IFX originator to CT-P13. This real-life study did not highlight any new safety concerns.

Disclosure of Interests: Bruno Fautrel Speakers bureau: Lilly, SOBI, Roche-Chugai, Consultant of: AbbVie, Biogen, BMS, Boehringer Ingelheim, Celgene, Lilly, Janssen, Medac, MSD France, Nordic Pharma, Novartis, Pfizer, Roche-Chugai, Sanofi Aventis, SOBI and UCB, Grant/research support from: AbbVie, Lilly, MSD, Pfizer, Maryse Assing Employee of: Pfizer, Nadir Mammar Employee of: Pfizer, Hubert MAROTTE Speakers bureau: Sanofi-Aventis, Paid instructor for: Sanofi-Aventis, Consultant of: AbbVie, Biogen, Bristol Myers Squibb, Gilead, Lilly France, MSD, Medac, Nordic Pharma, Novartis, Pfizer, Sanofi-Aventis, UCB, Grant/research support from: Bristol Myers Squibb, Lilly France, MSD, Novartis, Nordic Pharma, Pfizer, Sanofi Aventis

DOI: 10.1136/annrheumdis-2021-eular.477

POS0593

THE REDUCTION OF RETINAL MICROVASCULAR ALTERATIONS AND THE DECREASE OF A POTENTIALLY RELATED T-CELL SUBSET IN PATIENTS WITH ACTIVE RHEUMATOID ARTHRITIS TREATED WITH ABACEPT

S. Piantoni¹, F. Regola¹, S. Masneri¹, C. Nalli¹, C. Bazzani¹, C. Rossini², G. Chiarini², C. De Ciuceis², F. Franceschini¹, D. Rizzoni², P. Airò¹.

¹Rheumatology and Clinical Immunology Unit, ASST Spedali Civili and University of Brescia, Department of Clinical and Experimental Sciences, Brescia, Italy; ²Internal Medicine Unit, ASST Spedali Civili and University of Brescia, Department of Clinical and Experimental Sciences, Brescia, Italy

Background: T-cells play a pivotal role in the pathogenesis of rheumatoid arthritis (RA) and in its cardiovascular (CV) comorbidities, acting at microvascular level [1]. Since small artery remodeling is the earliest form of target organ damage in hypertension, the evaluation of microvascular alterations might provide clinically useful information. The evaluation of retinal arterioles is a non-invasive technique to identify a precocious microvascular damage, which is related to an increase of the wall-to-lumen ratio (WLR) [2]. CD3+CD31+CXCR4+ T-cells may be involved in damaged endothelium repair and are increased in patients with morphological microvascular alterations [3]. In addition to its effect on disease activity, abatacept (ABA), a co-stimulator blocker which is approved for the treatment of RA, may have specific CV protective action, modulating the numbers of certain subtypes of lymphocytes [4].

Objectives: To non-invasively investigate morphological characteristics of retinal arterioles and to evaluate CD3+CD31+CXCR4+ T-cells in a cohort of RA patients treated with ABA.

Methods: Eleven RA patients [median (25th-75thpercentile) age=58 (50-65) years, baseline C-reactive protein (CRP)-DAS28=4.4 (3.8-4.6), body mass index (BMI)=23.4 (21.6-25.6) kg/m², rheumatoid factor (RF) positive:45%, anti-citrullinated peptide autoantibodies (ACPA) positive:73%] without known CV risk factors (arterial hypertension, diabetes, hypercholesterolemia, previous CV events, smoking) were evaluated by adaptive optics, a validated technique quantifying microvascular damage [5], before and every 6 months of therapy with ABA (T0, T6 and T12). Phenotypic analysis of peripheral blood T lymphocytes was made by flow-cytometry in 5 patients of the cohort at T0 and T6.

Results: A progressive significant reduction of the WLR of retinal arterioles was observed [T0=0.28 (0.25-0.30), T6=0.27 (0.24-0.31), T12=0.23 (0.23-0.26); p T0 vs T6=0.4; p T6 vs T12=0.01; p T0 vs T12=0.01] (Figure 1), without significant variations in the other parameters [internal diameter: T0=94.4 (84.1-104.0), T6=94.8 (84.6-107.7), T12=99.2 (89.1-109.1) µm; external diameter: T0=125.8 (111.1-131.0), T6=122.4 (109.1-134.5), T12=125.6 (113.9-134.4) µm; wall thickness: T0=13.2 (12.2-14.4), T6=13.4 (11.7-14.4), T12=12.5 (11.6-13.0) µm; wall cross-sectional area: T0=4581.0 (3788.7-5263.7), T6=4563.3 (3788.5-5295.2), T12=4099.7 (3899.0-5145.7) µm²]. In 5 patients evaluated also for T-cell immunophenotyping a negative correlation was observed between CD3+CD31+CXCR4+ T-cell number and the retinal wall thickness at baseline (R=0.871;p=0.05). After ABA therapy a trend for reduction of CD3+CD31+CXCR4+ T-cells [19.0 (13.8-38.3) vs 12.4 (5.2-18.0) % of CD3+], was observed as well as of significant reduction of retinal wall cross-sectional area [5123.3 (4385.0-5470.3) vs 4852.3 (4118.3-5228.0) µm²;p=0.04].

Conclusion: In a cohort of RA patients without known CV risk factors, a reduction in retinal microvascular alterations arterioles was demonstrated after treatment for 12 months with ABA. CD3+CD31+CXCR4+ T-cell number was inversely related to the possible presence of subclinical CV involvement. These results may suggest the possibility of microvascular abnormalities regression induced by the immune system modulation.

REFERENCES:

- [1] Dessein PH, J Rheumatol 2005.
- [2] Rizzoni D, Am J Hypertens. 2018.
- [3] Hur J, Circulation 2007.
- [4] Kallikourdis M, Nat Commun 2017.

[5] De Ciuceis C, J Hypertens 2018.

Acknowledgements: Bristol-Myers-Squibb Italy provided an unrestricted research grant for the study conduct.

Wall to lumen ratio (WLR)

Figure 1.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.483

POS0594

MEANINGFUL IMPROVEMENT AND WORSENING IN PATIENTS WHO DO NOT ACHIEVE LDA AND SWITCH THERAPY TO A NEW BIOLOGIC OR TARGETED THERAPY: RESULTS FROM THE CORRONA REGISTRY

J. Curtis¹, S. Fiore², K. Ford³, J. Janak⁴, H. Chang⁵, D. A. Pappas⁴, T. Blachley⁵, K. Emeauru⁶, V. Bykerk⁷. ¹University of Alabama at Birmingham, Division of Clinical Immunology & Rheumatology, Birmingham, AL, United States of America; ²Sanofi, Medical Affairs, Bridgewater, NJ, United States of America; ³Sanofi, Medical Affairs, Cambridge, MA, United States of America; ⁴Consortium of Rheumatology Researchers of North America (CORRONA), Clinical Epidemiology, Waltham, MA, United States of America; ⁵Consortium of Rheumatology Researchers of North America (CORRONA), Bio-statistics, Waltham, MA, United States of America; ⁶Consortium of Rheumatology Researchers of North America (CORRONA), Epidemiology, Waltham, MA, United States of America; ⁷Inflammatory Arthritis Center, Hospital for Special Surgery, New York, NY, United States of America

Background: Guidelines recommend adjusting therapy in patients with rheumatoid arthritis (RA) who fail to reach and sustain low disease activity (LDA) or remission (disease control). Many factors can affect the decision to change therapy, including the potential for improvement as well as the fear of potential worsening or loss of improvement already achieved. Although data exist on response to treatment in patients who switch therapy, data addressing the likelihood of worsening are limited.

Objectives: The aim of this analysis was to describe the demographic, clinical characteristics, and change in clinical outcomes in patients on biologic/targeted synthetic disease-modifying anti-rheumatic drugs (b/tsDMARDs) who had some improvement in clinical disease activity index (CDAI) but did not achieve LDA after ~ 6-12 months of treatment and then switched to a different b/tsDMARD.

Methods: This study included adult inadequately responding RA patients from the CORRONA registry who: (1) started a biologic or Janus kinase inhibitor (JAKi) between January 2010 to November 2020 (V1), (2) had any CDAI improvement (i.e., decrease ≥ 1 unit) but were not in LDA or remission at a subsequent visit (baseline [BL]) occurring 3 to 15 months after V1; (3) had a third visit (follow-up [F/U]) 6 (± 3) months after BL with a valid CDAI measure; (4) switched therapy at the BL or between BL and F/U, with the switch occurring at least 3 months prior to the F/U. CDAI >10 and ≤ 22 was defined as moderate disease activity (MDA) and CDAI >22 was defined as high disease activity (HDA). These thresholds of change in CDAI (≥ 6 and ≥ 12 units) were used to define meaningful improvement and meaningful worsening after the switch. If there was no meaningful improvement or meaningful worsening, this was considered as no meaningful change (-5 to $+5$ for 6 units change and -11 to $+11$ for 12 units change). These thresholds for meaningful change were set for all switchers regardless of their pre-switch CDAI value. Descriptive statistics were generated for demographic and clinical characteristics for the switchers at BL, and the change of clinical outcomes was evaluated from BL to F/U.