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

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Figure 1. Kaplan-Meier analysis of TCZ retention.

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AB0230

OPTIMIZED TREATMENT OF BIOLOGICAL DISEASE MODIFYING DRUGS IN ROUTINE CLINICAL PRACTICE: SURVIVAL STUDY AND ANALYSIS 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 Pearson's 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 – 1 st sDMARD	4.62 (1.6)
• Beginning – 1 st bDMARD	4.98 (1.06)
• Beginning – opt bDMARD	4.67 (1.17)
• Optimization	1.88 (0.65)
Months from diagnosis to introduction of 1 st 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.

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AB0231

OUTCOMES IN RHEUMATOID ARTHRITIS PATIENTS UNDER TOCILIZUMAB AS FIRST bDMARD: A REAL-LIFE MONOCENTRIC COHORT STUDY

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Background: Rheumatoid arthritis (RA) is one of the most frequent systemic inflammatory rheumatic diseases, being constantly assessed regarding new disease activity monitoring tools and new therapeutic targets and therapies. Tocilizumab (TCZ) is one of the latest biological disease-modifying antirheumatic drugs (bDMARDs) approved for RA's treatment, usually as a second line agent in daily clinical practice.

Objectives: Evaluate the different disease and patient reported outcomes in patients undergoing treatment with tocilizumab as the first biologic therapy.

Methods: All patients with a definite RA diagnosis who had undergone treatment with TCZ as the first biologic therapy at a tertiary hospital's rheumatology department were included in this analysis. Diverse socio-demographic data, as well as disease and patient related outcomes were assessed at baseline, 6 and 12 months of treatment with TCZ, and posteriorly extracted from the Portuguese register of rheumatic diseases (Reuma.PT). Statistical analysis included non-parametric tests such as Wilcoxon test and univariate analysis using linear and logistic regression models.

Results: Fifty-one patients were included, 88.2% females, with a median age at introduction of TCZ of 53.5 +/- 10.4 years; mainly seropositive for either rheumatoid factor (66%) or anti citrullinated peptide antibody (ACPA; 68%), with an erosive disease (75.6%) and concomitantly treated with a conventional synthetic disease modifying anti-rheumatic drug (csDMARD) (70.5%). During follow-up there was a statistically significant reduction at 6 and 12 months of TCZ treatment regarding DAS28 (4 variables) (4v) and DAS28(4V)-CRP scores ($p < 0.001$), SDAI ($p < 0.001$), CDAI ($p < 0.001$), 68/66 tender and swollen joint counts (TJC/SJC) ($p < 0.001$), ESR and CRP ($p < 0.001$), patient and physician VAS ($p < 0.001$) and HAQ score ($p = 0.01$ at 6 months and $p < 0.001$ at 12 months). Rheumatoid factor and ACPA serum levels weren't statistically different at 6 and 12 months of treatment with TCZ compared to the initial assessment, as well as the ACR responders at the same 6 months versus those at 12 months. A majority of patients showed good EULAR response at 6 (52.6%) and 12 (56.3%) months, as well as moderate to high mean improvement in ACR core set measures at 6 (53.3±22.7) and 12 (54.3±25.2) months. Assessment of subsequent therapeutic maintenance showed that 75% of patients remained under tocilizumab with an average treatment duration of 48.8±37.7 months. Reasons for switch ranged from adverse effects (63.6%) to primary failure (18.2%) and secondary failure (18.2%). There was a significant reduction in DAS28(4V), DAS28(4V)-CRP, CDAI, SDAI, TJC and SJC, ESR, CRP, patient and physician VAS and HAQ scores between 6 and 12 months of therapy ($p < 0.001$). ACR and EULAR responses didn't differ significantly between assessments at 6 and 12 months. In the absence of a representative number of RA patients on TCZ monotherapy, it wasn't possible to draw conclusions about the need to use combined therapy with a csDMARD for better clinically significant response.

A higher degree of ACR response at 6 months was associated with higher serum rheumatoid factor levels (OR 1.13, $p < 0.05$) at baseline, while a lower degree of response was seen with higher TJC ($p = 0.05$) and HAQ score ($p < 0.01$). ACR response at 12 months was lower in patients with erosive disease at baseline ($p < 0.05$). Regarding EULAR response criteria at 6 months, there was a negative association with higher TJC ($p < 0.05$), while at 12 months the negative trend was associated with ESR levels ($p < 0.05$) and HAQ scores ($p < 0.05$) at baseline.

Conclusion: There seems to be evidence of good therapeutic response to TCZ in bDMARD naïve RA patients assessed at 6 months from baseline, without evidence of significant improvement of response measures further down the line. Basal serum rheumatoid factor levels, TJC, HAQ scores and the presence of erosive disease may have some predictive value on the therapeutic response. Further studies comparing TCZ as the first bDMARD in naïve RA patients against TNF inhibitors are needed.

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AB0232

PREVALENCE OF INFECTIONS UNDER BIOTHERAPY DURING RHEUMATOID ARTHRITIS

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Background: Biologic therapies are emerging as a significant therapeutic option for many with debilitating inflammatory and autoimmune conditions including rheumatoid arthritis (RA). These biological agents are highly effective in RA. Potential complications are dominated by infections.

Objectives: To evaluate the different infections occurred under biotherapy.

Methods: This is a descriptive retrospective study including patients under biotherapy, hospitalized between 2000-2016 in the Rheumatology Department of Farhat Hached hospital in Sousse, Tunisia. We evaluated for each patient the different infections that have occurred, specifying the different types of biotherapy received.

Results: Sixty one patients are included (54 women and 7 men). The average age is 55.33 years ±11.51 [34-81 years]. We found 47 infections in 40 patients (65.57%) with at least one infection under biotherapy: 41 women and 6 men with a mean age at 57.72 years [34-81 years]. Infections occurred under anti IL6 in 46.32%, Infliximab in 31.58%, anti CD20 in 11.58%, Etanercept in 7.37% and under Certolizumab in 3.16%. The infection was bacterial in 68.42%: 28 pulmonary infections, 8 oto rhino laryngology infections, 14 urinary infections, 2 soft tissue abscess, 13 cutaneous infections, 02 ocular infections. A viral origin of the infection was noted in 12.63% of cases. As for mycosis infections they represent 18.75% of the etiologies identified. The treatment was medical in 100% of cases and the evolution was favorable in all patients without resorting to the definitive discontinuation of biotherapy.

Conclusion: The infections reported in our series are much more frequent under anti IL6 treatment and bacteria are the most incriminating pathogenic agents in our patients.

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AB0233

REASONS AND RISK FACTOR FOR DISCONTINUATION OF BIOLOGIC AGENTS FOR RHEUMATOID ARTHRITIS PATIENTS IN LONG-TERM OBSERVATION

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Background: Rheumatoid arthritis (RA) patients who failed a first biologic agent due to any reasons have the option of switching to a second one along with the strategy of biologic agent treatment. Patients go over switching to the next one at failing their biologic agent. On the other hand, there are some patients who discontinue any biologic agent treatment due to various reasons such as tolerability concern, complications, economic issue, remission and so on^{1,2}. The impact of this concern has been less studied.

Objectives: The objective of this study was to investigate the reasons and the risk factors for discontinuation any biologic agent in RA patients.

Methods: To Include patients who are observed long-term, patients who underwent biologic agent treatment between 2003 and 2007 at Nagoya University Hospital and 12 other institutes (Tsurumi Biologics Communication Study Group) were enrolled. 570 patients who were confirmed continuation or discontinuation of biologic agent treatment were enrolled. The last observation was September 2017. We analyzed the retention rate of biologic agent treatment and the reasons for discontinuation. To identify the risks for discontinuation, baseline demographics were compared between the continuing group and the discontinuing group using cox hazard regression analysis.

Results: In total 570 patients, the average duration of treatment with biologics was 6.6±3.3 (years) and total patient-year was 3739 in this study. 458 patients were administered biologics continuously, 112 patients were withdrawn. Table 1 showed the demographic data in total patients. The retention rate was 96.0% (discontinuation n=23) at least 1 year from starting biologics treatment, 92.6% (n=42) at 3 years, 88.2% (n=67) at 5 years, 84.4% (n=89) at 7 years, 81.1% (n=108) at 10 years. In 112 patients who discontinued, the reasons were adverse events in 74 patients, lack of effectiveness in 11 patients, others in 27 patients. Comparison of incidence for discontinuation using cumulative hazard function, the reason of adverse events was significantly higher than others reasons