Table 1. Summary of temporary interruptions during completed bimec Phase 3 studies in RA**

	Study RA-BEAM (0-24/0-52, data up to rescue)			Study RA-BUILD (0-24, data up to rescue)		
	PBO (N=488)	BARI 4 mg (N=467)	ADA (N=330)	PBO (N=228)	BARI 2 mg (N=229)	BARI 4 mg (N=227)
Total number of dose interruptions, I	67	62/103	30 /46	32	24	40
Patients with ≥1 interruption, n (% of N)	54 (11.1)	50 (10.3)/75 (15.4)	28 (8.5)/40 (12.1)	29 (12.7)	21 (9.2)	34 (15.0)
Number of interruptions per interrupted patient, mean	1.2	1.2/1.4	1.1/1.2	1.1	1.1	1.2
Time from first dose to first interruption, mean, days	68.9	70.6/126.9	73.2/112.3	53.1	41.0	53.6
Duration of individual interruptions, mean (SD), days	11.7 (13.2)	11.4 (9.4)/15.1 (15.7)	19.4 (24.6)/23.1 (29.1)	11.6 (10.2)	12.3 (12.6)	10.7 (9.8)
Interruption duration categories, n (% of I)						
0-7 days	35 (52.2)	26 (41.9)/44 (42.7)	10 (33.3)/15 (32.6)	16 (50.0)	10 (41.7)	20 (50.0)
8-14 days	14 (20.9)	15 (24.2)/28 (25.2)	10 (33.3)/16 (34.8)	7 (21.9)	8 (33.3)	10 (25.0)
15-21 days	6 (9.0)	5 (8.1)/6 (5.8)	4 (13.3)/4 (8.7)	5 (15.6)	4 (16.7)	4 (10.0)
22-28 days	3 (4.5)	5 (8.1)/4 (13.6)	0/1 (2.2)	1 (3.1)	0 (0.0)	3 (7.5)
>28 days	5 (7.5)	4 (6.5)/13 (12.6)	5 (16.7)/10 (21.7)	3 (9.4)	2 (8.3)	3 (7.5)
Reason for interruptions, n (% of I)						
Adverse event	44 (9.0)	46 (9.4)/69 (14.0)	26 (7.9)/37 (11.2)	24 (10.5)	16 (7.0)	26 (11.5)
Abnormal lab result	10 (2.0)	3 (0.6)/6 (1.2)	0/0	4 (1.8)	5 (2.2)	6 (2.6)
Investigator decision	3 (0.6)	2 (0.4)/2 (0.4)	2 (0.6)/3 (0.9)	2 (0.9)	0	2 (0.9)

Abbreviations: ADA=adalimumab; BARI=bimec; n=number of interruptions in the specified category; N=number of patients in safety population; n=number of patients in the specified category; PBO=placebo.
*Interruptions are based on daily tablet study drug. **Temporary interruption is defined as a temporary withholding of study drug that is followed by resumption of study drug during the study.

Table 2. Summary of ePRO daily diary scores among patients retreated following study drug interruptions*

Mean (SD)	Placebo 25 (25)*			Bimec 54 (25)*		
	Study drug initiation†	Pre- interruption‡	Last during interruption‡	Study drug initiation†	Pre- interruption‡	Last during interruption‡
MJS Duration	106 (87)	118 (157)	128 (159)	160 (167)	137 (164)	135 (171)
MJS Severity	5.5 (2.1)	4.3 (2.0)	4.5 (2.0)	5.8 (2.0)	4.2 (2.2)	4.4 (2.1)
Worst Joint Pain	5.8 (1.7)	4.6 (2.0)	4.9 (2.0)	6.1 (2.0)	4.6 (2.2)	4.7 (2.1)
Worst Tiredness	5.5 (2.5)	4.7 (2.2)	4.7 (2.2)	5.5 (2.0)	4.7 (2.3)	4.9 (2.4)

Abbreviations: ePRO=electronic patient reported outcome; MJS=morning joint stiffness.
*Data presented are mean (SD). †Number of patients; ‡Number of patients without at least 3 diary entries during interruption. †For MJS severity, it is 26 (26). ‡Includes combined doses of bimec (2 mg and 4 mg). *Average of values obtained within the first 3 days following randomization. †Average of up to 3 most recent values obtained in the 7 days prior to interruption. ‡Average of 3 most recent values in the last 7 days of the interruption. †Average of last 3 available values obtained following interruption and prior to any subsequent interruption or Week 12 study visit.

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FRI0125 RHEUMATOID ARTHRITIS PATIENTS WITH ANTI-ACETYLATED PEPTIDE ANTIBODIES STARTING THEIR FIRST TUMOR-NECROSE-FACTOR-INHIBITOR TREATMENT SHOW GREATER RESPONSE

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Background: Anti-acetylated-peptide antibodies (AAPA) have recently been described in rheumatoid arthritis (RA) patients.[1] Patients that show multiple autoantibody positivity have a higher likelihood to flare when stopping biological treatment. The role of AAPA antibodies for response to Tumor-Necrose-Factor-inhibitor treatment (TNFi) has not been explored.

Objectives: To determine the prevalence and serological overlap of AAPA to rheumatoid factor (RF) and anti-citrullinated protein antibodies (ACPA) in a cohort of RA patients starting their TNFi-inhibitor, and to assess their relation of autoantibody status to response to therapy.

Methods: We measured AAPA by ELISA using 21 acetylated peptides derived from vimentin, as well as RF and ACPA. We evaluated the prevalence of autoantibodies, baseline characteristics of autoantibody positive and negative patients, and their association with a 50% response by the Simplified disease activity index (SDAI50), and with achieving of SDAI low disease activity or remission at 6 months after starting the first TNFi. Likelihood ratios were calculated from logistic regression analyses. To better determine differences in SDAI change over time General Estimated Equation analyses (GEE) was used.

Results: Among our 93 patients starting treatment on a TNFi (85% female, mean disease duration: 7.7±7 years mean SDAI20±13), 50% were positive for AAPA, 57% for ACPA and 61% for RF (for overlap of antibodies see figure). There were no significant differences in baseline characteristics found between AAPA positive and negative patients. 61% of patients reached LDA or REM and 33% achieved an SDAI50 response after 6 months of TNFi treatment. AAPA positive patients showed a likelihood ratio (LR+) of 5.3 (p=0.022) to achieve an SDAI50 response and 3.9 (p=0.048) to reach LDA/REM. In contrast, being RF or ACPA positive did not coincide with a higher likelihood of achieving SDAI50 (LR+ of 0.08; p=0.773 and 1.09; p=0.297, respectively) or LDA/REM (LR+ of 1.83; p=0.177 and 1.55; p=0.213). Relative changes upon treatment with TNFi in composite scores were neither different between RF+ vs. RF- patients, nor between ACPA+ vs. ACPA-patients; however AAPA+ showed significantly higher relative changes in SDAI (p=0.021), CDAI (p=0.025) and DAS (p=0.022) compared to AAPA- patients. Of note, relative changes in CRP were similar between the groups.

GEE on up to 230 days of TNFi treatment or until change of treatment, showed no significant difference in SDAI courses comparing RF+ vs RF- or ACPA+ vs ACPA-

Figure 1. Overlap of RF, ACPA and AAPA positive patients.

patients; but for AAPA+ vs. AAPA- patients the difference in change in SDAI was significant (p=0.045) over time.

Conclusions: AAPA positivity, in contrast to RF and ACPA positivity, appears to have a tighter association with greater levels of response in patients who are initiating TNFi-treatment. Therefore, AAPA might add additional information to estimate the chances of RA patients for responding to TNF-inhibitors.

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FRI0126 AIMING FOR REMISSION ACCORDING TO ANY OF THE RHEUMATOID ARTHRITIS DISEASE ACTIVITY INDICES IS MORE IMPORTANT FOR PHYSICAL FUNCTION THAN THE ACTUAL CHOICE OF INDEX: A LONGITUDINAL ANALYSIS IN A CLINICAL PRACTICE SETTING (METEOR COHORT)

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Background: The association between remission and disability in patients with rheumatoid arthritis (RA) has been established mainly in clinical trial cohorts and not in “real-life” patients. Moreover, only a limited number of remission definitions have been tested.

Objectives: To compare the association between different remission criteria and physical function in patients with RA followed in clinical practice.

Methods: Longitudinal data from the METEOR database were used. Fifteen definitions of remission were tested: ACR-EULAR boolean-based; Simplified Disease Activity Index (SDAI); Clinical Disease Activity Index (CDAI); Disease Activity Score (DAS) and 28-joint count DAS (DAS28), both with ESR/CRP, with 3/4 variables (3v/4v), and various cut-offs tested. Disability was measured by the Health Assessment Questionnaire (HAQ) and HAQ≤0.5 was defined as a good outcome. Associations were investigated using generalised estimating equations (GEE), using HAQ≤0.5 as dependent variable and the various remission criteria as independent variables. Potential confounding factors (age, body mass index, gender, rheumatoid factor positivity, erosions and biologic treatment) were also tested. Sensitivity analyses were performed using first visits only and using patients with no missing data for all definitions of remission.

Results: Data from 32,915 patients and 157,899 visits were available. The most stringent definition of remission (table 1) was the ACR-EULAR boolean definition (4.5%). The proportion of patients with HAQ≤0.5 among patients in remission

Table 1. Remission rates (%) and association with HAQ≤0.5

Remission definition	Remission rate	HAQ≤0.5 (%)		Adjusted OR (95%CI) for HAQ≤0.5 (GEE)
		Among patients in remission	Among patients in non-remission	
ACR-EULAR boolean	4.5	87.0	34.1	2.6 (2.3-2.9)
CDAI≤2.8	13.4	78.5	27.4	3.2 (2.9-3.5)
SDAI≤3.3	17.1	78.1	25.7	3.4 (3.0-3.7)
DAS-CRP<1.6	4v 38.6	59.1	19.3	3.2 (2.9-3.5)
	3v 39.1	56.4	20.7	2.8 (2.6-3.0)
DAS-ESR<1.6	4v 31.7	63.2	22.6	3.0 (2.7-3.2)
	3v 30.4	60.4	24.3	2.6 (2.4-2.8)
DAS28-CRP<2.6	4v 34.8	62.8	20.2	3.3 (3.0-3.6)
	3v 37.5	57.7	21.3	2.8 (2.6-3.0)
DAS28-ESR<2.6	4v 25.2	68.1	26.5	2.8 (2.6-3.1)
	3v 24.4	62.5	28.7	2.3 (2.2-2.5)
DAS28-CRP≤1.9*	4v 20.0	72.8	26.1	2.9 (2.7-3.2)
	3v 21.7	64.5	27.4	2.3 (2.2-2.5)
DAS28-ESR≤2.2*	4v 18.4	71.3	29.9	2.6 (2.4-2.8)
	3v 17.3	64.4	31.8	2.1 (1.9-2.2)

*Fleischmann 2015 (PMID: 25143522)

was higher for the most stringent definitions. However, this also meant that, for the most stringent criteria, many patients in non-remission had $HAQ \leq 0.5$. The strongest degree of association between remission and $HAQ \leq 0.5$ was observed for the SDAI. However, only minor differences were noted between definitions (table 1). Sensitivity analyses yield similar results (not shown).

Conclusions: The various remission definitions confirmed their validity in terms of physical function in a large international clinical practice setting. However, many patients in non-remission will still have good functional status and being in clinical remission does not equate to having $HAQ \leq 0.5$. A multidimensional approach should be taken to help patients achieve this functional goal. Achievement of remission according to any of the indices is more important than the use of a specific index.

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FRI0127 OUTCOMES OF DISEASE ACTIVITY IN A 5-YEAR LARGE COHORT OF RHEUMATOID ARTHRITIS PATIENTS TREATED UNDER TREAT TO TARGET RECOMMENDATIONS AND A MULTIDISCIPLINARY CARE MODEL – A REAL-LIFE EXPERIENCE

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Background: Treat to Target (T2T) strategy becomes from the need to develop therapeutic targets and tools to achieve defined outcomes in rheumatoid arthritis (RA), this strategy has become recognized as a standard of good practice embodying the principle that rapid attainment of remission, or low disease activity, can halt joint damage and maintain good quality of life.

Objectives: The aim of this study was to describe global change in Disease Activity Score 28 (DAS28) using T2T strategy for a 60 month period in a large cohort of patients from a Colombian specialized in RA center.

Methods: A descriptive cohort study was conducted. Medical records of patients from specialized in RA center were reviewed; those patients were followed-up under T2T standards and a multidisciplinary approach. Each patient had a minimum of 6 follow-up visits. Clinical follow-up was designed by the authors according to DAS28 as follows: every 3–5 weeks ($DAS28 > 5.1$), every 7–9 weeks ($DAS28 \geq 3.1$ and ≤ 5.1), and every 11–13 weeks ($DAS28 < 3.1$). Tender joint count (TJC), swollen joint count (SJC) and DAS28 were measured on each visit. Therapy had to be adjusted with $DAS28 > 3.2$ unless patient's conditions don't permit it; we considered this follow-up type as implementation of a T2T strategy in patients with RA. We divided patients in four groups: remission (REM), low disease activity (LDA), moderate disease activity (MDA) and severe disease activity (SDA) patients and the aim of the study was to look at what percentage of patients who were in moderate or severe disease activity reached a low disease activity or remission. Descriptive epidemiology was done, percentages and averages were calculated; the median of each variable was analyzed using t-Student assuming normality for DAS28 distribution and the level activity disease was analyzed using Pearson's statistics.

Results: 3618 patients meet the inclusion criteria. 72% were receiving conventional DMARDs therapy and 28% were receiving biological therapy. 83% were woman and 17% were men. Mean age was 61 years ± 11 . Mean DAS28 at beginning was 3.3 ± 1.3 and at the end of five year period was 2.8 ± 0.7 . The difference of medians for DAS28 at beginning and at the end showed improvement with statistical significance ($p < 0.00$). It was found a global increase in the percentage of patients in remission and LDA and decrease in moderate and severe disease activity groups (from 31% to 19% and from 12% to 2% respectively) with statistical significance.

ACTIVITY LEVEL	TIME 0 n(%)	2011-2012 n(%)	2013-2014(%)	2015-2016(%)
REM	1512 (42)	1548 (43)	1751 (48)	1826 (50)
LDA	536 (15)	955 (26)	969 (27)	1033 (29)
MDA	1128 (31)	875 (24)	809 (22)	694 (19)
SDA	442 (12)	240 (7)	89 (2)	65 (2)

Conclusions: This study show evidence of an improvement in DAS28 and level of disease activity in a cohort of RA patients from a specialized center in Colombia treated under recommendations of T2T strategy; it was found a global increase in the percentage of patients in remission (REM) and decrease in moderate and severe disease activity groups. This revision shows the importance of T2T follow-up and a multidisciplinary treatment for the management of RA.

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FRI0128 PRISM – PICTORIAL REPRESENTATION OF ILLNESS AND SELF MEASURE: THE USE OF A SIMPLE NON-VERBAL TOOL AS A PATIENT-CENTRED OUTCOME MEASURE IN EARLY RHEUMATOID ARTHRITIS COHORTS

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Background: Treatment recommendations in early RA advocate a treat to target approach with the ideal goal of remission. But not all patients attain this goal. There is a need for outcome measures that are meaningful to patients and inform management of which alleviation of suffering is a key aim. PRISM¹ is a novel, validated, brief method of measuring suffering consistent with Cassell's seminal conceptualisation².

Objectives: To understand the relationships between a patient's perception of the totality of the impact of RA and commonly used clinical assessments of disease activity, depression and illness intrusiveness.

Methods: Basic sociodemographic and clinical data were collected from 182 RA patients from 3 international centres, assigned to one of four cohorts (two early RA and two established RA), at baseline, weeks 12 and 24. The two early RA cohorts (diagnosis < 2 yr) comprised Group 1 on stable treatment ($n=37$) and Group 2 requiring csDMARD adjustment ($n=34$). Using the iPRISM App on a tablet, all patients were asked to complete the basic PRISM task to measure self-illness separation (SIS). The smaller the SIS, the greater the person's perceived suffering. In the PRISM+ task, patients were asked to identify two valued aspects of their life at the moment (X and Y) which bring pleasure, satisfaction, a sense of achievement, or a sense of purpose. The iPRISM App automatically records the distance between the centres of each of these disks and the Self disk to measure patients' perceptions of the intrusiveness of their illness on two personally valued aspects of their lives.

For both groups, direction of change in SIS and the PRISM+ measures were compared with direction of change in disease activity measures and patient global disease activity (ptGbl), assessed at wks 12 and 24, using the sign test.

Results: PRISM was easy to use and most patients understood the simple instructions. Of 182 patients at baseline, SIS showed significant correlations with ptGbl ($r_s = -0.48$, $p < 0.0001$), pain VAS ($r_s = -0.45$, $p < 0.0001$), PHQ9 ($r_s = -0.45$, $p < 0.0001$) and illness intrusiveness scale ($r_s = -0.51$, $p < 0.0001$). Suffering was inversely correlated with the perceived controllability of the symptoms of RA; for Group 1, $r_s = 0.41$, $p < 0.0001$, for Group 2, $r_s = 0.32$, $p < 0.0001$.

In Group 2, SIS and DAS28-ESR showed small trends to improvement by wk 12 (DAS28-ESR $\Delta = -0.11$, $p = 0.557$; SIS $\Delta = 1.7$, $p = 0.296$) with significant improvement by wk 24 (DAS28-ESR $\Delta = -0.82$, $p = 0.002$; SIS $\Delta = 3.85$, $p = 0.029$). However, there was no significant improvement in the intrusiveness of the illness on the valued aspects of life over this time period (Actual X, $\Delta = -0.25$, $p = 0.557$; Actual Y, $\Delta = 1.89$, $p = 0.169$).

Conclusions: PRISM is a novel PRO that quantifies factors salient to each individual with respect to the impact of RA and its treatment while allowing for incorporation of a wide range of such influences. It may have utility as an adjunct to disease activity measures in setting agreed personalised therapeutic targets.

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Rheumatoid arthritis - comorbidity and clinical aspects

FRI0129 COMPARATIVE SAFETY OF BIOLOGIC DMARD INITIATION IN RA: A POPULATION-BASED OBSERVATIONAL STUDY OF MALIGNANCY RISK

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Background: Patients (pts) with RA are at increased risk for some malignancies and the use of biologic (b)DMARDs has been reported to further increase this risk.¹ Abatacept (ABA), the first selective T-cell co-stimulation modulator for RA treatment, is now often prescribed as a first-line bDMARD, but long-term effects are unknown.