Impact of Change in Biologic Disease Modifying Antirheumatic Drug Therapy on Disease Activity Measures: Findings from a Large Contemporaneous Real-World Longitudinal Database of Psoriatic Arthritis Patients

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Background

- Given the variety in therapies for psoriatic arthritis (PsA), it is important to evaluate the effect of biologic disease modifying antirheumatic drugs (bDMARDs), as compared to non-biologic DMARDs (nDMARDs), on disease activity and remission.
- Disease activity scores commonly used include RAPID-3, HAQ-II, CDAI, and DAS28
- More evidence on the effect of these therapies on disease activity and remission in routine clinical practice is needed.

Objective

To evaluate change in disease activity, as estimated by remission, associated with bDMARD therapy in patients with PsA who initiated nDMARD and later switched to or added a second nDMARD or a bDMARD

Methods

Study Design
- Retrospective cohort study from January 2013 through May 2022

Data Source
- OM1 PremiOM PsA dataset, including linked healthcare claims and electronic medical records (EMR) data on over 55,000 PsA patients seen in rheumatology practices across the US.

Inclusion Criteria
- ≥ 1 prescription/dispensing of a cDMARD, no prior bDMARD use, and switched to, or added on, another DMARD during follow-up
- At least 2 disease activity measures

Methods (cont.)

Outcomes
- Change in disease activity and achievement of remission from baseline through 12 months post-index following change in DMARD therapy

Analysis
- Time to remission assessed by survival analyses and log rank tests

Results

- 3,594 patients included in analysis, ~14,000 (mean 3.9 per patient) disease activity measures during follow-up
- 1,706 patients (47.5%) added or switched to bDMARD; 1,457 (40.5%) to cDMARD; 431 (12.0%) to tsDMARD
- Patient characteristics and median number of disease activity measures similar across groups **(Table 1)**
- Time to initial remission shorter in bDMARD group **(Figure 1)**
- More patients in the bDMARD achieved initial remission **(Table 2)** and sustained remission **(Table 3)**

Conclusions

- **DMARD therapy change improves disease activity. Addition of bDMARDs positively associated with disease remission.**
- **This study expands on prior studies in a large contemporaneous cohort of patients seen in routine clinical practice.**

Table 1. Patient Characteristics at Time of First Change in DMARD Therapy

		bDMARD (N=1,706)	cDMARD (N=1,457)	tsDMARD (N=431)	Total (N=3,594)
Sex	Female	1,130 (66.2%)	1,080 (74.1%)	296 (68.7%)	2,506 (69.7%)
Race	Black or African American	57 (4.2%)	29 (2.5%)	15 (4.4%)	101 (3.6%)
	White	1,261 (93.8%)	1,110 (96.0%)	315 (92.9%)	2,686 (94.6%)
	Other	27 (2.0%)	17 (1.5%)	9 (2.7%)	53 (1.9%)
	Unknown	361	301	92	754
Age, years	Mean (s.d.)	53.8 (13.3)	58.2 (13.6)	55.7 (12.9)	55.8 (13.5)
Baseline Disease Activity	Remission	22 (2.6%)	39 (5.0%)	7 (3.1%)	68 (3.6%)
	Low	250 (29.2%)	266 (33.8%)	71 (31.1%)	587 (31.4%)
	Medium	371 (43.4%)	349 (44.3%)	105 (46.1%)	825 (44.1%)
	High	212 (24.8%)	133 (16.9%)	45 (19.7%)	390 (20.9%)
	Unknown	851	670	203	1,724
# disease activity measures	Mean (s.d.)	2.8 (2.1)	2.7 (2.2)	2.4 (1.7)	2.7 (2.1)
	Median (Q1-Q3)	2 (1-4)	2 (1-4)	2 (1-3)	2 (1-4)

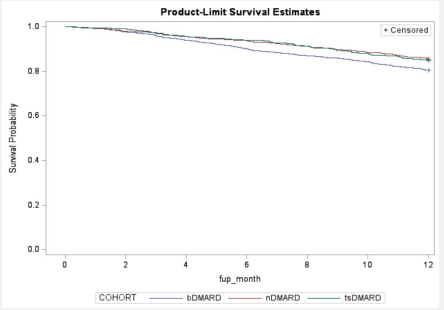
Table 2. More Patients on Biologic DMARD Achieved Initial Remission Compared to Non-Biologic DMARD (p=0.0005)

Treatment	Remission	Censored
bDMARD	333 (19.5%)	1,373 (80.5%)
cDMARD	212 (14.5%)	1,245 (85.5%)
tsDMARD	65 (15.1%)	366 (84.9%)

Table 3. More Patients on Biologic DMARD Achieved Sustained Remission Compared to Non-Biologic DMARD (p=0.0008)

Treatment	Remission	Censored
bDMARD	100 (5.9%)	1,606 (94.1%)
cDMARD	51(3.5%)	1,406 (96.5%)
tsDMARD	20 (4.6%)	411 (95.4%)

Figure 1. Biologic DMARD Therapy is Significantly Associated with Shorter Time to Initial Remission



Time to Remission (Mean ± SD):
6.2 ± 3.3 months bDMARD; 6.5 ± 3.5 months cDMARD; 6.7 ± 3.3 months tsDMARD; p=0.0004

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