predictor of treatment failure at 1yr among CZP-treated RA pts was high; 88.8% of pts identified as non-responders at Wk12 will represent a treatment failure at 1yr. Simple tools such as CDAI, assessed during routine consultations, may be reliable markers to predict treatment failure without need for complementary biological tests.

References:
[1] Keystone EC. J Rheumatol 2011;38:990–6.
[2] Curtis JR. Arth Care Res 2012;64:658–67.
[3] van der Heijde D. J Rheumatol 2012;39:1326–33.

Acknowledgements: This study was funded by UCB Pharma. We thank the patients and their caregivers in addition to the investigators and their teams who contributed to this study. We also thank Isabelle Bru (UCB Pharma) who helped conduct the ECLAIR study. Editorial services were provided by Costello Medical Consulting.

Disclosure of Interest: A. Saraux Consultant for: UCB Pharma, R. M. Flipo Consultant for: UCB Pharma, F. Fagnani Consultant for: UCB Pharma, J. Massol: None declared, B. Combe Grant/research support from: Merck Pfizer Inc, Roche-Chugai, Consultant for: Merck, Pfizer, Roche-Chugai, UCB Pharma, Bristol-Myers Squibb, Celgene, Eli Lilly, Speakers bureau: Merck, Pfizer, Roche-Chugai, UCB Pharma, Bristol-Myers Squibb, Celgene, Eli Lilly, Novartis, P. Huot-Marchand: None declared, J. M. Joubert Employee of: UCB Pharma, J. Dunkel Employee of: UCB Pharma, G. Cukierman Employee of: UCB Pharma

DOI: 10.1136/annrheumdis-2017-eular.1974

SAT0051 CITRULLINATION OF ADENOSINE DEAMINASE ISOFORMS IN RHEUMATOID ARTHRITIS

S. Sharoyan[1], L. Karapetyan[1], R. Harutyunyan[2], S. Mardanyan[1], A. Antonyan[1]. [1]*H.Ch. Buniatian Institute of Biochemistry of Armenian NAS;* [2]*"Yerevan" Medical Center, Yerevan, Armenia*

Background: One of the most important discoveries in rheumatology is the characterization of citrulline containing auto-antigens [1]. The identification of citrullinated proteins as auto-antigens and the development of new assay based on the detection of anti-citrullinated protein antibodies (ACPAs) become a breakthrough in the diagnosis and treatment of rheumatoid arthritis (RA). Mitsui and coauthors *in vitro* identified adenosine deaminase (ADA) as an ACPA antigen [2]. Earlier we have reported the enhance of ADA activity in synovial fluids (SFs) of RA patients [3].This increasing was in correlation with the ratio of small isoenzyme (SADA) to the large (LADA) [4].The comparison of citrullination states of SADA and LADA can be a clue for understanding the mechanism of SADA/LADA increase in RA, which is important both in diagnosis and treatment of the disease.

Objectives: The objectives of this study were a) to separate SADA and LADA isoforms from SFs of RA patients and b) to compare their citrullination degree.

Methods: The SADA and LADA isoforms from SFs of RA patients were separated and purified using gel-filtration and ion-exchange chromatography [4]. The citrullination degree of the isoforms was measured in the colorimetric assay with diacetylmonoxime (DAMO) [6] using the absorbance at 530 nm and free L-citrulline as a standard.

Results: The SF samples of 20 RA patients with initial ADA activity in the range 35–190 IU/L were used. Earlier we demonstrated a negligible level of SADA at initial ADA lower of this interval. In the samples with medium initial activity (35–55 IU/L), SADA/LADA ratio was $\approx$ 1/2. In those with high ADA activity (100–190 IU/L) this ratio was $\approx$ 4. The separation and purification of LADA from 10 SFs revealed that it is not citrullinated in any case. In SADA from SFs with medium ADA activity, we failed to register the citrullination. In SADA from SFs with the initial ADA activity $\geq$100 IU/L, the significant citrullination ($\approx$ 0.6 μmol/mg of protein) was registered.

Conclusions: The obtained results evidence that SADA from SFs with high ADA activity can serve as new citrulline containing ACPA antigen. This finding can be a base of developing new strategy (e.g. seeking specific inhibitors) for treatment of RA patients because citrullination enhances the ADA activity [2], hampering the increase of adenosine by methotrexate.

References:
[1] vanVenrooij WJ, van Beers JJ, Pruijn GJ. Anti-CCP Antibody, a Marker for the Early Detection of Rheumatoid Arthritis. Ann NY Acad Sci.1143:268–85, 2008.
[2] Mitsui H, Arito M, Sato T, Yokoyama MK, Suematsu N, et al. Novel anti-citrullinated peptide autoantibodies identified by proteomics with in vitro citrullinated proteins in patients with rheumatoid arthritis. Inflammation and Regeneration 33:121–30, 2013.
[3] Antonyan A, Sharoyan S, Haroyan A, Harutyunyan R, Mardanyan S. Adenosine Deaminase activity in synovial fluid at arthritis. Proceedings of YSU. Chemistry and Biology 3:28–32, 2013.
[4] Antonyan A, Sharoyan S, Haroyan A, Harutyunyan R, Mardanyan S. Adenosine Deaminase Isoforms in synovial fluid at Rheumatoid arthritis. Proceedings of YSU. Chemistry and Biology 2:54–57, 2014.
[5] Boyde TR, Rahmatullah M. Optimization of conditions for the colorimetric determination of citrulline, using diacetylmonoxime. Anal Biochem 107:424–431, 1980.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.1433

SAT0052 HIGH CHANCE OF COMPREHENSIVE DISEASE CONTROL (CDC) IN VERY EARLY AND NORMAL WEIGHT RHEUMATOID ARTHRITIS PATIENTS TREATED ACCORDING TO THE TREAT TO TARGET STRATEGY

A.L. Fedele, L. Petricca, B. Tolusso, S. Alivernini, C. Di Mario, G. Di Sante, G. Ferraccioli, E. Gremese. *Institute of Rheumatology, Fondazione Policlinico Universitario A. Gemelli, Rome, Italy*

Background: The ultimate goal for Rheumatoid Arthritis (RA) management is the simultaneous achievement of all clinical, functional and structural efficacy, i.e. comprehensive disease control (CDC) [1].

Objectives: To evaluate the effective chance and the consequences of CDC achievement in real world practice of Early Arthritis Clinic (EAC).

Methods: A total of 349 early rheumatoid arthritis (ERA) patients with a disease duration of less than 12 months were enrolled in the study. ERA patients fulfilled the 2010 ACR criteria for RA and were followed according to the treat-to-target strategy. Subjects with symptom duration less than 3 months were defined as having "very early RA" (VERA). The mean follow-up (FU) was 38.2±32.8 months. At baseline, and every three months, the ACR/EULAR core data set variables were recorded. At baseline and every year hand and foot radiographs were examined according to modified Total Sharp score (mTSS). At each visit, clinical improvement and remission were evaluated according to EULAR criteria. The achievement of CDC (28-joint Disease Activity Score using C reactive protein $<$2.6, Health Assessment Questionnaire $<$0.5 and change from baseline in mTSS $\leq$0.5) was assessed every year of follow-up.

Results: At the twelfth month of FU 148 (42.4%) ERA patients achieved CDC, while at the time of last FU 228 (65.3%) subjects reached this target.

Patients achieving CDC at the 12th month of FU were younger (*p=0.05*), in higher percentage male (*p=0.004*), and with a normal weight (body mass index, BMI $<$25) (*p=0.003*) and had a shorter disease duration, comprising a greater number of VERA (*p=0.01*), compared to subjects not achieving disease control. There were no differences concerning autoantibody positivity and presence of erosions at onset between the two analyzed cohorts. Adjusting the analysis for age, the variables that arose as independent predictors of CDC at the 12th month of FU were a disease duration less than 3 months [OR (95% CI): 1.97 (1.23–3.14)] and a normal BMI [OR (95% CI): 2.05 (1.32–3.21)].

In our cohort, 105 (30.1%) ERA patients were treated with biological disease modifying anti-rheumatic drugs (bDMARDs) over time. Biotechnological therapy was less frequently started by subjects in CDC, both after 12 months (*p=0.003*) and at the time of last FU (*p$<$0.0001*). At the multivariate analysis, not achieving CDC at the 12th month of FU [OR (95% CI): 2.69 (1.59–4.57)] and a BMI $\geq$25 [OR (95% CI): 2.05 (1.23–3.42)] were the variables significantly associated to bDMARD therapy over time.

Conclusions: The simultaneous achievement of symptom control, inhibition of radiographic progression and normalization of function, is a feasible target in real word EAC. Having a VERA and a normal weight are associated to a high chance of "deep" remission.

References:
[1] Emery P, et al. Ann Rheum Dis 2015; 74: 2165–2174.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.5496

SAT0053 THE INCIDENT IMMUNOLOGICAL STATUS PREDICTS DRUG-FREE DISEASE FLARE IN RHEUMATOID ARTHRITIS PATIENTS ACHIEVING STRINGENT CLINICAL AND ULTRASONOGRAPHIC CONTROL OF THE PERIPHERAL INFLAMMATORY PROCESS

A. Manzo, S. Bugatti, F. Benaglio, B. Vitolo, G. Sakellariou, R. Caporali, C. Montecucco. *Rheumatology and Translational Immunology Research Laboratories (LaRIT), Division of Rheumatology, IRCCS Policlinico San Matteo Foundation/University of Pavia, Pavia, Italy*

Background: The development of predictive tools to evaluate health risks and design personalized health plans in patients with rheumatoid arthritis (RA) achieving remission still represents a major unmet need. In this perspective, the relative weight of clinical, ultrasound and immunological assessment of disease characteristics for predicting recurrence of the inflammatory process under drug-free conditions remains unclear.

Objectives: To investigate the predictive value of baseline clinical remission stringency, synovial power Doppler (PD) ultrasound indices and the incident autoimmune status, as predictors of flare under drug-free conditions after a DAS28-driven treatment strategy with methotrexate (MTX) in early RA.

Methods: 85 RA patients achieving stable remission and candidate to MTX withdrawal were recruited according to the following criteria: 1) introduction of MTX within 12 months from symptoms' onset, 2) at least 24 months of MTX treatment with a DAS28-driven protocol targeting low disease activity (LDA), 3) DAS28$<$2.6 for $\geq$6 months in the absence of corticosteroids. Following treatment suspension, patients were monitored at three months' intervals across 24 months through clinical, ultrasound (hands-feet-axillary lymph nodes), radiographic and immunologic screenings (ACPA-RF status, CXCL13 circulating levels [1–2] and FACS analysis for quantification of Ki67+/regulatory T-B cell subsets). Treatment was re-introduced in case of DAS28$\geq$3.2 or stable LDA.