SIX-YEAR RETENTION RATES WITH ABATACEPT VS TNF INHIBITORS IN THE TREATMENT OF RHEUMATOID ARTHRITIS: EXPERIENCE FROM THE REAL-WORLD RHUMADATA CLINICAL DATABASE AND REGISTRY

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INTRODUCTION

- The sustainability of the regimen is an important factor to consider when selecting therapy for chronic conditions, such as rheumatoid arthritis (RA).
- Recent reports suggest that patients (pts) treated with abatacept (ABA) might have better retention rates than those treated with anti-TNFs.[1,2]

OBJECTIVES

- We aim to further assess long term retention rates of ABA in comparison with anti-TNFs in the first and second lines of treatment.

METHODS

- RA patients treated at the Institut de Rhumatologie de Montréal (IRM) and the Centre d'Ostéoporose et de Rhumatologie de Québec (CORQ) with either ABA or an anti-TNF inhibitor, adalimumab (ADA), etanercept (ETA), or infliximab (INF) as first biologic (first cohort) or second biologic (second cohort) after January 1st 2007.
- All patients were followed until they discontinued their treatment or February 23, 2015.
- Kaplan-Meier methods were used to compute the cumulative incidence of biologic agent discontinuation. Differences in the discontinuation rates of biologic agents were tested using the log-rank tests. Cox proportional hazard models were used to adjust for potential confounders (age, gender, disease duration, RF, current and past DMARD use, and baseline HAQ and ESR).

RESULTS

Cohort description, retention rates and reasons for cessation

First-line biologic:

- The first cohort included 403 pts (62 ABA, 111 ADA, 195 ETA, and 35 INF). No clinically significant differences in baseline characteristics were noted between treatment groups. Patients were mostly women (77.2%), had an average age of 54.6 (SD=13.0) years and had a mean disease duration of 6.9 (SD=8.1) years, Table 1.
- No significant differences in retention rates between ABA and anti-TNFs were identified by the unadjusted and adjusted analyses, Table 2, Figure 1.
- Lack of efficacy (40.1%) and adverse effects (13.9%) were the most commonly cited reasons for treatment discontinuation, Table 3.

Second line biologic

- The second cohort included 189 pts (76 ABA, 47 ADA, 47 ETA, and 19 INF). Patients were mostly women (76.2%). The average age was 55.9 (SD=13.2) years and a mean disease duration was 10.8 (SD=8.8) years. There were no clinically significant differences in baseline characteristics between treatment groups.
- Retention rates with ABA were significantly higher compared to anti-TNFs, Table 3, Figure 2.
- Retention of ABA remained significantly higher after adjusting for potential confounders (HR[95% CI] ABA vs TNFi, 0.416 [0.240, 0.720]).
- Lack of efficacy (57.3%) and adverse effects (12.2%) were the most commonly cited reasons for treatment discontinuation, Table 4.

CONCLUSIONS

- As a first line biologic, ABA has similar 6-year retention rates as anti-TNFs.
- As a second line biologic, ABA has significantly higher 6-years retention rates compared to anti-TNFs.
- Patient and/or disease related factors that might have an impact on long-term retention should be further explored.

	First biologic agent					Second biologic agent				
	ABA n=62	ADA n=111	ETA n=195	INF n=35	ALL n=403	ABA n=76	ADA n=47	ETA n=47	INF n=19	ALL n=189
Table 1. Baseline characteristics – mean (SD)										
Age (years)	57.3 (11.9)	52.1 (13.7)	54.9 (13.2)	55.8 (10.9)	54.6 (13.0)	57.5 (11.8)	52.8 (12.8)	57.5 (14.1)	53.0 (15.9)	55.9 (13.2)
Women, n (%)	50 (80.7%)	84 (75.7%)	150 (76.9%)	27 (77.1%)	311 (77.2%)	62 (81.6%)	32 (68.1%)	38 (80.9%)	12 (63.2%)	144 (76.2%)
Disease Duration (years)	7.2 (7.7)	5.3 (6.9)	7.9 (8.7)	6.3 (7.8)	6.9 (8.1)	12.6 (9.7)	10.3 (6.5)	10.3 (9.5)	6.9 (6.6)	10.8 (8.8)
Number of previously used DMARDs	2.5 (1.1)	2.1 (0.8)	2.3 (0.8)	2.5 (1.0)	2.3 (0.9)	2.8 (1.0)	2.7 (1.1)	2.5 (1.1)	2.8 (1.2)	2.7 (1.1)
Number of concurrently used DMARDs	1.4 (0.8)	1.4 (0.7)	1.3 (0.7)	1.5 (0.7)	1.4 (0.7)	1.0 (0.7)	0.9 (0.7)	0.9 (0.7)	1.2 (0.6)	0.9 (0.7)
No DMARDs used	9 (14.5%)	9 (8.1%)	28 (14.4%)	2 (5.7%)	48 (11.9%)	20 (26.3%)	13 (27.7%)	14 (29.8%)	2 (10.5%)	49 (25.9%)
Methotrexate	38 (61.3%)	85 (76.6%)	117 (60.0%)	27 (77.1%)	267 (66.3%)	41 (53.9%)	28 (59.6%)	23 (48.9%)	13 (68.4%)	105 (55.6%)
Hydroxychloroquine sulfate	37 (59.7%)	47 (42.3%)	96 (49.2%)	16 (45.7%)	196 (48.6%)	21 (27.6%)	10 (21.3%)	14 (29.8%)	6 (31.6%)	51 (27.0%)
Leflunomide	5 (8.1%)	9 (8.1%)	13 (6.7%)	5 (14.3%)	32 (7.9%)	6 (7.9%)	2 (4.3%)	2 (4.3%)	4 (21.1%)	14 (7.4%)
Sulfasalazine	4 (6.5%)	6 (5.4%)	11 (5.6%)	2 (5.7%)	23 (5.7%)	3 (3.9%)	2 (4.3%)	1 (2.1%)	0 (0.0%)	6 (3.2%)
Other	0 (0.0%)	3(2.7%)	5 (2.6%)	1 (2.9%)	9 (2.2%)	2 (2.3%)	1 (2.1%)	0 (0.0%)	0 (0.0%)	3 (1.5%)
Use of corticosteroids	12 (19.4%)	17 (15.3%)	53 (27.2%)	8 (22.9%)	85 (22.0%)	34 (44.7%)	14 (29.8%)	14 (29.8%)	5 (26.3%)	67 (35.4%)
Duration of morning stiffness (minutes)	119.7 (248.6)	46.4 (162.1)	65.0 (191.4)	119.0 (286.1)	72.1 (203.5)	110.9 (268.8)	116.8 (281.9)	72.9 (174.2)	129.0 (378.8)	104.6 (263.1)
HAQ-DI, range 0-3	1.3 (0.5)	1.1 (0.6)	1.2 (0.6)	1.2 (0.5)	1.2 (0.6)	1.4 (0.7)	1.2 (0.8)	1.2 (0.6)	1.1 (0.8)	1.3 (0.7)
Fatigue VAS, range 0-10	5.0 (3.1)	3.6 (3.4)	3.6 (3.4)	4.9 (3.4)	3.9 (3.4)	5.4 (3.0)	4.8 (3.8)	4.2 (3.3)	4.4 (3.0)	4.9 (3.3)
Pain VAS, range 0-10	5.1 (3.1)	4.4 (3.2)	4.5 (3.3)	4.8 (3.2)	4.6 (3.2)	5.5 (3.0)	5.1 (3.4)	4.5 (3.4)	4.4 (2.6)	5.1 (3.2)
CRP (mg/L)	13.3 (16.4)	11.4 (18.3)	12.8 (21.3)	8.6 (11.7)	12.1 (19.1)	16.5 (24.8)	19.5 (29.0)	6.8 (9.9)	14.8 (27.7)	14.6 (23.8)
ESR (mm/hr)	20.6 (17.1)	22.7 (16.3)	24.8 (25.0)	16.8 (14.0)	22.9 (21.0)	27.8 (22.1)	25.6 (19.3)	19.9 (15.8)	23.9 (27.1)	24.9 (20.7)
RF positive (%)	71.2%	65.1%	64.4%	75.8%	66.7%	71.6%	65.9%	65.9%	44.4%	66.1%
Anti-CCP positive (%)	61.5%	64.1%	62.0%	56.7%	62.0%	57.8%	64.3%	47.4%	50.0%	55.4%
Tender joint count (TJC), range 0-28	8.2 (6.4)	6.4 (6.6)	6.8 (6.5)	8.9 (6.9)	7.1 (6.6)	6.3 (6.1)	5.8 (6.5)	5.8 (5.4)	5.0 (7.2)	6.0 (6.1)
Swollen joint count (SJC), range 0-28	7.8 (5.5)	7.2 (6.1)	7.8 (5.5)	8.4 (5.5)	7.6 (5.7)	7.9 (6.1)	5.5 (4.9)	6.3 (5.6)	6.8 (8.2)	7.0 (5.9)
Physician global VAS, range 0-10	4.9 (2.3)	4.1 (2.2)	4.8 (1.9)	5.9 (2.2)	4.7 (2.1)	4.7 (1.9)	3.4 (2.0)	4.8 (1.6)	4.6 (3.3)	4.4 (3.1)
Patient global VAS, range 0-10	4.7 (2.5)	4.1 (2.9)	4.0 (2.9)	4.8 (2.6)	4.2 (2.8)	5.0 (2.6)	4.4 (3.2)	4.0 (2.9)	3.6 (2.4)	4.5 (2.8)
Clinical disease activity index (CDAI), range 0-76	27.1 (13.4)	21.6 (14.3)	22.4 (12.6)	27.3 (14.3)	23.3 (13.5)	21.8 (11.3)	15.8 (10.0)	20.1 (13.7)	17.3 (17.0)	19.8 (12.3)
Table 2. Six-year retention rates of biologic agents - % (SD)										
6-year retention rates, % (SD)	52.3% (8.4%)	37.8% (4.9%)	43.6% (4.3%)	45.6% (8.8%)		41.2% (7.4%)	15.2% (6.3%)	22.7% (7.5%)	33.1% (13.1%)	
Table 3. Biologic cessation – n (%)										
Censored	39 (62.9%)	44 (39.6%)	101 (51.8%)	17 (48.6%)	201 (49.9%)	41 (53.9%)	6 (12.8%)	5 (10.6%)	6 (31.6%)	58 (30.7%)
Biologic cessation	23 (37.1%)	67 (60.4%)	94 (48.2%)	18 (51.4%)	202 (50.1%)	35 (46.1%)	41 (87.2%)	42 (89.4%)	13 (68.4%)	131 (69.3%)
Reasons for the cessation of biologic agents – n (%)										
Inefficacy	10 (43.5%)	24 (35.8%)	40 (42.6%)	7 (38.9%)	81 (40.1%)	26 (74.3%)	22 (53.7%)	22 (52.4%)	5 (38.5%)	75 (57.3%)
Adverse events	4 (17.4%)	10 (14.9%)	12 (12.8%)	2 (11.1%)	28 (13.9%)	3 (8.6%)	3 (7.3%)	5 (11.9%)	5 (38.5%)	16 (12.2%)
Serious adverse events	1 (4.3%)	0 (0.0%)	2 (2.1%)	0 (0.0%)	3 (1.5%)	0 (0.0%)	0 (0.0%)	1 (2.4%)	0 (0.0%)	1 (0.8%)
Cancer	1 (4.3%)	3 (4.5%)	3 (3.2%)	1 (5.6%)	8 (4.0%)	2 (5.7%)	1 (2.4%)	1 (2.4%)	0 (0.0%)	4 (3.1%)
Infections	0 (0.0%)	2 (3.0%)	2 (2.1%)	0 (0.0%)	4 (2.0%)	2 (5.7%)	0 (0.0%)	1 (2.4%)	0 (0.0%)	3 (2.3%)
Injection site reaction	0 (0.0%)	2 (3.0%)	0 (0.0%)	0 (0.0%)	2 (1.0%)	0 (0.0%)	1 (2.4%)	0 (0.0%)	0 (0.0%)	1 (0.8%)
Pregnancy	0 (0.0%)	2 (3.0%)	2 (2.1%)	0 (0.0%)	4 (2.0%)	0 (0.0%)	0 (0.0%)	1 (2.4%)	0 (0.0%)	1 (0.8%)
Death	0 (0.0%)	0 (0.0%)	1 (1.1%)	0 (0.0%)	1 (0.5%)	0 (0.0%)	1 (2.4%)	1 (2.4%)	0 (0.0%)	2 (1.5%)
Therapeutic holiday	2 (8.7%)	4 (6.0%)	1 (1.1%)	0 (0.0%)	7 (3.5%)	0 (0.0%)	1 (2.4%)	1 (2.4%)	0 (0.0%)	2 (1.5%)
Price	0 (0.0%)	1 (1.5%)	0 (0.0%)	1 (5.6%)	2 (1.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Other/unspecified	5 (21.7%)	19 (28.4%)	31 (33.0%)	7 (38.9%)	62 (30.7%)	2 (5.7%)	12 (29.3%)	9 (21.4%)	3 (23.1%)	26 (19.8%)

References: 1. Johnston S, Lobo F, McMorrow D, et al. ACR 2014:95. 2. Turesson C, Stawiarz L, Lindblad S, Saevarsdottir S. ACR 2014:501

Figure 1. Retention probability of a first biologic agent - Abatacept vs anti-TNFs

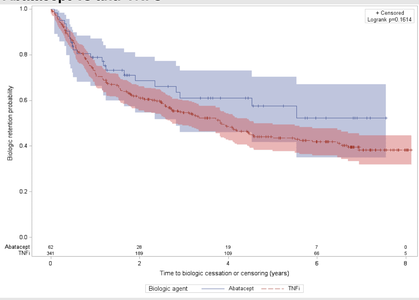
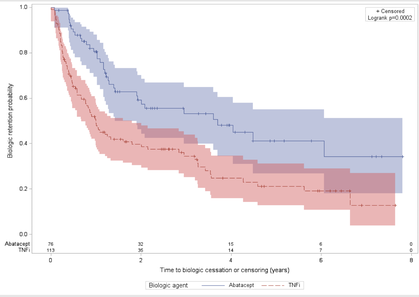


Figure 2. Retention probability of a second biologic agent - Abatacept vs ant-TNFs



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