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

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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

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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.

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Wall to lumen ratio (WLR)

Figure 1.

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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

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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.

Results: Of the 1,224 patients fulfilling the inclusion criteria, 93 (7.6%) switched therapy and 1,131 (92.4%) did not switch therapy after not achieving an adequate response on the initial b/tsDMARD. At BL, 42.5% and 70.0% of patients had no meaningful improvement to their prior therapy based on ≥ 6 and ≥ 12 -unit change, respectively; mean (SD) age was 53.1 (14.0) years; duration of RA 10.7 (10.4) years; CDAI 22.2 (10.8); 81.7% were female; 64.5% had MDA, 35.5% had HDA; 21.5 % reported being disabled, 24.7% were current smokers, and 50% were obese. In terms of prior biologic use 57.0%, 22.6%, and 20.4% had been on 1, 2, and 3+, respectively. From BL to F/U, meaningful worsening occurred in 30.1% and 12.9% using a threshold of 6 and 12, respectively, with the remaining patients experiencing meaningful improvement or no meaningful change (Figure 1).

Figure 1. Meaningful Worsening, Meaningful Improvement, and No Meaningful Change Based on CDAI Change Thresholds of ≥ 6 and ≥ 12 From BL to F/U (N=93)

Conclusion: In our analysis, a large proportion of patients who initiated a biologic/JAKi and experienced some improvement but failed to attain LDA or remission, did not switch therapy within approximately a year. This analysis consisted of many patients who did not have a meaningful response to their prior biologic/JAKi, patients who had received multiple prior biologics, and a large portion of patients with poor prognostic factors. Despite this, the proportion of patients with meaningful worsening was low compared with most patients who had either meaningful improvement or no meaningful change. Additional research is warranted to understand the reasons for not switching and whether the likelihood of a meaningful change correlates with prior response, poor prognosis, or other factors.

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POS0595

ABATACEPT IN USUAL AND IN NON-SPECIFIC INTERSTITIAL PNEUMONIA ASSOCIATED TO RHEUMATOID ARTHRITIS. NATIONAL MULTICENTER STUDY OF 190 PATIENTS

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Background: Interstitial lung disease (ILD) is a severe complication of Rheumatoid Arthritis (RA). Usual interstitial pneumonia (UIP) is considered to be more frequent and severe in RA than non-specific interstitial pneumonia (NSIP). Abatacept (ABA) and Rituximab have demonstrated efficacy in RA-ILD [1-3].

Objectives: To compare the efficacy of ABA in RA-ILD patients according to radiological patterns of UIP or NSIP.

Methods: From an observational multicenter study of 263 RA-ILD patients treated with ABA, we selected those with UIP or NSIP [2]. We analyzed in the 2 groups from baseline up to 24 months the following outcomes: **a)** Forced Vital Capacity (FVC), **b)** Carbon monoxide diffusing capacity (DLCO), **c)** Chest High Resolution Computed Tomography (HRCT), and **d)** dyspnea. Differences between final follow-up and basal visit were calculated as the average difference and 95% Confidence Interval (95% CI). Multivariable linear regression was used to assess the differences between the 2 groups.

Results: We studied 190 patients with UIP (n=106) and NSIP (n=84). Patients with UIP were older, had more positivity for rheumatoid factor and had received more sulfasalazine (Table 1). ILD duration up to ABA initiation was relatively short in both groups, with a median [IQR] of 16 [4-50] and 11 [2-36] months in UIP and NSIP patterns, respectively. Mean baseline values of FVC and DLCO were > 80% and > 60%, respectively, in the 2 groups, with a lower FVC in UIP (82% vs 89% in NSIP, p<0.05). The evolution of FVC and DLCO is shown in Figure 1. Both parameters remained stable during 24 months of ABA therapy. Available chest HRCT images improved/ stabilized in 73.1% and 72.9% of UIP and NSIP patterns, respectively. With multivariable linear regression analysis, no differences were found in the changes of FVC, DLCO, or HRCT images. Stabilization or improvement of dyspnea was found in 91% and 95% of UIP and NSIP patterns, respectively.

Conclusion: ABA seems to be equally effective in stabilizing of DLCO, FVC and HRCT in UIP and NSIP in RA-ILD. Our results suggest that an early administration of ABA in ILD, before significant structural lung damage development, may be preferable to prevent interstitial progression, regardless of the radiological pattern.

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