中文題目：類風濕性關節炎使用生物製劑及標靶合成型抗風濕藥物的治療模式－台灣一醫學中心真實世界的經驗

英文題目：Treatment Pattern of Biological and Targeted Synthetic Disease-modifying Antirheumatic Drugs in Rheumatoid arthritis – a Real-world Experience in Taiwan

作　　者：黃文男[1,2]，陳怡行[1]，陳一銘[1,2]， 陳信華[1]，洪維廷[1,2]，譚國棟[1]，廖育婉

服務單位：[1]臺中榮民總醫院內科部過敏免疫風濕科，[2]國立中興大學醫學院

Background: The objective of this study was to evaluate the treatment patterns among patients newly initiated on biological and targeted synthetic disease-modifying antirheumatic drugs (bDMARDs & tsDMARDs) for patients with rheumatoid arthritis (RA) in a tertiary medical center.

Method: We conducted a retrospective, cohort study to enroll patients with active RA defined as an inadequate therapeutic response to methotrexate. Participants were treated with bDMARDs & tsDMARDs between January 1, 2012 and December 31, 2019 with a follow-up time of 24 months after initiation of tumor necrosis factor-α inhibitors (TNFi), non-TNFi & tsDMARDs and tofactinib.

Results: A total of 967 RA patients were enrolled, 82.56% were female; mean age was 52 years. Among the participants, 70.51% were receiving a TNFi, 26.73% a non-TNFi and 2.76% tofacitinib (Table 1). Figure 1 depicted the treatment pattern of bDMARDs and tsDMARDs. In the first 2 years, the majority therapeutics were etanercept and adalimumab but decreased gradually with tocilizumab and rituximab taking up an increasing proportion. During the follow-up period, 33.75% of participants switched bDMARDs or tsDMARDs. Upon changing treatment, 74.72% switched to 2nd line biologics/tofacitinib; 19.7% to 3rd line. Among the different treatment groups, TNFi user exhibited a higher chance (41.85%) to switch, in comparison to patients with tocilizumab (10.87%) and tofacitinib (4.55%). By ranking of biologics/tofacitinib initiation by line of therapy (Figure 2), etanercept and adalimumab were the most commonly prescribed as the first line, tocilizumab and tofacitinib the 2nd line, and rituximab as the 3rd line.

Conclusion: TNFi appealed to be the most frequently initiated therapy for RA followed by tocilizumab, tofacitinib and rituximab in a hospital-based, real-world data from Taiwan. Future studies are warranted to identify whether patients', physicians' preference or safety consideration determine the treatment pattern of bDMARDs and tsDMARDs in patients with RA.

Table 1. Demographic data of patients with RA on bDMARDs and tsDMARDs

	All patients n=797	ETN n=274	ADA n=233	GOL n=55	RTX n=95	ABA n=72	TOC n=46	TOF n=22	*p*-value
Sex, n(%)									
Female	658 (82.56)	216 (78.83)	206 (88.41)	45 (81.82)	76 (80)	62 (86.11)	37 (80.43)	16 (72.73)	0.0918
Male	139 (17.44)	58 (21.17)	27 (11.59)	10 (18.18)	19 (20)	10 (13.89)	9 (19.57)	6 (27.27)	
Age									
Mean ± SD	53.72 ± 12.95	53.53 ± 13.80	52.51 ± 12.32	47.55 ± 12.14	57.49 ± 11.41	55.99 ± 13.44	56.07 ± 11.41	55.68 ± 11.64	<0.0001
No switched biologic	528 (66.25)	163 (59.49)	145 (62.23)	29 (52.73)	77 (81.05)	52 (72.22)	41 (89.13)	21 (95.45)	<0.0001
Switched biologic	269 (33.75)	111 (40.51)	88 (37.77)	26 (47.27)	18 (18.95)	20 (27.78)	5 (10.87)	1 (4.55)	
2nd line	201 (74.72)	84 (75.68)	65 (73.86)	21 (80.77)	14 (77.78)	12 (60)	5 (100)	0 (0)	0.407
3rd line	53 (19.7)	21 (18.92)	17 (19.32)	4 (15.38)	3 (16.67)	7 (35)	0 (0)	1 (100)	
4th line	8 (2.97)	5 (4.5)	2 (2.27)	0 (0)	1 (5.56)	0 (0)	0 (0)	0 (0)	
5th line	4 (1.49)	1 (0.9)	3 (3.41)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
6th line	2 (0.74)	0 (0)	0 (0)	1 (3.85)	0 (0)	1 (5)	0 (0)	0 (0)	
7th line	1 (0.37)	0 (0)	1 (1.14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	

ETA: etanercept; ADA: adalimumab; RTX: rituximab; ABA: abatacept; GOL: golimumab; TOC: tocilizumab; TOF: tofacitinib

Figure 1. bDMARDs and tsDMARDs prescription pattern over time

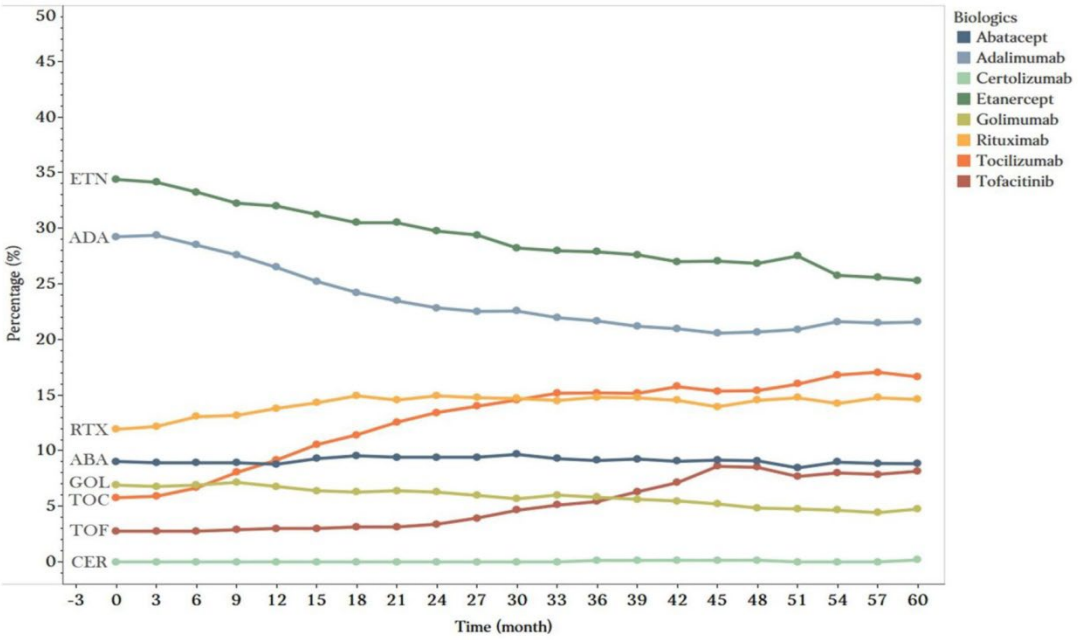

Figure 2. Rank of bDMARDs and tsDMARDs by line of therapy