On-Label Persistence in Psoriasis After Switching to Guselkumab or Interleukin 17A Inhibitors from Other Advanced Therapies

Maryia Zhdanava[1], Timothy P. Fitzgerald[2], Porpong Boonmak[1], Dominic Pilon[1], Samuel Schwartzbein[1], Béatrice Libchaber[1], Steven Feldman[3]
[1]Analysis Group, Inc., Montréal, QC, Canada; [2]Janssen Scientific Affairs, LLC, a Johnson & Johnson company, Horsham, PA, USA; [3]Wake Forest School of Medicine, NC, USA

Background

- Long-term benefits of guselkumab (GUS) have been reported versus subcutaneous Interleukin 17A inhibitors (SC IL-17Ai), specifically ixekizumab and secukinumab, among patients (pts) with psoriasis; however, little is known about response in pts who switch between advanced therapies[1]
- Switching could indicate loss of effectiveness or safety concerns with prior treatment, and may affect persistence of future treatments[2,3]
- Understanding persistence while receiving labeled dosing in pts who switch from other advanced therapies is important, as real-world treatment failure may manifest as either discontinuation or dose escalation[4]

Objectives

To compare real-world persistence among pts with psoriasis switching to treatment with US labeled dosing for GUS versus any SC IL-17Ai

Methods

- Data from the IQVIA PharMetrics® Plus database were used (01/01/2016 - 12/31/2023)
- Index date was the first observed claim for GUS or any SC IL-17Ai agent after switching from another systemic advanced therapy
- Baseline period included the 12 months before the index date; follow-up period spanned the start of the maintenance phase until the earliest of end of data availability or end of continuous health plan eligibility
- The maintenance phase commenced, based on product label, at the time of a specific dose following initiation:
  - GUS: the 3rd dose
  - Brodalumab: the 4th dose
  - Ixekizumab: the 8th dose
  - Secukinumab: the 6th dose

Study sample

Patients eligible for inclusion were/had:

- adults switching to GUS or SC IL-17Ai during the intake period (i.e., 07/13/2017 - 06/30/2023) from another psoriasis-indicated advanced therapy
- naïve to both GUS and SC IL-17Ai before the switch
- ≥12 months of continuous health plan eligibility before the index date
- ≥2 claims with a diagnosis of psoriasis vulgaris on separate dates during the baseline period or on the index date
- persistent on the index biologic (as defined below) between the index date and start of the maintenance phase
- no claims for rheumatoid or psoriatic arthritis, inflammatory bowel disease, or other autoimmune disorders during the baseline period

Outcomes and statistical analyses

- Overlap propensity score weights were used to balance baseline characteristics between the GUS and SC IL-17Aicohorts; balance was assessed using standardized differences (std. diff.; <10% considered well-balanced)[5]
- Persistence while receiving on-label US maintenance dosing was assessed from the start of the maintenance phase by weighted Kaplan-Meier (KM) analysis and Cox proportional hazard models
  - Persistence was defined as no gaps in treatment supply >120 days for GUS (twice the 8-week maintenance dosing interval) or >60 days for SC IL-17Ai (ixekizumab and secukinumab: twice the 4-week maintenance dosing interval; brodalumab: twice the typical dispensing interval of 2 doses for 4 weeks). A sensitivity analysis was conducted using a gap of >120 days for all agents; the last day of index agent supply before the gap defined the discontinuation date
  - Continuing on labeled US maintenance dosing was defined as maintaining the following doses: 100 mg/8 weeks for GUS, 210 mg/2 weeks for brodalumab, 80 mg/4 weeks for ixekizumab, 300 mg/4 weeks for secukinumab; pts were censored at the first instance of any dose change
  - Pts who did not change dose or discontinue treatment during the follow-up period were censored on the last day of index treatment supply before the end of the follow-up period

Key Takeaways

- **Pts with psoriasis who switched from another advanced therapy to GUS displayed higher persistence while receiving on-label maintenance dosing compared to those who switched to SC IL-17Ai**
- **Results were consistent across analyses, both with varying the discontinuation gap based on different dosing frequencies of GUS and SC IL-17Ai and with a fixed gap**
- **GUS may provide better long-term disease control than SC IL-17Ai among pts who switch from other advanced therapies**

Results

935 pts were included in the GUS cohort and 1,466 pts in the SC IL-17Ai cohort; characteristics at baseline were well-balanced

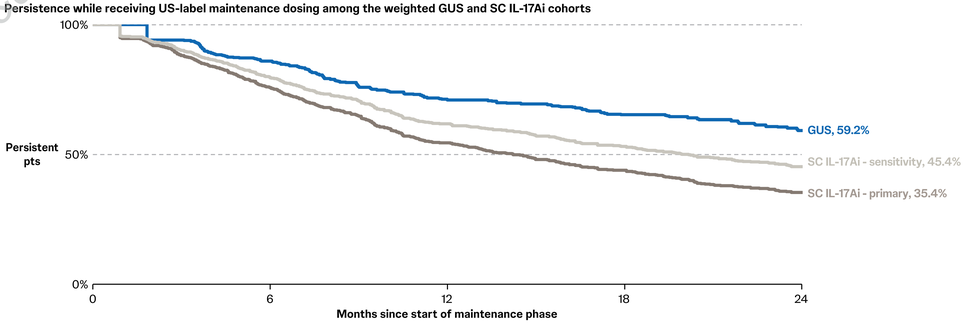
Weighted baseline characteristics	GUS[a] (N=935)	SC IL-17Ai[a] (N=1,466)	Std. diff.[a] %
Demographics			
Age at index date (years), mean ± SD [median]	48.2 ± 11.7 [49.7]	48.0 ± 11.8 [49.4]	1.6
Female	46.4	46.4	0.0
Region of residence at index date			
South	48.6	48.6	0.1
Midwest	23.3	23.3	0.0
Northeast	19.9	19.9	0.0
West	8.2	8.2	0.0
Unknown	0.0	0.0	2.6
Payer			
Commercial	69.9	66.7	6.8
Self-insured	28.5	31.3	6.1
Medicare, Medicaid, or unknown	1.6	2.0	3.0
Index year			
2017	7.4	7.4	0.0
2018	20.3	20.3	0.0
2019	16.9	16.9	0.0
2020	16.0	16.0	0.0
2021	17.0	17.0	0.0
2022	14.8	14.8	0.0
2023	7.5	7.5	0.0

Weighted baseline characteristics	GUS[a] (N=935)	SC IL-17Ai[a] (N=1,466)	Std. diff.[a] %
Characteristics			
Quan-Charlson comorbidity index, mean ± SD [median]	0.3 ± 0.8 [0.0]	0.3 ± 0.8 [0.0]	0.0
Common comorbidities			
Hypertension	34.2	36.4	4.6
Hyperlipidemia	33.6	34.9	2.7
Obesity	25.6	26.0	0.8
Index advanced therapy			
GUS	100.0	-	-
Secukinumab	-	70.0	-
Ixekizumab	-	29.2	-
Brodalumab	-	0.8	-
Advanced therapy being switched from			
Biologics	89.7	89.7	0.0
Ustekinumab	39.9	39.9	0.0
Adalimumab	33.4	35.8	5.0
Risankizumab	8.9	9.1	0.4
Etanercept	4.7	3.0	8.6
Certolizumab Pegol	1.4	0.9	4.7
Tildrakizumab	1.0	0.8	1.2
Infliximab	0.3	0.1	4.7
Small-molecule drugs	10.3	10.3	0.0
Apremilast	10.2	10.3	0.3
Deucravacitinib	0.1	0.0	4.2
All-cause pharmacy costs[b], mean ± SD [median]	48,618 ± 26,395 [46,963]	49,733 ± 27,250 [47,977]	4.2
All-cause medical costs[b], mean ± SD [median]	7,889 ± 15,462 [1,912]	7,930 ± 20,995 [1,854]	0.2

Data shown are % unless otherwise noted. [a]Cohorts were balanced using overlap propensity score weighting based on demographics, region, index year, insurance type, relationship of pt to primary beneficiary, presence of comorbidities, treatments, pharmacy and medical costs. [b]Healthcare costs are reported from a private payer's perspective in 2023 USD adjusted for inflation using the US Consumer Price Index. **SD**=standard deviation; **USD**=United States Dollar.

The GUS cohort demonstrated higher persistence than the SC IL-17Ai cohort, specifically, while receiving on-label dosing; results were consistent in the sensitivity analysis

Persistence while receiving US-label maintenance dosing among the weighted GUS and SC IL-17Ai cohorts



	6 months	12 months	18 months	24 months
Pts at risk,[a] n (%)				
GUS	539 (57.6%)	318 (34.0%)	221 (23.6%)	156 (16.6%)
SC IL-17Ai	858 (58.5%)	495 (33.7%)	317 (21.6%)	193 (13.2%)
SC IL-17Ai: sensitivity	893 (60.9%)	539 (36.8%)	355 (24.2%)	231 (15.7%)
KM rate (95% CI)				
GUS	86.0 (80.5; 90.0)	71.2 (65.4; 76.2)	65.3 (58.9; 71.0)	59.2 (51.7; 66.0)
SC IL-17Ai	76.1 (71.9; 79.8)	54.5 (49.8; 58.9)	43.9 (38.7; 48.9)	35.4 (29.6; 41.2)
SC IL-17Ai: sensitivity	80.0 (75.8; 83.6)	61.8 (57.2; 66.0)	53.1 (48.2; 57.9)	45.4 (39.7; 50.8)
Hazard ratio (95% CI),[b] p-value				
SC IL-17Ai	1.80 (1.45; 2.25), <0.001	1.78 (1.50; 2.10), <0.001	1.87 (1.60; 2.19), <0.001	1.91 (1.64; 2.22), <0.001
SC IL-17Ai: sensitivity	1.48 (1.18; 1.86), 0.001	1.43 (1.20; 1.69), <0.001	1.47 (1.25; 1.72), <0.001	1.49 (1.27; 1.74), <0.001

[a]Pts who remained on-label persistent and had not been lost to follow-up at that point in time. [b]Hazard ratio >1 indicates that the GUS cohort was more persistent than the SC IL-17Ai cohort. **CI**=confidence interval.

- Median time of persistence while receiving on-label dosing after switching was 32.8 months for the GUS cohort and 14.2 months for the SC IL-17Ai cohort:
  - At 12 months after starting the maintenance phase, the GUS cohort displayed 78% greater persistence
  - At 18 months, the GUS cohort displayed 87% greater persistence
  - At 24 months, the GUS cohort displayed 91% greater persistence
- In a sensitivity analysis using the same exposure gap of >120 days to define persistence in both cohorts, median time to discontinuation while receiving on-label dosing remained the same for the GUS cohort and increased to 20.2 months for the SC IL-17Ai cohort:
  - At 12 months after starting the maintenance phase, the GUS cohort displayed 43% greater persistence
  - At 18 months, the GUS cohort displayed 47% greater persistence
  - At 24 months, the GUS cohort displayed 49% greater persistence

Limitations

- Results may not be generalized to the uninsured, pts insured with plans other than commercial or self-insured plans, or those who do not continue treatment up to the maintenance phase
- Prescription fills do not guarantee the medication was taken as prescribed
- Results may be subject to residual confounding due to unmeasured confounders

PRESENTED AT: Maui Derm; January 20th-24th, 2025; Maui, HI, USA. **REFERENCES: 1.** Fitzgerald T, et al. *Dermatol Ther (Heidelb).* 2023;13(4):1053-1068. **2.** Menditto E, et al. *Int J Environ Res Public Health.* 2021;18(9). **3.** Francisco Kerdel MZ. *Dermatologic therapy.* 2015 Aug 10;28(6):390-403. **4.** Caffrey AR, et al. *Ther Adv Drug Saf.* 2020;11:2042098620958910. **5.** Austin PC. *Commun Stat - Simul Comput.* 2009;38(6):1228-1234. **DISCLOSURES: TPF:** employee of Janssen Scientific Affairs, LLC, a Johnson & Johnson company and owns stock in Johnson & Johnson. **MZ, DP, PB, SS,** and **BL:** employees of Analysis Group, Inc., a consulting company that has provided paid consulting services to Janssen Scientific Affairs, LLC, a Johnson & Johnson company. **SF:** receiver of research, speaking and/or consulting support from Janssen Scientific Affairs, LLC, a Johnson & Johnson company; founder and part owner of www.DrScore.com; founder and part owner of Causa Research.

Sponsored by Janssen Scientific Affairs, LLC, a Johnson & Johnson company.