hospitalization was performed ($n = 14$). The first group included 6 patients who retained low disease activity during 1 month follow-up (RA, stabilization). The second group consisted of 8 patients who had exacerbation during follow-up period. As a control group, we used data from 43 comparable healthy donors. Subsets of T regulatory cells and monocytes were studied. A comparison was made among the indicators of receptors number and proportion of cells expressing the corresponding receptor.

Results: For T regulatory cells, the key differences for patients who did not retain low disease activity were significantly higher number of TNF type 1 and type 2 receptors on double-positive cells with a lower percentage of these cells compared to stable patients. At the same time, higher differences between proportions of double-positive cells in comparison with control values of healthy donors were associated with higher probability of maintaining in remission.

For monocytes, the key differences in stable patients were the very high quantitative expression of type 1 receptors on double-positive cells, with a lower percentage of these cells compared to patients with exacerbation. At the same time, lower differences between proportions of double-positive cells in comparison with control values of healthy donors were associated with higher probability of maintaining in remission.

Conclusion: Obtained data confirm the previously proposed hypothesis about the essential role of balance in quantitative expression of TNF receptors type 1 and 2 on double-positive cells to determine the intensity and type of cell response to the mediator and its association with the level of disease activity and response to therapy.

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POS0501 SUSTAINED 2-YEAR REMISSION OF THE DISEASE IN A CLINIC OF EXCELLENCE IN RHEUMATOID ARTHRITIS. EXPERIENCE OF THE CLINICAL REGISTRY IN COLOMBIA

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Background: Rheumatoid arthritis (RA) is a chronic autoimmune disease with no cure, characterized by episodes of exacerbation and remission, which requires permanent use of medications. Clinics of excellence are multidisciplinary and

centralized programs that improve adherence to treatments. Information on the benefits of these models of care has been published but is not definitive. In Colombia, the clinical registry of patients with RA is kept in the Cuenta de Alto Costo (CAC).

Objectives: To demonstrate the difference in the percentages of sustained remission at 2 years, between an institution with non-centralized management or standard of care (Hospital Militar Central-HMC) compared to another institution with centralized management or clinic of excellence (BIOMAB-IPS) and determine if the results are determined by any of the intervention variables or by the program.

Methods: The 2-year clinical records for the CAC were compared between an institution with non-centralized management (HMC) in comparison with another institution with centralized management (BIOMAB-IPS), performing a socio-demographic description, measuring control of the disease DAS28 clinimetry, Fisher's test non-parametric bivariate analysis, multiple regression model, and population matching with Propensity score Matching (PSM).

Results: Complete information was obtained from 2 years of follow-up, in centralized management 3457 patients and for the non-centralized unit 114 patients. Most of them corresponded to 2962 women (82%), with time of illness of 9.5 years and 10.2 years, respectively, without statistically significant differences. A difference was observed in the 2 programs to maintain remission at 2 years, in favor of the centralized program 54.7% vs 28.6.2% ($p < 0.00$). With the binomial generalized linear regression model, it was confirmed that this difference was not explained by variables such as the use of biological therapy ($RR = 0.77$; 95% CI 0.69-0.86), use of DMARDs ($RR = 0.71$; 95% CI 0.62-0.82) and number of rheumatology consultations ($RR = 0.97$; 95% CI 0.92-1.02) in comparison with the centralized care model ($RR = 2.32$; 95% CI 1.58-3.35). Due to the biases between the groups due to the non-probability sampling, a PSM was performed, with a 1:1 match, caliper of 0.065, obtaining a pseudo population with well-balanced covariates (see table 1). In the common support area, statistically significant differences were documented in sustained remission over 2 years, in favor of the centralized care group 45 vs 17.9% ($p = 0.001$).

Conclusion: With the information from the clinical records, statistical strategies can be used to evaluate important differences in centralized care programs, observing favorable results of these types of care that are not related to isolated elements of the program, but to the overall effect of the program.

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POS0502 WHAT IS THE ROLE OF VITAMIN D STATUS IN DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS PATIENTS TREATED WITH bDMARDs? – DATA FROM A RHEUMATOLOGY CENTER

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Background: Vitamin D is a fat-soluble vitamin, mainly involved in the regulation of calcium metabolism, and it has gained increasing interest in recent years because of its potential role in immunomodulatory activity. Recent data suggest that it is negatively associated with disease activity in rheumatoid arthritis (RA), however this is not yet fully understood.

Objectives: This study's aim was to investigate if there is any correlation between vitamin D serum levels at baseline, before taking the first biological disease-modifying antirheumatic drug (bDMARD), and at 6 months after, with disease activity in a cohort of RA patients.

Methods: This is a cross-sectional study, including all the rheumatoid arthritis patients taking the first bDMARD with evaluation of the vitamin D status at baseline and 6 months after biologic therapy at our Rheumatology Department and registered in the national database (Reuma.pt).

Demographic, clinical and laboratorial characteristics and disease activity measures were collected from the baseline visit and the visit after 6 months of treatment with the first biologic. For the statistical analysis, two groups were defined, based on the serum levels of 25(OH) vitamin D, considering the most common cut-off of 30 ng/mL. For comparison analyses between groups, chi-square test was used for categorical variables and Mann-Whitney U and T-tests were applied for continuous variables.

Results: Seventy-seven patients were included, 58 (75.3%) were females; the mean age was 54.24 $\pm$ 11.0 years and seropositivity was founded in 65 (84.4%) for anti-citrullinated protein antibodies and in 58 (75.3%) for rheumatoid factor. The first bDMARD most commonly prescribed were etanercept (28.6%) and rituximab (26%). Regarding the vitamin D status at baseline, the mean serum level for 25(OH)vitamin D was 28.35 $\pm$ 18.21 ng/mL, with the majority of patients having vitamin D insufficiency (25(OH)vitamin D < 30 ng/mL) (63.6%). After 6 months of treatment with the first bDMARD, disease activity measures showed that remission or low activity were achieved in 29.9% of the patients, using DAS28 criteria; in 42.9% and 46.8%, according CDAI and SDAI criteria, respectively. Vitamin D serum levels at 6 months were 26.81 $\pm$ 11.72, with the majority of patients still with vitamin D insufficiency (62.3%).

At baseline, patients with vitamin D insufficiency had greater patient VAS (79.00 $\pm$ 19.14 vs 71.71 $\pm$ 21.95), greater erythrocyte sedimentation rate (ESR) (40.67 $\pm$ 23.17 vs 32.46 $\pm$ 26.09) and greater Health Assessment Questionnaire (HAQ) score (1.75 $\pm$ 0.609 vs 1.61 $\pm$ 0.659) with neither of them having statistical significance. However, when comparing CRP levels at 6 months, it achieved statistical significance with the Mann-Whitney U-test (1.05 $\pm$ 1.79 vs 1.41 $\pm$ 5.22; $p=0.026$). The same tendency was confirmed when analyzing vitamin D levels at 6 months. Patients with vitamin D insufficiency presented greater patient VAS (55.33 $\pm$ 28.82 vs 42.86 $\pm$ 28.28), greater ESR (26.19 $\pm$ 21.57 vs 21.00 $\pm$ 20.38) and greater HAQ score (1.35 $\pm$ 0.662 vs 1.34 $\pm$ 0.705), although without statistical significance. However, it did achieve statistical significance when comparing baseline DAS28 and HAQ (5.60 $\pm$ 0.91 vs 5.38 $\pm$ 1.31; $p=0.013$ and 1.76 $\pm$ 0.53 vs 1.59 $\pm$ 0.75; $p=0.007$, respectively).

Conclusion: Our data failed to demonstrate a statistically significant association between vitamin D serum levels at baseline and at 6 months with disease activity in our RA sample. However, it revealed a positive trend of vitamin D insufficiency related to higher activity disease. Interestingly, it showed that vitamin D insufficiency after 6 months of bDMARD treatment is related to higher DAS28 and HAQ at baseline. Nonetheless, we insist it is of paramount importance to conduct larger studies to confirm these findings.

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POS0503

THE DISCORDANCE BETWEEN PATIENT-REPORTED AND CLINICAL/BIOLOGICAL OUTCOMES COULD HELP IN PREDICTING FUTURE DISEASE IMPACT IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Treatment of Rheumatoid Arthritis (RA) has improved significantly based on early treat-to-target (T2T) strategies. Still, decreased health related quality of life (QoL), restricted ability to work and other unmet needs are reported by RA patients even in the absence of disease activity. We previously identified 3 factors representing the broader impact of RA using exploratory factor analysis: a patient-reported factor (patients global health, pain, fatigue and HAQ), a clinical factor (physician's global health, tender and swollen joint count), and a laboratory factor (ESR and CRP)¹.

Objectives: To test whether the discordance between patient-reported (PRF) and clinical(CF)/laboratory(LF) measures can predict QoL, or has a mediating effect in predicting future disease burden based on disease activity (DAS28CRP).

Methods: This is a post-hoc analysis of the 2-year CareRA trial. PRF, CF and LF scores were calculated as weighted (by factor loading) sum of their components at week 16, 52 and 104 after treatment initiation. A discordance score (DS) between PRF and the mean of the other two scores was also computed.

Mediation analyses were fitted to test the hypothesis (Figure 1) that DS could be a mediator for predicting PRF, CF and LF at a future time point (week 16, 52 and 104) using DAS28CRP at a previous time point (baseline and week 16). Confidence intervals were estimated via 10 000 bootstraps. Finally, a linear regression was fitted for DS to predict future QoL (RAQoL questionnaire; range 0-30; higher values indicating worse QoL).

Results: Patients with early RA (n=379) were included with a mean (SD) age of 53.9 (13.0), 77% seropositive and 69% women.

The DS was shown to be mediating the effect of DAS28CRP on any future PRF (Table1). On the other hand, there was no mediation effect of the DS in the prediction of the CF and an inconsistent mediation effect when predicting the LF. Moreover, the DS at week 16 significantly predicted ($p<0.0001$) RAQoL scores at year 1 with an effect of β 19.05 (SE 1.58) and an R^2 of 0.30 (CI 0.22-0.38). Similarly, it predicted RAQoL ($p<0.0001$) at year 2 with a β 19.74 (SE 1.56) and R^2 of 0.32 (CI 0.24-0.40).

Figure 1: Postulated mediational path model

Table 1. Results of mediation analyses for prediction of future burden based on previous DAS28CRP and mediated by discordance.

Timepoint	Predictor variables	Direct Effect	95% CIs	R ²	Mediation effect
Patient-reported factor					
W16	DAS28CRP at BL	-0.0091	-0.0240, 0.0058	0.1450	Present
	DS at BL	0.0246*	0.0169, 0.0331	0.1784	
W52	DAS28CRP at W16	0.0215*	0.0010, 0.0419	0.3394	Partial
	DS at W16	0.0580*	0.0442, 0.0739	0.2749	
W104	DAS28CRP at W16	0.0101	-0.0102, 0.0305	0.2798	Present
	DS at W16	0.0528*	0.0396, 0.0686	0.2749	
Clinical factor					
W16	DAS28CRP at BL	0.0153*	0.0074, 0.0232	0.0599	Absent
	DS at BL	0.0019	-0.0010, 0.0048	0.1784	
W52	DAS28CRP at W16	0.0365*	0.0267, 0.0463	0.1944	Absent
	DS at W16	0.0034	-0.0031, 0.0095	0.2749	
W104	DAS28CRP at W16	0.0115*	0.0024, 0.0207	0.0409	Absent
	DS at W16	0.0033	-0.0019, 0.0089	0.2749	
Laboratory factor					
W16	DAS28CRP at BL	0.0063*	0.0015, 0.0111	0.0634	Partial
	DS at BL	0.0030*	0.0012, 0.0050	0.1784	
W52	DAS28CRP at W16	0.0003	-0.0063, 0.0068	0.0305	Present
	DS at W16	0.0051*	0.0012, 0.0096	0.2749	
W104	DAS28CRP at W16	-0.0007	-0.0079, 0.0064	0.0014	Absent
	DS at W16	0.0013	-0.0019, 0.0046	0.2749	

W: week BL: baseline DS: discordance score DAS28CRP: disease activity score in 28 joints with C-reactive protein* $p<0.01$

Conclusion: Early discordance between patient-reported and biological/clinical factors mediates the effect of disease activity on future patient-reported outcomes, but also predicts QoL. Paying attention to this early discordance might provide opportunities to prevent patient's unmet needs by additional non-pharmacological interventions, hence broadening the scope of T2T.

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POS0504

IS BIOELECTRICAL PHASE ANGLE ASSOCIATED WITH FUNCTIONAL STATUS AND DISEASE IMPACT IN PATIENTS WITH RHEUMATOID ARTHRITIS?

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