Table 1. Effectiveness, Drug Survival and Causes of Biologic Discontinuation in RA and SpA

RA % (87 cases)

Biologics	Total % (N)	5-year Remission rate %	5-year Drug survival rate %	Discontinuation % (N 53 cases)					
				Total % (53)	Remission	Inadequate response	Side effect	Non-adherence/ Refer	Death
Etanercept	49.4 (43)	23.9	33.6	50.9(27)	14.8(4)	44.4(12)	22.2(6)	11.1(3)	7.4(2)*
Infliximab	5.7 (5)		36	5.7 (3)	0(0)	33.3(1)	33.3(1)	33.3(1)	(0)
Rituximab	44.8 (39)		40.7	43.4 (23)	56.5(13)	17.4(4)	4.3(1)	13.0(3)	8.7(2)
SpA %(49 cases)									
Biologics	Total % (N)	5-year Remission rate %	Drug survival rate %	Discontinuation % (N 23 cases)					
				Total % (23)	Remission	Inadequate response	Side effect	Non-adherence/ Refer	Death
Etanercept	83.6 (41)	66.7	50.3	78.3(18)	22.2(4)	22.2(4)	33.3(6)	22.2(4)	0(0)
Infliximab	16.4 (8)		0	21.7 (5)	20(1)	20(1)	40(2)	20(1)	0(0)

**Cause of death: sudden cardiac death (1), intraabdominal infection (1)*
Cause of death: pneumonia (1), Lung cancer (1)

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Background: Rheumatoid arthritis (RA) and spondyloarthropathies (SpA) are chronic rheumatic diseases that can progress to disability if left uncontrolled. Biologic therapies can induce remission in patients with inadequate response or intolerance to conventional synthetic disease-modifying antirheumatic drugs (csDMARDs). Due to the safety and economic concern, updated treatment recommendations now consider biologics discontinuation in patients with persistent remission. However, available data are still limited.
Objectives: To evaluate the biologics effectivenss, drug survival, rate of discontinuation in real-life practice and to identify predictors of biologics discontinuation due to remission in RA and SpA.
Methods: A total of 87 patients with RA and 49 patients with SpA, starting biologics between January 2005 and October 2020, were recruited from the Rheumatic Disease Prior Authorization (RDPA) registry of Siriraj hospital. Baseline data were recorded. Time-dependent rates in achieving remission were calculated. Cumulative probability of biologics discontinuation and predictive factors of drug discontinuation due to remission were analyzed.
Results: The biologics used in RA patients were Etanercept (49.4%), Rituximab (44.8%), and Infliximab (5.7%). The 1- and 5- year remission rates were 8.5% and 23.9%, respectively. Drug survival rates were 33.6% for Etanercept, 40.7% for Rituximab, and 36% for Infliximab at five years. The main reasons for drug discontinuation were disease remission (32.1%), inadequate response (32.1%), and side effects (15.1%). Rituximab had the highest discontinuation rate due to remission (56.4%). There was no predictive factor for biologics discontinuation due to remission.
SpA patients were treated with Etanercept (83.6%) and Infliximab (16.4%). The 1- and 5- year remission rates were 67.4% and 66.7%, respectively. Drug survival rates were 50.3% for Etanercept and 0% for Infliximab at five years. Biologics withdrawal due to side effects occurred in 16%, inadequate response in 10%, and disease remission in 10% of patients. The predictive factor for biologics discontinuation due to remission was disease duration < 5 years (Hazard ratio 6.92, 95%CI 1.10, 43.29)
Conclusion: Biologic therapies are effective in patients with active RA and SpA despite csDMARDs treatment. The highest drug survival rates are Rituximab in RA and Etanercept in SpA. Infliximab has the shortest drug retention rate in SpA. Drug discontinuation due to remission is more successful in RA patients, particularly in the Rituximab group. The best predictor for biologics discontinuation due to remission in SpA is the disease duration of fewer than five years.
Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.2776

AB0229

A NATIONAL, MULTICENTER, SECONDARY DATA USE STUDY EVALUATING EFFICACY AND RETENTION OF FIRST-LINE BIOLOGIC TREATMENT WITH TOCILIZUMAB IN PATIENTS WITH RHEUMATOID ARTHRITIS IN REAL-LIFE SETTING FROM TURKBIO REGISTRY

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Background: Tocilizumab (TCZ) is a human anti-interleukin (IL)-6 receptor antibody approved in Turkey for the treatment of rheumatoid arthritis (RA).
Objectives: In this study our purpose was to describe the disease activity, quality of life (QoL), and retention rate in RA patients who were prescribed TCZ as first-line biologic treatment in a real-world setting.
Methods: Anonymized patient registry of TURKBIO was used based in a national, multicenter, and retrospective context. We conducted a search in the registry between years 2013 and 2020 and included adult RA patients who were prescribed with TCZ as their first-line biologic treatment with a post-TCZ follow-up of at least 6 months. CDAI, DAS28-(ESR), and HAQ-DI scores in 6, 12, and 24 months were obtained. Pairwise comparison was carried out for survey scores across baseline and timepoints. Subgroup analysis for route of TCZ administration was performed. EULAR response criteria were used for response evaluation. Retention of TCZ was evaluated by Kaplan-Meier analysis.
Results: Overall,130 patients with a mean RA duration of14 years were included in the study. 87.7% of the patients were female and mean age was53 (SD; 15.0). Median duration of follow-up was 18.5 months. Majority (90.8%) of patients were given tocilizumab via intravenous route at baseline. Number of patients with ongoing TCZ treatment and follow-up at 6, 12, and 24 months were 121 (93%), 85 (65%), and 46 (35%), respectively. Remission rates at 6, 12, and 24 months per CDAI (<2.8) and DAS28-(ESR) (<2.6) scores were 61.5%, 44.6%, 30%, and 54.6%, 40.8%, 27.7%, respectively. CDAI, DAS28-(ESR) and HAQ-DI survey scores significantly improved at 6, 12 and 26 months, respectively (p<0.001) (Table 1) in both IV and SC TCZ subgroups. At 6, 12 and 24months 74.8%, 82.5% and 86.4% of patients achieved a EULAR good response respectively. Twenty-three patients (17.6%) discontinued TCZ at 24 months. Of these, 19 patients discontinued due to unsatisfactory response. Retention rates of TCZ at 6, 12, and 24 months were 93%, 84.3%, and 72.2%, respectively (Figure 1).
Conclusion: TCZ as a first-line biologic treatment was found to be clinically effective in this real-world study with a high retention rate. These results are in line with the results gathered from previous TCZ controlled and real-life studies in which TCZ was found clinically safe and effective.
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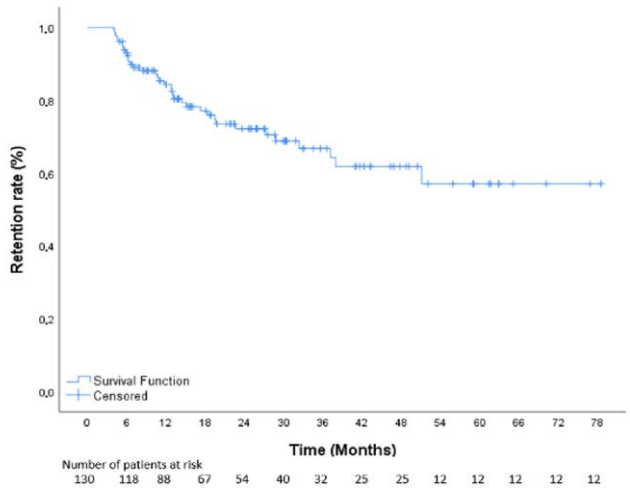
Table 1. Pairwise CDAI, DAS28-(ESR) and HAQ-DI scores at baseline, 6-, 12- and 24-month.

Survey	Pair	N	Median (min-max)	p value*
CDAI	Baseline	113	19,5 (0-47)	<0.001
	6 months		2 (1-24,5)	
	Baseline	74	20,1 (8,4-47)	<0.001
	12 months		1,8 (1-5,2)	
	Baseline	41	17,2 (9-38)	<0.001
	24 months		1,7 (1,2-3,7)	
DAS28-(ESR)	Baseline	112	5,2 (3,3-7,2)	<0.001
	6 months		2,2 (0,3-6,7)	
	Baseline	78	5,3 (3,4-7,2)	<0.001
	12 months		2 (0-5,2)	
	Baseline	41	5,2 (3,4-6,9)	<0.001
	24 months		1,8 (0-3,6)	
HAQ-DI	Baseline	118	0,95 (0-2,875)	<0.001
	6 months		0,5 (0-2)	
	Baseline	81	1 (0-3)	<0.001
	12 months		0,25 (0-2,5)	
	Baseline	43	0,875 (0-2,125)	<0.001
	24 months		0 (0-1,13)	

**Wilcoxon Signed Rank Test*

Disclosure of Interests: Ayten Yazici Speakers bureau: PFIZER, AbbVie, NOVARTIS, Özlem Özdemir Işık: None declared, Ediz Dalkılıç Speakers bureau: AbbVie, UCB Pharma, PFIZER, Roche, MSD, NOVARTIS, Süleyman Serdar Koca Speakers bureau: MSD, NOVARTIS, GILEAD, PFIZER, ABDI IBRAHIM, UCB Pharma, AMGEN, SANOFİ, Yavuz Pehlivan Speakers bureau: PFIZER, NOVARTIS, MSD, CELLTRION, Consultant of: PFIZER, Soner Şenel: None declared, Nevsun Inanc Speakers bureau: NOVARTIS, PFIZER, ABDI IBRAHIM, JANNSEN, Paid instructor for: NOVARTIS, PFIZER, ABDI IBRAHIM, JANNSEN, Consultant of: NOVARTIS, PFIZER, ABDI IBRAHIM, JANNSEN, Grant/research support from: NOVARTIS, PFIZER, ABDI IBRAHIM, JANNSEN, Servet Akar Speakers bureau: LILLY, MSD, NOVARTIS, GILEAD, PFIZER, ABDI IBRAHIM, JANNSEN, UCB Pharma, AMGEN, Paid instructor for: LILLY, NOVARTIS, GILEAD, PFIZER, ABDI IBRAHIM, UCB, AMGEN, Grant/research support from: PFIZER, Sema Yılmaz: None declared, Özgül Soysal Gündüz: None declared, Ayse Cefle Speakers bureau: UCB Pharma, PFIZER, MSD, AbbVie, AMGEN, NOVARTIS, Fatos Onen Speakers bureau: AbbVie, LILLY, MSD, NOVARTIS, GILEAD, PFIZER, ABDI IBRAHIM, JANNSEN, UCB Pharma, AMGEN, İbrahim Etem-MENARINI, Paid instructor for: AbbVie, LILLY, NOVARTIS, GILEAD, PFIZER, ABDI IBRAHIM, UCB Pharma, AMGEN, İbrahim Etem-MENARINI, Grant/research support from: PFIZER

Figure 1. Kaplan-Meier analysis of TCZ retention.



DOI: 10.1136/annrheumdis-2021-eular.2928

AB0230

OPTIMIZED TREATMENT OF BIOLOGICAL DISEASE MODIFYING DRUGS IN ROUTINE CLINICAL PRACTICE: SURVIVAL STUDY ANDANALYSIS OF PATIENT CHARACTERISTICS

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Background: Biological disease modifying drugs (bDMARD) has allowed a targeted approach to rheumatoid arthritis (RA). Once sustained remission is achieved, the use of bDMARDs at lower doses than indicated in data sheets is considered (optimized treatment, OT). Studies show that 33-64.2% of patients on OT lose remission in the first 6 months. Still, it is a feasible practice in selected patients.

Objectives: We aimed to describe demographic, clinical, analytical and therapeutic characteristics of RA patients on OT in our hospital. Secondly, we wanted to study the survival of OT and to compare patients with survival longer or shorter to one year.

Methods: We did a retrospective review of the medical records of RA patients who began OT between January 2014 and December 2018. We included patients on Abatacept(ABA), anti-TNF drugs and Tocilizumab (TCZ). We defined the end of OT as the restart of the usual dose. Continuous variables are described with mean and standard deviation (SD) and qualitative variables are shown in absolute value and percentage. We divided the sample into patients with OT survival greater than or equal to one year and patients with OT survival less than one year, after which the characteristics of both populations were compared. Categorical variables were analyzed using Pearsons chi and quantitative variables using Student's t-test. Survival analysis was performed using a Kaplan-Meier estimator.

Results: We identified 234 RA patients on bDMARD at our hospital, of which 53 (22.6%) had been optimized between January 2014 and December 2018: 39 (73.6%) with anti-TNF, 7 (13.2) with ABA and 7 (13.2%) with TCZ. Their characteristics are shown in table 1. It is worth mentioning the rate of monotherapy (43.3%)and the low number of bDMARD prior to optimization (median 0.71, SD 0.97). The median survival of OT was 33.8 months and thirty-nine patients (73.6%) maintained OT for at least one year (95%confidence interval, 0.59 to 0.83). When comparing patients with survival greater/equal versus shorter to one year (table 2), the only variable showing significant differences was the presence of erosions at beginning of OT (28 patients in the >1 year group vs 7 in the < 1 year group; p=0.012). Although the difference is not significant (p = 0.07), patients with a survival of less than one year had more time between the debut of disease and the beginning of the first conventional synthetic DMARD (csDMARD).

Table 1. Characteristics of the sample (N=53)

Female	40 (75.47%)
Age at diagnosis (years)	49.54 (11.68)
Active smoker	15 (33.33%)
ACPA positive	36 (67.92%)
mRF positive	44 (83.02%)
Nodules	11 (20.75%)
Extra-articular disease	11 (20.75%)
Erosions*	35 (74.47%)
Monotherapy at optimization	23 (43.4%)
bDMARD* previous to OT	0.71 (0.97)
Optimized bDMARD	
• ETN	20 (37.74%)
• ADA	16 (30.19%)
• ABA	7 (13.21%)
• TCZ	7 (13.21%)
• GOL	2 (3.77%)
• CZB	1 (1.89%)
DAS28 at	
• Diagnosis	4.88 (1.25)
• Beginning – 1st sDMARD	4.62 (1.6)
• Beginning – 1st bDMARD	4.98 (1.06)
• Beginning – opt bDMARD	4.67 (1.17)
• Optimization	1.88 (0.65)
Months from diagnosis to introduction of 1st sDMARD*	19.67 (35.01)
Months from disease debut to low activity*	38.75 (30.34)
Months in low activity until start of OT	23.73 (22.47)

ACPA: anti-citrullinated protein antibodies; mRF: monoclonal rheumatoid factor; Erosions: presence of erosions at Optimization; bDMARD: biological DMARD; ETN: Etanercept; ADA: Adalimumab; ABA:Abatacept; TCZ:Tocilizumab; GOL:Golimumab; CZB:Certolizumab; Opt bDMARD: bDMARD optimized; csDMARD: conventional synthetic DMARD; Low activity: DAS28 < 3.2

Conclusion: OT is a therapeutic option from which some patients could benefit. Maintenance of OT may be related to early start of DMARDs. More studies are needed to define the characteristics of patients who can safely benefit from OT.