Effectiveness, safety, and patient-reported outcomes from Week 28 of a Phase 4 study of tildrakizumab in patients with moderate-to-severe psoriasis

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INTRODUCTION

- Tildrakizumab is an anti–interleukin-23 p19 monoclonal antibody approved for the treatment of moderate-to-severe plaque psoriasis[1]
- Tildrakizumab demonstrated long-term efficacy and safety in patients with moderate-to-severe plaque psoriasis in two large Phase 3, multinational, randomized clinical trials, reSURFACE 1 (NCT01722331) and reSURFACE 2 (NCT01729754)[2]
- There are limited data regarding outcomes associated with tildrakizumab use in a real-world clinical practice setting[3]
- We present Week 28 results from a Phase 4 study (NCT03718299) assessing the effectiveness, safety, and patient-reported outcomes of tildrakizumab treatment in real-world practice

OBJECTIVE

- To evaluate clinical improvement, safety, patient-reported symptom improvement, and patient satisfaction through Week 28 in patients with moderate-to-severe psoriasis treated with tildrakizumab under real-world conditions

METHODS

Study design and population

- This was a Phase 4 multicenter, 64-week, uncontrolled, open-label, real-world study (NCT03718299)
- Immunocompetent patients ≥18 years of age with moderate-to-severe plaque psoriasis affecting ≥3% of total body surface area (BSA) who were candidates for phototherapy or systemic therapy were eligible
- Patients with erythrodermic psoriasis or only pustular, guttate, or inverse psoriasis, or evidence of skin conditions other than psoriasis that would interfere with study-related evaluations of psoriasis, were excluded from the study

Treatment and assessments

- All patients received tildrakizumab 100 mg at Week 0, Week 4, and every 12 weeks thereafter through Week 52; assessments through the Week 28 interim analysis are reported here
- Effectiveness was assessed from baseline through Week 28 based on the following measures of disease severity:
  - Psoriasis Area and Severity Index (PASI) score
  - Proportion of patients achieving ≥75%, ≥90%, and 100% improvement from baseline PASI score (PASI 75, 90, and 100 response)
  - BSA
  - Static Physician Global Assessment (sPGA)
- Safety was assessed from treatment-emergent adverse events (TEAEs) through Week 28
- Patient-reported severity of itch, pain, and scaling were assessed using numeric rating scales (NRSs) through Week 28
- Patient satisfaction was evaluated using the Patient Happiness with Psoriasis Control NRS administered at baseline and all postbaseline visits

Statistical analysis

- Results are described for the intention-to-treat population, consisting of all patients who were enrolled and assigned to receive tildrakizumab
- Missing data were not imputed
- Changes from baseline were analyzed using paired t-tests
- Safety analyses included all randomized patients who received ≥1 dose of study treatment (safety population)

RESULTS

Patients

- Of the 55 patients enrolled, 28 (50.9%) were male and 52 (94.5%) were White, with a mean ± standard deviation (SD) age of 48.6 ± 15.3 years (**Table 1**)

Table 1. Demographics and baseline characteristics of the ITT population

	(N = 55)
Sex, male, n (%)	28 (50.9)
Age, years	48.6 ± 15.3
Race, n (%)	
White	52 (94.5)
Black or African American	2 (3.6)
Asian	1 (1.8)
Ethnicity, n (%)	
Hispanic or Latino	5 (9.1)
Not Hispanic or Latino	50 (90.9)
PASI score	11.6 ± 7.1
BSA	14.5 ± 11.5
sPGA	3.2 ± 0.6
Itch-NRS	6.6 ± 2.6
Pain-NRS	3.8 ± 3.2
Scaling-NRS	7.0 ± 2.3
Patient Happiness with Psoriasis Control NRS	2.7 ± 2.3

All data are mean ± SD unless otherwise noted.
BSA, body surface area; ITT, intention-to-treat; NRS, numeric rating scale; PASI, Psoriasis Area and Severity Index; SD, standard deviation; sPGA, static Physician Global Assessment.

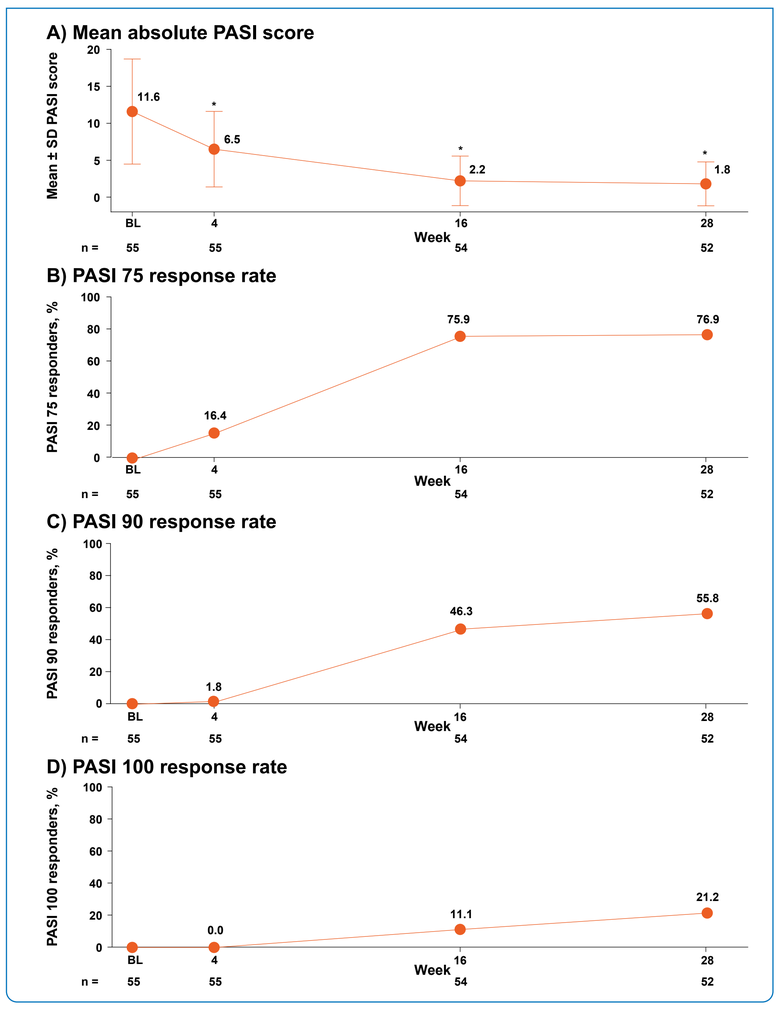
- Of the 55 patients enrolled, 52 (94.5%) were assessed for effectiveness, and 53 (96.4%) reported itch, pain, and scaling and patient satisfaction scores at Week 28

RESULTS

Effectiveness

- Patients had significant improvements in multiple measures of disease severity beginning as early as Week 4
  - Mean ± SD PASI score decreased from 11.6 ± 7.1 at baseline to 6.5 ± 5.1 at Week 4 and 1.8 ± 3.0 at Week 28 (*P* <0.001; **Figure 1A**)
  - A total of 76.9%, 55.8%, and 21.2% of patients achieved PASI 75, PASI 90, and PASI 100 responses, respectively, at Week 28 (**Figure 1B–D**)

Figure 1. Effectiveness through Week 28 based on PASI



ITT population. Data in panel A are shown as the mean; error bars represent the SD.
*P <0.001. Statistically significant change from baseline based on t-test.
BL, baseline; ITT, intention-to-treat; PASI 75, 90, 100 response, ≥75%, ≥90%, and 100% improvement from baseline Psoriasis Area and Severity Index score; SD, standard deviation.

- Mean ± SD BSA decreased from 14.5 ± 11.6 at baseline to 2.9 ± 6.4 at Week 28 (*P* <0.001)
- Mean ± SD sPGA decreased from 3.2 ± 0.6 at baseline to 1.2 ± 0.9 at Week 28 (*P* <0.001)

Safety

- Tildrakizumab was well tolerated, with low rates of serious TEAEs (**Table 2**)
  - TEAEs occurred in 31 (56.4%) patients; the most common were skin and subcutaneous tissue disorders (20%), infections and infestations (14.5%), musculoskeletal and connective tissue disorders (10.9%), and gastrointestinal disorders (10.9%)
  - Serious TEAEs occurred in 3 (5.5%) patients
  - One patient (1.8%) withdrew due to a TEAE
  - No TEAEs were considered by the investigators to be related to tildrakizumab

Table 2. TEAEs through Week 28

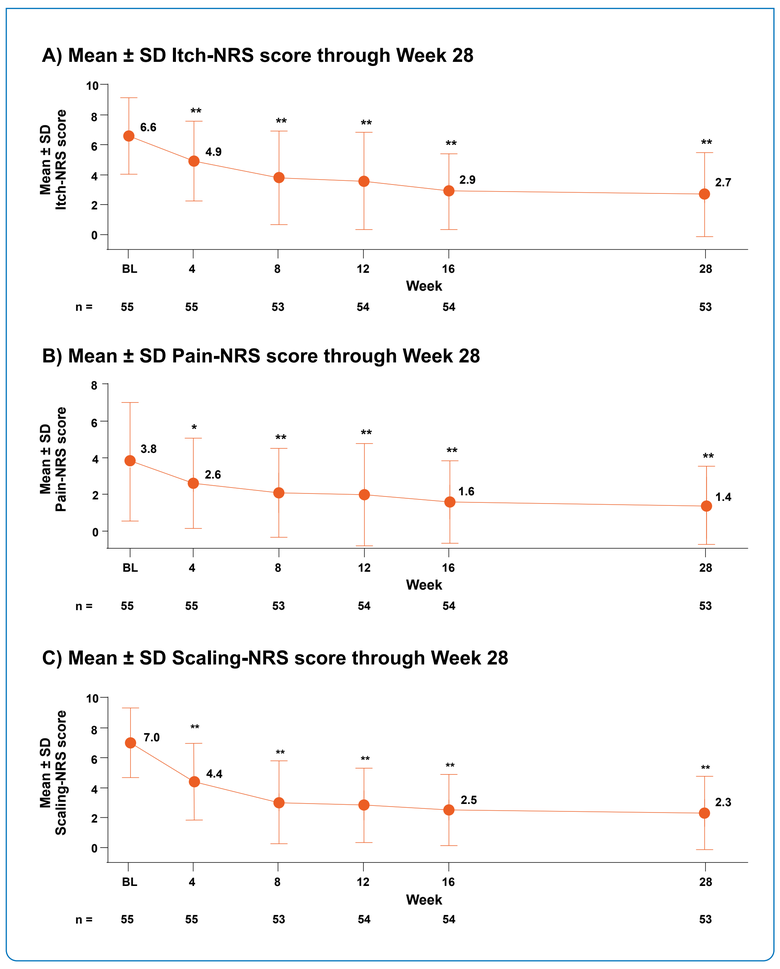
Evaluation	Tildrakizumab N = 55
Any TEAE	31 (56.4)
Tildrakizumab-related TEAEs	0
Serious TEAEs	3 (5.5)
TEAEs leading to treatment discontinuation	1 (1.8)
Most frequent TEAEs (>3% of patients)	
Gastrointestinal disorders	6 (10.9)
Large intestine polyp	2 (3.6)
General disorders and administration site conditions	2 (3.6)
Infections and infestations	8 (14.5)
Nasopharyngitis	2 (3.6)
Upper respiratory tract infection	2 (3.6)
Metabolism and nutrition disorders	2 (3.6)
Musculoskeletal and connective tissue disorders	6 (10.9)
Arthralgia	2 (3.6)
Neoplasms*	3 (5.5)
Skin papilloma	2 (3.6)
Nervous system disorders	4 (7.3)
Skin and subcutaneous tissue disorders	11 (20.0)
Dermatitis	3 (5.5)
Eczema	2 (3.6)
Psoriasis	7 (12.7)
Vascular disorders	5 (9.1)
Hypertension	5 (9.1)

Data shown as n (%) of patients with event in the safety population reported according to MedDRA System Organ Class and preferred term.
*Includes benign, malignant, and unspecified (including cysts and polyps).
MedDRA, Medical Dictionary for Regulatory Activities; TEAE, treatment-emergent adverse event.

Patient-reported outcomes

- Mean ± SD Itch-NRS score improved from 6.6 ± 2.6 at baseline to 2.7 ± 2.8 at Week 28 (*P* <0.001; **Figure 2A**)
- The Pain-NRS score (mean ± SD) was 1.4 ± 2.1 at Week 28 compared with 3.8 ± 3.2 at baseline (*P* <0.001; **Figure 2B**)
- Mean ± SD Scaling-NRS score improved from 7.0 ± 2.3 at baseline to 2.3 ± 2.5 at Week 28 (*P* <0.001; **Figure 2C**)

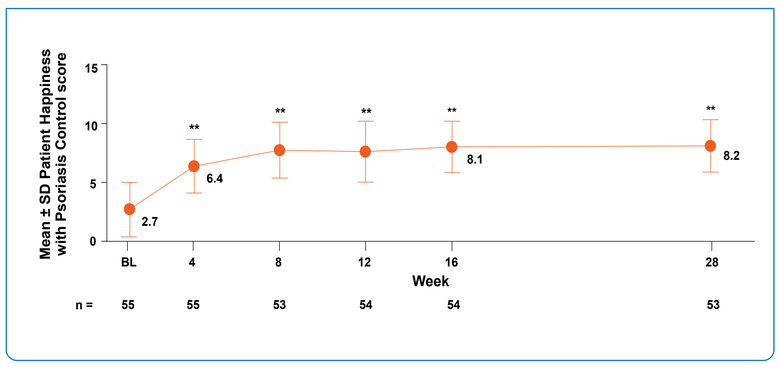
Figure 2. Patient-reported symptoms through Week 28



ITT population; missing data were not imputed; error bars represent the SD. *P <0.05. **P <0.001. Statistically significant change from baseline based on t-test.
BL, baseline; ITT, intention-to-treat; NRS, numeric rating scale; SD, standard deviation.

- For the Patient Happiness with Psoriasis Control instrument, the mean ± SD score increased from 2.7 ± 2.3 at baseline to 6.4 ± 2.3 at Week 4 and 8.2 ± 2.2 at Week 28, corresponding to "extremely happy" (*P* <0.001; **Figure 3**)

Figure 3. Mean Patient Happiness with Psoriasis Control score from baseline through Week 28



ITT population. Data shown as mean ± SD.
**P <0.001. Statistically significant change from baseline based on t-test.
BL, baseline; ITT, intention-to-treat; SD, standard deviation.

CONCLUSION

- These real-world data demonstrate clinical and patient-reported effectiveness and safety of tildrakizumab in patients with moderate-to-severe psoriasis, which are consistent with the Phase 3 clinical trial results for tildrakizumab[2]
- No new safety concerns were noted

REFERENCES

1) Reich K, et al. *Lancet*. 2017;390:276–88.
2) Reich K, et al. *Br J Dermatol*. 2020;182:605–17.
3) Galluzo M, et al. *Expert Opin Biol Ther*. 2022;22:367–76.

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DISCLOSURES

NB is an advisor, consultant, and investigator for AbbVie, Almirall, Arcutis, Biofrontera, BMS, Brickell, Dermavant, EPI Health, Ferndale, Galderma, Genentech, InCyte, ISDIN, J&J, LaRoche-Posay, Leo, Lilly, Novartis, Ortho, Pfizer, P&G, Regeneron, Sanofi, Stemline, Sun Pharma, and Verrica. **JH** has been a speaker, advisor, and consultant for Amgen, AbbVie, Celgene, Eli Lilly, Janssen, and Novartis; an advisor for Galderma, Mayne, and Sanofi Regeneron; an advisor and consultant for Ortho Dermatologic; and a speaker and advisor for Sun Pharma. **BS** and **SJR** are employees of Sun Pharmaceutical Industries, Inc. **JGV** reports nothing to disclose.