Objectives: This study aimed to evaluate the implementation and achievement of T2T approach and explore their associated factors in Chinese RA cohort.
Methods: A comprehensive cross-sectional survey of rheumatologists and their RA patients was conducted in China. Data were collected during May-Aug 2019 via physician-completed patient record forms. 60 rheumatologists provided data on demographic, clinical characteristics, treatments, and T2T approach implementation for 600 RA patients. Two logistic regressions were used to evaluate factors associated with T2T approach implementation and T2T goal achievement, respectively. Patients with missing data were not included in the models.
Results: 600 patients were included in this study (48.8±11.7 years, 70.3% female). 39.0% (N=234) of 600 patients were being treated with T2T approach, and 64.9% (N=366) of 564 patients had achieved T2T goal. Patients with longer disease duration (>2 years diagnosis) (odds ratio (OR) [95%CI]=1.61 [1.05, 2.49], vs. diagnosis ≤2 years), higher pain score (OR [95%CI]=1.26 [1.04, 1.51]), or receiving advanced therapy (OR [95%CI]=6.91 [3.64, 13.13]) were more likely to use T2T. Patients with BMI >23.9kg/m^2 (OR [95%CI]=2.83 [1.59, 5.04], vs. BMI≤23.9kg/m^2), or who worked full-time (OR [95%CI]=2.12 [1.26, 3.57]) were more likely to achieve T2T goal, while patients with more pain (OR [95%CI]=0.77 [0.64, 0.92]) were less likely to achieve T2T goal.
Conclusion: Low implementation of T2T approach is observed in Chinese RA treatment. Longer disease duration, more pain, and receiving advanced therapy are associated with higher probability of T2T use, while higher BMI, full-time work and less pain are associated with higher probability of T2T goal achievement. Standard diagnosis and treatment according to guidelines may improve T2T approach implementation.
REFERENCES:
[1] Association, C.R., 2018 Chinese guideline for the diagnosis and treatment of rheumatoid arthritis. Zhonghua nei ke za zhi, 2018. 57(4): p. 242.
Disclosure of Interests: Jiu-liang Zhao: None declared, Xin Liu Employee of: Eli Lilly and Company, Lujing Zhan Employee of: Eli Lilly and Company, Hongyu Tang Employee of: Eli Lilly and Company (Intern), Jinnan Li Employee of: Eli Lilly and Company, Mengru Liu Employee of: Eli Lilly and Company, Elizabeth Holdsworth Consultant of: Eli Lilly and Company, Employee of: Adelphi Real World, Yan Zhao: None declared
DOI: 10.1136/annrheumdis-2021-eular.1960

AB0222 COMPARISON OF SELF-INJECTION DEVICES FOR ADMINISTERING ANTI-TUMOR NECROSIS FACTOR AGENTS USING THE ORIGINAL QUESTIONNAIRE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Self-injection of biological agents has become a general practice in the treatment of rheumatoid arthritis (RA). Self-injectable biological agents differ in shape, needle thickness, drug fluid volume, and so on. These differences may affect patients' evaluations of self-injection devices. Five kinds of anti-tumor necrosis factor (TNF) agents can be administered by self-injection in clinical practice in Japan. Information on patients' evaluations of self-injection devices is important in choosing the agent for the treatment of RA among several agents with the same mechanism of action.
Objectives: The aim of this retrospective cross-sectional study was to compare patient evaluations of anti-TNF self-injection devices in the treatment of RA.
Methods: RA patients in whom etanercept (ETN) pen 50 mg (Embrel Pen) was switched to ETN biosimilar (BS) 50 mg (ETN-BS [MA]), adalimumab (ADA) syringe 40 mg (Humira syringe) was switched to ADA pen 40 mg (Humira pen), golimumab (GLM) syringe 50 mg (Simponi syringe) was switched to GLM auto-injector (Simponi AI), and certolizumab pegol (CZP) syringe (Cimzia syringe) was switched to CZP autoclicks (Cimzia AC) were asked to answer an originally developed questionnaire (Toyohashi Self-injection Assessment Questionnaire [T-SAQ]; Table 1) before and after switching agents. T-SAQ included 18 questions. A score of 0 indicated "best" and 4 indicated "worst" for each question, with a highest possible score of 72. The patients' characteristics and T-SAQ scores before and after switching agents were investigated. A statistical analysis of the difference in T-SAQ score between before and after switching was performed using the Wilcoxon signed-rank test. A P value < 0.05 was considered significant.
Results: The patients were divided into groups according to the agents they received with switching as follows: switchers from ETN pen to ETN-BS, n = 32; switchers from ADA syringe to ADA pen, n = 28; switchers from GLM syringe to GLM-AI, n = 25; and switchers from CZP syringe to CZP-AC, n = 10. The total T-SAQ scores were as follows, respectively: ETN pen and ETN-BS, 23.5 and 19.0; ADA syringe and ADA pen, 25.8 and 14.9; GLM syringe and GLM-AI, 23.8 and 17.4; and CZP syringe and CZP-AC, 30.6 and 18.8. The total T-SAQ was significantly improved after switching to the pen devices in all the switching groups. In the switchers from ETN pen to ETN-BS, the scores for questions 5, 10, 11, 12, 16, 17, and 18 were significantly improved after switching. The total T-SAQ scores were significantly improved for questions 1, 2, 3, 4, 5, 7, 11, 12, 13, 15, 16, and 17 in the switchers from ADA syringe to ADA pen, for questions 1, 2, 5, 7, 10, 16, and 17 in the switchers from GLM syringe to GLM-AI, and for questions of 1, 2, 3, 4, 5, 7, 11, and 15 in the switchers from CZP syringe to GLM-AC.
Conclusion: The pen devices were favorably assessed by the RA patients in whom syringe devices were switched to pen devices for the same agent. The total T-SAQ score improved in the RA patients in whom ETN pen was switched to ETN-BS probably because the thickness of the needle was thinner in the ETN-BS than in the ETN pen. The total T-SAQ score for the ADA pen was lowest probably because the thinnest needle was used (29 gauge) and the amount of drug fluid is smallest (0.4ml). The total T-SAQ score for the CZP syringe was the lowest probably because the thickest needle was used (25 gauge).

Table 1. Toyohashi Self-injection Assessment Questionnaire (T-SAQ)

Q	Score	0	1	2	3	4
1	Ease to use	Excellent	Very Good	Fair	Poor	Unacceptable
2	Ease of learning how to use	Very easy	easy	Fair	Difficult	Very Difficult
3	Ease of abandoning	Very easy	easy	Fair	Difficult	Very Difficult
4	Ease of injection	Very easy	easy	Fair	Difficult	Very Difficult
5	Ease of holding the device	Excellent	Very Good	Fair	Poor	Unacceptable
6	Occurrence of injection fluid leak	Never	Almost not	Fair	Sometimes	Always
7	Time of injection	Very short	Short	Fair	Long	Very Long
8	Burden on leisure or travel	Very small	Small	Fair	Big	Very big
9	Burden on household affairs or child-rearing	Very small	Small	Fair	Big	Very big
10	Burden on work (only for those working)	Very small	Small	Fair	Big	Very big
11	Strain or anxiety from injection	Very small	Small	Fair	Big	Very big
12	Strain or anxiety from needle	Very small	Small	Fair	Big	Very big
13	Disgust with or anxiety from self-injection	Very small	Small	Fair	Big	Very big
14	Needlestick accident	Never	Almost not	Sometimes	Often	Always
15	External appearance	Excellent	Very Good	Fair	Poor	Unacceptable
16	Pain from pricking with the needle	None	Very mild	Moderate	Severe	Very severe
17	Pain during drug injection	None	Very mild	Moderate	Severe	Very severe
18	Pain after injection	None	Very mild	Moderate	Severe	Very severe

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.2252

AB0223 MODIFIED DOSE RITUXIMAB BIOSIMILAR IN RHEUMATOID ARTHRITIS COMPARING B-CELL DEPLETION EFFECT AND DISEASE ACTIVITY SCORES

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Background: In emerging economies self-funding patients opt for less costly options, influencing both compliance and maintenance of treatment for chronic illness. Studies comparing originator rituximab 1000mgx2 and 500mgx2 doses in Rheumatoid arthritis (RA) have yielded interesting results[1]. Evidence of B cell depletion, measured by CD19 count, maybe a marker for disease improvement[2]. However effect of different dose of biosimilar Rituximab (bRTX) on B cell depletion and disease activity needs exploration.
Objectives: To determine correlation of CD19 count defining B cell depletion and disease activity with different dosages of bRTX treatment.
Methods: Between April 2019 and March 2020, all RA patients with DMARD failure were screened for eligibility of biologics as routine clinical practice. Depending on individual choice, after full consent, patients received either 1000mgx2 or 500mgx2 bRTX. All patients had CD19 count before and 12 months after the first dose. Effectiveness of bRTX 1000 mg×2 and 500 mg×2 was assessed by DAS28 and EULAR response. Comparative adjusted analysis was performed by analysis of variance (ANOVA).
Results: Out of 468 eligible patient, 84 opted for biologic. Of which 27 patients consented for bRTX (17 female, mean age 39.5 years).13 patients opted for 1000mg×2 and 14 for 500mg×2 dose. 74% (20/27) patients were on concomitant methotrexate and 26% on hydroxychloroquine (7/27). Both doses led to significant reduction in ESR, CRP, and DAS28-ESR at 12 months (p<0.001) (Table 1).

Table 1. RA outcome-measurement scores at 12 months post biosimilar Rituximab therapy.

Variable	Baseline		12 months	
	RTX 1000mg x 2(n=13)	RTX 500mg x 2(n=14)	RTX 1000mg x 2(n=13)	RTX 500mg x 2(n=14)
ESR*	53.9±23.9	57.1±24.7	23.9±2.9	24.1±4.7
CRP*	6.1±3.9	6.9±2.9	2.1±0.9	2.3±0.9
DAS28-ESR*	6.1±0.3	6.1±0.2	4.0±0.4	4.1±0.2
CD 19+ Count*# (10^5/L)	1191.6±308.4	1155±289.6	128.8±90.4	139±90.6

* p<0.0001 as compared to 12 mos vs baseline; # p<0.0001 as compared amongst group