Comparative Effectiveness of Biologic Classes in Clinical Practice: Month 12 Outcomes from the International Observational Psoriasis Study of Health Outcomes (PSoHO)

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OBJECTIVE

- This post hoc analysis compares the long-term effectiveness of different biologic drug classes in patients with moderate-to-severe PsO through month 12 in PSoHO

CONCLUSIONS

- This post hoc analysis of PSoHO data demonstrates the long-term effectiveness of anti–IL-17A/RA biologics compared with other biologic classes in individuals with moderate-to-severe PsO through Month 12 in a real-world setting
- The adjusted odds of patients achieving complete resolution of PsO at Week 12, Month 6, and Month 12 were significantly higher for patients treated with anti–IL-17A/RA biologics than other biologic classes, except for anti–IL-23 p19 at Month 12
- The adjusted odds of durability of treatment effectiveness was significantly higher for patients treated with anti–IL-17A/RA biologics than other biologic classes
- The results presented here expand on previous reports,[2] with the inclusion of brodalumab in the Anti–IL-17A/RA Biologics Cohort

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BACKGROUND

- Comparative effectiveness of biologic drug classes in individuals with moderate-to-severe PsO can help guide treatment decisions in real-world clinical practice
- PSoHO is a 3-year, international, prospective, non-interventional cohort study reflecting the treatment of PsO with biologics in real-world settings[1,2]

POST HOC ANALYSIS

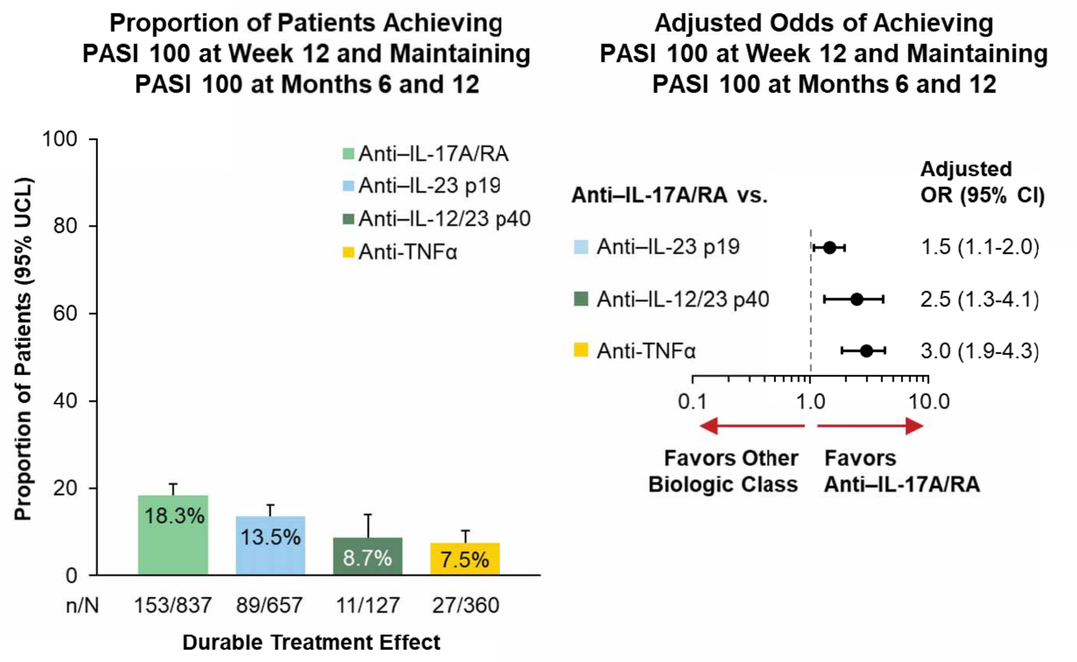
- The Anti–IL-17A/RA Cohort was compared with other biologic classes:

Anti–IL-17A/RA Cohort		Other Biologic Classes		
Anti–IL-17A ■ Ixekizumab ■ Secukinumab **Anti–IL-17RA** ■ Brodalumab	vs.	**Anti–IL-23 p19** ■ Guselkumab ■ Risankizumab ■ Tildrakizumab	**Anti–IL-12/23 p40** ■ Ustekinumab	**Anti-TNFα** ■ Adalimumab ■ Certolizumab ■ Etanercept ■ Infliximab

- Outcomes evaluated:
  - Proportion of patients on assigned treatment achieving PASI 100 (complete resolution of PsO) at Week 12, Month 6, and Month 12
  - Proportion of patients on assigned treatment achieving PASI 100 at Week 12 and maintaining this outcome at Months 6 and 12
  - Missing data were imputed using NRI
- Baseline characteristics are reported descriptively
  - Pairwise comparisons of baseline characteristics were performed using Fisher exact test for categorical variables and ANOVA for continuous variables[1]
- Comparative-effectiveness analyses were performed using frequentist model averaging (FMA),[3] presented as ORs with 95% CIs
  - 95% CI was estimated using bootstrap method[1]
  - Statistical significance is indicated when the CIs of OR do not cross 1

KEY RESULT

Durability of Treatment Effect Was Higher in Anti–IL-17A/RA Cohort Than Other Cohorts



METHODS

Key Eligibility Criteria: PSoHO

Inclusion

- Patients (age ≥18 years) with moderate-to-severe plaque PsO for ≥6 months before baseline
- Patients initiating or switching biologic (or biosimilar) treatment during routine medical care

Exclusion

- Treatment initiation contraindicated due to country-specific approved indication
- Modifications to the dosing regimen of an existing biologic treatment
- Restart of biologic treatment previously received at any point
- Completion of/withdrawal from PSoHO
- Ongoing participation in another PsO study with any investigational product

RESULTS

Baseline Demographics and Characteristics Were Similar Between the Different Cohorts With a Few Exceptions

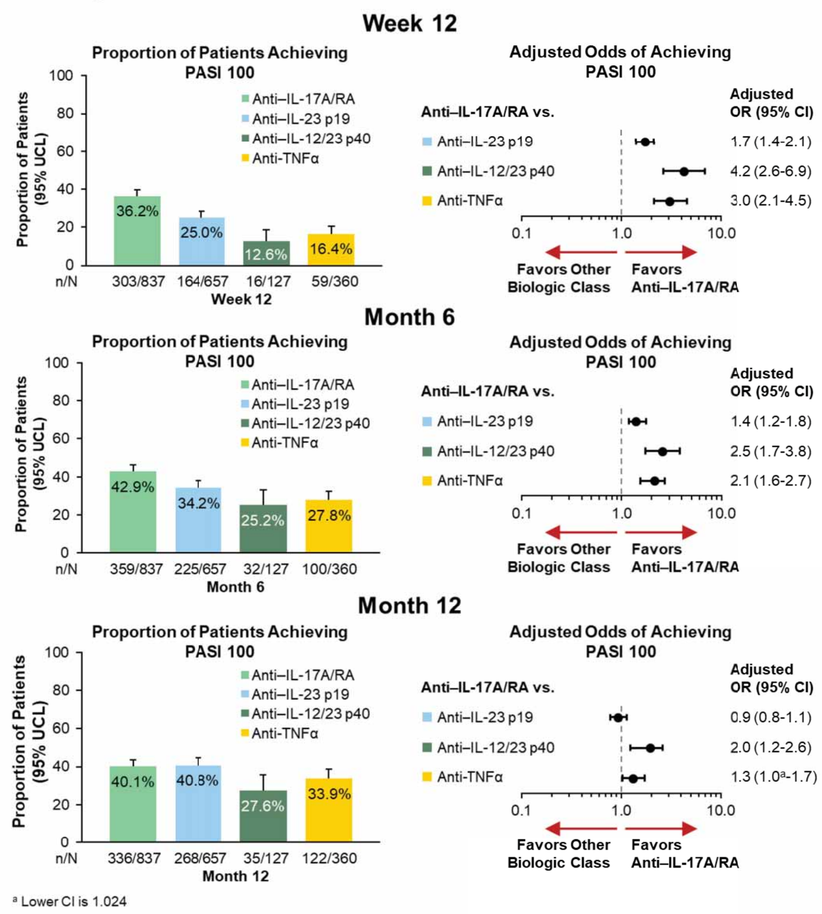
	Anti–IL-17A/RA (n=837)	Anti–IL-23 p19 (n=657)	Anti–IL-12/23 p40 (n=127)	Anti-TNFα (n=360)
Age, years, mean (SD)	46.6 (13.72)	44.3 (13.45)*	46.4 (14.51)	44.0 (13.15)*
Male	479 (57.2)	397 (60.4)	77 (60.6)	190 (52.8)
BMI, kg/m², mean (SD)	29.3 (6.7)	28.9 (6.8)	28.0 (5.6)*	29.1 (6.8)
Race White Asian	 616 (73.6) 123 (14.7)	 421 (64.1)*** 156 (23.7)***	 99 (78.0) 8 (6.3)*	 305 (84.7)*** 9 (2.5)***
Disease duration, years, median (Q1, Q3)	14.27 (6.43, 23.67)	14.12 (8.01, 23.87)	12.07 (6.25, 23.67)	13.39 (5.92, 23.77)
PASI, mean (SD)	14.7 (8.5)	14.9 (9.4)	14.4 (7.9)	13.5 (7.0)*
BSA, % involvement, mean (SD)	21.4 (17.6)	21.0 (18.4)	22.6 (17.7)	21.4 (16.9)
DLQI, mean (SD)	12.9 (7.9)	11.9 (7.7)*	12.3 (8.0)	13.2 (7.6)
sPGA Moderate Severe Very severe	 424 (51.3) 260 (31.5) 37 (4.5)	 287 (44.6) 221 (34.3) 31 (4.8)	 68 (54.8) 37 (29.8) 2 (1.6)	 209 (59.0) 92 (26.0) 6 (1.7)
Any current comorbidities[a]	513 (61.4)	369 (56.3)	78 (61.4)	197 (54.7)*
Psoriatic arthritis	243 (29.0)	121 (18.4)***	19 (15.0)***	78 (21.7)*
Nail psoriasis	324 (38.7)	253 (38.6)	45 (35.7)	128 (35.6)
Prior treatment with any conventional therapy	627 (75.0)	507 (77.2)	106 (83.5)*	325 (90.3)***
Prior treatment with biologics	314 (37.6)	319 (48.6)***	35 (27.6)*	38 (10.6)***

* p<0.05 vs. anti–IL-17A/RA; *** p<0.001 vs. anti–IL-17A/RA
[a] Comorbidities were captured based on a pre-defined list[1]
Note: Values are n (%) unless stated otherwise

Limitations

- Real-world data may be biased due to unmeasured confounding
- Grouping of biologics into cohorts may not reflect variabilities within each cohort

Regarding PASI 100, the Anti–IL-17A/RA Cohort Had Higher Unadjusted Response Rates and Adjusted Odds Than the Other Cohorts at All Individual Time Points, Except Vs. Anti–IL-23 p19 Biologics at Month 12



[a] Lower CI is 1.024

References:

1. Pinter A, et al. *J Eur Acad Dermatol Venereol*. 2022;36:2087-2100.
2. Lynde C, et al. *Adv Ther*. 2023;40:869-886.
3. Zagar A, et al. *J Biopharm Stat*. 2022;32:247-276.

Abbreviations:

ANOVA=analysis of variance; BMI=body mass index; BSA=body surface area; CI=confidence interval; DLQI=Dermatology Life Quality Index; FMA=frequentist model averaging; IL=interleukin; NRI=non-responder imputation; OR=odds ratio; PASI=Psoriasis Area and Severity Index; PASI 100=100% improvement in PASI (complete resolution of PsO); PsO=psoriasis; PSoHO=Psoriasis Study of Health Outcomes; Q=quartile; RA=receptor antagonist; SD=standard deviation; sPGA=static Physician's Global Assessment; TNF=tumor necrosis factor; UCL=upper confidence limit

Disclosures:

- **S. Khattri** has worked as a consultant and/or been an investigator and/or served on the speakers' bureau for: AbbVie, Bristol Myers Squibb, Eli Lilly and Company, Janssen, LEO Pharma, Novartis, Pfizer, Regeneron, Sanofi, and UCB Pharma; **Á. González-Cantero** has received consulting fees from: AbbVie, Almirall, Celgene, Eli Lilly and Company, Janssen, LEO Pharma, and Novartis; **B. Engin** declared no conflicts of interest; **S. Dogra** has been a clinical trial investigator for: Biocon Biologics; **C. Schuster**, **N. Tsujimoto**, **A. Lampropoulou**, **A. Alsharafi**, **B. Konicek** and **A. Schloebe** are employees and minor shareholders of: Eli Lilly and Company; **F. Lauffer** has received speakers and/or consulting fees from: AbbVie, Almirall, Amgen, Biogen, Boehringer Ingelheim, Bristol Myers Squibb, Eli Lilly and Company, Janssen Cilag, LEO Pharma, Novartis, Pfizer, Roche, Sanofi, UCB Pharma, and Union Therapeutics
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