthy subjects (HS).

**Methods:** A cross-sectional study was performed on 116 RA patients and 195 HS. Nutritional assessment was based on three 24h-dietary records. BMI >25 kg/m<sup>2</sup> was considered excess weight. Biochemical variables and cardiometabolic indexes were used to evaluate cardiometabolic risk. Clinical disease activity was calculated according to the DAS28 score.

**Results:** RA patients had a lower intake of kilocalories, protein, riboflavin, cobalamin, pantothenic acid, and zinc than HS ( $p < 0.05$ ). Also, they have higher triglyceride serum levels ( $p = 0.01$ ), lower HDL-C ( $p < 0.01$ ), and higher cardiometabolic risk index scores ( $p < 0.05$ ). Excess weight in RA patients was associated with a 6.67-fold higher cardiometabolic risk according to the Castelli index ( $p = 0.01$ ) and a 4.36-fold higher risk of triglycerides/HDL-C index score ( $p = 0.01$ ). Besides, we observe that achieving the DRI of pyridoxine (B6) contribute to reduce 2.2 points of DAS28 score in RA patients ( $\beta$  coefficient = -2.21;  $R^2 = 0.11$ ;  $p = 0.004$ ).

**Conclusions:** Dietary malnutrition and excess weight increase cardiometabolic risk and exacerbate clinical disease activity in RA patients.

PV117 / #298

**POSTER VIEWING WALK: S1**  
**18-03-2023 12:10 PM - 1:10 PM**

**GUT MICROBIOME DIFFERENCES IN DIVERSITY AND RICHNESS AMONG SUBTYPES OF SPONDYLOARTHRITIS IN A COLOMBIAN POPULATION**

Consuelo Romero-Sanchez<sup>1,2</sup>, Carlos Ferrer-Santos<sup>3</sup>, Omar-Javier Calixto<sup>2,4</sup>, Deisy Abri<sup>5</sup>, Eduin Acosta-Hernández<sup>2,4</sup>, Alejandro Ramos-Casallas<sup>1</sup>, Juliette De Avila<sup>1</sup>, Juan-Manuel Bello-Gualtero<sup>2,4</sup>, Wilson Bautista-Molano<sup>1,2</sup>

<sup>1</sup>Universidad El Bosque, School Of Dentistry, Cellular And Molecular Immunology Group/ Inmubo, Bogota, Colombia, <sup>2</sup>Universidad Militar Nueva Granada, School Of Medicine, Clinical Immunology Group, Bogota, Colombia, <sup>3</sup>Universidad Militar Nueva Granada, School Of Internal Medicine, Bogota, Colombia, <sup>4</sup>Hospital Militar Central, Rheumatology And Immunology Department, Clinical Immunology Group, Bogota, Colombia, <sup>5</sup>Universidad El Bosque, Bacterial Molecular Genetics Laboratory, Bogota, Colombia

**Background and Aims:** Each subtype of Spondyloarthritis (SpA) carries a distinct microbial signature. To determine composition of the fecal microbiome in SpA by subtype analysis compared to the control population.

**Methods:** 69 individuals were included, 49 with SpA, 5 patients with inflammatory bowel disease (IBD) as positive controls for dysbiosis and 15 as controls for eubiosis. SpA and concomitant IBD were excluded. Stools' DNA was extracted and used to prepare 16S rRNA gene amplicon libraries. These products were used to make Illumina TrueSeq libraries and sequenced.

**Results:** Ankylosing spondylitis (AS) (72.9%), Psoriatic arthritis (PsA) (18.8%), reactive arthritis (ReA) (8.3%). Diversity and microbial richness were determined without a statistically significant finding between SpA and healthy controls, but yes with IBD. By SpA subtype, statistically significant differences were found in favor of AS for the indices compared with PsA and ReA, and there were no differences between PsA and ReA. AS vs PsA, a difference was found in proportions in favor of AS, for *Clostridium clostridioforme*. In ReA, a decrease in richness for *Ruminococcus callidus* vs PsA and AS. An increase in the genus *Dialester spp.* in patients with ReA.

**Conclusions:** There are no differences in diversity and richness come in in patients with SpA when compared to healthy controls. There are differences in diversity for the SpA subtypes. Some hierarchies previously associated with low levels of vitamin D metabolites and gastrointestinal inflammation, with polysaccharide degradation and increase in lactate, acetate, and propionate metabolites associated with increased nutrient requirements, with a profile similar to patients with IBD.

PV118 / #389

**POSTER VIEWING WALK: S1**  
**18-03-2023 12:10 PM - 1:10 PM**

### **GENERATION OF MABS AGAINST TTG AND MTG NEO EPITOPES**

Torsten Matthias, Patricia Wusterhausen, Ajay Ramesh  
AESKU.KIPP Institute, Research & Development, Wendelsheim, Germany

**Background and Aims:** Gluten-related diseases occur in 5% of the population. An increase in diagnosis seems to be due to a real increase in the incidence rather than the increased use of food additives, such as microbial transglutaminase (mTG). Gliadins are cross-linked by tissue transglutaminase (tTG) and/or mTG to form complexes, exposing immunogenic neo-epitopes, triggering the production of anti-neo-epitope antibodies. Detection of these antibodies is a powerful tool in early detection of enteric damage in pediatric CD. Anti-neo-epitope transglutaminase antibodies represent a new generation of markers offering several advantages like better diagnostic performance, a higher reflection of intestinal damage, better predictability at an early age, more diverse epitopes, and less false positivity. Recently, we generated monoclonal antibodies specifically recognizing tTG/mTG neo-epitopes.

**Methods:** In a first-of-its-kind attempt to generate mAbs against tTG/mTG neo epitopes, we injected mice with the tTG-gliadin and mTG-gliadin complexes. The resulting antibodies were tested for specificity using tTG-Neo, tTG, mTG, mTG-Neo, and gliadin ELISAs. Cell lines generating specific mAbs against tTG neo, tTG, mTG, mTG neo, and gliadin were identified and cultured to produce large quantities of the mAbs. These mAbs were purified and stored until further use.

**Results:** IFA EMA slides using anti-tTG- and mTG-neo mAbs revealed new patterns, previously not observed, different from the well-known tTG honey-comb pattern, as well as the gliadin pattern.

**Conclusions:** IFA EMA slides using anti-tTG- and mTG-neo mAbs revealed new patterns, previously not observed, different from the well-known tTG honey-comb pattern, as well as the gliadin pattern.



PV119 / #582

**POSTER VIEWING WALK: S2**  
**18-03-2023 12:10 PM - 1:10 PM**

**SKIN LESIONS AND ISCHEMIC PERIPHERAL VASCULOPATHY IN SYSTEMIC SCLEROSIS WITH PULMONARY ARTERIAL HYPERTENSION**

Natalia Yudkina<sup>1</sup>, Alexander Volkov<sup>1</sup>, Elena Gerasimova<sup>2</sup>

<sup>1</sup>V.A. Nasonova Research Institute of Rheumatology, Department Of Instrumental Diagnostics, Moscow, Russian Federation, <sup>2</sup>V.A.Nasonova Research Institute of Rheumatology, Department Of Systemic Rheumatic Diseases, Moscow, Russian Federation

**Background and Aims:** Patients (pts) with pulmonary arterial hypertension (PAH) associated with systemic sclerosis (PAH-SSs) have the most severe course and unfavorable prognosis compared with idiopathic PAH (IPAH).

**Methods:** 14 pts with SSc sine scleroderma (ssSSc)-PAH were analyzed in comparison with 54 pts with clinically manifest of skin involvement SSc-PAH (3 pts with diffuse (dcSSc-PAH) and 51 pts with limited cutaneous involvement (lcSSc-PAH)), and 48 pts with IPAH.

**Results:** Pts with IPAH were younger than both type SSc-PAH – 37 (28; 44), 48 (37; 56) and 54 (48; 62) y, respectively. In SSc-PAH pts with skin lesions and the diagnosis of PAH was established earlier (within 18 (10; 44) mo) than in pts with ssSSc (23 (15; 47) mo), although differences are not statistically significant. Raynaud's phenomenon was present in all SSc-PAH pts, although in cutaneous SSc pts with ischemic peripheral vasculopathy were more frequent (51% vs 14%, p=0.03), as well as contractures (53% vs 7%, p=0.006). Anticentromere antibodies were present in 7 (50%) pts with ssSSc-PAH and in 36 (65%) pts with skin lesions. 5-year survival in ssSSc-PAH was somewhat lower, than in SSc-PAH - 50.6% vs 64.9%; IPAH pts had the best survival rates of 82.5%.

**Conclusions:** Clinical features and survival ssSS-PAH are very similar to those in pts with cutaneous SSc-PAH with the exception of skin involvement, peripheral ischemic lesions and contractures. Rheumatologists should be aware of such specific features as similar survival rates in cutaneous and ssSSc pts, and late recognition of PAH in pts with ssSSc, as well as its similarity with IPAH.

PV120 / #600

**POSTER VIEWING WALK: S2**  
**18-03-2023 12:10 PM - 1:10 PM**

**VASCULAR MANIFESTATIONS OF SYSTEMIC SCLEROSIS IN PATIENTS WITH  
PULMONARY ARTERIAL HYPERTENSION**

Natalia Yudkina<sup>1</sup>, Alexander Volkov<sup>1</sup>, Elena Gerasimova<sup>2</sup>

<sup>1</sup>V.A. Nasonova Research Institute of Rheumatology, Department Of Instrumental Diagnostics, Moscow, Russian Federation, <sup>2</sup>V.A.Nasonova Research Institute of Rheumatology, Department Of Systemic Rheumatic Diseases, Moscow, Russian Federation

**Background and Aims:** Pulmonary arterial hypertension (PAH) is one of the main manifestations of vascular involvement in systemic sclerosis (SSc). There is an assumption about the relationship between PAH, Raynaud's phenomenon (RP) and digital ischemic lesions. Nailfold videocapillaroscopy (NVC) may play a predictive role in the detection of vascular disorders and PAH.

**Methods:** 51 patients with SSc-PAH and 65 pts SSc without PAH. RP was detected in 100%. All patients underwent NVC.

**Results:** Typical scleroderma changes in 51 patients with SSc-PAH. In 3 pts with SSc without PAH the changes were regarded as non-specific, in 1 patient signs of RP were revealed. The early scleroderma type in 17 patients with SSc-PAH and in 16 pts with SSc without PAH. The active scleroderma pattern in 14 pts with SSc-PAH and in 8 pts SSc without PAH. Late scleroderma pattern in 30 pts with SSc-PAH and in 27 pts SSc without PAH. Development of digital ulcers was noted in 25 pts SSc-PAH and 32 SSc without PAH. Severe digital ischemic disorders were observed rarely. Ischemia in 2 patients with SSc-PAH and in 5 pts with SSc without PAH, amputation in 1 of each group, gangrene in 2 pts only in SSc without PAH.

**Conclusions:** We failed to identify the relationship between changes in NVC and the severity of vascular disorders. That does not allow using the method of NVC as an early diagnosis of PAH in SSc, as well as predicting the development of digital ischemic disorders.

PV121 / #454

**POSTER VIEWING WALK: S2**  
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**AUTOIMMUNE DISEASE ASSOCIATED ALTERATIONS IN OOGENESIS IN MICE WITH PRISTANE-INDUCED SYSTEMIC LUPUS ERYTHEMATOSUS**

Gabriela Boneva<sup>1</sup>, Nikolina Mihaylova<sup>1</sup>, Ekaterina Ivanova-Todorova<sup>2</sup>, Ekaterina Kurteva<sup>2</sup>, Georgi Vasilev<sup>2</sup>, József Prechl<sup>3</sup>, Stefka Delimitreva<sup>4</sup>, Andrey Tchorbanov<sup>1</sup>  
<sup>1</sup>Institute Of Microbiology Stephan Angelov, Bulgarian Academy Of Sciences, Department Of Immunology, Sofia, Bulgaria, <sup>2</sup>University Hospital St. Ivan Rilski, Medical University of Sofia, Clinical Immunology, Sofia, Bulgaria, <sup>3</sup>Hungarian Academy Of Sciences, Immunology Research Group, Budapest, Hungary, <sup>4</sup>Medical University – Sofia, Department Of Biology, Sofia, Bulgaria

**Background and Aims:** Systemic lupus erythematosus (SLE) is an example of autoimmune disease manifesting itself in aberrated immune response directed against nuclear, cytoplasmic and cell-surface antigens. Among patients, symptoms are frequently intensified in females during their active reproductive years, pinpointing the interaction between reproductive and immune systems. Hence, it is urgent to address the question how SLE can influence female fertility and the impact of hormones on disease manifestation. Mouse models of SLE are suitable tools for studying in details the interactions of different systems in the context of the present disease.

**Methods:** Lupus-like symptoms were induced through intraperitoneal injection of hydrocarbon oil pristane in healthy Balb/C mice. Methods used to follow the immune status of the experimental animals were flow cytometry, ELISpot and ELISA, while the formation of critical oocytes structures, like spindle, chromosomes and actin cap, were characterized using fluorescent microscopy.

**Results:** A single i.p. injection of pristane induced typical symptomatic of SLE including production of autoantibodies, depositions of IgG-containing immune complexes in the kidneys and cytokine disbalance. In addition, oocytes isolated from the corresponding animals proved deterioration in oocyte numbers and maturation rate, accompanied with structural abnormalities, including long chromosomes, disorganized spindle and missing actin cap.

**Conclusions:** The exhibited impairments of oocytes in pristane-treated mice provide evidence for a disturbed local microenvironment as a result of disease activity.



PV122 / #509

**POSTER VIEWING WALK: S2**  
**18-03-2023 12:10 PM - 1:10 PM**

**ASSOCIATION OF SOLUBLE B-LYMPHOCYTE ACTIVATING FACTOR (BAFF) RECEPTOR LEVELS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)**

Noemi Espinoza Garcia<sup>1</sup>, Alvaro Cruz<sup>2</sup>, Diana Salazar Camarena<sup>3</sup>, Claudia Palafox Sanchez<sup>2</sup>  
<sup>1</sup>University of Guadalajara, Phd In Molecular Biology In Medicine, Guadalajara, Mexico, <sup>2</sup>University of Guadalajara, Research Institute Of Biomedical Sciences (iicb), Guadalajara, Mexico, <sup>3</sup>University of Guadalajara, Research Laboratory Of Dental Biomaterials, Guadalajara, Mexico

**Background and Aims:** Systemic lupus erythematosus (SLE) is an autoimmune disease. BAFF-R, BCMA and TACI are receptors that regulate B cell survival and differentiation through interactions with their ligands BAFF and APRIL (Meinl et al., 2018; Salazar-Camarena et al., 2020). However, the role of these soluble receptors in SLE patients is unknown. To evaluate the association of soluble BAFF-R, BCMA and TACI receptor levels with disease activity and chronicity index and clinical domains in SLE patients.

**Methods:** 220 patients with SLE and 40 HC were included. Clinical disease parameters were assessed using the MexSLEDAI score, SLEDAI-2K and the SLICC damage index. Soluble receptor concentrations were measured in serum by ELISA assays. A value of  $p < 0.05$  was considered statistically significant.

**Results:** The clinical-demographic data of the patients are shown in Table 1. Soluble BCMA levels were found to be elevated in SLE patients compared to HCs [38.1 ng/mL (IQR 28.6-57.4) vs. 25.6 ng/mL (IQR 21.6-29.2),  $p < 0.0001$ ]. Patients with severe and mild-moderate activity stratified according to MexSLEDAI were found to have higher BCMA levels than patients without activity [60.9 pg/mL (33.4-72.2) and 39.7 pg/mL (31.3-57.4) vs. 31.2 ng/mL (24.8-40.9),  $p < 0.0001$  and  $p = 0.0021$ , respectively]. Patients with damage have higher soluble BCMA levels than patients without damage [52.9 ng/mL (IQR 35.2-65.0) vs 31.0 ng/mL (IQR 24.5-39.5),  $p < 0.0001$ ]. Patients with NL, serositis, mucocutaneous, hematological and joint involvement had significantly higher soluble BCMA levels compared to patients without involvement.

**Conclusions:** Soluble BCMA receptor levels are increased in SLE patients and are associated with clinical domains, disease activity and chronicity.

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**POSTER VIEWING WALK: S2**  
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**HUMORAL RESPONSES AGAINST UNCHARACTERISED HUMAN CYTOMEGALOVIRUS  
ANTIGENS IN PATIENTS WITH SYSTEMIC SCLEROSIS**

Maria Ntolkou, George Efthymiou, Emmanouela Marou, Christos Liaskos, Lazaros Sakkas, Dimitrios Bogdanos  
University General Hospital of Larissa, Faculty of Medicine, School of Health Sciences,  
University of Thessaly, Department Of Rheumatology And Clinical Immunology, Larissa, Greece

**Background and Aims:** Antibodies against human cytomegalovirus (HCMV) have been involved in systemic sclerosis (SSc), but this hypothesis has been evaluated testing few antigens [1-4]. This study systematically evaluated refined humoral responses against previously uncharacterized antigens in patients with SSc using thorough assessment.

**Methods:** IgG antibody responses against 39 HCMV-specific antigens were tested by Western immunoblotting in 109 SSc and 52 healthy controls (HC). Clinical and serological correlations with antigen-specific antibodies were also analysed.

**Results:** Anti-HCMV antibody prevalence was comparable between patients and controls, but frequencies and titres of antigen-specific antibodies varied widely. Anti-p133 antibodies were detected in higher frequency (25% vs 6.7%,  $p=0.018$ ) and higher titres ( $44.4\pm 16.3$  vs  $30\pm 5$ ) in SSc compared to HC. Other antigens whose antibodies exhibited higher frequency in SSc were p137 (10% vs 0%,  $p=0.031$ ), p136 (16% vs 0%,  $p=0.003$ ), p135 (25% vs 6.7%,  $p=0.018$ ), p134 (27% vs 2.2%,  $p=0.001$ ), p133 (37% vs 11.1%,  $p=0.003$ ), p131 (HC 47% vs 17.8%,  $p=0.002$ ) and p67 (34% vs 13.3%,  $p=0.018$ ). Two antibodies were less frequent in MS than HC, anti-p144 (1% vs 11.1%,  $p=0.011$ ) and anti-p145 (0% vs 11.1%,  $p=0.002$ ). Anti-p131 and anti-p126 titers were increased in SSc ( $p=0.005$  and  $p=0.041$ , respectively). No antigen-specific antibody had higher titres in HC. Anti-p133 antibodies associated with the presence of arthritis and serositis, anti-p134 with the presence of telangiectasias and with anti-centromeric autoantibodies, while anti-p132 antibodies were more frequent in patients with arthritis.

**Conclusions:** The presence of previously unidentified, more prevalent anti-HCMV antigen responses in SSc patients suggests their involvement in SSc induction or/and progress.

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**POSTER VIEWING WALK: S2**  
**18-03-2023 12:10 PM - 1:10 PM**

### **SEX HORMONES LEVELS IN MEXICAN SYSTEMIC SCLEROSIS PATIENTS**

Jesús Alberto Gutiérrez-Brito<sup>1</sup>, José Sierra García De Quevedo<sup>2</sup>, José Francisco Muñoz-Valle<sup>1</sup>, Christian Johana Baños-Hernández<sup>1</sup>, Guillermo Santoscoy-Ascencio<sup>2</sup>, José Eduardo Navarro-Zarza<sup>3</sup>, Isela Parra-Rojas<sup>4</sup>, Jorge Hernández-Bello<sup>1</sup>

<sup>1</sup>Universidad de Guadalajara, Instituto De Investigación En Ciencias Biomédicas, Guadalajara, Mexico, <sup>2</sup>Unidad de Patología Clínica (UPC), Análisis Clínicos, Guadalajara, Mexico, <sup>3</sup>Hospital General de Chilpancingo “Dr. Raymundo Abarca Alarcón”, Departamento De Reumatología, Chilpancingo, Mexico, <sup>4</sup>Universidad Autónoma de Guerrero, Facultad de Ciencias Químico-Biológicas, Laboratorio De Investigación En Obesidad Y Diabetes, Chilpancingo de los Bravo, Guerrero, Mexico

**Background and Aims:** Systemic sclerosis (SSc) is a rare autoimmune connective tissue disease with a higher prevalence in females than men (until ratio 14:3). Female preponderance raises the question of the pathogenetic role of sex hormones. This study aimed to compare the sex hormones serum levels between SSc patients and control subjects (CS).

**Methods:** Serum Estradiol (E), Progesterone (Pg), and Prolactin (PRL) were measured in 53 SSc patients from southern Mexico and 106 CS by the electrochemiluminescence technique. All subjects in the study provided informed consent.

**Results:** Patients' mean of E (pg/mL) was 44.09 vs. 50.95 CS ( $p = 0.52$ ). Lower Pg levels were observed in SSc patients than in CS (0.57 vs. 1.42,  $p < 0.0001$ ), but PRL levels were higher in patients than in CS (13.15 vs. 11.90;  $p = 0.0007$ ). In SSc patients, E and Pg levels were higher in females than in men ( $p < 0.0001$ ). These differences were conserved in comparisons by the lcSSc subtype.

**Conclusions:** Our results support the deregulation of hormone levels in SSc, which could explain the higher preponderance of SSc in women. Further research is needed to elucidate the functional effects of these findings.



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POSTER VIEWING WALK: S2  
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**PROLACTIN POLYMORPHISM -1149 G>T (RS1341239) AND SOLUBLE LEVELS OF PROLACTIN IN SYSTEMIC SCLEROSIS PATIENTS FROM MEXICO**

Cristian Oswaldo Hernández-Ramírez<sup>1</sup>, José Eduardo Navarro-Zarza<sup>2</sup>, Christian Johana Baños-Hernández<sup>1</sup>, Jorge Hernández-Bello<sup>1</sup>, Isela Parra-Rojas<sup>3</sup>, Edith Oregon-Romero<sup>1</sup>, Guillermo González-Estevez<sup>1</sup>, Gabriela Athziri Sánchez-Zuno<sup>1</sup>, José Francisco Muñoz-Valle<sup>1</sup>

<sup>1</sup>University of Guadalajara, Instituto De Investigación En Ciencias Biomédicas, Guadalajara, Mexico, <sup>2</sup>Hospital General de Chilpancingo “Dr. Raymundo Abarca Alarcón”, Internal Medicine Rheumatology, Chilpancingo, Mexico, <sup>3</sup>Universidad Autónoma de Guerrero, Facultad de Ciencias Químico-Biológicas, Laboratorio De Investigación En Obesidad Y Diabetes, Chilpancingo de los Bravo, Guerrero, Mexico

**Background and Aims:** Systemic Sclerosis (SSc) is an autoimmune, inflammatory, and multisystemic disease characterized by the presence of autoantibodies and fibrosis. Prolactin (PRL) is a hormone with immunomodulatory properties, and it is associated with the clinical activity of autoimmune disease. The -1149G>T *PRL* polymorphism has been associated with autoimmune diseases, but its functional effect is unclear. This study explores to associate of the -1149G>T polymorphism *PRL* and prolactin serum levels with SSc patients from Mexico.

**Methods:** We included 56 patients diagnosed with SSc according to the 2013 American College of Rheumatology classification criteria and 118 control subjects (CS). The *PRL* polymorphism was screened using the polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method, and ELISA quantified *PRL* serum levels.

**Results:** *PRL* polymorphism was not associated with SSc (OR=0.61, p=0.25). The predominant genotype was GG in both groups (87% in SSc and 83% in SC). Prolactin levels were elevated in patients with SSc compared to SC (12 vs 9.15 pg/mL, p= 0.01). However, the prolactin levels were higher carriers of the T allele (GT+TT) compared to carriers of the G allele (8.72 vs. 9.61 pg/ml, p=0.03) in the SC group. Furthermore, the *PRL* levels negatively correlated with age in both groups, younger subjects have higher levels of *PRL* (r -0.24, p<0.01).

**Conclusions:** The *PRL* polymorphism is not associated with SSc susceptibility in the Mexican population, however, the T allele and age were found to be associated with serum *PRL* levels in SSc.

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**POSTER VIEWING WALK: S2**  
**18-03-2023 12:10 PM - 1:10 PM**

**FUNCTIONAL AUTOANTIBODIES, B CELL APOPTOSIS AND SURVIVAL FACTORS IN PATIENTS WITH SYSTEMIC SCLEROSIS**

Ekaterina Kurteva<sup>1</sup>, Ekaterina Ivanova-Todorova<sup>1</sup>, Kalina Tumangelova-Yuzeir<sup>1</sup>, Georgi Vasilev<sup>1</sup>, Svetoslav Kurtev<sup>2</sup>, Desislava Kalinova<sup>3</sup>, Valentina Reshkova<sup>3</sup>, Rada Gancheva<sup>3</sup>, Parvoleta Metodieva<sup>4</sup>, Lyubomir Marinchev<sup>4</sup>, Dobroslav Kyurkchiev<sup>1</sup>  
<sup>1</sup>University Hospital St. Ivan Rilski, Medical University of Sofia, Clinical Immunology, Sofia, Bulgaria, <sup>2</sup>University Hospital Alexandrovska, Clinic Of Cardiology, Sofia, Bulgaria, <sup>3</sup>University Hospital St. Ivan Rilski, Rheumatology, Sofia, Bulgaria, <sup>4</sup>University Hospital Sofamed, Clinic Of Rheumatology, Sofia, Bulgaria

**Background and Aims:** To look for correlations between some functional autoantibodies, B cell apoptosis and survival factors and the type of skin and organ involvement in SSc.

**Methods:** We enrolled 40 consecutive patients with SSc and a control group of 10 healthy individuals. Flow cytometric determination of the percentage of B lymphocytes and apoptosis percentage in whole peripheral venous blood of patients with SSc and healthy subjects was performed. We used the ELISA method to detect the levels of AECA and anti-ETAR antibodies, and BAFF.

**Results:** We found a significantly lower CD19 MFI in patients with SSc than the healthy control group,  $p < 0.001$ . There was a significant increase in the percentage of B-cell apoptosis in the peripheral blood of patients with SSc compared to healthy subjects. In patients with SSc, we found a significantly higher percentage of B lymphocytes in early apoptosis than healthy subjects  $p = 0.006$ , with no significant difference in MFI. We found a significantly higher MFI of B-cell apoptosis in patients with dcSS than patients with lcSSc,  $p = 0.036$ . In patients with early SSc, the level of BAFF in peripheral blood was borderline higher than in patients with clinically advanced SSc,  $p = 0.05$ . No correlations were found between levels of anti-ETAR autoantibodies, pulmonary involvement, proteinuria, or the degree of skin involvement in patients with SSc.

**Conclusions:** Further study is required to confirm the increased rate of early peripheral B-cell apoptosis. The AECA study in patients at increased risk of developing severe vasculitis in the context of SSc could serve as a prognostic marker.

PV127 / #333

**POSTER VIEWING WALK: S2**  
**18-03-2023 12:10 PM - 1:10 PM**

### **THYROID AUTOIMMUNITY AND PSORIATIC ARTHRITIS**

Nikolaos Zotos<sup>1</sup>, Chrisanthi Maria Tsiogka<sup>2</sup>, Maria Gianniki<sup>3</sup>, Maria Lolou<sup>3</sup>, Vasileios Skepastianos<sup>3</sup>, Panagiotis Christodoulou<sup>1</sup>, Lambros Papageorgiou<sup>1</sup>, Anna Papadima<sup>1</sup>, Dimitrios Bougias<sup>3</sup>, Niki Tsifetaki<sup>3</sup>

<sup>1</sup>General Hospital of Ioannina, Department Of Biopathology, Ioannina, Greece, <sup>2</sup>General Hospital of Ioannina, Department Of Paediatrics, Ioannina, Greece, <sup>3</sup>General Hospital of Ioannina, Department Of Rheumatology, Ioannina, Greece

**Background and Aims:** Psoriatic arthritis is a chronic, immune-mediated, inflammatory arthritis associated with psoriasis that can affect multiple organs, including the skin and joints. Aim of this study is to evaluate the autoimmune thyroid disorders in patients with psoriatic arthritis.

**Methods:** 69 patients (mean age 47.2 yrs) with psoriatic arthritis were examined during 2021. Antithyroglobulin (AbTG), and antithyroidperoxidase antibody (AbTPO) serum levels were measured by Chemiluminescent Microparticle Immunoassay. A control group of 25 healthy blood donors (mean age 44.5 yrs) was also tested for anti TPO and anti TG antibodies. Patients with know thyroid disease were excluded.

**Results:** There was no significant difference in the prevalence of autoimmune thyroiditis between patients with psoriatic arthritis and control group. (18.5% vs 17.9%).

**Conclusions:** Patients with psoriatic arthritis do not seem to be in higher risk for autoimmune thyroiditis. These patients should be examined for potential thyroid problems.



PV128 / #153

**POSTER VIEWING WALK: S3  
18-03-2023 12:10 PM - 1:10 PM**

**THE TERM "EXTRAPOLATION OF EFFICACY" FROM ADULTS TO CHILDREN IN THE DRUG APPROVAL PROCESS IS MISLEADING. MINORS ARE NOT ANOTHER SPECIES.**

Klaus Rose

klausrose Consulting, Medical Science, Riehen, Switzerland

**Background and Aims:** Many clinicians are unaware that the Food and Drug Administration (FDA) and the European Medicines Agency (EMA) demand pediatric studies for new drugs, defining children chronologically as <18y. For crisaborole, a topical against atopic dermatitis, the FDA accepted pivotal studies in patients 2-79y. The EMA continues to demand "pediatric" studies. Drugs treat the body, not the administrative status.

**Methods:** Historical analysis based on developmental pharmacology

**Results:** Demanding separate "pediatric" proof-of-efficacy studies developed in the 1960/70s alongside developmental pharmacology. The "children-are-not-small-adults" and "children-are-therapeutic-orphans" mantras claim that in "children" everything is different. Almost true in preterm newborns, wrong in adolescents whose body is already mature. Accepting patients aged 2-79y, the FDA gave in to reality, but FDA & EMA use "extrapolation-of-efficacy" from adults as a face-saving exercise. The older children grow, the more they mature. Defining children chronologically is a legal, not a physiological definition. Demanding separate proof-of-efficacy in "children" is a blur at the interface of medicine and law, justifying scientifically pointless studies. Pediatric researchers profit from pointless "pediatric" studies. A fundamental conflict of interests. Minors need correct drug recommendations, not separate proof of efficacy.

**Conclusions:** FDA/EMA-demanded "pediatric" studies in atopic dermatitis & other diseases are an abuse of patients. Institutional Review Boards/ ethics committees should suspend ongoing ones and reject new ones.

PV129 / #113

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**REGULATORY AUTHORITIES DEMAND "PEDIATRIC" STUDIES FOR NEW DRUGS AGAINST AUTOIMMUNE DISEASES. THESE ARE NOT SCIENCE-BASED BUT REFLECT A HISTORICALLY NEW TYPE OF CONFLICT OF INTEREST.**

Klaus Rose

klausrose Consulting, Medical Science, Riehen, Switzerland

**Background and Aims:** Not all clinicians are aware that the regulatory authorities demand pediatric studies for new drugs as condition for general drug approval. They define children chronologically as <18y. This applies also to drugs against autoimmune diseases, including rheumatic diseases, lupus erythematoses, pain treatment, & more. Are all patients of FDA/EMA-demanded pediatric studies physiologically still children? Are these studies scientifically justified? And if not, what drives their demand?

**Methods:** Historical analysis, common sense, developmental physiology

**Results:** Becoming mature occurs during the slow process of puberty, not overnight at a birthday. For drug treatment, minors need correct dosing recommendations, not separate proof of efficacy. "Pediatric" studies are pointless in adolescents, massively exaggerated in younger minors. Industry must pay these "pediatric" studies, from which researchers with a "pediatric" career profit. This is conflict of interest that has so far slipped under the radar of the international discussion. The Declaration of Helsinki disapproves pointless studies in humans. There is specifically no exception for pointless regulatory studies that administratively define "children" even if these are physiologically already mature. Drugs treat the body, not the legal status.

**Conclusions:** FDA/EMA-demanded "pediatric" studies in autoimmune & other diseases are probably the numerically largest abuse of patients in medical research since the infamous Tuskegee study in the US in African Americans with syphilis that were not treated with antibiotics. Institutional Review Boards/ ethics committees should suspend ongoing ones and reject new ones. The scientific community should distance itself from "pediatric drug development". Mid-term, US and EU "pediatric" legislation needs to be changed.

PV130 / #32

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**A NOVEL SELECTIVE CANNABINOID DERIVATE SUPPRESSES MURINE AND HUMAN  
IBD THROUGH A STAT3-DEPENDENT MECHANISM**

Ronen Rosenblum<sup>1</sup>, David Meiri<sup>1</sup>, Hila Novak Kotzer<sup>1</sup>, Yara Eid Mutlak<sup>2</sup>, Anat Gelfand<sup>2</sup>, Nitsan Maharshak<sup>3</sup>, Ayal Hirsch<sup>4</sup>

<sup>1</sup>Technion Israel Institute of Technology, Biology Faculty, Haifa, Israel, <sup>2</sup>Technion Israel Institute of Technology, Biology Faculty, Hifa, Israel, <sup>3</sup>Sackler School of Medicine, Gastroenterology And Liver Diseases, Tel Aviv, Israel, <sup>4</sup>Sackler School of Medicine Sackler School of Medicine, Gastroenterology And Liver Diseases, Tel Aviv, Israel

**Background and Aims:** Crohn's disease (CD) and ulcerative colitis (UC), are the main two subtypes of relapsing chronic inflammatory bowel human disorders (IBD). CD/UC-related inflammation is marked by elevated production of cytokines made by pathogenic T helper 17 (Th17) cells. Within inflamed tissues, IL-6 control of STAT3 activation is essential for T-cell recruitment, survival, and maintenance. As Cannabis for symptomatic control of IBD patients is increasing, understanding the mechanisms by which cannabinoids regulate the inflammation response becomes essential.

**Methods:** Here, we investigated the effect of a Cannabis extract on the activation and regulation of CD4 and Th17 cells under normal and inflammatory conditions.

**Results:** We found that the Cannabis extract down-regulated STAT3 activation and Th17 differentiation. We revealed that TRPV1 is a key player in mediating these effects. In the Dextran sulfate sodium (DSS)-induced UC murine model of IBD, administration of Cannabis extract resulted in a significant reduction of disease severity. Treated mice lost less weight and showed substantial improvement in clinical scores. We identified the cannabinoid in Cannabis extract that was responsible for the observed effects. Since this cannabinoid is unstable, we screened different synthetic derivates that mimic the effects measured above but are more stable. We identified a derivate, synthetic molecule AE, that is both more stable and more potent.

**Conclusions:** Together, these data suggest the potential of AE in regulating STAT3 signaling in human and mouse CD4 cells, and controlling the development of Th17 cells induced by inflammatory conditions, highlighting its potential for IBD and other autoimmune disorders therapy.



PV131 / #237

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**DESIGN OF A PHASE 2, MULTICENTER, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED, PARALLEL-GROUP STUDY OF NIPOCALIMAB IN PARTICIPANTS WITH ACTIVE IDIOPATHIC INFLAMMATORY MYOPATHIES (SPIREA)**

Catherine Najem<sup>1</sup>, Jagriti Craig<sup>1</sup>, Lisa Christopher-Stine<sup>2</sup>, Federico Zazzetti<sup>3</sup>, Wim Noel<sup>4</sup>, Christopher Blango Sr.<sup>1</sup>, Chetan Karyekar<sup>1</sup>, Rohit Aggarwal<sup>5</sup>

<sup>1</sup>Janssen Pharmaceutical company of Johnson & Johnson, -, Springhouse, United States of America, <sup>2</sup>Johns Hopkins School of Medicine, Medicine And Neurology, Baltimore, United States of America, <sup>3</sup>Janssen Medical Affairs Global Services, LLC, -, Buenos Aires, Argentina, <sup>4</sup>Janssen Pharmaceutica, Medical Affairs, Beerse, Belgium, <sup>5</sup>University of Pittsburg, Division Of Rheumatology And Clinical Immunology, Department Of Medicine, Pittsburgh, United States of America

**Background and Aims:** Idiopathic inflammatory myopathies (IIM) are a rare group of systemic autoimmune diseases characterized by progressive muscular weakness and internal organ involvement, often leading to physical disability and decreased quality of life. Nipocalimab is designed to address the underlying disease pathology by selectively blocking the neonatal Fc receptor to reduce pathogenic autoantibodies. In a phase 2 study of generalized myasthenia gravis (NCT03772587), nipocalimab lowered pathogenic IgG autoantibody levels with significant clinical benefit, acceptable safety, and a favorable benefit-risk profile. SPIREA (NCT05379634) aims to evaluate the efficacy and safety of nipocalimab in patients with IIM.

**Methods:** SPIREA is a phase 2, double-blind, placebo-controlled, randomized clinical trial enrolling adults (N≈200) with active IIM. The study comprises screening, double-blind treatment, long-term extension, and follow-up periods (**Figure 1**). Randomized participants are treated every 2 weeks with intravenous nipocalimab or placebo through Week 50. Background oral glucocorticoid (GC) doses will be tapered from Weeks 24–44.

**Results:** The primary endpoint is the proportion of participants who achieve at least minimal improvement (≥20) in American College of Rheumatology/European League Against Rheumatism (ACR/EULAR) Total Improvement Score (TIS) at Week 52 and on ≤5 mg/day of oral GC from Weeks 44–52. Secondary endpoints include the proportion of participants who achieve ≥20-point improvement in TIS at Weeks 24 and 52.

**Conclusions:** The ongoing SPIREA study evaluating nipocalimab's safety and efficacy in patients with IIM will help to validate the ACR/EULAR-TIS endpoint in IIM and the role of nipocalimab as a steroid sparing agent in IIM.

PV132 / #334

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

### **DEVELOPMENT ABNORMALITIES IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS**

Ninel Revenco, Rodica Eremciuc, Olga Gaidarji  
`Nicolae Testemitanu` State University of Medicine and Pharmacy from Republic of Moldova,  
Pediatric Department, Chisinau, Moldova

**Background and Aims:** Juvenile idiopathic arthritis is one of the most common chronic diseases in children. Growth retardation is a common complication in children with JIA. It is thought to be closely related to disease activity and growth impairment. It is insufficient data to elucidate peripheral hormonal resistance in the process of delayed growth and puberty in children with JIA. **The aim of the study** was to describe the growth velocity, pubertal development, the hormonal profile, as well as the differences between the study subgroups in children with juvenile idiopathic arthritis.

**Methods:** 90 patients with a diagnosis of JIA were included. Patients' evaluation included baseline assessment and follow up on 6, 12 and 18 months. At baseline were assessed general information, JIA characteristics (subtype, disease duration and disease activity), growth parameters and laboratory tests of hypothalamic-hypophyseal-peripheral axes.

**Results:** General characteristics of the group revealed the average age  $9.95 \pm 0.49$  years, the average age at disease onset  $4.31 \pm 0.46$  years. 14,58 % from patients included in the study presented a growth delay. According to disease subtype, we observed that children diagnosed with systemic onset of JIA are the youngest one and, also, those more affected by growth impairment. Laboratory analysis revealed normal hormonal release at central level, but with abnormalities on peripheral control. No central autoimmune process was detected. All tests for anti-pituitary antibodies were obtained as negative one.

**Conclusions:** Early diagnosis and good control of disease activity are essential in children with juvenile idiopathic arthritis, which could prevent the adverse effect of the disease on the growth process.

PV133 / #369

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**ASSESSMENT OF GASTROINTESTINAL MANIFESTATIONS AND RELATED  
PROGNOSTIC FACTORS IN MEDIUM SIZED VASCULITIS**

Amirhossein Hosseini<sup>1</sup>, Hooria Bagherfar<sup>2</sup>, Marjan Aghajani<sup>2</sup>, Mehrnoosh Hassas Yeganeh<sup>3</sup>  
<sup>1</sup>Shahid Beheshti University of Medical Sciences, Pediatric Gastroenterology, Hepatology And  
Nutrition Research Center, Research Institute For Children's Health, Tehran, Iran, <sup>2</sup>Shahid  
Beheshti University of Medical Sciences, Pediatric Ward, Tehran, Iran, <sup>3</sup>Shahid Beheshti  
University of Medical Sciences, Pediatric Rheumatology, Tehran, Iran

**Background and Aims:** Kawasaki is a febrile systemic vasculitis of unknown etiology and the main cause of acquired heart disease among children. To date, abdominal involvement at presentation is not recognized as a risk factor for a more severe form of the disease but is responsible for delayed onset of standard medication and also unnecessary surgical interventions. Considering the importance of immediate diagnosis and treatment of Kawasaki, and the relatively high prevalence of atypical Kawasaki disease among children, we designed this study to recognize the related predicting factors.

**Methods:** In this research, we collected demographic, medical history, physical examination and laboratory results of 359 children referred to Mofid Children's hospital suspected to Kawasaki disease. We studied the frequency of gastrointestinal manifestations and physical examination results and their relationship with laboratory data.

**Results:** Based on statistical analysis, among clinical manifestations, abdominal pain was the most common one with the frequency of 39%. 38.1% of patients had AST rise, 30.2% showed ALT rise and 10.5% showed direct hyperbilirubinemia. Patients with ALT and AST rise had the higher incidence of abdominal pain, nausea/vomiting and anorexia. Additionally, patients with positive RBC and WBC in their S/E had a higher incidence of fever and abdominal pain.

**Conclusions:** Based on our statistical results, AST and ALT rise, hyperbilirubinemia and positive stool RBC and WBC seem to be predictive factors.



PV134 / #380

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**ASSESSMENT OF GASTROINTESTINAL MANIFESTATIONS AND RELATED  
PROGNOSTIC FACTORS IN SMALL SIZE VASCULITIS (HENOCH-SCHONLEIN PURPURA)**

Amirhossein Hosseini<sup>1</sup>, Marjan Aghajani<sup>2</sup>, Hooria Bagherfar<sup>2</sup>, Mehrnoosh Hassas Yeganeh<sup>3</sup>  
<sup>1</sup>Shahid Beheshti University of Medical Sciences, Pediatric Gastroenterology, Hepatology And Nutrition Research Center, Research Institute For Children's Health, Tehran, Iran, <sup>2</sup>Shahid Beheshti University of Medical Sciences, Pediatrics, Tehran, Iran, <sup>3</sup>Shahid Beheshti University of Medical Sciences, Pediatric Rheumatology, Tehran, Iran

**Background and Aims:** Henoch Schonlein purpura is the most common childhood vasculitis in children. 50-75% of children with Henoch Schonlein purpura present with gastrointestinal manifestations varying from abdominal pain and nausea/vomiting to GI bleeding and intussusception. We have designed this research to study the frequency of gastrointestinal manifestations of HSP and to determine the related prognostic factors of gastrointestinal manifestations in children.

**Methods:** This retrospective study recruited 295 children Between 1 to 16 years old with Henoch Schonlein purpura, collected from Mofid Children's Hospital, Tehran, Iran, between 2013 and 2022. The data were collected from the hospital recordings. Demographic data, clinical features (fever, rash, abdominal pain, abdominal distension, abdominal tenderness, anorexia, nausea/vomiting, diarrhea, icterus and bloody stool) and also laboratory data (ALT, AST, bilirubin, S/E (WBC, RBC, OB) ) were recorded in pre-prepared questionnaire.

**Results:** Based on our Analyses, the prevalence of anorexia among patients with AST rise was higher. Moreover, the prevalence of bloody stool among patients with ALT rise and hyperbilirubinemia (total and direct) was higher.

**Conclusions:** Based on our results, rise of AST, ALT and bilirubin would be potential prognostic factors of severity of HSP and occurrence of GI bleeding.

PV135 / #112

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**THE TERM "JUVENILE IDIOPATHIC ARTHRITIS" (JIA) IS MISLEADING. IT REFLECTS A BLUR AT THE INTERFACE OF MEDICINE AND LAW AND CONFLICTS OF INTEREST**

Klaus Rose

klausrose Consulting, Medical Science, Riehen, Switzerland

**Background and Aims:** Pediatric rheumatology emerged when child mortality had declined. Diseases until then not distinguished from infectious diseases were explored. In oncology, chemotherapeutics existed already, but had not been used in minors. When this changed, pediatric oncology was born. In rheumatology, Aspirin and NSAIDs offered limited help in minors. Breakthroughs came later with TNF antagonists, monoclonal antibodies, & more. "JIA" comprises seven diseases detected before the 16<sup>th</sup> birthday. Some are identical to adult diseases, but named differently. Are pediatric studies demanded by regulatory authorities as condition for adult drug approval scientifically justified and advance clinical care?

**Methods:** Historical analysis, common sense, developmental physiology

**Results:** Minors diagnosed with JIA do not switch to conventional rheumatoid arthritis (CRA) on the 18<sup>th</sup> birthday. Birthdays are administrative. Physiological changes don't occur overnight. JIA diseases have an early onset. They are as little "pediatric" as e.g. flu. FDA/DIA-enforced "pediatric" JIA proof-of-efficacy studies are pointless in adolescents and exaggerated in younger minors who need correct dosing, not separate proof of efficacy. The US Center for Adults with Pediatric Rheumatic Illness (CAPRI) treats adults often misdiagnosed as having CRA.

**Conclusions:** Most FDA/EMA-demanded "pediatric" studies are pointless. Many even withhold effective treatment by placebo design. They all are in breach of the Declaration of Helsinki and probably represent the numerically largest abuse of patients in medical research since the termination of the Tuskegee study. Institutional Review boards/ ethics committees should suspend them/ reject new ones.

PV136 / #123

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**A CASE OF A 14-YEAR-OLD WOMAN WITH PALMOPLANTAR PUSTULOSIS AND ASSOCIATED OSTEITIS WHO SHOWED SYMPTOMATIC IMPROVEMENT AFTER TONSILLECTOMY**

Kenji Takami, Shigeyoshi Tsuji  
Nippon Life Hospital, Orthopaedic Surgery, Osaka, Japan

**Background and Aims:** We report the case of a 14-year-old woman with palmoplantar pustulosis (PPP) and associated osteitis (PAO) whose symptoms improved after tonsillectomy.

**Methods:** A case report

**Results:** Blisters and pustules appeared on both palms and heels, and pain appeared in the right knee joint and right ankle joint at the same time. There was no history of skin disease or collagen disease, and no history of tonsil treatment or dental treatment. Magnetic Resonance Imaging (MRI) showed extensive bone marrow edema (BME) around the right tibial tuberosity. After obtaining informed consent, Sanger sequencing analysis of all exons and adjacent introns of IL36, IL36RN, CARD14, and AP1S3 was performed. Because simultaneous swelling of the left palatine tonsil was observed and tonsil massage resulted in worsening of symptoms of both skin rash and arthralgia, both palatine tonsillectomy was performed six months after the onset of the disease. Pathological examination of the tonsil tissue revealed lymphoid tissue with stratified squamous epithelium, and the normal structure of the tonsils was preserved. Lymph follicular development and a bacterial mass in the crypts were also observed. Postoperatively, right knee pain and right foot pain improved promptly. MRI showed improvement in the BME image.

**Conclusions:** There have been very few reports of PPP/PAO in young patients. We report here a case of PPP/PAO in a young patient whose symptoms improved after tonsillectomy.



PV137 / #643

**POSTER VIEWING WALK: S3**  
**18-03-2023 12:10 PM - 1:10 PM**

**DEVELOPMENT OF A SCAFFOLD FOR LOCAL ADMINISTRATION OF ALENDRONATE TO ACCELERATE OSTEOPOROTIC FRACTURE HEALING**

Eva Šebová<sup>1</sup>, Věra Hedvičáková<sup>1</sup>, Radmila Žížková<sup>1</sup>, Lucie Vištejnová<sup>2</sup>, Pavel Klein<sup>2,3</sup>, Matej Buzgo<sup>4</sup>, Eva Filová<sup>1</sup>, Miroslava Rysová<sup>5</sup>, Michala Rampichová<sup>1</sup>

<sup>1</sup>The Institute of Experimental Medicine CAS, Tissue Engineering, Prague, Czech Republic, <sup>2</sup>Charles University, Biomedical Center, Faculty Of Medicine In Pilsen, Pilsen, Czech Republic, <sup>3</sup>Charles University, Department Of Pathological Physiology, Faculty Of Medicine In Pilsen, Pilsen, Czech Republic, <sup>4</sup>BIOFABICS Lda, Biofabrics, Porto, Portugal, <sup>5</sup>Institute for Nanomaterials, Advanced Technologies and Innovation, Technical University of Liberec, Department Of Applied Biology, Liberec, Czech Republic

**Background and Aims:** Patients with inflammatory rheumatic diseases are at increased risk of developing osteoporosis (OP). OP is defined by bone fragility and the greater risk of complicated fractures. Bisphosphonates are the gold standard in OP treatment, with one of the most widely used being Alendronate (ALN). ALN inhibits osteoclasts by decreasing the activity of enzymes in the mevalonate pathway. However, systemic complications occur thus a local administration may be the new strategy for osteoporotic fractures treatment. The study is focused on the development of scaffolds with a gradual ALN release for local bone healing.

**Methods:** The effect of released ALN and osteogenic potential of electrospun nanofibrous polycaprolactone scaffolds with hydroxyapatite were tested in vitro on SaOS-2 cells. To mimic conditions of OP bone osteoblasts and osteoclasts-like cells, isolated from rats with OP and control rats, were co-cultured. Fluorescent microscopy and measurements of cells' metabolic and enzymatic activity and proliferation were performed.

**Results:** Scaffold biocompatibility was proven on SaOS-2. ALN released from scaffold did not affect proliferation and metabolic activity of the cells in a co-culture. Even alkaline phosphatase (ALP) and tartrate-resistant acid phosphatase activity were not affected by the different ALN kinetics. However, there was evident difference between cells isolated from OP and control animals, the enzymes were more active in OP cells.

**Conclusions:** The ALN-releasing scaffold increased activity of ALP - a bone-forming marker in OP cells. Therefore, it is an option to pursue the treatment of these fractures.

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**POSTER VIEWING WALK: S4**  
**18-03-2023 12:10 PM - 1:10 PM**

### **RHEUMATOLOGY FELLOWSHIP EDUCATION CURRICULUM**

Bibi Ayesha<sup>1</sup>, Irene Blanco<sup>2</sup>

<sup>1</sup>Montefiore Medical Center, Medicine, Bronx, United States of America, <sup>2</sup>Northwestern Group, Medicine, Chicago, United States of America

**Background and Aims:** Rheumatology fellowship training programs, teach their fellows basic principles of rheumatology, immunology and patient care. However, most of the fellows find it difficult to integrate their knowledge of immunology, health literacy, equity & bias during patient care with rheumatologic pathologies. There is a gap in literature to guide rheumatology programs in developing and implementing didactic curriculum which can help fellows to integrate these concepts. **Aim:** To develop a linear modular curriculum incorporating experiential learning in addition to self-directed learning modules for the rheumatology fellows, customized to the level of training.

**Methods:** This is a comprehensive curriculum that includes topics on rheumatology, immunology, epidemiology, and musculoskeletal ultrasound over the two years of fellowship training. The curriculum has total of nine modules, and each module covers one rheumatologic disease in detail. Every module is preceded by a pretest, followed by topic discussion in detail, literature review and discussion on health literacy, equity and bias, journal club, difficult case discussion on the topic and a final assessment of the fellows with a post test. Each module extends for 15 hours of learning, spread over 12 weeks.

**Results:** This curriculum has helped fellows to integrate their concepts of immunology, health literacy in rheumatologic patient care and improve ABIM board passing rates.

**Conclusions:** This curriculum is inspired by the adult learning principle 'learning-by-doing', where fellows will discover ways to improve implementation of educational practices in the health care systems in which they work. This curriculum has helped fellows integrate their concepts of immunology, health literacy in rheumatologic patient care.

PV139 / #292

**POSTER VIEWING WALK: S4**  
**18-03-2023 12:10 PM - 1:10 PM**

**ABSENCE OF HLA-B27 AND LOW FREQUENCY OF HLA-CW6 ALLELES IN PATIENTS  
DIAGNOSED WITH PSORIATIC ARTHRITIS IN A COHORT FROM COLOMBIA.**

Maria-Alejandra Meneses-Toro<sup>1,2</sup>, Omar-Javier Calixto<sup>1,2</sup>, Paula-Andrea Chacon-Jaramillo<sup>3</sup>, Monica Acevedo-Godoy<sup>2,4</sup>, Luisa Constanza Robayo Beltran<sup>4</sup>, Edward Camilo Vera Parra<sup>2</sup>, Juan-Manuel Bello-Gualtero<sup>1,2</sup>, Wilson Bautista-Molano<sup>2,5</sup>, Veronica Noguera Castro<sup>3</sup>, Lorena Chila-Moreno<sup>2,5</sup>, Consuelo Romero-Sanchez<sup>2,5</sup>

<sup>1</sup>Hospital Militar Central, Rheumatology And Immunology Department, Clinical Immunology Group, Bogota, Colombia, <sup>2</sup>Universidad Militar Nueva Granada, School Of Medicine, Clinical Immunology Group, Bogota, Colombia, <sup>3</sup>Hospital Militar Central, Dermatology Department,, Bogota, Colombia, <sup>4</sup>Hospital Militar Central, Immunology Laboratory, Clinical Immunology Group, Bogota, Colombia, <sup>5</sup>Universidad El Bosque, School Of Dentistry, Cellular And Molecular Immunology Group/ Inmubo, Bogota, Colombia

**Background and Aims:** Psoriatic arthritis (PsA) is a complex autoinflammatory disease. Different subtypes of Human leukocyte antigens (HLA) are distributed worldwide in various ancestries. In Latin America and Colombia, there is scarce data. We aimed to describe the allelic frequency of HLA in PsA.

**Methods:** A retrospective study of adults diagnosed PsA (n=23) according to CASPAR criteria, and controls individuals(n=46) with joint symptoms were ruled out, with a request HLA-A,B,C,DR. The HLA-PCR/SSO LifeCodes typing was performed and analyzed in LUMINEX IS100/200 system xMAP®. (Ethical/Code HMC2022-014).

**Results:** 138 alleles from 69 individuals were included, 43.5% women, age 44.5±16.5 years in PsA patients. The allelic frequencies were for HLA\*A 2402 (13%), 3201 (13%), and 2427 (8.7%), for HLA\*B 1402 (17.4%), 4002 (17.4%), 3801 (13%), and HLA-DR 0404 (17.4%), 0407 (13%). No HLA\*B27 was identified, and HLA\*C0602 was 2,2%. Compared with controls individuals, HLA A\*0201 and DR\*1301 were less frequent compared with PsA (p=0.024 and 0.029, respectively), and HLA\*B1302 was more frequent in PsA (p=0.035).

**Conclusions:** SpA has a marked influence of HLA, mainly HLA\*B27; in Latin America countries, HLA B27 in SpA range 5-71%, PsA from Brazil had 27.3% positivity, interestingly there were no positive results; this heterogeneity could be related to the important racial mixing of our population. In psoriasis and PsA HLA Cw6, B13, and Bw57 had been associated with disease and early disease onset; in our population HLA\*C0602 was not frequent. We reported HLA B1302, but there were no clinical associations. This study is the first evaluating HLA allelic frequency in PsA Colombian population.



PV140 / #119

**POSTER VIEWING WALK: S4  
18-03-2023 12:10 PM - 1:10 PM**

**AUTOIMMUNE ENCEPHALITIS AS A POSSIBLE SIDE EFFECT OF TREATMENT WITH TNF ALPHA INHIBITOR IN PATIENT WITH PSORIATIC ARTHRITIS**

Marija Montvydaite<sup>1</sup>, Arminas Jasionis<sup>2</sup>, Irena Butrimiene<sup>1</sup>

<sup>1</sup>Vilnius University, Faculty of Medicine, Clinic Of Rheumatology, Orthopaedics Traumatology, And Reconstructive Surgery, Institute Of Clinical Medicine, Vilnius, Lithuania, <sup>2</sup>Vilnius University, Faculty of Medicine, Clinic Of Neurology And Neurosurgery, Institute Of Clinical Medicine, Vilnius, Lithuania

**Background and Aims:** Tumour necrosis factor (TNF) alpha inhibitors are common therapies for autoimmune arthritis, including psoriatic arthritis. One of possible side effects associated with these therapies is demyelinating process in central nervous system (CNS). However, nondemyelinating complications are rare, their mechanisms are not completely understood, and true prevalence data is lacking.

**Methods:** We present a case description of a psoriatic arthritis patient who developed autoimmune encephalitis during the treatment with TNF alpha inhibitor - etanercept.

**Results:** A 45-year-old man suffering from psoriatic arthritis started the treatment with TNF alpha inhibitor etanercept in December 2017. He achieved remission in one year but started showing signs of behaviour changes. The treatment was interrupted a few times due to elevated liver enzymes and steatohepatitis was confirmed from liver biopsy. In March 2020, the treatment was stopped due to patient's psychiatric problems. Eventually, in a critical neurological condition, he was admitted to neurology department in May 2021. After extensive differential diagnosis excluding infectious, metabolic, and systemic connective tissue diseases, he was diagnosed with seronegative autoimmune encephalitis. Treatment with plasmapheresis, pulse steroid therapy and azathioprine led to improvement in patient's neurologic condition with only partial memory loss and nystagmus remaining. However, as steroids were tapered, arthritis flared, therefore secukinumab was started on July, 2022. Currently patient's joint and neurological condition remains stable.

**Conclusions:** This case report suggests that it is worth to consider that TNF alpha inhibitors can have not only nondemyelinating CNS side effects. Timely diagnosis and stopping of the treatment might prevent serious neurologic impairment or even lethal complications.

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**POSTER VIEWING WALK: S4**  
**18-03-2023 12:10 PM - 1:10 PM**

**POLYMORPHISMS OF VITAMIN D RECEPTOR GENE AND PSORIATIC ARTHRITIS  
DEVELOPMENT AND PROGRESSION**

Renata Sokolik<sup>1</sup>, Katarzyna Gębura<sup>2</sup>, Joanna Wielińska<sup>2</sup>, Piotr Wiland<sup>1</sup>, Katarzyna Kubik<sup>2</sup>  
<sup>1</sup>Wrocław Medical University, Department Of Rheumatology And Internal Medicine, Wrocław, Poland, <sup>2</sup>Polish Academy of Sciences, Hirsfeld Institute Of Immunology And Experimental Therapy, Wrocław, Poland

**Background and Aims:** Vitamin D is known to modulate biological processes via affecting differentiation and activation of various cell populations. Its role in many autoimmune diseases has been established, and polymorphic variants of vitamin D receptor (*VDR*) gene have been found to correlate with distinct markers of the disease. Our study aimed to investigate polymorphisms in the *VDR* gene and their potential associations with clinical parameters of psoriatic arthritis (PsA).

**Methods:** Four *VDR* polymorphisms (rs1544410, *BsmI*; rs2228570, *FokI*; rs731236, *TaqI* and rs7975232, *ApaI*) were assessed using qPCR with LightSNiP assays in a cohort of 84 PsA patients. Results were analyzed in regard to clinical data and considered statistically significant at  $p \leq 0.05$ .

**Results:** The rs2228570 CC homozygotes were overrepresented among PsA patients when compared to NCBI data for healthy individuals ( $RR=3.045$ ,  $p=0.001$ ). The age at diagnosis was significantly lower in rs2228570 CC homozygotes when compared to patients carrying the T allele ( $p=0.044$ ). It was also lower in rs7975232 AA homozygotes compared to patients with the C allele ( $p=0.019$ ). The presence of the rs7975232 A allele was also associated with higher DAS28(week12) (A+vs.CC,  $p=0.033$ , AAvs.CC,  $p=0.013$ ), as well as with higher DAS28(week24) (A+vs.CC,  $p=0.041$ , AAvs.CC,  $p=0.035$ ). Another polymorphic variant significantly correlated with higher DAS28(week12) and DAS28(week 24) was rs731236 C allele (C+vs.TT,  $p=0.007$  for DAS28(week12); C+vs.TT,  $p=0.006$  for DAS28(week24)). The statistically significant differences in  $\Delta$ DAS28 in weeks 0-12 were found for rs1544410 (GGvs.A+,  $p=0.038$ ) and rs2228570 polymorphisms (C+vs.TT,  $p=0.039$ ).

**Conclusions:** *VDR* polymorphic variants were found to be associated with PsA susceptibility and various diagnostic parameters of the disease.

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**POSTER VIEWING WALK: S4**  
**18-03-2023 12:10 PM - 1:10 PM**

**CHANGES OF THE PERIPHERAL VASCULAR MANIFESTATIONS IN SYSTEMIC SCLEROSIS DURING RITUXIMAB THERAPY**

Liudmila Garzanova, Lidiya Ananyeva, Olga Koneva, Olga Ovsyannikova, Rushana Shayahmetova, Oxana Desinova, Mayya Starovoytova  
V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation

**Background and Aims:** Effectiveness of Rituximab(RTX) on skin fibrosis and interstitial lung disease(ILD) in systemic sclerosis(SSc) has been established. The aim of our study was to assess the severity of the peripheral vascular manifestations in SSc patients(pts) with ILD and its changes during RTX therapy.

**Methods:** This study included 103pts with SSc. The mean follow-up period was  $12.6\pm 10.7$  months. The mean age was  $47\pm 12.9$  years, female-87pts(84%), the diffuse cutaneous subset of the disease had 55pts(53%). The mean disease duration was  $6.2\pm 5.5$  years. All pts had ILD and were positive for ANA, 67% of them were positive for antitopoisomerase-1. All patients received prednisolone, immunosuppressants at inclusion received 47% of them. Pts received RTX due to the ineffectiveness of previous therapy for ILD. The cumulative mean dose of RTX was  $1.7\pm 0.6$  grams. All pts had Raynaud's phenomenon. Puffy fingers was observed in 33pts(32%), digital ulcers in 16pts(16%), telangiectasias in 61pts(59%). Pain associated with digital ulcers or Raynaud's phenomenon was observed in 32pts(31%).

**Results:** During RTX therapy there wasn't any changes in manifestation of Raynaud's phenomenon. There was a decrease in the number of pts with puffy fingers from 33(32%) to 16(16%) and pts with pain from 32(31%) to 27(26%). There was an increase in the number of pts with digital ulcers from 16(16%) to 19(18%), but it was insignificant. The number of pts with telangiectasias increased from 61(59%) to 73(71%).

**Conclusions:** In our study, peripheral vascular manifestations was detected in most of the pts with SSc-ILD. There was not observed any significant worsening of peripheral vascular manifestations during RTX therapy.



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**POSTER VIEWING WALK: S4**  
**18-03-2023 12:10 PM - 1:10 PM**

**GASTROINTESTINAL INVOLVEMENT IN SYSTEMIC SCLEROSIS AND RITUXIMAB THERAPY**

Liudmila Garzanova, Lidiya Ananyeva, Olga Koneva, Olga Ovsyannikova, Oxana Desinova, Mayya Starovoytova, Rushana Shayahmetova  
V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation

**Background and Aims:** Gastrointestinal manifestations is one of the most common involvement in systemic sclerosis(SSc). The aim of our study was to assess changes of the gastrointestinal involvement in SSc patients(pts) with ILD on rituximab (RTX) therapy.

**Methods:** There was 103pts with SSc in this study. The mean follow-up period was  $12.6\pm 10.7$  months. The mean age was  $47\pm 12.9$  years, female-87pts(84%), the diffuse cutaneous subset of the disease had 55pts(53%). The mean disease duration was  $6.2\pm 5.5$  years. All pts had ILD and were positive for ANA, 67% of them were positive for antitopoisomerase-1. All patients received prednisolone at a dose of  $11.3\pm 4.5$  mg/day, immunosuppressants at inclusion received 47% of them. Pts received RTX due to the ineffectiveness of previous therapy for ILD. The cumulative mean dose of RTX was  $1.7\pm 0.6$  grams. 90% of pts received omeprazole at a dose of 20-40 mg/day. Dysphagia was observed in 76 pts (74%), early satiety or vomiting in 32 pts (31%), diarrhea in 20 pts (19%).

**Results:** We didn't observe any changes in gastrointestinal manifestation during RTX therapy. There was a decrease in the number of pts with dysphagia from 76 (74%) to 66 (64%), but it was insignificant. Number of pts with early satiety or vomiting and diarrhea didn't change.

**Conclusions:** In our study gastrointestinal involvement was observed in most of the pts with SSc-ILD. We didn't find any significant changes of gastrointestinal manifestations during RTX therapy.

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**POSTER VIEWING WALK: S5**  
**18-03-2023 12:10 PM - 1:10 PM**

### **VERY EARLY SYSTEMIC SCLEROSIS**

Oxana Desinova<sup>1</sup>, Mayya Starovoytova<sup>2</sup>, Lidiya Ananyeva<sup>2</sup>, Olga Koneva<sup>1</sup>

<sup>1</sup>V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation, <sup>2</sup>V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, .г.Москва, Russian Federation

**Background and Aims:** Currently, more attention is being paid to the early diagnosis of systemic sclerosis (SSc). To study clinical-immunological characteristics of patients with very early SSc.

**Methods:** 22 pts with very early SSc, f:m 16:6, aged 19 to 76 years (41.08±16.51) were registered during the year. Very early SSc characterized by puffy fingers, Raynaud's phenomenon (RP), disease-specific autoantibodies, microvascular alteration at capillaroscopy and the duration of the disease from the first non-RP no more than 18 months. Standard examination were performed.

**Results:** RP was the first symptom of SSc in all pts. The duration of RP was on 40+-12.5 months. Puffy fingers had 83% of pts, arthralgias of small joints of the hands - 42%, digital ulcers and necrosis -8,3%, hyperpigmentation – 8,3%, esophageal motility disorders- 58% of pts. Despite the short duration of the disease, interstitial lung disease with FVC about 95% had 25% of pts. However 1 patient of them with duration of the disease 15 months had decrease DLCO to 35% and pericarditis. The presence of visceral pathology reflected the rapid progression SSc. All pts had positive ANA. Anti-centromere antibodies -25%,anti -topoisomerase-1 antibodies - 25%, anti-RNP - 8,3% of pts. SSc-capillaroscopic pattern had all pts and 25% - combination of myopathic pattern. All pts received treatment calcium channel blockers, hydroxychloroquine-75%, glucocorticoids in low doses-25%, immunosuppressants (methotrexate, mycophenolate mofetil)-16%.

**Conclusions:** It is fundamentally important not only to diagnose, but to determine the nature of the course and possible prognosis of SSc, in order to select early adequate, pathogenetically therapy.

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**POSTER VIEWING WALK: S5**  
**18-03-2023 12:10 PM - 1:10 PM**

**SKIN BARRIER FUNCTIONS IN PATIENTS WITH SYSTEMIC SCLEROSIS AND SJÖGREN'S SYNDROME**

Sung Soo Kim<sup>1</sup>, Sang-Hyon Kim<sup>2</sup>, Hyun-Sook Kim<sup>3</sup>, Sooyoung Kim<sup>4</sup>

<sup>1</sup>Ulsan University College of Medicine, Gangneung Asan Hospital, Department Of Rheumatology, Gangneung, Korea, Republic of, <sup>2</sup>Keimyung University Dongsan Medical Center, Internal Medicine, Daegu, Korea, Republic of, <sup>3</sup>Soonchunhyang university Seoul hospital, Internal Medicine, Seoul, Korea, Republic of, <sup>4</sup>Soonchunhyang university Seoul hospital, Dermatology, Seoul, Korea, Republic of

**Background and Aims:** Patients with systemic sclerosis (SSc) and sjögren's syndrome (SS) suffer from dry skin and itching sensation while the cause remains obscure. However, the skin barrier functions of the stratum corneum in patients with SSc and in patients with SS are not well known. Therefore, we aimed to investigate skin barrier function in patients with SSc and in patients with primary SS (pSS).

**Methods:** Transepidermal water loss (TEWL) and hydration of stratum corneum (MPA6, corneometry, CM) were measured in 34 patients with SSc, 31 patients with pSS, and 25 healthy controls. We performed subgroup analyses according to autoantibodies (anti-scl-70, anti-centromere, anti-Ro/SSA), mRSS (modified Rodnan Skin Score  $\geq 6$  or  $< 6$ ), and comorbid diabetes in patients with SSc.

**Results:** There were no statistically significant differences in TEWL and skin hydration in patients with SSc and in patients with pSS compared to healthy controls. In subgroup analyses, there was no significant difference in the levels of TEWL or skin hydration according to the subtype, presence of auto-antibodies, and comorbid diabetes.

**Conclusions:** Neither the TEWL nor skin surface high-frequency conductance of forearm skin in SSc patients was significantly different from those in normal controls. There was no correlation between the levels of TEWL or high-frequency conductance and the degree of skin thickening in SSc. We need further investigation for searching surrogate markers.



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**POSTER VIEWING WALK: S5**  
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**THE EFFECT OF RITUXIMAB AND IMMUNOSUPPRESSANTS ON PULMONARY FUNCTION AND SKIN INDURATION IN PATIENTS WITH SYSTEMIC SCLEROSIS.**

Olga Koneva, Liudmila Garzanova, Olga Ovsyannikova, Oxana Desinova, Mayya Starovoytova, Rushana Shayahmetova, Lidiya Ananyeva  
V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation

**Background and Aims:** The comparison of the rituximab(RTM) and immunosuppressants(IS) effect on pulmonary function and skin induration in systemic sclerosis(SSc) in the open-label prospective non-randomized study.

**Methods:** 116 patients with interstitial lung disease in SSc(SSc-ILD) were enrolled into the study. Group A(n=35) received RTM-single therapy for 13.3±2.3 months at total dose 1.35±0.5g.Group B (n=36) received Cyclophosphamide(CyP) for 12±6 months at total dose 10.6±5g.Group C (n=45)received Mycophenolate Mofetil(MMF) for 12±6 months at a dose of 2 grams per day.The time courses of FVC,modified skin count(mRss),activity index(EScSG) were assessed.

**Results:** In Groups A,B,C the therapy was associated with significant decrease in mRss(11.5±9.5vs8.2±6.2,p=0.02;11.2±7.9vs7.9±6.8,p=0.008;7.5±6.9vs4.8±3.9,p=0.007,respectively) and EScSG(2.8±1.4vs1.4±1.2,p=0.00017;3.2±1.9vs1.4±1.2,p=0.000165;1.9±1.5vs1.2±0.9,p=0.01, respectively). Evaluation of FVC time course revealed significant FVC increase only in Groups A(78.7±20.0vs84.2±20.0,p=0.002) and B(80.5±20.1vs85.8±20.4,p=0.034),with median increment about 5%. In Groups A and B 10%FVC increase was found in 1/3 of the patients(26% and 31%,respectively) thus exceeding respective parameter twice(13.3%) in Group C(p=0.15 and 0.008,respectively). The patient percentage with FVC decrease by≥10% did not differ significantly between groups. The therapy was better tolerated in RTM-treated group:during RTM-therapy adverse reactions emerged in lower proportion of the patients(4/11%) compared with CyP(19/53%, p=0.0000) and MMF-treated group(12/27%,p=0,5).

**Conclusions:** All agents effectively alleviated mRss and EScSG,but only RTM and CyP significantly improved FVC.The RTM-single therapy was better tolerated compared to IS.The study findings substantiate potential use an RTM-single therapy both as a first-line agent for ILD treatment in the patients with a progressive course of ILD, and in the event of CyP inefficacy of poor tolerability.The MMF use is more preferable in patients with less pronounced ILD.

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**18-03-2023 12:10 PM - 1:10 PM**

**STUDY OF FACTORS AFFECTING THE EFFECTIVENESS OF RITUXIMAB IN SYSTEMIC SCLERODERMA.**

Olga Koneva, Liudmila Garzanova, Olga Ovsyannikova, Oxana Desinova, Mayya Starovoytova, Rushana Shayahmetova, Lidiya Ananyeva  
V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation

**Background and Aims:** To study of anti-B-cell therapy potential efficacy predictors in the patients with systemic sclerosis(SSc) with interstitial lung disease(SSc-ILD).

**Methods:** 90 patients with SSc-ILD were enrolled in to the study and received RTM-therapy for 12-42 months at cumulative dose  $2.9 \pm 1.1$  grams(disease duration  $5.9 \pm 4.8$  years,diffused/limited SSc-1.3/1,average age  $47 \pm 13.6$  years,females 83%).45 patients received RTM in addition to immunosuppressive therapy(IT).After evaluation of FVC the overall study population was divided into two groups: group A(n=35) comprised the patients with  $\geq 10\%$  FVC increase,and group B(n=11) comprised the patients with  $\geq 5\%$  FVC decrease.Subsequently correlation analysis was made to clarify the association between delta FVC and age,gender,duration and form of SSc,modified skin count,presence of gastroesophageal reflux,mPAP,SSc activity(EScSG), cumulative RTM dose,IT, ESR,ANA-HEP-2,a-Sci-70,CRP,B cell count.

**Results:** In the overall patient population RTM-therapy was associated with significant FVC increase from  $77.0 \pm 19.9\%$  to  $84.7 \pm 20.9\%$ ( $p=0.000000$ ), with median FVC increment  $6.6\%$ [0;14.1]. In group A FVC increased from  $75.3 \pm 19.9$  to  $94.3 \pm 20.4$ ( $p=0.000000$ ), with median FVC increment  $16.3$ [12.6; 24.7].In group B FVC decreased from  $82.5 \pm 23.2$  to  $72.3 \pm 19.4$ ( $p=0.000176$ ),with median FVC decrement  $10.4\%$ [-13.4; -6].Correlation analysis in groups A and B showed significant association of between delta FVC and the patient age( $R=0.36$ ),cumulative RTM dose( $R=0.34$ ) and EScSG during the last examination( $1.2 \pm 1.0$  and  $3.1 \pm 1.4$  in groups A and B,respectively; $R=-0.42$ ).No significant correlation between delta FVC and any other tested parameters was found.

**Conclusions:** Therefore,older patients who received the cumulative RTM dose more than 3 grams with suppressed SSc activity achieved greater FVC increase at the background of therapy.These data allow to consider the above parameters as potential predictors of response to anti-B-cell therapy in SSc.



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**POSTER VIEWING WALK: S5**  
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**TO STUDY THE ASSOCIATION OF COMPUTED TOMOGRAPHY SIGNS OF INTERSTITIAL LUNG DISEASE WITH FUNCTIONAL DISORDERS IN PATIENTS WITH SYSTEMIC SCLEROSIS**

Olga Koneva, Natalia Kovaleva, Liudmila Garzanova, Olga Ovsyannikova, Oxana Desinova, Mayya Starovoytova, Rushana Shayahmetova, Lidiya Ananyeva  
 V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation

**Background and Aims:** To study the clinical significance of X-ray symptoms in systemic sclerosis with ILD(SSc-ILD) during long-term follow-up.

**Methods:** The study included 37 pts with a SSc-ILD. For all pts at the time of inclusion and after 34±2.3 months there were examined FVC, DLCO, MSCT. All pts received immunosuppressive therapy (IST). The severity of changes by type of ground-glass (GG), reticular changes (RCH), traction bronchiectasis (TBE), and honeycombs (HC) were evaluated (0–3) at 5 levels. The X-ray and PFTs dynamics was assessed in the general group and in pts with the prevalence of ILD >20% (group A, n=23) and <20% (group B, n=14).

**Results:** During IST, values of PFTs remained stable, the total CT-score did not change. In the group B, both the total CT-score and the average score of GG, RCH, and TBE were significantly higher. The prevalence of ILD significantly correlated only with the DLCO (R=-0.35, p<0.05). The HC-changes were found only in the group B (n=5). Changes by type of GG did not correlate with DLCO. Correlation analysis of the total score of each of them with the PFTs data.

Correlation DLCO with CT-score	Group A			Group B			p
	DLCO	CT-score	R	DLCO	CT-score	R	
DLCO1-total CT-score1	60.6±19.6	4.5±4.4	-0.5	47.6±11.4	18.1±5.6	-0.35	<0.05
DLCO2-total CT-score2	62.6±19.1	4.1±3.9	-0.57	45.2±13.5	18.1±6.1	-0.47	
DLCO1-RCH-score1	60.6±19.6	2.6±2.4	-0.44	47.6±11.4	7.9±2.4	-0.43	
DLCO2-RCH-score2	62.6±19.1	2.7±2.3	-0.46	45.2±13.5	7.6±1.98	-0.51	
DLCO1-TBE-score1	60.6±19.6	0.5±1.2 (median-0 [0;0])	-0.54	47.6±11.4	7.8±2.0	-0.49	
DLCO2-TBE-score2	62.6±19.1	0.7±1.3 (median-0 [0;1])	-0.6	45.2±13.5	7.6±2.0	-0.56	
DLCO1-HC-score1	-	-	-	47.6±11.4	1.3±2.3 (median-0 [0;1])	-0.34	
DLCO2-HC-score2	-	-	-	45.2±13.5	1.7±3.3 (median-0 [0;1])	-0.34	

**Conclusions:** The best surrogate indicator reflecting the prevalence of interstitial changes was DLCO. The DLCO reduction was primarily due to fibrotic changes. The variant of fibrotic changes has no significant importance.



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**POSTER VIEWING WALK: S5**  
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**ASSOCIATION OF DIGITAL ULCERS WITH SEVERITY OF LUNG FUNCTION TEST IN SYSTEMIC SCLEROSIS OVER THE FIVE-YEAR PERIOD**

Olga Ovsyannikova, Olga Koneva, Lidiya Ananyeva, Liudmila Garzanova, Oxana Desinova, Rushana Shayahmetova, Mayya Starovoytova  
V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation

**Background and Aims:** To assess association of the digital ulcers with dynamics of FVC and DLco in patients with SSc-ILD.

**Methods:** It was a longitudinal study involving 83pts with SSc-ILD(mean age was 46,2±13,4;69%(limited subset);95%-female). The mean duration of follow up was 58,9±12,0months.At the end of the study a number of pts with digital ulcers(DUs) was 29(35%).Additionally 77pts. with SSc-ILD were investigated with HRCT and were divided into 3groups;The 1st-group(16 pts) with improvement;2nd-group(39 pts) without any changes and 3rd-group(22 pts) with worsening of fibrosis.

**Results:** After 5 years of follow up FVC increased significantly in all pts without DUs(n=54) from 88,5%±19to96%±23(p<0,05); in group-1—from 92%±20.5 to106%±19(p<0,05); in group-2 from 87%±18 to 94%±23.5(p<0,05) and only in group-3 FVC was stable (88±22 and 87±24.5)(p>0,05). The mean value of FVC in all pts with DUs didn't change(88%±14 and 86%±16,p>0,05) with tendency to decreasing in group3(from 83%±12,5 to 74%±13(p>0,05)).After 5 years of follow up DLco declined significantly in all pts with or without DUs,however in the 1-st-group decline of DLco wasn't significant.The decreasing of DLCO was more prominent in group-3 than in group-2.Therefore, in group-2 in patient without DU(n=24)—from 65%±16 to 60%±11 (p<0,05) and in patients with DU(n=14) DLCO changed from 61%±15 to 57%±14(p<0,05). In 3rd-group in patients without DU(n=13) DLCO decreased from 55%±15 to 48%±15 (p<0,05) and in patients with DU(n=9)-from 50%±20 to 44,5%±15(p<0,05).

**Conclusions:** In patients without DUs significant increasing of FVC during 5 years long follow up was observed.The worsening of fibrosis on HRCT in pts with DUs was associated with the lowest value of FVC and DLco at the entry and at the end of the study.

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**POSTER VIEWING WALK: S5**  
**18-03-2023 12:10 PM - 1:10 PM**

**ASSOCIATION OF INFLAMMATORY MARKERS WITH PULMONARY FUNCTION TESTS AND EUROPEAN SCLERODERMA STUDY GROUP ACTIVITY INDEX (ESCSG-AI) IN SYSTEMIC SCLEROSIS – ASSOCIATED INTERSTITIAL LUNG DISEASE**

Olga Ovsyannikova, Olga Koneva, Lidiya Ananyeva, Liudmila Garzanova, Oxana Desinova, Mayya Starovoytova, Rushana Shayahmetova  
V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation

**Background and Aims:** To assess inflammatory markers of SSc such as hsCRP and ESR and compare with lung function test and EScSG-AI in the long-term follow up study.

**Methods:** It was a longitudinal study involving 77-pts with SSc-ILD(mean age was 46,2±13,4;69% have limited subset; 93%female).The mean duration of follow up was 58,9±11,4months.Pts. were investigated with HRCT twice(at first visit(FV) and at the end of the study(ES)) and according the CT-changes were divided into 3-groups:the 1st-group(16 pts) with improvement;2nd-group(39 pts) without any changes and 3rd-group(22 pts) with worsening of fibrosis.Other data collected including biological results(high-sensitivity C-reactive protein(hsCRP) and erythrocyte sedimentation rate(ESR)), PFT (FVC and DLCO),composite score(EScSG-AI).

**Results:** there were no significant differences between groups related to sex,frequency of diffuse form and duration disease. Mean levels of hsCRP and ESR didn't change significantly during the follow up.In all pts hsCRP and ESR correlated directly with each other at FV and ES( $R=0,45$  and  $R=0,4$  ( $p<0,001$ )accordingly). We compared of hsCRP and ESR with FVC,DLCO and EScSG-AI-score in FV and the end of follow up. hsCRP inversely correlated with DLCO at the FV and ES( $R=-0,39$  and  $R=-0,42$ ( $p<0,05$ )accordingly); in groups-2 and-3( $R=-0,34$  and  $R=-0,47$ ( $p<0,05$ )accordingly) ES; with FVC in all-pts and group-2( $R=-0,42$  and  $R=0,47$ ( $p<0,05$ )ccordingly)only ES;correlated directly with EScSG-AI score in all pts and groups2,3( $R=0,58$ ( $p<0,0001$ ), $R=0,46$ ( $p<0,01$ ) and  $R=0,77$ ( $p<0,001$ )accordingly) ES.While ESR inversely correlated with DLCO only in all pts and groups1,2( $R=-0,43$ , $R=-0,66$  and  $R=-0,39$ ( $p<0,05$ )accordingly) FV; correlated directly with EScSG-AI-score in all pts.( $R=0,309$ ( $p<0,01$ ) ES.

**Conclusions:** In our group of pts. the hsCRP has proven to be an accurate reflection of disease severity especially in pts with progression of ILD.

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**POSTER VIEWING WALK: S5**  
**18-03-2023 12:10 PM - 1:10 PM**

### **REYNOLDS SYNDROME : REPORT OF THREE CASES**

Adil Rkiouak, Nawal Sahel, Meryem Zaizae, Bilal Talamoussa, Nisrine Bahadi, Zineb Bougrini, Omama Jamal, El Kassimi Ilyass, Youssef Sekkach  
mohammed V Military hospital, Internal Medecine A, Rabat, Morocco

**Background and Aims:** Reynolds syndrome (RS) is a rare autoimmune disorder characterized by overlapping primary biliary cholangitis (PBC) and systemic sclerosis. In this work we report three cases of systemic this syndrome.

**Methods:** The first case is about a 49 year old female patient who had systemic sclerosis with severe pulmonary involvement with fortuitous discovery of PBC, the second is that of a 58-year-old patient admitted for exploration of joints pain who was later diagnosed with Reynolds syndrome, and the third concerns a 69-year-old patient who presented a cholestatic jaundice associated with CREST syndrome and subsequently developed a decompensated hepatic cirrhosis.

**Results:** The diagnosis is based on immunobiological and histological criteria for PBC, and on a combination of clinical, radiological and immunological arguments for systemic sclerosis according to ACR-EULAR. The latter is represented, in the majority of cases, by its limited form with anti-centromere antibodies Treatment with ursodeoxycholic acid (AUDC) has improved the previously poor prognosis of PBC by significantly reducing disease progression and improving liver transplant-free survival. While the lack of a global treatment acting simultaneously on each of the different pathogenic mechanisms of systemic sclerosis makes therapeutic management particularly difficult, new therapies targeting the immune system represent a promising approach for the treatment of early forms.

**Conclusions:** Reynolds syndrome is an autoimmune disease characterized by the co-occurrence of primary biliary cholangitis and limited cutaneous systemic sclerosis. Treatment aims to improve the signs and symptoms associated with each disease individually.



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**POSTER VIEWING WALK: S5**  
**18-03-2023 12:10 PM - 1:10 PM**

### **AUTOANTIBODIES IN SYSTEMIC SCLEROSIS: THE EXPERIENCE OF ONE CENTER**

Mayya Starovoytova<sup>1</sup>, Oxana Desinova<sup>1</sup>, Lidiya Ananyeva<sup>1</sup>, Olga Koneva<sup>1</sup>, Liudmila Garzanova<sup>1</sup>, Rushana Shayakhmetova<sup>2</sup>, Olga Ovsyannikova<sup>1</sup>  
<sup>1</sup>V.A. Nasonova Research Institute of Rheumatology, Laboratory Of Systemic Sclerosis, Moscow, Russian Federation, <sup>2</sup>V.A.Nasonova Research Institute of Rheumatology, Systemic Sclerosis Laboratory, Moscow, Russian Federation

**Background and Aims:** Systemic sclerosis (SSc) is a connective tissue disease characterized by the presence of skin sclerosis, organ fibrosis and immunological abnormalities. To evaluation of the prevalence of autoantibodies in SSc patients.

**Methods:** 236 consecutive SSc patients (F/M 195/41; mean age 48.1 yrs, range: 21-75, mean disease duration 108 months, range 2-360), fulfilling the ACR criteria for SSc were enrolled in the study and had a detailed clinical assessment. Antinuclear antibody (ANA), including anti-topoisomerase I (anti-TOPO I), using an enzyme linked immunosorbent assay and anticentromere antibodies (ACA) by immunofluorescence assay were detected.

**Results:** 133 (56,5 %) patients had a limited form of SSc, 90 (38%) pts had a diffuse form of SSc, 13 (14,7%) pts had an overlap-syndrome. The most of patients 209 (88,7 %) had positive ANA. 110 case (46,4%) of anti-TOPO I, 38 cases (16%) of anti-centromere and 23 cases (9,6%) of anti-U1 RNP. The most of patients with diffuse form SSc (70%) had positive anti-Scl70 and only 5% of cases had positive ACA. In the group of patients with limited SSc positive anti-Scl70 and positive ACA were detected with approximately identical frequency, 33 % and 29% respectively. Anti-U1 RNP antibodies were present mainly in patients having a systemic sclerosis associated to myositis and arthritis (overlap-syndrome).

**Conclusions:** Prevalence of identification anti-TOPO I among patients is possibly connected with ethnic variation in frequency of ANA. The determination of specific scleroderma autoantibodies may be helpful in assessing monitoring and the best understanding of prognosis and treatment patients with SSc.

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**POSTER VIEWING WALK: S6**  
**18-03-2023 12:10 PM - 1:10 PM**

**WE KNOW WHEN TO START, BUT WHEN DO WE STOP INFlixIMAB FOR THE TREATMENT OF REFRACTORY BEHÇET'S DISEASE?**

Marko Barešić<sup>1</sup>, Marija Bakula<sup>1</sup>, Marija Bošnjak Pašić<sup>2</sup>, Mario Habek<sup>2</sup>, Branimir Anić<sup>1</sup>  
<sup>1</sup>University Hospital Center Zagreb, Division Of Clinical Immunology And Rheumatology, Department Of Internal Medicine, Zagreb, Croatia, <sup>2</sup>University Hospital Center Zagreb, Department Of Neurology, Zagreb, Croatia

**Background and Aims: Patient 1:** A 42-year old female patient presented with recurrent episodes of recurrent oral and genital ulcerations, headaches, vertigo with vision disturbances. Pontine demyelinating lesion and focal ischaemic areas in the basal ganglia were found on MRI and visual impairments were defined as posterior uveitis and retinal vasculitis. Pathergy test came back positive. The patient was diagnosed with Behçet's disease with dominant manifestations being ocular and Neuro-Behcet's. She was treated with pulses and oral glucocorticoids, azathioprine, cyclosporine with modest effect. Due to steroid dependence and severe side-effects of glucocorticoids the patient was put on infliximab with excellent disease control. After eight years of infliximab she remains in a stable remission.

**Methods: Patient 2:** A 37-year old female patient presented with headaches, visual disturbance, slurred speech and recurrent oral ulcerations. Demyelinating lesions of mesencephalon and pons were found on MRI and panuveitis. She was B51 positive. The patient was treated with glucocorticoids but the disease was steroid dependent with severe side-effects. She was put on infliximab with excellent disease control. She remains in a stable remission after 12 months of infliximab treatment.

**Results:** Treatment should be tailored according to the most dominant symptoms. Initiation of TNF-alpha inhibitors is recommended for the refractory disease but no validated treatment recommendations exist for the stopping of the biologic. In the case of our two patients we optimized infliximab treatment, the dose and time intervals between two applications according to infliximab trough levels.

**Conclusions:** We recommend this strategy in the treatment of refractory Behçet's disease with infliximab.

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**POSTER VIEWING WALK: S6**  
**18-03-2023 12:10 PM - 1:10 PM**

**DIFFICULTIES IN THE MANAGEMENT OF A GRANULOMATOSIS WITH POLIANGIITIS  
CASE**

Daniel Nitu<sup>1</sup>, Violeta-Claudia Bojinca<sup>1,2</sup>, Andra Balanescu<sup>1,2</sup>, Ioan Prie<sup>3</sup>, Diana Mazilu<sup>1,2</sup>, Popescu-Mirea Mihaela<sup>1</sup>, Andra-Patricia Stanciu<sup>1</sup>, Andreea-Iulia Trandafir<sup>1</sup>, Aida Doran<sup>1</sup>, Corneliu Rosulescu<sup>3</sup>

<sup>1</sup>Saint Mary Clinical Hospital, Internal Medicine And Rheumatology, Bucharest, Romania, <sup>2</sup>Carol Davila University of Medicine and Pharmacy, Rheumatology, Bucharest, Romania, <sup>3</sup>Saint Mary Clinical Hospital, Bucharest, Romania, Urology, Bucharest, Romania

**Background and Aims:** Granulomatosis with polyangiitis is a vasculitis with multiple organ involvement and potentially severe evolution with diagnostic and therapeutic difficulties.

**Methods:** We present the case of a 62 year old patient with granulomatosis with polyangiitis who required a multidisciplinary therapeutic approach. The patient has hypertension, coronary disease, dyslipidemia and hyperuricemia. The vasculitis diagnosis was set in 2019 when he had pulmonary, renal, rhinosinusal and skin involvement. The disease's onset occurred in May 2019 with purpuric rash on the lower limbs and he received medium dose corticosteroid therapy. In November 2019, he developed acute pulmonary injury associated with pulmonary cavitory nodules and alveolar hemorrhage. Later, ENT manifestations occurred. A biopsy sample from the nasal mucosa indicated the specific granuloma. Corticosteroid and immunosuppressive Azathioprine treatment were initiated. The subsequent severe renal damage and the very increased c-ANCA level required treatment with Cyclophosphamide and Methylprednisolone, followed by corticosteroid "tapering" and the resumption of Azathioprine. During the immunosuppressive treatment, the patient presented multiple urinary tract infections with various germs. He developed orchiepididymitis with septic shock, which required antibiotics and later left orchiectomy. A Rituximab switch was intended, unfortunately the level of IgG wasn't appropriate. Without the Azathioprine, the IgG level became normal, so we began Rituximab therapy, with satisfactory evolution. The level of c-ANCA decreased immediately after the first dose of the new therapy.

**Results:** A high level of c-ANCA and a low glomerular filtration rate was associated with patient's relapses.

**Conclusions:** Immunologic markers had a major role in choosing the best treatment for multisystemic affection with therapeutic difficulties.



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**POSTER VIEWING WALK: S6**  
**18-03-2023 12:10 PM - 1:10 PM**

**GRANULOMATOSIS WITH POLYANGIITIS PRESENTING AS ISOLATED MULTIPLE RENAL TUMOR-LIKE MASSES: A CASE REPORT AND SYSTEMATIC LITERATURE REVIEW.**

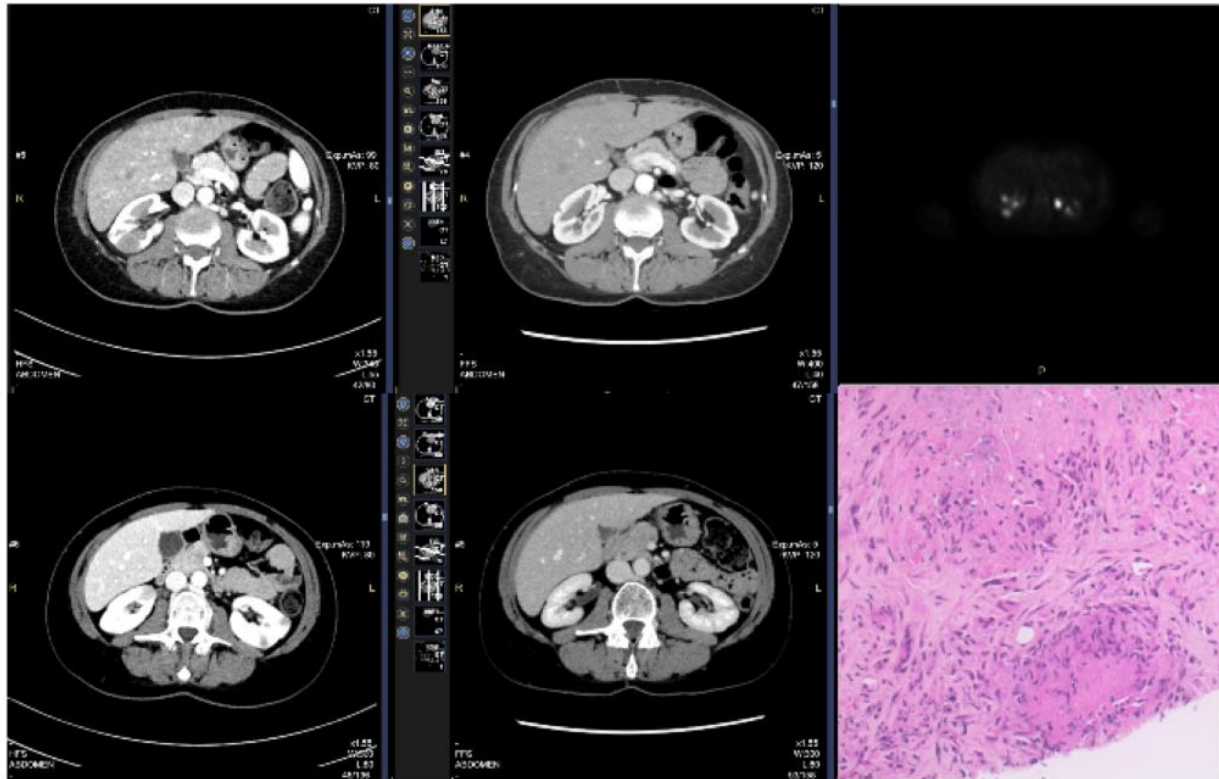
Luca Iorio<sup>1</sup>, Debora Campaniello<sup>1</sup>, Marco Pizzi<sup>2</sup>, Roberto Padoan<sup>1</sup>, Andrea Doria<sup>1</sup>

<sup>1</sup>University of Padova, Division Of Rheumatology, Department Of Medicine Dimed, Padova, Italy, <sup>2</sup>University of Padova, Surgical Pathology And Cytopatology Unit, Department Of Medicine Dimed, Padova, Italy

**Background and Aims:** Granulomatosis with polyangiitis (GPA) is a systemic autoimmune disorder characterized by granulomatous inflammation and small-to-medium vessels necrotizing vasculitis. Mass lesions, also described as tumor-like masses, are uncommon manifestations.

**Methods:** Starting from our case, a complete literature review was conducted using searching engine in PubMed and as mesh terms, granulomatosis with polyangiitis, Wegener's granulomatosis, renal mass lesions, renal tumor-like masses. We focused on clinical features, treatment strategy and outcomes.

**Results:** A 49-year-old female was admitted to our Unit because of persistent high fever, generalized weakness and arthomyalgias lasting for 2 months. Blood tests showed elevated CRP (147 mg/L), ESR (116 mmh) and low hemoglobin (104 g/L), normal renal function test and negative infectious disease investigations. PET and contrast CT scan showed bilateral multiple rounded renal lesions (SUVmax 20). The presence of ANCA-PR3 (42.3 KU/L) positivity and renal biopsy (necrotizing granuloma) confirmed the GPA diagnosis. She was treated with high-doses glucocorticoids and rituximab (1000mgx2). A progressive improvement was observed. The follow-up CT scan confirmed the almost complete regression of the lesions.



*Figure 1 Top left a CT scan (arterial phase) before and after rituximab, bottom left a CT scan (venous phase) before and after rituximab infusion, top right a PET scan showing renal mass high uptake, bottom right an histological section of the granuloma at 20x*

Eight patients with GPA renal masses were reported in the literature. They were mainly women, with a median age of 46 [27-65] years. Renal masses were observed at disease onset and ANCA positivity was found in 87.5% of the cases. A clinical improvement was obtained with a combination of glucocorticoids and cyclophosphamide or rituximab.

**Conclusions:** GPA presenting as isolated multiple renal masses is extremely rare. Early diagnosis and prompt initiation of immunosuppressive therapy can prevent disease progression and irreversible damage.

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**POSTER VIEWING WALK: S6**  
**18-03-2023 12:10 PM - 1:10 PM**

**RHEUMATOID ARTHRITIS AND PERINUCLEAR-ANTI-NEUTROPHIL CYTOPLASMIC ANTIBODY – ANTI-MYELOPEROXIDASE ASSOCIATED VASCULITIS INITIALLY PRESENTING AS SINUSITIS IN AN ADULT FILIPINA FEMALE: A CASE REPORT**

Elaine Tan, Leandro Jose Dado, Rica Kezia King, Evan Glenn Vista  
St. Luke's Medical Center - Quezon City, Section Of Rheumatology, Quezon City, Philippines

**Background and Aims:** Anti-Neutrophil Cytoplasmic Antibody (ANCA) – Associated Vasculitis and Rheumatoid Arthritis can co-exist. The former usually presents with pulmonary, renal, and cutaneous manifestations; whereas, the latter commonly presents with arthritis. However, an overlap disease may present with different clinical manifestations and early diagnosis is crucial.

**Methods:** We describe a case of ANCA-Associated Vasculitis overlapping with Rheumatoid Arthritis in a 73 year old female who initially presented with chronic sinusitis, unresolved despite medical treatment. She then developed febrile episodes, assessed as a case of Fever of Unknown Origin, for which infectious and malignant causes were ruled out.

**Results:** Prompt referral to rheumatology was done. Serologies showed elevated acute-phase reactants, high-titre Rheumatoid Factor (RF) of 1024 IU/mL, low-titre Antinuclear Antibody (ANA) of 1:40 speckled pattern, positivity of perinuclear – Anti-Neutrophil Cytoplasmic Antibody (p-ANCA) and Anti-Myeloperoxidase (Anti-MPO). She was started on oral steroids and oral Methotrexate which resolved symptoms. Later on, she developed purpuric generalized rashes, successfully treated with Rituximab.

**Conclusions:** This case highlights the atypical presentation of an overlapping ANCA-Associated Vasculitis and Rheumatoid Arthritis. Knowledge of different disease manifestations allows for early recognition and consequently, early treatment.



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**POSTER VIEWING WALK: S6**  
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**RECURRENT STROKES SECONDARY TO PERINUCLEAR-ANTI-NEUTROPHIL  
CYTOPLASMIC ANTIBODY – ASSOCIATED VASCULITIS: A CASE REPORT**

Elaine Tan, Rica Kezia King, Leandro Jose Dado, Evan Glenn Vista  
St. Luke's Medical Center - Quezon City, Section Of Rheumatology, Quezon City, Philippines

**Background and Aims:** While pulmonary and renal manifestations are common in Anti-Neutrophil Cytoplasmic Antibody (ANCA) – Associated Vasculitis, central nervous system is rare, and is usually part of a multi-organ pathology. We report a case of recurrent strokes secondary to Perinuclear-Anti-Neutrophil Cytoplasmic Antibody (p-ANCA) -Associated Vasculitis.

**Methods:** Our patient is a 51 year old female who has history of recurrent ischemic strokes, occurring four times. On Magnetic Resonance Imaging of the Brain, chronic lacunar infarcts were identified in the right frontal corona radiata, left thalamus, both lentiform nuclei, and pons. She came in with generalized weakness and diaphoresis, assessed to have hemorrhagic infarct as evidenced by intraparenchymal hemorrhage involving the right thalamus extending to the right posterior lentiform nucleus.

**Results:** Extensive workups ruled out a hypercoagulable state, an active infection, and an underlying malignancy. Rheumatologic examination showed normal complement levels, negative results to Anti-Nuclear Antibody (ANA) and Antiphospholipid Syndrome (APS) Panel, with elevated Erythrocyte Sedimentation Rate (ESR) and positivity of Perinuclear-Anti-Neutrophil Cytoplasmic Antibody (p-ANCA) at 1:40.

**Conclusions:** In this case report, we highlight the need to consider Anti-Neutrophil Cytoplasmic Antibody (ANCA) – Associated Vasculitis as a cause of recurrent strokes, even in the absence of typical pulmonary and renal manifestations.

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**POSTER VIEWING WALK: S6**  
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**EQUAL AND NORMOTENSIVE INITIAL FOUR-LIMB BLOOD PRESSURE IN A PATIENT WITH TAKAYASU'S ARTERITIS PRESENTING WITH MULTIPLE ANEURYSMS: A CASE REPORT**

Elaine Tan, Rica Kezia King, Leandro Jose Dado, Evan Glenn Vista  
St. Luke's Medical Center - Quezon City, Section Of Rheumatology, Quezon City, Philippines

**Background and Aims:** Takayasu's Arteritis, a large-vessel vasculitis, usually presents with hypertension. Blood pressure discrepancies of > 10 mm Hg are also common presenting manifestations. We describe a young Filipina female admitted for chest pain, right limb claudication, with multiple aneurysms on imaging, managed as a case of Takayasu's Arteritis.

**Methods:** Our patient presented with one year history of chest pain. She had a blood pressure of 120/80 mm Hg on all extremities, left carotid bruit, and weak dorsalis pedis pulses. Computed tomography (CT) scan showed aortic arch aneurysm, she underwent debranching of aorta and subsequent thoracic endovascular aortic repair (TEVAR). Post-operatively, Rheumatology evaluation was sought.

**Results:** Further imaging findings showed intracranial aneurysm, looping and beaded appearance of left internal carotid artery, pulmonary emboli, internal and external jugular vein thrombosis, and splenic infarct. Antinuclear Antibody (ANA) and Anti-Neutrophil Cytoplasmic Antibodies (ANCA) were negative. She was managed with Methotrexate, pulse steroids, and 2 doses of Tocilizumab. Discharged well.

**Conclusions:** Although commonly described with hypertension, Takayasu's Arteritis can present with equal and normotensive blood pressures. A good clinical acumen is crucial for its early recognition.

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**POSTER VIEWING WALK: S6**  
18-03-2023 12:10 PM - 1:10 PM

**NEW-ONSET ANTI-NEUTROPHIL CYTOPLASMIC ANTIBODY – ASSOCIATED VASCULITIS FOLLOWING PFIZER/BIONTECH COVID-19 VACCINE IN AN ELDERLY FEMALE WITH RHEUMATOID ARTHRITIS: A CASE REPORT**

Elaine Tan, Rica Kezia King, Leandro Jose Dado, Evan Glenn Vista  
St. Luke's Medical Center - Quezon City, Section Of Rheumatology, Quezon City, Philippines

**Background and Aims:** Numerous reports have published the occurrence of Anti-Neutrophil Cytoplasmic Antibody (ANCA) – Associated Vasculitis following Pfizer/BioNTech COVID-19 vaccination in previously healthy individuals. Causal relationship is still uncertain, but here, we describe such vasculitis in an elderly female with known rheumatoid arthritis.

**Methods:** Our patient is an elderly Filipina female with Rheumatoid Arthritis, DAS 28 2.53, In Remission. She was previously well and received Pfizer/BioNTech COVID-19 vaccine. Thirty days later, she developed dusky purpuric maculopapular rashes on the neck, trunk, back, and both lower extremities, accompanied by pancytopenia.

**Results:** Skin biopsy of the lower back was consistent with a drug hypersensitivity reaction. Anti-Nuclear Antibody (ANA) was negative. Perinuclear-Anti-Neutrophil Cytoplasmic Antibody (p-ANCA) showed positive results at 1:80. Oral corticosteroids were initiated with good response.

**Conclusions:** Although a causal relationship is uncertain, we highlight the need for surveillance of long-term side effects from COVID-19 vaccines, especially in patients with existing rheumatologic diseases.