# Outcomes in Ixekizumab Patients Following Exposure to Secukinumab and Other Biologics in the Corrona Psoriasis Registry

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## BACKGROUND

- Ixekizumab (IXE), an IL-17A inhibitor approved for the treatment of moderate-to-severe psoriasis (PsO), has demonstrated similar efficacy in patients with and without previous exposure to biologics in randomized clinical trials1
- There is little real-world data regarding the effectiveness of IXE in patients with PsO who have previously discontinued another biologic therapy

## OBJECTIVE

- To describe real-world biologic-experienced PsO patients initiating IXE by prior biologic therapy status and compare effectiveness of IXE at 6-months following initiation between patients who previously failed secukinumab (SEC), another IL-17 inhibitor, and those who failed other biologics

## METHODS

### Study Setting

- The Corrona PsO Registry® is a prospective, multicenter observational disease-based registry launched in April 2015 in collaboration with the National Psoriasis Foundation
- As of 10/31/2020, patients were recruited from 251 private and academic practice sites, with 521 participating dermatologists, in 46 states/provinces in the US and Canada
- Registry inclusion criteria:
  - PsO diagnosed by a dermatologist
  - Aged ≥18 years
  - Started or switched to an eligible systemic PsO treatment at enrollment or within 12 months prior to enrollment
- Data are collected from patients and providers at outpatient clinical dermatologic visits every ~6 months

## METHODS

### Study Population

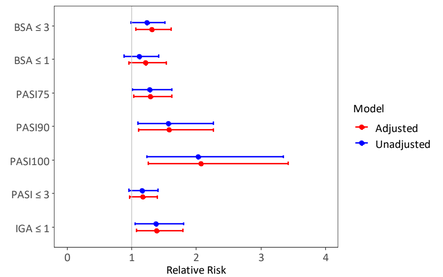
- From 4/2015 to 9/2020, 419 PsO patients who switched to IXE after discontinuing another biologic therapy at their enrollment visit or a follow-up visit (baseline) and have a 6-month follow-up visit following initiation were used in this study
- Patients were classified into four groups by the biologic used immediately prior to IXE and reason for biologic discontinuation: 1) prior SEC failure (SEC failure), 2) prior SEC non-failure (SEC non-failure), 3) prior other biologic (TNFi, IL-12/23i, IL-23i) failure (other failure), 4) prior other biologic non-failure (other non-failure)
- Efficacy reasons for discontinuation were considered failures (inadequate initial response, failure to maintain initial response), and all other reasons were considered non-failures

## METHODS

### Statistical Analysis

- Baseline descriptive statistics were calculated separately for each group at enrollment
- Percentages (95% confidence intervals [CI]) of patients achieving response measures (BSA ≤1, BSA ≤3, PASI75, PASI90, PASI100, PASI ≤3, IGA ≤1) at 6-months follow-up were calculated for those not meeting response measures at baseline
- Multivariable Poisson regression models with robust standard errors were fit to estimate likelihood (relative risk, RR) of response of other failure relative to SEC failure
- Models were adjusted for age, gender, race, disease duration, psoriatic arthritis, & baseline outcome value; models were additionally adjusted and stratified by number of previous biologic therapies (1 vs. 2+)

**Figure 2. Unadjusted and adjusted relative risks (RR) estimating the likelihood of achievement of outcomes at 6-months among PsO patients who initiated IXE in patients who failed on and switched from other biologics vs. those who switched from SEC**




RR, Relative risk; CI, confidence interval, BSA, Body Surface Area, PASI, Psoriasis Area Severity Index; IGA, Investigator Global Assessment; *Relative Risk (RR) (95% CI) from multivariable Poisson regression with robust standard errors adjusted a priori for age, gender, race (white vs. non-white), psoriatic arthritis, psoriasis duration, and baseline outcome. RR values based on comparison of 'other biologic failure' vs 'SEC failure' group.

## RESULTS

**Table 1. Patient sociodemographics, lifestyle, clinical characteristics, and treatment history at enrollment among PsO patients who initiated IXE after switching from another biologic, by prior biologic status**

| | Prior SEC Failure | Prior SEC Non-Failure | Prior other BIO Failure | Prior other BIO Non-Failure | Total |
|---|---|---|---|---|---|
| **Outcome Measures** | **N=108** | **N=28** | **N=200** | **N=83** | **N=419** |
| Sociodemographics and Lifestyle | | | | | |
| Age in years, mean (SD) | 50.1 (13.1) | 51.6 (10.7) | 50.8 (13.1) | 53.4 (13.0) | 51.2 (12.9) |
| Female, n (%) | 52 (48.1%) | 12 (42.9%) | 99 (49.5%) | 40 (48.2%) | 203 (48.4%) |
| Race, White, n (%) | 83 (76.9%) | 23 (82.1%) | 168 (84.0%) | 69 (83.1%) | 343 (81.9%) |
| Private health insurance, n (%) | 83 (77.6%) | 20 (71.4%) | 158 (81.0%) | 65 (79.3%) | 326 (79.1%) |
| Full time work, n (%) | 68 (63.0%) | 17 (60.7%) | 130 (65.3%) | 55 (66.3%) | 270 (64.6%) |
| Smoking history, Never, n (%) | 46 (42.6%) | 10 (35.7%) | 89 (44.9%) | 38 (45.8%) | 183 (43.9%) |
| Obese (BMI >30), n (%) | 66 (61.1%) | 18 (64.3%) | 107 (54.3%) | 46 (55.4%) | 237 (57.0%) |
| History of comorbidities[1] | | | | | |
| Cardiovascular disease,[2] n (%) | 10 (9.3%) | 1 (3.6%) | 24 (12.0%) | 11 (13.3%) | 46 (11.0%) |
| Hypertension n (%) | 48 (44.4%) | 11 (39.3%) | 89 (44.5%) | 36 (43.4%) | 184 (43.9%) |
| Diabetes mellitus, n (%) | 21 (19.4%) | 4 (14.3%) | 33 (16.5%) | 21 (25.3%) | 79 (18.9%) |
| Psoriasis Morphology | | | | | |
| Scalp, n (%) | 44 (40.7%) | 12 (42.9%) | 66 (33.0%) | 33 (39.8%) | 155 (37.0%) |
| Nail, n (%) | 31 (28.7%) | 7 (25.0%) | 36 (18.0%) | 17 (20.5%) | 91 (21.7%) |
| Previous Biologic Therapies* | | | | | |
| 1 | 15 (13.9%) | 6 (21.4%) | 82 (41.0%) | 42 (50.6%) | 145 (34.6%) |
| 2+ | 93 (86.1%) | 22 (78.6%) | 118 (59.0%) | 41 (49.4%) | 274 (65.4%) |
| Disease Severity | | | | | |
| BSA ≤3 | 28 (25.9%) | 8 (28.6%) | 57 (28.5%) | 21 (25.3%) | 114 (27.2%) |
| BSA ≤1 | 4 (3.7%) | 4 (14.3%) | 29 (14.5%) | 14 (16.9%) | 51 (12.2%) |
| PASI ≤3 | 25 (23.1%) | 11 (39.3%) | 60 (30.0%) | 24 (28.9%) | 120 (28.6%) |
| IGA ≤1 | 2 (1.9%) | 2 (7.1%) | 16 (8.0%) | 7 (8.4%) | 27 (6.4%) |

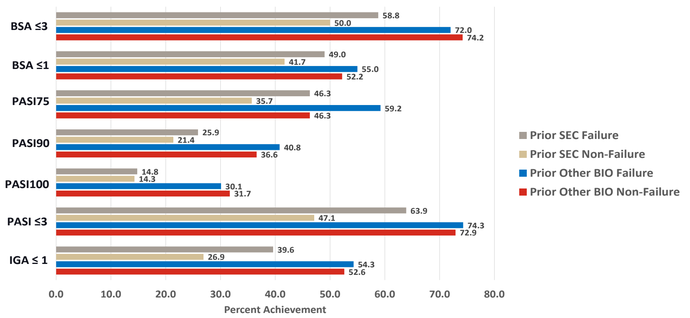
SEC, secukinumab; BIO, biologic; Prior SEC failure (Health insurance: n=107); Prior other BIO failure (Health insurance: n=195; Work status: n=199; Smoking history: n=198; BMI Categorical: n=197); Prior other BIO non-failure (Health insurance: n=82); [1]Not mutually exclusive; [2]Cardiovascular disease includes cardiac revascularization procedure, ventricular arrhythmia, cardiac arrest, myocardial infarction, acute coronary syndrome, unstable angina, coronary artery disease, congestive heart failure, and cerebrovascular disease (stroke, TIA, peripheral vascular disease, peripheral arterial disease); *Use of loading dose for biologics was not ascertained

## RESULTS

- Among the 12,175 patients enrolled in the Corrona PsO Registry through 9/10/20, 419 eligible patients were included in this analysis
- There were 108 SEC failure, 200 other failure, 28 SEC non-failure, and 83 other non-failure patients (Table 1)
- Mean age of patients was 51 years, 48% were women, 82% were white, 79% were using private insurance, and 65% were working full time (Table 1)
- At baseline, patient sociodemographics, lifestyle characteristics, and history of comorbidities were similar across the prior biologic groups (Table 1)

## RESULTS

**Figure 1. Proportion of patients achieving outcomes at 6-months among PsO patients who initiated IXE after switching from another biologic, by prior biologic status**




BSA, Body Surface Area; PASI, Psoriasis Area Severity Index; IGA, Investigator Global Assessment; SEC, secukinumab; BIO, biologics; The BSA ≤ 3, BSA ≤ 1, PASI ≤ 3, and IGA ≤1 responders at 6 months follow-up are based on patients who had baseline score of BSA >3, BSA >1, PASI >3, and IGA >1, respectively

- PsO disease characteristics were similar across prior biologic groups, although patients who previously discontinued SEC had a higher proportion with history of nail PsO (SEC failure: 29%; SEC non-failure 25%) than patients who discontinued other biologics (other failure: 18%; other non-failure 21%) (Table 1)
- For PsO treatment characteristics, the prior SEC groups had higher proportions of patients with a history of 2+ biologics (SEC failure: 86%, SEC non-failure 79%) compared to the prior other biologic groups (other failure: 59%; other non-failure: 49%) (Table 1)

## RESULTS

- At 6-months follow-up, improvements in disease severity occurred across all patients who switched to IXE (BSA ≤3 [68%], BSA ≤1 [52%], PASI75[52%], PASI90 [35%], PASI100 [25%], PASI ≤ 3 [70%], IGA ≤1 [48%]) (95% CIs did not include 0) (Data not shown)
- At six months follow-up versus baseline, SEC failure patients and other failure patients who switched to IXE achieved improvements (for all, 95% CIs did not include 0) (Figure 1)
- In adjusted regression analyses, the likelihood of achieving a response at 6-months was higher in the other failure group versus the SEC failure group (Figure 2)
- Results were similar after additional adjustment for and stratification by number of previous biologic therapies (data not shown)

## STRENGTHS

- Data for the current study were collected across the US and Canada from both academic and private practice dermatologists, and these patients are more likely to reflect the typical real-world patient population than those in clinical trials

## LIMITATIONS

- The data are subject to limitations inherent in all observational studies, such as the potential for unmeasured confounding and the unknown patient factors associated with access to care

## CONCLUSIONS

These findings suggest real-world psoriasis patients who switch from another biologic to ixekizumab demonstrate significant improvement in disease severity by six months. Patients who discontinued their prior biologic in the other failure group due to efficacy reasons (i.e., biologic failure) were more likely to achieve a response for several disease severity measures compared to patients who discontinued secukinumab.

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