The mechanisms associated with such clinical benefit should be elucidated in future research.

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AB0296

EFFECTIVENESS OF CERTOLIZUMAB IN 506 PATIENTS WITH RHEUMATOID ARTHRITIS, PSORIATIC ARTHRITIS, AND SPONDYLOARTHRITIS FROM THE APULIAN REGISTRY BIOPURE.

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Background: Little is known about effectiveness of certolizumab (CTZ) in clinical practice, especially in patients with inadequate response to prior biologics.

Objectives: To estimate the survival rate of CTZ in RA, PsA or SpA cohorts from the registry BIOPURE. Secondary endpoint was the changes of clinical outcomes from baseline at 6 and 12 months for each disease.

Methods: We analyzed longitudinal data of consecutive patients, affected with RA, PsA or SpA starting a treatment with CTZ recorded into the web-based Apulian registry BIOPURE. Demographic and disease related characteristics were collected at baseline, 6 and 12 months. Drug survival was evaluated by Kaplan-Meier life table analysis. Estimates hazard ratios (HRs, 95% confidence intervals (CI)) of drug discontinuation adjusted for patient's demographics, disease characteristics and prior biologic treatments were computed by Cox-regression models. Differences of DAS28, DAPSA and BASDAI among baseline, 6 and 12 months were estimated by T-test.

Results: 506 patients were included in this analysis (table 1). Global mean survival time (95% CI) was 58 (52-64) months. Drug survival rate was significantly higher in RA (71.1%) than in PsA (63.5%, $p=0.001$), while SpA showed 67.5% (Figure 1). Naïve-CTZ patients showed higher survival rates than biologic-inadequate responder (Bio-IR) patients in PsA (naïve 78.4% vs 56.9%, $p=0.02$), but not in RA (76.9% vs 64.1%, $p=0.08$), or SpA (73.7% vs 64.8%, $p=0.84$). The only weak predictor of drug discontinuation was age at baseline for SpA patients (HR 1.04 (95% CI:1.005-1.007) $p=0.02$) (Figure 1). No baseline covariate, including sex, cDMARDs co-therapy and biologic-naïve status, was found to be associated with CTZ discontinuation for RA and PsA cohorts. A significant improvement of clinical outcomes

from baseline was seen at 6 and 12 months, regardless prior biologic therapies. In RA DAS28 dropped from 3.95 ± 1.5 to 2.77 ± 1.3 at 6 months ($p=0.0001$) and 2.55 ± 1.3 at 12 months ($p=0.0001$). In PsA DAPSA decreased from 19.1 ± 10 to 10.8 ± 8 at 6 months ($p=0.0001$) and 9.6 ± 7 at 12 months ($p=0.0001$). In SpA DAS28 reduced from 3.66 ± 1.4 to 2.85 ± 1.3 at 6 months ($p=0.0001$) and 2.55 ± 1.1 at 12 months ($p=0.0001$). Additionally, in SpA BASDAI dropped from 5.3 ± 1.6 to 3.8 ± 2.3 at 6 months ($p=0.0001$) and 2.8 ± 1.8 at 12 months ($p=0.0001$).

Conclusion: In real-life settings CTZ has shown a good effectiveness also in Bio-IR patients. Unlike other TNF-inhibitors, the clinical response and the survival rate were also meaningful in RA patients.

Table:

	RA (nr. 180)	PsA (nr.189)	SpA (nr.137)
Age (mean $\pm$ SD)	54.5 $\pm$ 12	50.6 $\pm$ 12	52.0 $\pm$ 11
Female	82.9 %	74.6 %	56.3 %
BMI (mean)	25.9 $\pm$ 5	28.4 $\pm$ 5	26.7 $\pm$ 5
Dis Durat months (mean $\pm$ SD)	46 $\pm$ 14	106 $\pm$ 82	97 $\pm$ 92
Naïve	53.9 %	32.8 %	28.5 %
Prior biologics	52.9 %	75.0 %	71.1 %
Glucocorticoids	55.9 %	39.7 %	39.4 %
DMARDs	72.4 %	52.4 %	43.8 %
DAS28 (mean $\pm$ SD)	4.8 $\pm$ 1.5	3.6 $\pm$ 1.2	3.7 $\pm$ 1.3
BASDAI (mean $\pm$ SD)			5.2 $\pm$ 2
DAPSA (mean $\pm$ SD)		19.7 $\pm$ 10	
HAQ (mean $\pm$ SD)	1.2 $\pm$ 0.7	1.1 $\pm$ 0.6	1.2 $\pm$ 0.7
RF/ACPA +	72.4 %

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AB0297

THE LONG-TERM OBSERVATION OF PATIENTS WITH RHEUMATOID ARTHRITIS WHO ACHIEVED A BIO-FREE CONDITION WITH ADALIMUMAB.

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Background: Biological disease-modifying antirheumatic drugs (bDMARDs) caused a paradigm shift in the treatment of rheumatoid arthritis (RA). However, their high cost is a burden for patients and the national medical economy.

Objectives: To analyze the long-term outcomes of patients with RA who achieved a bio-free condition (BF) with adalimumab (ADA).

Methods: We followed 25 patients (male 6, female 19) who discontinued ADA with clinical remission (CR), and one female with a low disease activity (LDA), over 19.4 ± 7.8 months of ADA treatment¹⁾. At the introduction of ADA, the average age was 51.2 ± 11.9 years old, and the average disease duration was 45.1 ± 48.4 months. The disease activity measured by disease activity score based on C-reactive protein (DAS28-CRP) was defined as follows: CR, <2.3 ; LDA, $2.3 - 2.7$; moderate DA, $2.7 - 4.1$; and high DA, > 4.1 , since the DAS28-CRP tends to be lower than the DAS28-based on the erythrocyte sedimentation rate in Japanese patients²⁾.

Results: We lost one patient with a transfer to another hospital. Four patients re-started ADA due to flare (DAS28-CRP >2.7) but achieved CR (in BF) again with the intensification of the treatment (dose increase or initiation of prednisolone [PSL] and/or conventional synthetic [cs] DMARDs such as tacrolimus or iguratimod). The DAS28-CRP significantly decreased from 3.45 ± 1.32 at base line (BL, n=19) to 1.55 ± 0.41 ($p < 0.0001$) at BF. It remained 1.59 ± 0.59 (n=25) at 24 months after BF, 1.56 ± 0.39 (n=20) at 48 months, 1.8 ± 0.7 (n=11) at 60 months. At the last observation, every patient remained in CR up to 84 months (n=2, Figure 1). The modified health assessment questionnaire score significantly decreased from 0.42 ± 0.46 (BL, n=19) to 0.02 ± 0.05 ($p < 0.002$) at BF. It remained 0.03 ± 0.07 (n=19) at 24 months and 0.06 ± 0.14 (n=14) at 48 months, 0.04 ± 0.08 at 60 months (n=9). The PSL dose (mg/day) decreased from 3.2 ± 3.3 (BL) to 2.2 ± 2.8 at BF and 2.04 ± 2.13 (n=25) at 24 months, 1.73 ± 1.9 (n=20) at 48 months, and 1.6 ± 2.3 (n=11) at 60 months, but there were no significant changes. The methotrexate (MTX) dose (mg/week) increased from 10.1 ± 2.9 (BL) to 10.6 ± 2.6 ($p < 0.78$) at BF, 10.4 ± 3.3 (n=25) at 24 months, 10.7 ± 3.4 (n=20) at 48 months, 10.4 ± 3.1 at 60 months (not significant). The number of csDMARDs significantly increased from 0.8 ± 0.6 (BL) to 1.3 ± 0.9 ($p < 0.001$, at BF), 2.56 ± 0.94 (n=25) at 24 months, 1.6 ± 1.01 (n=20) at 48 months, and 1.6 ± 2.3 at 60 months (n=11, Figure 2).

Conclusion: BF can be sustained with an adequate dose of MTX and combination of csDMARDs.

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AB0298

LONG-TERM SUPPRESSION OF RAPID RADIOGRAPHIC PROGRESSION AFTER DISCONTINUATION/REDUCTION OF SHORT-TERM BIOLOGIC THERAPY IN PATIENTS WITH EARLY DESTRUCTIVE RHEUMATOID ARTHRITIS ACCOMPANIED WITH EXTENSIVE BONE MARROW EDEMA.

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Background: We reported that short-term (3 or 6 months) treatment with biologics (BIO) group compared with conventional synthetic non-biological disease-modifying anti rheumatic drug (csDMARDs) enhanced group is more effective in the reducing bone marrow edema (BE) and improving structural remission in early destructive RA accompanied with extensive hand BM despite csDMARDs therapy (1).

Objectives: Purpose of this extended study is to investigate whether suppression of RRP will maintain after the discontinuation/reduction of short term biological treatment during over 1 year. Clinical registration number; (UMIN-CTR 000013614)(Figure 1)

Methods: RA disease activity was evaluated by DAS28-ESR after BIO withdrawal/reduction at 12 months. Bone destruction was determined by modified total Sharp scoring (mTSS) using by conventional radiography expressed as yearly progression of mTSS (Δ mTSS/y) at 12 months. Statistical analysis were performed by t-test or Wilcoxon rank sum test using SAS .13.2 software

Results: Fourteen out of 23 patients in BIO group achieved improvement of BM ($>70\%$ improvement of baseline BE). Three patient continued BIO. Among 11 patient started to discontinuation/reduction of BIO, 7 patients were successful for discontinuation of BIO. Four patients flared (Table 1). Mean DAS28-ESR, mean Δ mTSS/y at 0, 12 months after discontinuation in 7 patients were 1.77, 2.02 and -0.66, -0.44, respectively (no significant difference between values in 0 and 12 month). In contrast, those in 4 flared patients were 1.91, 4.08 and 0, 1.83, respectively (significant difference). Finally, to resolve baseline prognostic factors for improvement of BE for biological treatment, we compared baseline data between 14 BE improved and 9 BE unimproved RA patients. Low DAS28-ESR at 3 or 6 month ($P < 0.001$) are indicated for significant prognostic factor for improvement of BE, although Low DAS28-ESR at baseline ($P = 0.07$) may associate improvement of BE.

Table1. Summary of 1 year clinical data in 11 patients treated in BIO discontinuation/ reduction after improvement of BE by short-term treatment of BIO.

Patient No.	BIO treatment	BIO period (M)	BF/reduction	BF/reduction, 12M	baseline	DAS28-ESR	BF/R (12M)	BF/R (12M)	baseline	Δ mTSS/y
1	IFX+TAC15mg+MTX4mg/w	4	BF	success	3.91	1.86	1.81	30	0	-1
2	ADA + MTX10mg/w	9	BF	success	4.86	2.17	2.31	6.4	0	0
3	ADA + MTX10mg/w	6	BF	success	3.84	1.42	1.74	8.2	0	0
4	ADA + MTX10mg/w	3	BF	success	3.21	1.35	1.09	42	0	-1
5	ADA + MTX10mg/w	12	BF	success	3.03	2.06	3	8	-6.6	0
6	ADA + MTX10mg/w	3	BF	success	3	1.52	2.25	15.1	0	1.3
7	TGZ+MTX10mg/w	5	BF	success	3.13	1.40	2.15	30.9	0	2.4
Mean					3.82	1.77	2.02	20.1	-0.66	-0.44
8	ADA + MTX12mg		flare (11M)		3.50	0.78	3.48	33	0	3.3
9	TGZ + MTX8mg/w	6	reduction	flare (5M)	3.24	1.26	3.02	6.4	0	0
10	TGZ	9	reduction	flare (5M)	3.9	1.95	3.29	15	0	0
11	ABT + BUC100mg	6	reduction	flare (8M)	4.2	3.5	5.78	10	0	4
Mean					3.73	1.81	4.08	16.6	0	1.82

Conclusion: Results of this study indicated suppression of RRP will maintain during over 1 year after the discontinuation of short term biological treatment in some patients. We recommend that a short-term treatment with biologics for early RA patients, who are resistant to non-bio DMARDs therapy and at high risk to transit to RRP, will be an effective and economical treatment strategy.

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