Real-World Switching Patterns for Patients With Psoriatic Arthritis on First Line Advanced Therapies

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OBJECTIVE

To evaluate real-world switching patterns among patients with active psoriatic arthritis (PsA) receiving biologics or phosphodiestrase-4 inhibitors (PDE4i) as first-line advanced therapies over 12 months

CONCLUSIONS

Treatment switching among patients with PsA receving biologics or PDE4i was common (24.2%) over 12 months

The proportion of PsA patients receiving biologics or PDE4i who switched over 12 months was the lowest with IL-23i

At the individual drug level, risankizumab was associated with the lowest odds of switching among all drugs evaluated

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INTRODUCTION

Background

- Advanced therapies such as interleukin (IL) inhibitors IL-23i, IL-12/23i, IL-17i, phosphodiesterase-4 inhibitors (PDE4i), and tumor necrosis factor alpha inhibitors (TNFi) have been approved for 1st line treatment of active psoriatic arthritis (PsA)[1]
- Treatment goals for PsA include achieving the lowest possible disease activity, optimizing functional status, and avoiding treatment complications[2]
- A treatment switch may be recommended when the above goals are not met[3]

METHODS

Data Source

- Merative™ MarketScan® databases (1/1/2016-1/31/2024)

Inclusion Criteria

1. Adults patients (age ≥ 18) who initiated a biologic or PDE4i between 1/21/22 and 1/31/23 (index claim)
2. Patients had ≥ 6 months of continuous enrollment pre- and ≥ 12 months of continuous enrollment post initiation of the biologic or PDE4i

METHODS (CONT.)

3. Patients with ≥1 diagnosis for active PsA (ICD-10-CM codes: L40.50, L40.51, L40.52 and L40.59) during the 6 months before the index claim

Exclusion Criteria

1. Patients who had a claim for any biologics, PDE4i, and janus kinase inhibitors (JAKi) before the index claim
2. Patients with any autoimmune conditions other than psoriatic arthritis or psoriasis 6 months pre and post index claim

Statistical Analysis

- Switching was defined as a pharmacy claim for another biologic, PDE4i or JAKi within the 12 month period after treatment initiation. The proportion of switching was calculated as (switchers / sum of switchers and non-switchers) *100%. Neither discontinuation nor nonadherence was considered as a switch
- Multivariate logistic regression was used to compare switching when accounting for differences in baseline characteristics
- Switching was evaluated for the overall population, stratified by the mechanism of action (MOA; reference: IL-23i) and individual drugs (reference: risankizumab)

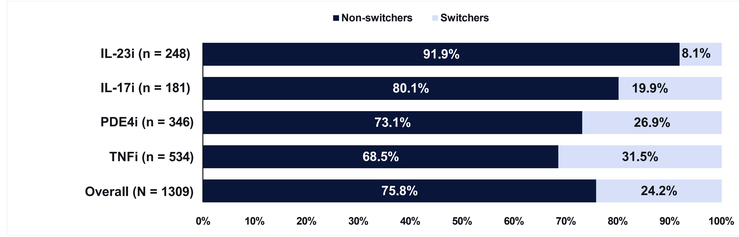
Table 1. Patient Demographics

	IL-23i n = 248	TNFi n = 534	IL-17i n = 181	PDE4i n = 346	Overall N = 1309
Age *(years)*, mean (SD)	45.4 (11.2)	47.9 (10.4)	46.9 (10.3)	48.7 (10.0)	47.5 (10.5)
Sex *(female)*, n (%)	120 (48.4)	318 (59.6)	98 (54.1)	219 (63.3)	755 (57.7)
Region, n (%)					
Midwest	36 (14.5)	79 (14.8)	30 (16.6)	72 (20.8)	217 (16.6)
Northeast	30 (12.1)	58 (10.9)	25 (13.8)	41 (11.9)	154 (11.8)
South	91 (36.7)	203 (38.0)	79 (43.7)	138 (39.9)	511 (39.0)
West	39 (15.7)	88 (16.5)	19 (10.5)	30 (16.6)	186 (14.2)
Missing	52 (21.0)	106 (19.9)	28 (15.5)	55 (15.9)	241 (18.4)
Insurance, n (%)					
Commercial	247 (99.6)	532 (99.6)	180 (99.5)	345 (99.7)	1304 (99.6)
Medicare	1 (0.4)	2 (0.4)	1 (0.6)	1 (0.3)	5 (0.4)
Comorbidities, n (%)					
Anxiety or Depression	43 (17.3)	130 (24.3)	32 (17.7)	74 (21.4)	279 (21.3)
Hypertension	52 (21.0)	158 (29.6)	55 (30.4)	112 (32.4)	377 (28.8)
Cardiovascular Event	36 (14.5)	74 (13.9)	29 (16.0)	58 (16.8)	197 (15.1)
Obesity	46 (18.6)	127 (23.8)	52 (28.7)	87 (25.1)	312 (23.8)
Diabetes	29 (11.7)	61 (11.4)	32 (17.7)	47 (13.6)	169 (12.9)

IL-23i (guselkumab, risankizumab); IL-17i (ixekizumab, secukinumab), TNFi (adalimumab, certolizumab, etanercept, golimumab, infliximab), PDE4i (apremilast). MOAs < 100 patients were not displayed and excluded from the MOA level analysis; MOA not shown: IL-12/23i (ustekinumab, n = 19); T-cell (abatacept, n = 7). i, inhibitors; IL, interleukin; MOA, mechanism of action; PDE4, phosphodiesterase-4; TNF, tumor necrosis factor.

- A total of 1309 patients were included in the anaylsis with baseline characteristics being similiar between different drug MOAs (**Table 1**)

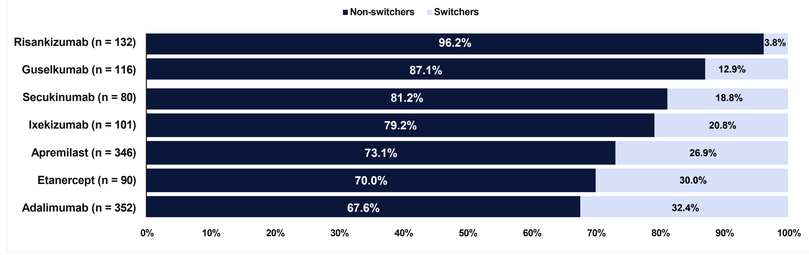
Figure 1. Proportion of Patients Switching by MOA



MOAs < 100 patients were not displayed and excluded from the MOA level analysis; MOAs not shown: IL-12/23i (n = 19); T-cell (n = 7). i, inhibitors; IL, interleukin; PDE4, phosphodiesterase-4; TNF, tumor necrosis factor.

- Overall, 24.2% of patients switched therapies over 12 months as shown in **Figure 1**
- Switching was least common with patients initiating IL-23i (8.1%) compared to IL-17i (19.9%), PDE4i (26.9%), and TNFi (31.5%) (all $P < 0.001$) (**Figure 1**)

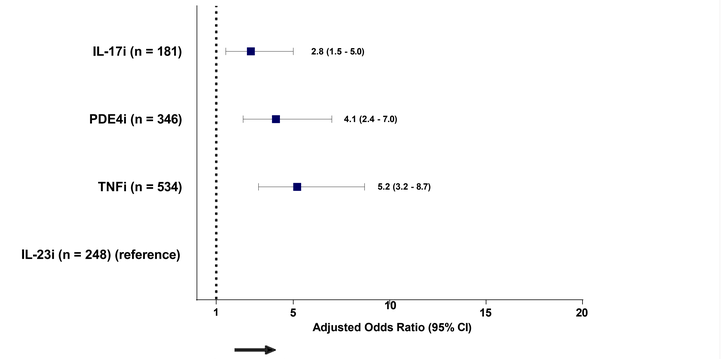
Figure 2. Proportion of Patients Switching by Individual Biologic



Products < 50 patients were not displayed and excluded from the biologic level analysis; Biologics not shown: abatacept n=7; certolizumab pegol n = 36; golimumab n = 41; infliximab n = 15; ustekinumab n = 19

- Risankizumab was associated with significantly lower proportion of switching (3.8%) than guselkumab (12.9%), secukinumab (18.8%), ixekizumab (20.8%), apremilast (26.9%), etanercept (30.0%) and adalimumab (32.4%) (all $P < 0.05$) (**Figure 2**)

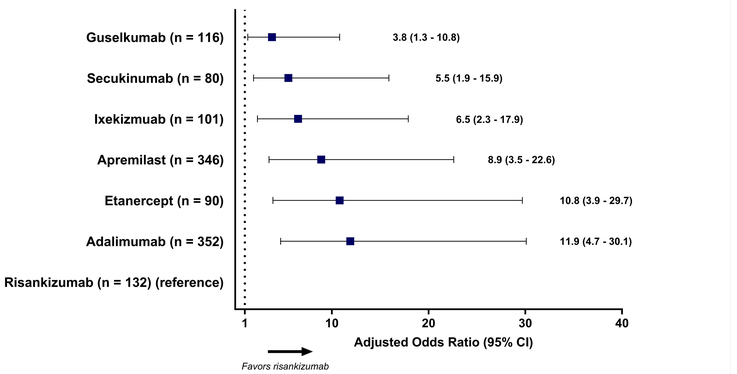
Figure 3. Adjusted Odds Ratio of Switching by MOA



Multivariate logistic regression analyses were performed to account for variations in baseline characteristics (age, gender, region, comorbidities and rheumatology/dermatology visit) on binary outcomes (switchers vs non switchers). i, inhibitors; IL, interleukin; MOA, mechanism of action; PDE4, phosphodiesterase-4; TNF, tumor necrosis factor.

- Compared to IL-23i, the adjusted odds ratio of switching were 5.2, 4.1, and 2.8 for TNFi, PDE4i, and IL-17i, respectively (all $P < 0.001$) (**Figure 3**)

Figure 4. Adjusted Odds Ratio of Switching by Individual Biologics



Multivariate logistic regression analyses were performed to account for variations in baseline characteristics (age, gender, region, comorbidities and rheumatology/dermatology visit) on binary outcomes (switchers vs non switchers).

- Compared to risankizumab, the adjusted odds ratio of switching were 11.9, 10.8, 8.9, 6.5, 5.5, and 3.8 for adalimumab, etanercept, apremilast, ixekizumab, secukinumab, and guselkumab, respectively (all $P < 0.05$) (**Figure 4**)

Limitations

- Reasons for switching cannot be determined in claims data; therefore, no conclusions on efficacy or safety can be made
- Claims data used for billing health plans were analyzed in this study and may be subject to data errors (e.g., miscoding)
- The presence of a claim for a filled prescription may not indicate actual use of the drug by a patient