Conclusion: In this validation study, the molecular signature of non-response identified patients who did not fulfill the EULAR good response criteria to TNFi therapies. The patient selection process for this study had limitations; additional analysis in an alternative cohort would further verify the performance of the MSRC test. Nevertheless, the test, previously validated for ACR50, now has been validated using EULAR good response in a treat-to-target setting.

REFERENCES:

- [1] Schipper LG et al, Time to achieve remission determines time to be in remission. *Arthritis Res Ther* 201
- [2] Mellors T, et al. Clinical Validation of a Blood-Based Predictive Test for Stratification of Response to Tumor Necrosis Factor Inhibitor Therapies in Rheumatoid Arthritis Patients. *Network and Systems Medicine* 2020
- [3] Tweehuysen L et al. Predictive value of ex-vivo drug-inhibited cytokine production for clinical response to biologic DMARD therapy in rheumatoid arthritis. *Clin Exp Rheumatol* 2019

Disclosure of Interests: Lixia Zhang Shareholder of: Scipher Medicine Corporation, Employee of: Scipher Medicine Corporation, Celeste van der Tog: None declared, Alfons den Broeder Consultant of: Abbvie, Amgen, Cellgene, Roche, Biogen, Lilly, Novartis, Celltrion Sanofi, Gilead., Grant/research support from: Abbvie, Amgen, Cellgene, Roche, Biogen, Lilly, Novartis, Celltrion Sanofi, Gilead., Ted Mellors Shareholder of: Scipher Medicine Corporation, Employee of: Scipher Medicine Corporation, Erin Connolly-Strong Shareholder of: Scipher Medicine Corporation, Employee of: Scipher Medicine Corporation, Johanna Withers Shareholder of: Scipher Medicine Corporation, Employee of: Scipher Medicine Corporation, Alex Jones Shareholder of: Scipher Medicine Corporation, Employee of: Scipher Medicine Corporation, Viatcheslav Akmaev Shareholder of: Scipher Medicine Corporation, Employee of: Scipher Medicine Corporation
DOI: 10.1136/annrheumdis-2021-eular.3396

POS0493

TRIPLE-POSITIVITY AND ANTINUCLEAR ANTIBODIES, INSIGHTS ON DISEASE ACTIVITY: A RETROSPECTIVE COHORT STUDY OF COLOMBIAN RA PATIENTS

K. Maldonado-Cañón^{1,2}, D. V. Verano Castillo¹, H. F. Arenas Torrado¹, P. Coral Alvarado^{2,3}, P. A. Mendez Patarroyo^{2,3}, G. Quintana Lopez^{2,3,4} on behalf of Reumavance Research Group. ¹School of Medicine - National University of Colombia, Reumavance Research Group, Bogotá, Colombia; ²Fundación Santa Fe de Bogotá University Hospital, Reumavance Research Group, Internal Medicine Department., Bogotá, Colombia; ³School of Medicine - Universidad de Los Andes, Reumavance research group, Internal Medicine Department., Bogotá, Colombia; ⁴School of Medicine - National University of Colombia, Reumavance research group, Internal Medicine Department., Bogotá, Colombia

Background: Rheumatoid arthritis (RA) is a chronic autoimmune inflammatory disease characterized by cartilage and bone destruction, which can lead to joint dysfunction and disability. Antibodies' role as biomarkers in RA has been recently increasing: Anti-citrullinated protein antibodies (ACPAs) are the most specific one (60–70% of cases); whereas rheumatoid factor (RF) is seen in nearly 70% of cases, however, it is less specific than ACPA for RA diagnosis¹. ACPA/RF positivity is related to a more severe phenotype and a rapid progression to clinically apparent RA². Other biomarkers are Antinuclear Antibodies (ANAs), which have been related to a worse response to bDMARD treatment³.

iNishimura K, Sugiyama D, Kogata Y, Tsuji G, Nakazawa T, Kawano S, et al. Meta-analysis: Diagnostic accuracy of anti-cyclic citrullinated peptide antibody and rheumatoid factor for rheumatoid arthritis. Vol. 146, *Annals of Internal Medicine*. American College of Physicians; 2007. p. 797–808.

iiLingampalli N, Sokolove J, Lahey LJ, et al. Combination of anti-citrullinated protein antibodies and rheumatoid factor is associated with increased systemic inflammatory mediators and more rapid progression from preclinical to clinical rheumatoid arthritis. *Clin Immunol*. 2018;195:119-126.

iiiIshikawa Y, Hashimoto M, Ito H, Tanaka M, Yukawa N, Fujii T, et al. Anti-nuclear antibody development is associated with poor treatment response to biological disease-modifying anti-rheumatic drugs in patients with rheumatoid arthritis. *Semin Arthritis Rheum*. 2019;49(2):204–10.

Objectives: Our aim was to compare in terms of mean differences the disease activity according to the presence of RF, ACPA, and ANA in an outpatient clinic-based cohort of Colombian RA patients.

Methods: We conducted a retrospective cohort study with clinical-epidemiological data obtained from May 2013 to Feb. 2020 of patients with RA diagnosis based on the 2010 ACR/EULAR classification criteria. The patients were stratified into eight subgroups according to their autoantibody status. Disease activity, assessed by the DAS28-ESR, was recorded at baseline and after 3, ≈ 12, ≈ 24, and ≈ 36 (+/- 3) months. Mean DAS28-ESR differences were calculated by applying the Wilcoxon non-parametric rank test for two independent samples.

Results: Data of 384 patients who all completed 36 months of follow-up, from an ongoing cohort of ≈1100 patients, were included in the analysis. On our primarily female (n=294, 76,8%) population, RF+ / ACPA+ / ANA+ subgroup was the most prevalent (n=183; 47,8%); interestingly, it was the one with the highest

disease activity at baseline. After three months, all showed disease activity reduction; however, when completing follow-up, triple-positive, triple-negative and ANA-positive patients did not reach remission. Statistically significant mean differences were displayed when comparing overall and baseline mean DAS28-ESR scores for ANA+ vs ANA- patients, as shown in table 1.

Table 1. Disease activity mean differences when comparing ANA+ vs ANA- patients

	ANA+ (n = 218)	ANA- (n = 165)	Mean difference	p value
Baseline	4,05	3,62	0,43	0,014
3	3,32	3,14	0,18	0,396
12	3,13	2,89	0,24	0,059
24	2,80	2,68	0,11	0,563
36	2,80	2,58	0,22	0,098
Overall	3,22	2,98	0,24	0,002

Conclusion: In our study population, triple-positive and ACPA+/ANA+ patients showed higher disease activity at baseline and on average during the follow-up period; furthermore, ANA positivity was shown to be conditional on a significant difference for higher disease activity. RF and ACPA positive have long since been described as determinants for disease activity; nonetheless, our research provides insights for the consideration of ANA titers as a novel addition that enables the preamble of *triple-positivity* as something to be acknowledged. Caution must be applied when interpreting these results, understanding the need for this matter to be subject of future research with greater sample size, and taking into account other potentially confounder variables.

Figure 1. Mean disease activity for each stratum

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3443

POS0494

AN INVESTIGATION OF JOINT INFLAMMATION DEFINED BY COMPREHENSIVE ULTRASOUND ASSESSMENT AND PAIN SENSITISATION IN PATIENTS WITH ACTIVE RA

K. Chaabo¹, E. Chan², T. Garrood², Z. Rutter-Locher², A. Vincent², J. Galloway^{3,4}, S. Norton⁵, B. Kirkham². ¹St George's Hospital, Rheumatology Department, London, United Kingdom; ²Guy's Hospital, Rheumatology Department, London, United Kingdom; ³King's College Hospital, Rheumatology Department, London, United Kingdom; ⁴King's College London, Rheumatology, London, United Kingdom; ⁵King's College London, Psychology and Inflammation Biology, London, United Kingdom

Background: Treat-to-target strategies have improved outcomes in patients with RA. Targets based on clinical assessments of tender (TJC) and swollen joints (SJC) were developed when most patients had active inflammatory disease. It is now recognised some patients have pain sensitisation often termed fibromyalgia (FM), making clinical assessment of inflammatory disease more complex. An indicator of pain sensitisation is the difference between TJC and SJC, an observation we described in a pilot study (1).