Demographic and Clinical Characteristics of Patients With Plaque Psoriasis Initiating Secukinumab in Clinical Practice: Data From US Dermatology Electronic Medical Records

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SYNOPSIS

- Psoriasis is a chronic, systemic, immune-mediated disease of the skin that affects > 7.4 million people in the United States, with an estimated prevalence of 2% to 4%[1]
- Secukinumab is a fully human monoclonal antibody that selectively neutralizes interleukin (IL)-17A, a cornerstone cytokine involved in the development of psoriasis[2]
- Secukinumab has demonstrated efficacy in clinical trails and effectiveness in real-world settings in the treatment of patients with psoriasis[3-9]
- However, there remain limited real-world data characterizing US patients with psoriasis who initiate secukinumab in routine clinical practice

OBJECTIVE

- To describe demographic and clinical characteristics of US patients with plaque psoriasis who initiated secukinumab in clinical practice, using clinical data obtained from the Modernizing Medicine Data Services (MMDS) electronic medical records (EMRs) dermatology panel

METHODS

Study Design and Patient Population

- All data were collected from Modernizing Medicine's Electronic Medical Assistant (EMA) system
  - EMA delivers structured, real-world data captured from > 500,000 unique patients with psoriasis
  - Data from EMRs for patients in the United States with a clinical diagnosis of psoriasis were deidentified in accordance with HIPAA (Health Insurance Portability and Accountability Act) for research use
- Eligible patients in the MMDS database had a diagnosis of plaque psoriasis during the study period of July 1, 2014, to March 31, 2018, had ≥ 1 prescription order for secukinumab within the index period (January 1, 2015, to September 30, 2017), and were aged ≥ 18 years at the time of secukinumab initiation (index date)
- Patients had ≥ 1 clinical visit for any reason during the 6-month pre-index (baseline) period and ≥ 1 clinical visit for any reason within the first and second 6 months following secukinumab initiation (12-month follow-up period)

Study Variables and Data Analysis

- Demographic characteristics (age, sex, race, body weight, US region), treatment history (during 6-month pre-index period only), and clinical characteristics (comorbidities, psoriasis subtype, body surface area [BSA], and Physician Global Assessment [PGA]) were assessed by dermatology providers during the 6-month baseline period

RESULTS

Patient Demographics During the Baseline Period

- Of 803,036 patients in the MMDS database who had a diagnosis of plaque psoriasis during the study period, 4996 patients met the inclusion criteria and had 12 months of follow-up
- At baseline, the mean (SD) age was 51.6 (13.7) years, 50.5% were male, and 66.4% were white (**Table 1**)
- All US geographic regions were represented: 41.4% were from the South, 21.6% from the West, 20.7% from the Midwest, and 16.1% from the Northeast regions (**Table 1**)

Table 1. Demographics of Patients With Psoriasis Who Initiated Secukinumab and Had 12 Months of Follow-Up

Characteristic	Patients With 12-Month Follow-Up (N = 4996)
Age, mean (SD), years	51.6 (13.7)
Male, n (%)	2524 (50.5)
US region, n (%)	
South	2070 (41.4)
West	1080 (21.6)
Midwest	1036 (20.7)
Northeast	802 (16.1)
Unknown	8 (0.2)
Race, n (%)	
White	3317 (66.4)
Black	141 (2.8)
Asian	129 (2.6)
Hispanic	92 (1.8)
Other/unknown	1317 (26.4)
Index year, n (%)	
2015	1131 (22.6)
2016	2096 (42.0)
2017	1769 (35.4)

Comorbidities and Treatment History During the Baseline Period

- The most common comorbidities were hypertension (29.8%), psoriatic arthritis (22.2%), and diabetes (17.6%) (**Table 2**)
- Overall, 42.5% of patients received prior biologic treatment during the 6-month baseline period, of whom 54.0% received tumor necrosis factor inhibitors, 47.6% received ustekinumab, and 3.2% received another IL-17A inhibitor (**Table 2**)

Table 2. Comorbidities and Treatment History of Patients With Psoriasis Who Initiated Secukinumab and Had 12 Months of Follow-Up

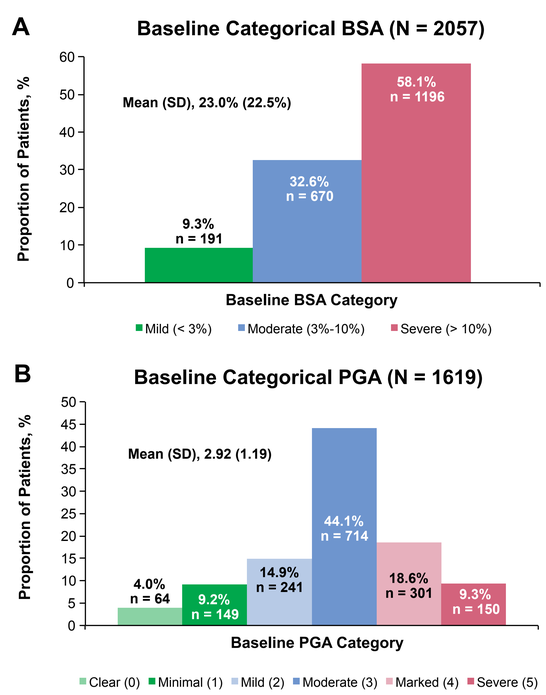
Characteristic	Patients With 12-Month Follow-Up (N = 4996)
Comorbidities, n (%)	
Hypertension	1487 (29.8)
Psoriatic arthritis	1110 (22.2)
Diabetes	877 (17.6)
Hyperlipidemia	751 (15.0)
Malignancies	633 (12.7)
Coronary heart disease	125 (2.5)
Cerebrovascular disease*	70 (1.4)
Obesity	55 (1.1)
Rheumatoid arthritis	24 (0.5)
Treatment history	
Prior biologic treatment preceding secukinumab claim, n (%)	
Tumor necrosis factor inhibitors†	1148 (54.0)
Ustekinumab	1011 (47.6)
IL-17A inhibitors‡	69 (3.2)

IL, interleukin.
* Cerebrovascular disease included hemorrhagic stroke and transient ischemic attack.
† Tumor necrosis factor inhibitors included adalimumab, certolizumab pegol, etanercept, golimumab, and infliximab.
‡ IL-17 inhibitors included brodalumab and ixekizumab.

Clinical Characteristics During the Baseline Period

- At baseline, the mean (SD) BSA was 23.0% (22.5%), and 58.1% had severe disease (BSA > 10%) (**Figure 1A**)
- The mean (SD) PGA score was 2.92 (1.19), and 72.0% had moderate-to-severe involvement (PGA score 3-5) (**Figure 1B**)

Figure 1. Categorical Clinical Outcome Measures* in Patients Who Initiated Secukinumab and Had 12 Months of Follow-Up



BSA, body surface area; PGA, Physician Global Assessment.
* Available effectiveness records for PGA scores and BSA affected by psoriasis were reported based on the index visit or the visit closest to the index with such values during the 6-month baseline period.

LIMITATIONS

- The MMDS database included data captured only from physicians contributing to the EMR network (that was then de-identified), and results may not be generalizable to all patients with psoriasis
- No continuous health plan enrollment information was captured in the EMR database
- Patients with comorbid psoriatic arthritis or ankylosing spondylitis initiating secukinumab were not excluded from the study population, leading to potential confounding variables

CONCLUSION

- In this US real-world data analysis of patients with plaque psoriasis, most patients initiating secukinumab had moderate-to-severe disease, > 20% of patients had concomitant psoriatic arthritis, and the most common prior biologic treatment was tumor necrosis factor inhibitors during the 6-month baseline period
- Overall, these findings are consistent with patient characteristics and severity of psoriasis exhibited in clinical trials and provide additional insight into characteristics and treatment history of patients initiating secukinumab in real-world settings

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DISCLOSURES

P. S. Yamauchi has served as an investigator for Amgen, Celgene, Dermira, Galderma, Janssen, LEO Pharma, Eli Lilly, MedImmune, Novartis, Pfizer, Regeneron, and Sandoz and has served as an advisor and/or speaker for AbbVie, Amgen, Baxter, Celgene, Dermira, Galderma, Janssen, LEO Pharma, Eli Lilly, Novartis, Pfizer, and Regeneron. C.-C. Chen and Y. Ding are employees of IQVIA who received consulting fees to conduct this research. R. Germino is an employee of Novartis Pharmaceuticals Corporation.

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