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PSORIASIS (J WU, SECTION EDITOR)

Tildrakizumab for Moderate-to-Severe Chronic Plaque Psoriasis: a Review of the Literature

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Abstract

Purpose of Review To highlight the most recent findings regarding the efficacy and safety of tildrakizumab in the treatment of chronic plaque psoriasis.

Recent Findings Recent clinical trials have shown tildrakizumab to be more efficacious than placebo or etanercept. There are no head-to-head trials directly comparing tildrakizumab to any IL-23 p19, IL-17, or IL-17R inhibitor. Common adverse effects included headache, upper respiratory infection, nasopharyngitis, and cough.

Summary Since tildrakizumab is a new biologic, there is currently a paucity of available evidence evaluating tildrakizumab in a comparative manor with respect to other biologic therapies. Tildrakizumab may be a useful addition in the armamentarium of available therapies, especially for patients who have failed other agents. Additional head-to-head trials are needed to better assess the comparative efficacy of tildrakizumab in relation to other biologic therapies.

Keywords Tildrakizumab · Interleukin 23 · Psoriasis · Review · Efficacy · Safety

Introduction

Psoriasis is a chronic, immune-mediated, systemic inflammatory disease that affects approximately 3% of adults in the USA [1]. Its severity is dependent on inheritance and environmental factors and may increase with age or may even wax and wane. As psoriasis severity increases, so too does the economic burden [2]. Numerous comorbidities have been associated with psoriasis including psoriatic arthritis, cardiovascular disease, metabolic syndrome, inflammatory bowel disease, and psychological disorders [3].

Topical treatment is generally used for psoriasis that is mild or limited (< 5% body surface area). When psoriasis is more widespread, phototherapy, oral systemics, or biologics are typically used [4]. Biologic usage has become more ubiquitous over the past several years due to our increased knowledge of the immunopathogenesis of psoriasis as well as the increasing efficacy of these agents [5]. These biologic therapies include inhibitors of tumor necrosis factor alpha (TNF-α), interleukin 17 (IL-17) and the IL-17 receptor (IL-17R), the interleukin 12/23 (IL-12/23) p40 subunit, and the interleukin 23 (IL-23) p19 subunit. The purpose of this review is to present the current evidence surrounding the most recently approved IL-23 p19 subunit inhibitor, tildrakizumab-asmn (tildrakizumab) [6].

Methods

A search of PubMed, EMBASE, OVID Medline, and Cochrane Library from January 2000 to October 2018 was performed using the phrases "tildrakizumab," "IL-23," and "psoriasis." Duplicate publications were removed. Only publications in English were included. Abstracts were reviewed for relevance. References of individual publications were also reviewed to ensure inclusion of other pertinent studies not found in our original database search. Articles of interest included all those pertaining to phase I, II, and III clinical trials as well as those discussing efficacy and safety. Supporting

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references were identified similarly as needed. Efficacy was determined by the reduction in the Psoriasis Area and Severity Index (PASI) score. Percent improvement was denoted by the abbreviation containing the PASI abbreviation followed by the associated numerical percent. For instance, a 75% reduction in the PASI score was written as PASI75.

Results

IL-23 p19 Subunit Targeting

The IL-23/IL-17 axis has been identified as a critical component in the development of psoriasis and is an important therapeutic target. IL-23 is specifically comprised of two subunits, p19 and p40 [5, 6, 7•, 8•]. The p19 subunit is specific to IL-23 whereas the p40 subunit is shared with interleukin 12 (IL-12).

The p40 subunit was originally thought to be specific to IL-12; therefore, when the p40 subunit was found to be elevated in psoriatic skin lesions, it was concluded that IL-12 must also be elevated in psoriasis [9]. It was later determined, however, that IL-23 also shared the p40 subunit with IL-12 and that p40 subunit elevation was attributed to IL-23 rather than to IL-12 [9–11].

IL-23 stimulates type 17 helper T lymphocyte (Th17 cell) differentiation and IL-17 and interleukin 22 (IL-22) production [5]. Once differentiation of Th17 cells has occurred, pro-inflammatory cytokine production occurs (e.g., IL-17A, IL-17F, and IL-22), and the production of these pro-inflammatory cytokines then induces keratinocyte proliferation and differentiation which results clinically as psoriasis [8•, 12–14].

Given these findings and a possibly more favorable risk profile of targeting IL-23 alone, IL-23 and its p19 subunit became a new therapeutic drug target [15]. Recent studies have shown that targeting the IL-23 p19 subunit has been efficacious in both murine models and in humans [13, 16–18]. Of these new IL-23 p19 subunit–specific therapies, tildrakizumab is one [19].

Tildrakizumab

Tildrakizumab is a humanized IgG1κ monoclonal antibody that selectively binds the IL-23 p19 subunit and inhibits interaction with its respective receptor [20•]. It was approved in March 2018 by the FDA for the treatment of adults with moderate-to-severe plaque psoriasis who are candidates for either phototherapy or systemic therapy. One hundred milligrams of tildrakizumab is given by subcutaneous injection at week 0, week 4, and every 12 weeks thereafter. It is dosed in a clinical office by trained professionals using a prefilled syringe containing 1 mL (100 mg/mL) of the antibody. It is marketed under the name Ilumya® (Sun Pharmaceuticals, Mumbai, India). Prior to starting tildrakizumab, it is recommended a patient be evaluated for tuberculosis and that the patient be counseled that they may be at an increased of infection. Live vaccines are contraindicated while using this therapy, and it should not be used in anyone with known hypersensitivity to tildrakizumab or any of its excipients [21].

Pharmacology

Immunogenicity occurred in 7% of patients treated with tildrakizumab with roughly 40% developing neutralizing antibodies that resulted in lower tildrakizumab serum levels and decreased efficacy. Bioavailability was between 73 and 80% with a peak plasma concentration of 8.1 μg/mL reached within approximately 6 days. At 100 mg per subcutaneous injection, steady state concentrations occurred by week 16 with a range of 1.22–1.47 μg/mL with standard deviations of ± 0.94 μg/mL or ± 1.12 μg/mL, respectively. The half-life ($t_{1/2}$) of tildrakizumab ranged from 20.2 to 28.2 days with a volume of distribution of 10.8 L and a clearance rate of 0.32 L/day. Concentrations were lower at higher body weights but there were no indications for weight-based dosing. No formal pharmacodynamic studies or metabolism studies have been performed; however, it is hypothesized that it is degraded similarly to endogenous IgG [21].

Phase I Studies

Multiple doses of intravenous tildrakizumab were assessed in moderate-to-severe psoriasis for the primary endpoints of determining safety, tolerability, and pharmacokinetics in a multicentered, exploratory, proof-of-concept, three-part, randomized, placebo-controlled patient- and evaluator-blinded phase I study [19]. Efficacy was a secondary endpoint, and it was determined by the percentage change of the Psoriasis Area and Severity Index (PASI) in all study parts at week 16. Seventy-seven subjects in total were enrolled, of which the majority were white ($n = 69$, 90%) and male ($n = 61$; 79%) and were between the ages of 22–65 years ($\mu = 47.3$; SD 11.4).

Safety, tolerability, and pharmacokinetics were examined in 24 patients in part 1 of the study. The 24 patients were divided into five cohorts, and at weeks 0, 8, and 12, they received either tildrakizumab 0.1 mg/kg ($n = 3$), 0.5 mg/kg ($n = 3$), 3 mg/kg ($n = 6$), 10 mg/kg ($n = 6$), or placebo. Fifty-seven subjects received tildrakizumab and 20 received placebo. Follow-up continued for 28 weeks after the first dose.

Higher doses and their efficacy were then examined in part 2 of the study among 40 patients. At weeks 0, 4, and 8, subjects either received tildrakizumab 3 mg/kg ($n = 15$), 10 mg/kg ($n = 14$), or placebo ($n = 11$). Follow-up occurred for 52 weeks after the initial dose.

Lastly, in part 3, the efficacy of the lower doses was assessed. Subjects were randomized in a 2:1:1 ratio to receive either tildrakizumab 0.05 mg/kg ($n = 6$), 0.1 mg/kg, or placebo at weeks 0, 8, and 12.

Safety and Tolerability

All doses were overall well tolerated. The most common adverse events (AEs) were headache, upper respiratory infection, nasopharyngitis, and cough. Eleven serious adverse events (SAEs) occurred, of which only one, convulsions, was considered possibly related to tildrakizumab because it occurred 17 days after receiving 10 mg/kg tildrakizumab.

Pharmacokinetics

Cumulative results of all doses (0.05–10 mg/kg) revealed a half-life ($t_{1/2}$) ranging from 20.2–26.9 days and a mean clearance ranging from 1.57 to 2.50 mL/day. Dose-related trends were not noted. Linear exposure was demonstrated over administrations.

Immunogenicity

Anti-drug antibodies (ADA) were not seen in 51 of the 57 subjects prior to treatment with tildrakizumab. Post-treatment results showed that 9 of the 51 (18%) developed at least one ADA-positive sample, and of these 9, 5 had lower tildrakizumab exposure than ADA-negative samples. Despite this lower exposure, there was no difference in PASI response or adverse events.

Efficacy

Efficacy was shown to be dose-related but power was not sufficient to show a clear dose-response. The placebo-corrected, mean PASI score reduction for all doses ranged from 50 to 80% by week 14 and lasted through week 28. At the higher doses (3 mg/kg, 10 mg/kg), a total of 40 subjects were treated and 80% (32/40) of these subjects achieved at least a PASI75. Of this 80%, 72% (23/32) achieved PASI90. A PASI50 at these two doses was maintained for at least 36 weeks after the last dose.

Phase II Studies

Safety and efficacy of subcutaneous (SC) tildrakizumab were evaluated in a three-part, phase IIb, double-blind, randomized-controlled, dose-finding, parallel-group trial in patients with moderate-to-severe psoriasis [22]. Moderate-to-severe psoriasis was defined as a PASI ≥ 12, body surface area (BSA) ≥ 10%, and a Physician Global Assessment (PGA) ≥ 3. Three hundred fifty-five subjects were enrolled and followed for 72 weeks; 266 completed the study. The primary efficacy endpoint was a PASI75 at 16 weeks. The Dermatology Quality of Life Index (DLQI) was used to assess the quality of life of subjects throughout the trial.

In the first 16 weeks, part 1, the subjects were randomized (1:2:2:2:1) to receive subcutaneously either tildrakizumab ($n = 309$) or placebo ($n = 46$) at weeks 0 and 4. The doses of tildrakizumab were 5 mg ($n = 42$), 25 mg ($n = 92$), 100 mg ($n = 89$), and 200 mg ($n = 86$). At week 16, subject PASI reduction scores were evaluated to determine their dose for part 2. A subject was considered a responder if they had a PASI reduction score of ≥ 75 by week 16.

Part 2 spanned weeks 16–52 and all subjects received active tildrakizumab. If the subject was on placebo during part 1, they were transitioned to tildrakizumab 100 mg. If the subject was a non-responder in part 1, their dose was increased to 100 mg if they were on 5 or 25 mg and 200 mg if on 100 mg; no changes were made for the 200-mg dose. Responders on 5 or 25 mg were kept on their same dose while responders on 100 or 200 mg had their doses reduced to 25 or 100 mg, respectively. Part 3 followed from weeks 52–72 and served as a safety follow-up period once treatment was stopped.

Efficacy

All doses of tildrakizumab at week 16 were statistically more likely to result in a PASI75 response compared with those of placebo ($p \leq 0.001$). The percentage of subjects who achieved at least a PASI75 at a dose of 5 mg, 25 mg, 100 mg, or 200 mg were 33%, 64%, 66%, and 74%, respectively. At those same dose escalations, 12%, 25%, 39%, and 52% of subjects achieved a PASI90, respectively. Compared to placebo ($p \leq 0.001$), the median time to achieve a PASI75 for 25 mg was 85 days, 84 days for 100 mg, and 57 days for 200 mg.

If a subject was considered a responder at week 16, a PASI75 was maintained at week 52 for 97% of subjects who continued on 100 mg ($n = 30/31$) or 200 mg ($n = 29/32$) from part 1 into part 2. Subjects who had a reduction in their dose from 100 to 25 mg from part 1 into part 2 had a significant reduction in efficacy when compared with those who continued on 100 mg in part 2 ($p \leq 0.005$). There was no significant difference in efficacy between those who continued on 200 mg in part 2 and those who had a dose reduction from 200 to 100 mg.

Ninety-six percent of subjects on 100 mg and 93% of subjects on 200 mg of tildrakizumab maintained a PASI75 20 weeks (i.e., week 72) after their study drug was discontinued. In those subjects who had received a reduction from 200 to 100 mg at week 16, there were only 68% who maintained a PASI75 at week 72.

Pharmacokinetics

Mean concentrations of tildrakizumab were generally higher in responders and increased proportionally with dose.

Exposures among responders and non-responders receiving 200 mg were similar.

Immunogenicity

Forty-six subjects at baseline had positive ADA samples prior to receipt of tildrakizumab, and 16 of these had reduced tildrakizumab levels. By the end of the trial, 25 subjects who initially had negative ADA samples at baseline had at least one positive ADA and 10 of these had neutralizing antibodies.

Safety

The overall adverse event incidence rate was similar across treatment arms throughout the trial, and there was no meaningful clinical safety difference when compared to placebo. Headaches and nasopharyngitis were the most commonly reported adverse events across all three parts of the study. Incidence rates of adverse events of special interest were low. Such adverse events included serious infections, malignancy, cardiovascular events, drug-related hypersensitivity, and drug-related injection site reactions. Serious adverse events were reported by 23 subjects and those thought to be related to tildrakizumab were bacterial arthritis, lymphedema, melanoma, stroke, epiglottis, and knee infection. A single death occurred and was ruled to be unrelated.

Quality of Life

Thirty-two percent, 57%, 52%, and 57% of the respective tildrakizumab groups achieved a DLQI score of 0 or 1 at week 16 compared with 0% of the placebo group. A ≥ 5-point reduction of the DLQI score was achieved by 52%, 70%, 65%, and 73% of the respective tildrakizumab groups compared to only 19% in the placebo group. Mean score changes from baseline to 16 weeks for the four doses and placebo were − 4.9, − 9.2, − 8.5, − 8.8, and 1.0, respectively. Quality of life improvement was positively correlated with clinical improvement, and the DLQI subcategories that improved the most were "Symptoms/Feelings" and "Daily Activities."

Phase III Studies

Two phase III double-blind, randomized-controlled trials (reSURFACE 1; reSURFACE 2) demonstrated tildrakizumab's efficacy in treating chronic plaque psoriasis [20•]. Phase IIb data resulted in the use of either 100 mg or 200 mg of tildrakizumab administered subcutaneously at week 0, week 4, and every 12 weeks thereafter for the phase III studies [22]. reSURFACE 1 and reSURFACE 2 studies were performed with the primary objectives of evaluating efficacy and safety of tildrakizumab after 12 weeks. Quality of life was also evaluated [20•].

All participants were adults (≥ 18 years) with moderate-to-severe chronic plaque psoriasis (BSA ≥ 10%, PASI ≥ 12, and PGA ≥ 3) and were candidates for either phototherapy or systemic therapy. All groups had similar baseline demographic characteristics with the majority being white males between the average ages of 44–48 years and who had never been on a biologic previously. The patients had very significant psoriasis with an average baseline BSA of 30% and an average baseline PASI of 20.

Both studies consisted of three parts with part 1 (0–12 weeks) and part 2 (12–28 weeks) being the same in both studies. reSURFACE 1 ($n = 772$) subjects in part 1 were randomized (2:2:1) to receive subcutaneously either tildrakizumab 100 mg, tildrakizumab 200 mg, or placebo at weeks 0 and 4. reSURFACE 2 ($n = 1090$) subjects in part 1 were randomized (2:2:1:2) to receive subcutaneously either tildrakizumab 100 mg, tildrakizumab 200 mg, placebo, or etanercept 50 mg twice weekly.

The placebo groups from part 1 of each study were randomized in a 1:1 ratio at week 16 to receive either tildrakizumab 100 or 200 mg in part 2; tildrakizumab groups continued to receive their dose every 12 weeks (i.e., maintenance dosing). The etanercept group in reSURFACE 2 during part 2 received 50 mg weekly. Non-responders (< PASI50) at week 28 were discontinued.

By part 3, all subjects in both studies were receiving either tildrakizumab or placebo. reSURFACE 1 participants on tildrakizumab who were responders (≥ PASI75) or partial responders (PASI50 to PASI74) were randomized to stay on the same dose, change dose, or switch to placebo. reSURFACE 2 evaluated etanercept non-responders (< PASI50) and partial responders (PASI50 to PASI74) who were switched to tildrakizumab 200 mg.

Efficacy

The proportion of patients on both doses of tildrakizumab as compared to placebo who achieved a PASI75 at week 12 was the primary endpoint of both studies. The proportion of patients at week 12 who achieved at least a PASI75 and a PGA of 0 or 1 (i.e., clear or almost clear) following a ≥ 2-point reduction from baseline was also a primary endpoint.

In reSURFACE 1, a larger portion of subjects on tildrakizumab 100 mg (64%) and tildrakizumab 200 mg (62%) achieved a PASI75 at week 12 when compared to placebo (6%, $p < 0.0001$). PGA responses of clear or almost clear at week 12 were seen in 58% of the 100-mg group and 59% in the 200-mg group whereas only 7% of the placebo group saw a response ($p < 0.0001$).

In reSURFACE 2, 61% of the 100-mg group and 66% of the 200-mg group achieved a PASI75 at week 12 compared to placebo (6%; $p < 0.0001$). Fifty-five percent of the 100-mg group and 59% of the 200-mg group achieved a PGA response

of clear or almost clear at week 12 compared to placebo (4%; $p < 0.0001$). With regard to etanercept, 48% achieved a PASI75 and 48% achieved a PGA response of clear or almost clear at week 12. Comparing 100 mg of tildrakizumab to etanercept, 100 mg of tildrakizumab was more likely to achieve a PASI75 ($p = 0.0010$) at week 12, but there was no significant difference in PGA response ($p = 0.663$). Comparing 200 mg of tildrakizumab to etanercept, 200 mg of tildrakizumab was more likely to achieve a PASI75 ($p < 0.0001$) and a PGA response of clear or almost clear ($p = 0.0031$) at week 12.

Safety

Adverse events between weeks 0 and 12 occurred in similar proportions across all treatment groups in both studies. Nasopharyngitis and upper respiratory tract infection were the most common adverse events. Injection site erythema was more common in etanercept (9%) than in either the 100-mg (1%) or 200-mg (1%) tildrakizumab doses; there was no difference in proportions between tildrakizumab and placebo (1%). Incidence rates of severe infections, malignancies, and cardiovascular events were similar across treatment groups. AE-related discontinuations were uncommon. SAEs occurred infrequently and similarly in the first 12 weeks across treatment groups in both trials (2%/3% tildrakizumab 200 mg; 2%/1% tildrakizumab 100 mg; 1%/3% placebo; 2% etanercept). A subject with alcoholic cardiomyopathy and steatohepatitis died in reSURFACE 2; adjudication did not determine the cause of death.

Quality of Life

At week 12, a significant proportion ($p < 0.001$) of reSURFACE 1 subjects in the tildrakizumab 100-mg (42%) and 200-mg (44%) groups achieved DLQI scores of 0 or 1

Table 1 Induction phase efficacy of biologics for treatment of moderate-to-severe chronic plaque psoriasis [20, 23–33]

Biologic	Dose and frequency	PASI75	PASI90	PASI100
IL-12/IL-23 p40 subunit inhibitor (%)				
Ustekinumab	45/90 mg Q12W			
PHOENIX 1		67/66	42/37	13/11
PHOENIX 2		67/76	42/51	18/18
IL-23 p19 subunit inhibitors (%)				
Tildrakizumab	100 mg Q12W			
reSURFACE 1		64	35	14
reSURFACE 2		61	39	12
Guselkumab	100 mg Q8W			
VOYAGE I		91	73	37
VOYAGE II		86	70	34
Risankizumab[a]	150 mg Q12W			
ultIMMa-1		87	75	36
ultIMMA-2		89	75	51
IMMvent		–	72	40
IMMhance		89	73	47
IL-17/IL-17R inhibitors (%)				
Secukinumab	300 mg Q4W			
ERASURE		82	59	29
FIXTURE		77	54	24
Ixekizumab	80 mg Q4W			
UNCOVER-1		83	65	34
UNCOVER-2		78	60	31
UNCOVER-3		84	65	35
Brodalumab	210 mg Q2W			
AMAGINE-1		83	70	42
AMAGINE-2		86	–	44
AMAGINE-3		85	–	37

All PASIs measured at week 12 except for guselkumab and risankizumab which were measured at week 16. All studies are phase III clinical trials

[a] Risankizumab has not been approved by the United States Food and Drug Administration for the treatment of psoriasis

when compared to placebo (5%). In reSURFACE 2, a significant proportion ($p < 0.001$) of subjects in the tildrakizumab 100-mg (40%) and 200-mg (47%) group achieved DLQI scores of 0 or 1 when compared to placebo (8%). Compared with patients receiving etanercept (36%), patients receiving tildrakizumab 200 mg (47%) were more likely to achieve a DLQI score of 0 or 1 ($p = 0.0029$). A larger portion of tildrakizumab subjects compared with that of placebo subjects and etanercept achieved a DLQI score of 0 or 1 at week 28.

Discussion

Results from clinical trials clearly demonstrate that tildrakizumab is more effective in the treatment of patients with moderate-to-severe chronic plaque psoriasis than either placebo or etanercept [19, 20, 22]. Tildrakizumab also has similar efficacy to ustekinumab 12 weeks after initiating treatment [23, 24]. When compared at week 12 to inhibitors of IL-17 and IL-17R and to other inhibitors of the IL-23 p19 subunit at week 16, tildrakizumab does not appear to be as effective [25–33]. The induction phase efficacy of these aforementioned biologics including tildrakizumab is depicted in Table 1. It is important to note, however, that these comparisons are based on results wherein tildrakizumab was not directly compared in a head-to-head trial. Additionally, reSURFACE 1 and reSURFACE 2 both demonstrated that tildrakizumab's peak efficacy is between weeks 22 and 28, and at week 28, 80% of patients on tildrakizumab 100 mg achieved a PASI75, 52% achieved a PASI90, and 26% achieved a PASI100 [20•].

Head-to-head trials of tildrakizumab compared with those of another biologic agent except etanercept have not been performed. If tildrakizumab is compared to another biologic agent in a head-to-head trial, tildrakizumab may appear less effective if assessment of PASI score reduction (e.g., PASI75, PASI90) occurs prior to week 22. Therefore, if head-to-head comparator trials are performed, we would suggest that the primary endpoint of PASI score reduction

Table 2 Summary of induction phase adverse events in the treatment of moderate-to-severe psoriasis [20, 23–33]

Biologic	≥ 1 adverse events (%)	Infections (%)	Serious adverse events (%)	Serious infections (%)	AE-related discontinuation (%)
IL-12/IL-23 p40 subunit inhibitor (%)					
Ustekinumab—45/90 mg					
PHOENIX 1	58/48	31/26	< 1/2	0/1	< 1/2
PHOENIX 2	53/48	22/22	2/1	0/< 1	< 1/2
IL-23 p19 subunit inhibitors (%)					
Tildrakizumab—100 mg					
reSURFACE 1	47	–	2	< 1	0
reSURFACE 2	44	–	1	0	1
Guselkumab—100 mg					
VOYAGE I	52	26	2	0	1
VOYAGE II	48	22	2	< 1	1
Risankizumab—150 mg[a]					
ultIMMa-1	50	25	2	< 1	1
ultIMMA-2	46	19	2	1	< 1
IMMvent	56	–	3	< 1	–
IMMhance	46	–	2	0	–
IL-17/IL-17R inhibitors (%)					
Brodalumab—210 mg					
AMAGINE-1	59	–	2	< 1	1
AMAGINE-2	58	–	1	–	< 1
AMAGINE-3	57	–	1	–	< 1
Secukinumab—300 mg					
ERASURE	–	–	–	–	–
FIXTURE	56%	27	1%	–	1%
Ixekizumab—80 mg					
UNCOVER 1–3	59	27	2	1	2%

All PASIs measured at week 12 except for guselkumab and risankizumab which were measured at week 16. All studies are phase III clinical trials

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occurs at week 22 or later rather than at the traditional week 12 or 16.

Tildrakizumab has a favorable safety profile with the most common AEs being nasopharyngitis and upper respiratory tract infection [21]. Compared to other inhibitors, there does not appear to be a significant difference in AEs, SAEs, and rates of discontinuation because of AEs (Table 2). Long-term data for tildrakizumab is not yet available.

Conclusion

Tildrakizumab has been approved by the FDA for moderate-to-severe plaque psoriasis. The approved dose is 100 mg administered subcutaneously at weeks 0 and 4 and every 12 weeks thereafter. Phase III trials have shown superiority to placebo and etanercept. Tildrakizumab is a safe and effective option that is conveniently dosed for improved compliance, and because it is physician-administered, it may be preferred for those who do not want to self-administer. When counseling patients about starting tildrakizumab, we advocate for strong expectation management and reassurance given the delayed onset of tildrakizumab's effects and the chronic nature and treatment of psoriasis.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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