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RESEARCH ARTICLE

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Efficacy and safety of tildrakizumab in elderly patients: real-world multicenter study (ESTER – study)

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ABSTRACT

Purpose of the article: Interleukin-23 inhibitors, such as tildrakizumab, have emerged as safe and effective options for the management of psoriasis. Yet their efficacy in elderly patients (aged 65 years or more), particularly in those with difficult-to-treat areas involvement, remains insufficiently explored. We conducted this real-life retrospective multicentric observational study to assess the effectiveness of tildrakizumab in elderly patients with moderate-to-severe psoriasis, with involvement of difficult-to-treat areas.

Materials and methods: We enrolled forty-nine patients aged 65 years old or more (mean age 73.1 ± 6.0), all treated with tildrakizumab for at least 28 weeks. The effectiveness of tildrakizumab was assessed by Static Physician's Global Assessment of Genitalia (sPGA-G), fingernail-PGA (f-PGA), palmoplantar PGA (pp-PGA), scalp-specific PGA (sc-PGA), and Psoriasis Area and Severity Index (PASI) scores.

Results: Significant improvements in PASI scores were observed within 28 weeks of treatment, with 77.5%, 60%, and 45.2% of patients achieving PASI75, PASI90, and PASI100, respectively. The mean PASI decreased significantly from baseline (13.6 ± 9.9) to 1.3 ± 1.7 at week 28. More than 90% of patients had clear sPGA-G and pp-PGA scores and over 70% had clear f-PGA and sc-PGA scores after 28 weeks.

Conclusions: Our findings suggest that tildrakizumab could be a valuable option for the treatment of elderly patients, including those with difficult-to-treat areas involvement.

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Tildrakizumab; immunomodulatory therapies; biologics; psoriasis; psoriasis treatment; anti-IL-23-biologics; elderly patients; difficult-to-treat areas

Introduction

Psoriasis, a chronic inflammatory disease, affects 2%–4% of the global population (1–5), with its prevalence escalating among elderly individuals (aged 65 years old or more) due to increased life expectancy (2,5). Approximately 15% of elderly patients experience moderate-to-severe plaque psoriasis (6).

Conventional systemic drugs are often avoided in this demographic due to higher comorbidity rates and potential drug interactions (4). Additionally, recurrent phototherapy treatments may prove unsuitable for those with limited mobility or dependence on caregivers (4). The challenges in treating patients ≥ 65 years old affected by psoriasis are exacerbated by the development of immunosenescence, a progressive immune system impairment associated with aging, which heightens susceptibility to infections and cancers (7).

Finally, patients aged 65 years old or more were frequently excluded from randomized clinical trials (RCT), leading to undertreatment and a lack of established guidelines for this age group (2–5,8). Elderly patients tend to have more serious infections, non-melanoma skin cancer and malignancies than younger patients, possibly due to the aging process and more extensive duration of disease (9,10). However, recent registry data contradicts the notion that discontinuation of biologics due to adverse events occurs more frequently in patients ≥ 65 years old compared to their younger counterparts (11). Despite limited safety and efficacy data, biologics are commonly employed in elderly patients.

Interleukin (IL) inhibitors, including more recent anti-IL-23 therapies have become a focus of interest (12–16). Tildrakizumab, a humanized IgG1 κ monoclonal antibody targeting the p19 subunit of interleukin-23, allows selective inhibition of the IL-23p19 pathway with a decreased risk of impaired immune surveillance compared to broader IL-12/23p40 neutralization (17). It has demonstrated efficacy and safety in patients with moderate-to-severe psoriasis (18), including those aged 65 years or more, in phase

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3 studies (19,20). Currently, real-world experiences on tildrakizumab are very limited, with only a case series of six patients being recently published (21). Additionally, while positive outcomes of tildrakizumab have been observed in difficult-to-treat areas, including genitalia, scalp, nails, and palmoplantar regions in younger patients (22–25), there is a lack of comparable evidence for patients aged 65 years old or more.

In response to the overwhelming need for more robust and comprehensive data on this topic, our study aims to assess the effectiveness and safety of tildrakizumab in elderly patients, with a particular focus for those presenting an involvement of difficult-to-treat areas.

Materials and methods

This was a 28-week retrospective, observational multicenter study conducted at 5 Italian Dermatology Clinics, designed to evaluate the effectiveness of tildrakizumab in elderly patients

Elderly patients (≥ 65 years of age) with moderate-to-severe plaque psoriasis were eligible for inclusion in this study if they received treatment with tildrakizumab. Patients' eligibility for tildrakizumab treatment was assessed in accordance with the Italian Guidelines as outlined by *Gisondi* et al. in 2022 (26).

In accordance with the Summary of Product Characteristics (27), all patients received tildrakizumab 100 mg by subcutaneous injection at weeks 0, and 4 and every 12 weeks thereafter. Patients who received concurrent topical or systemic agents were excluded by the study.

Assessment

Dermatologic assessment of effectiveness and safety evaluation were conducted at baseline, and after 4, 16 and 28 weeks of continuous tildrakizumab administration. During each dermatological examination, the following parameters were evaluated:

i. Psoriasis Area and Severity Index (PASI) score: including mean PASI, PASI75, PASI90, and PASI100 (percentages of patients who achieved a percentage reduction of 75%, 90%, and 100% from baseline, respectively).
ii. Proportion of patients achieving an absolute PASI of 2 or less at each visit.
iii. Physician Global Assessment of

a. Genitalia (static PGA-G (sPGA-G))
b. Fingernail (f-PGA)
c. Palmoplantar (pp-PGA)
d. Scalp specific (sc-PGA)

This clinician-reported outcome measure, assesses the global severity of the psoriasis for each area, using a 6-point scale (0: clear; 5: very severe) (6).

Data analysis

Data analysis was conducted utilizing descriptive statistics. Continuous variables were presented as the mean and standard deviation (SD), while categorical variables were represented as the absolute number and percentage.

To assess differences between baseline and follow-up visits, the Wilcoxon matched-pair rank test was employed.

Multivariate logistic regression analysis was performed to assess the impact of age ≥75 years, psoriatic arthritis (PsA), Body Mass Index (BMI)>25, gender, bio-naïve status, and baseline PASI > 10 (indicating the presence of moderate-to-severe psoriasis) on the effectiveness of tildrakizumab. A p-value of <0.05 was considered statistically significant.

All analyses were carried out using MedCalc® Statistical Software version 22.013 (MedCalc Software Ltd, Ostend, Belgium; https://www.medcalc.org; 2023). Safety was assessed by evaluating the he occurrence of adverse events (AEs) at each time-point.

Ethical considerations

This study adhered to established clinical standards and did not require approval from the institutional review board. All patients provided written consent for the retrospective collection of their anonymous data. The research was conducted in compliance with the Helsinki Declaration of 1964 and its subsequent amendments.

Results

Patient population

A total of 49 patients were enrolled, with 28 of them being males (57%). The mean age of the patients was 73.1 ± 6 years. Of note, 20 patients (40.8%) were aged 75 years or more. The mean BMI of the study population was 27.9 ± 4.5 kg/m^2. Six patients (12.2%) had a concomitant diagnosis of Psoriatic Arthritis (PsA), but they did not receive any additional therapy besides tildrakizumab due to limited rheumatological involvement. The patients had a mean history of psoriasis of 27.5 ± 16.7 years. At baseline, the mean PASI was 13.6 ± 9.9, and 26 patients (53.1%) had involvement of one or more difficult-to-treat areas (genitalia, scalp, palms/soles and fingernails). Detailed baseline demographic and clinical characteristics of enrolled patients were summarized in Table 1.

Twenty-two patients (44.9%) were previously treated with biologics or apremilast (Table 2). Eighteen patients out of 22 had discontinued the previous drug due to primary or secondary ineffectiveness (81.8%).

Forty-seven patients (95.9%) completed 4 weeks of treatment, whereas 45 (91.8%) reached 16 weeks. Forty patients (81.6%) successfully completed the 28-weeks follow-up visit. No adverse events were reported during the 28 weeks of treatment.

Effectiveness of tildrakizumab

PASI improvement

Among the 40 patients who attained the 28-week follow-up, there was a progressive increase in the percentage of patients who achieved PASI75, PASI90, and PASI100 (Figure 1). Specifically, PASI75 was achieved by 16 patients after 4 weeks (34%), 28 patients after 16 weeks (62.2%) and 31 patients (77.5%) after 28 weeks of treatment (Figure 1). Additionally, the number of patients achieving PASI90 increased from three patients at week 4 (6.4%) to 19 patients at week 16 (42.2%) and to 24 at week 28 (60.0%) (Figure 1). The number of patients achieving PASI100 increased from three at 4 weeks (6.4%) to 15 at 16 weeks (33.3%) and to 19 patients (47.5%) after 28 weeks of treatment (Figure 1). Fourteen patients (29.8%), 29 (64.4%) and 33 (82.5%) had a PASI score of 2 or less after 4 weeks, 16 and 28 weeks of treatment, respectively (Figure 1).

The mean PASI decreased significantly from 13.6 ± 9.9 at baseline to 6.7 ± 9.1 after 4 weeks of treatment (p-value < 0.001) and

Table 1. Demographics and general clinical characteristics of patients with psoriasis at baseline. Continuous variables were reported as mean (standard deviation (SD)), while categorical variables were expressed as absolute number (percentage).

Characteristic	*All patients N = 49*
Age (years)	73.1 ± 6.0
≥ 75 years old, N (%)	20 (40.8%)
Sex	
Male	28 (57%)
Female	21 (43%)
BMI (kg/m^2)	27.9 ± 4.5
Duration of psoriasis (years)	27.5 ± 16.7
Comorbidities	
Psoriatic arthritis	6 (12.2%)
Obesity	14 (28.6%)
Cardiometabolic diseases	35 (71.4%)
Personal history of malignancies	5 (10.2%)
Latent tuberculosis infection	4 (8.1%)
Hepatitis C	2 (4.1%)
Hepatitis B	1 (2.0%)
Others	18 (36.7%)
Special location of psoriasis	
Genital	14 (28.6%)
Scalp	15 (30.6%)
Palmo-plantar	8 (16.3%)
Ungual	17 (34.7%)
PASI at baseline	13.6 ± 9.9
≥ 1 Difficult-to-treat areas	26 (53.1%)

Table 2. Previous treatments of psoriasis. Data were expressed as absolute number (percentage).

Previous therapy	22/49 (44.9%)		
Previous therapy failure		18/22 (81.8%)	
Previous systemic non-biologic therapy	**1/22 (4.5%)**	**Previous systemic biologic therapy**	**21/22 (95.5%)**
Apremilast	1 (4.5%)	Adalimumab	9 (42.8)
		Brodalumab	1 (4.8)
		Etanercept	3 (14.3)
		Infliximab	1 (4.8)
		Ixekizumab	2 (9.5)
		Secukinumab	1 (4.8)
		Ustekinumab	4 (19)
		Patients treated with ≥1 biologic drug	5 (23.8%)

decreased to 2.8 ± 3.8 after 16 weeks of therapy (p-value < 0.001) reaching 1.3 ± 1.7 after 28 weeks of treatment (p-value < 0.001) (Figure 2).

A multivariate logistic regression model was implemented to identify independent predictors of response to therapy. Having an age ≥75 years was the only predictor of a PASI75 response after 4 weeks of treatment (Odds ratio 8.1, 95% CI 1.3–51.3, p-value = 0.026). However, this significance was not observed after 16 and 28 weeks of treatment, and it did not affect PASI90 and PASI100 responses at different time points. In the same multivariate logistic analysis, bio-naïve status was the only variable affecting PASI100 response at 16 weeks (odds ratio 0.2, 95% CI 0.04–0.98, p-value = 0.048).

PGA scores

At baseline, 27 and 2 patients had a sPGA-G score classified as clear and almost clear, respectively (Table 3). Among 40 patients evaluated for sPGA-G at the 4-week time point, 26 patients (65.0%) had a sPGA-G score of clear while 6 patients (15.0%) achieved a score of almost clear (Table 3). At the 16-week visit, 28 and 6 patients (73.7% and 15.8%, respectively) achieved sPGA-G score of clear and almost clear, respectively (Table 3). After 24 weeks of treatment, 30 patients achieved a sPGA-G score clear and the remaining 2 had a sPGA-G score almost clear (93.8% and 6.3%, respectively) (Table 3).

At baseline, 25 and 4 patients (59.5% and 9.5%, respectively) had a f-PGA classified as clear and almost clear, respectively (Table 4). Among the 41 patients evaluated for f-PGA at the 4-week time point, 26 patients (63.4%) achieved a f-PGA score of clear while 6 patients (14.6%) achieved a score of almost clear (Table 4). At the 16-week visit, 31 and 2 patients (79.5% and 5.1%, respectively) achieved a f-PGA score of clear and almost clear, respectively (Table 4). After 24 weeks of treatment, 27 patients achieved a f-PGA score clear and the remaining 7 had a f-PGA score almost clear (79.4% and 20.6%, respectively) (Table 4).

At baseline, thirty-three and two patients (80.5% and 4.9%, respectively) had a pp-PGA score classified as clear and almost clear, respectively (Table 5). Among the 40 patients evaluated for pp-PGA at the 4-week time point, 33 patients had a pp-PGA score of clear (82.5%), while 2 patients had a score of almost clear (5.0%) (Table 5). At the 16-week visit, 33 and 1 patients (86.8% and 2.6%, respectively) achieved a pp-PGA score of clear and almost clear, respectively (Table 5). After 24 weeks of treatment, 30 patients achieved a pp-PGA score clear and the remaining 3 had a pp-PGA score almost clear (90.9% and 9.1%, respectively) (Table 5).

At baseline, 14 patients (34.1%) had a sc-PGA score classified as clear and no patients had a sc-PGA score almost clear (0%) (Table 6). Among the 39 patients evaluated for sc-PGA at 4-week time point, 15 patients (38.5%), achieved a sc-PGA score of clear while 12 patients (30.8%) achieved a score of almost clear (Table 6). At the 16-week visit, 24 and 6 patients assessed (63.2% and 15.8%, respectively) achieved a sc-PGA score of clear and almost clear, respectively (Table 6). After 24 weeks of treatment, 23 patients achieved a pp-PGA score clear and 6 had a sc-PGA score almost clear (71.9% and 18.8%, respectively) (Table 6).

Safety of tildrakizumab

In our experience, tildrakizumab was well tolerated, as no significant safety findings emerged during the 28-week observation. In particular, no severe adverse events were reported from our patients. Three patients referred mild upper respiratory tract infections and one patient reported headache after the first injection of tildrakizumab.

Discussion

The prevalence of psoriasis in elderly individuals is increasing due to higher life expectancy (2,5) posing a challenge in treatment due to high rates of comorbidities as infections and cancer (4,7). Anti-IL-23 drugs proved as safe and effective therapeutic alternative for psoriasis treatment (28), even in elderly patients (21,29).

Guselkumab and risankizumab phase-III trials, which included participants aged ≥ 65 years and small groups of ≥ 75 years old patients, reported no discernible differences in therapeutic performances and safety in elderly patients as compared to their younger counterparts (12,30–35).

Tildrakizumab demonstrated both efficacy and safety in phase-III studies (reSURFACE 1 and reSURFACE 2), including patients aged ≥ 65 years with moderate-to-severe psoriasis (18,36). A comprehensive analysis of the reSURFACE trials, conducted by *Tar Haar* et al. encompassing participants aged ≥ 65 years, demonstrated that the safety profile of tildrakizumab was comparable with placebo throughout a

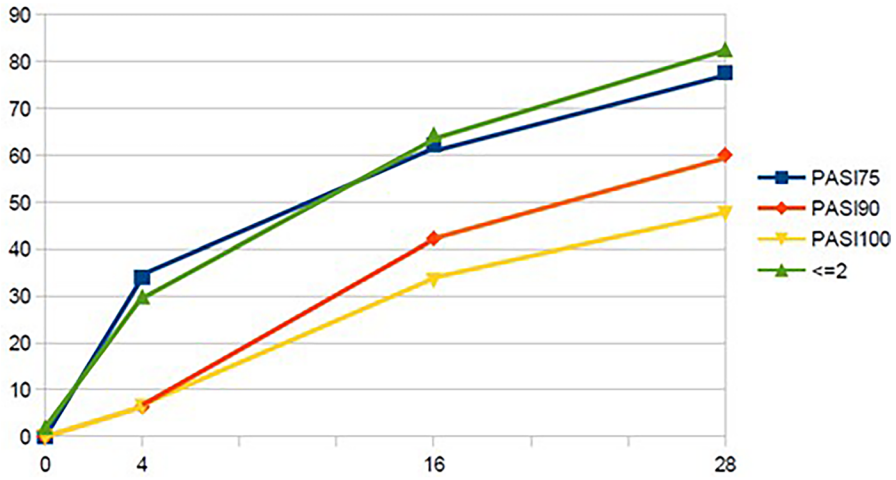

Figure 1. Relative PASI during 28 weeks. Percentage of patients achieving PASI75, PASI90 and PASI100 and absolute PASI ≤2 during the treatment. 4 weeks, *N* = 47; 16 weeks, *N* = 45; 28 weeks, *N* = 40. In cases of N (%) not matching the total in the baseline group, the remainder is attributable to missing data for patients. PASI, Psoriasis Area and Severity Index; PASI75, at least a 75% improvement from baseline in PASI; PASI90, at least a 90% improvement from baseline in PASI. PASI100, 100% improvement from baseline in PASI.

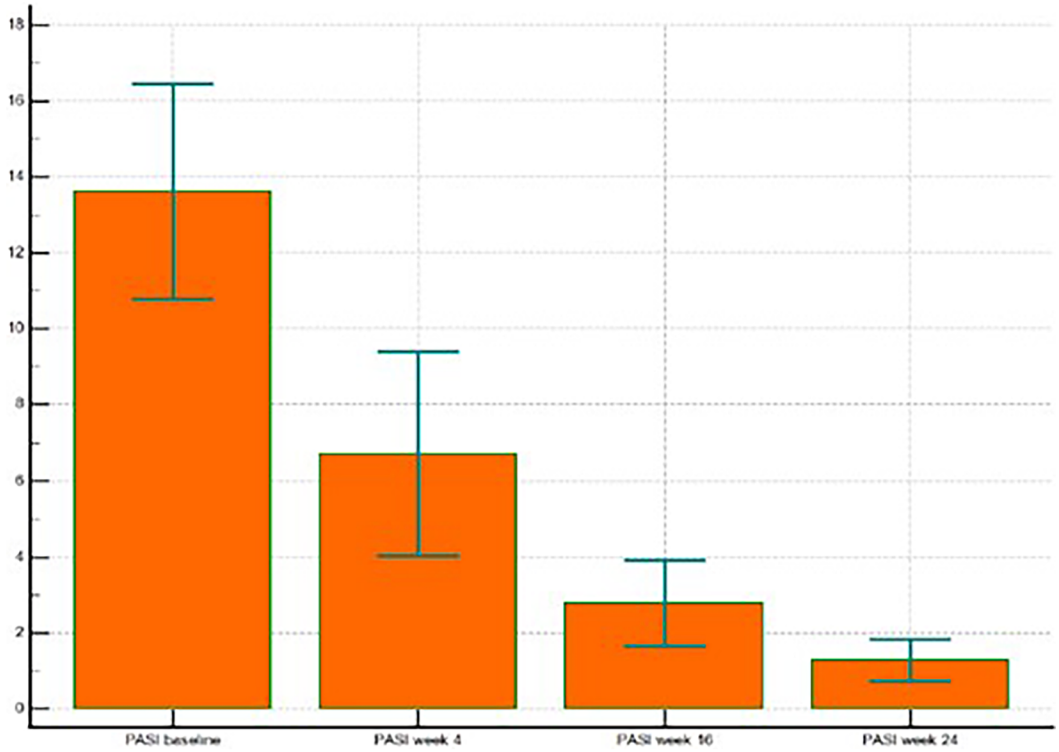

Figure 2. Improvement in mean PASI absolute values over the course of the treatment. Data are represented as mean ± SD; mPASI: mean Psoriasis area severity index.

Table 3. Static genital PGA score (sPGA-G) distribution over time. Data were expressed as absolute number (percentage). In cases of N (%) not matching the total in the baseline group, the remainder is attributable to missing data for patients. sPGA-G, static physician global assessment of Genitalia.

	sPGA-G			
	Baseline (N = 41)	4-weeks visit (N = 40)	16-weeks visit (N = 38)	24-weeks visit (N = 32)
Clear	27 (65.9%)	26 (65%)	28 (73.7%)	30 (93.8%)
Almost clear	2 (4.9%)	6 (15%)	6 (15.8%)	2 (6.3%)
Mild	5 (12.2%)	5 (12.5%)	3 (7.9%)	0 (0%)
Moderate	5 (12.2%)	2 (5%)	1 (2.6%)	0 (0%)
Severe	2 (4.9%)	1 (2.5%)	0 (0%)	0 (0%)
Very severe	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Table 4. Fingernail PGA score (f-PGA) distribution over time. Data were expressed as absolute number (percentage). In cases of N (%) not matching the total in the baseline group, the remainder is attributable to missing data for patients. F-PGA, fingernail physician global assessment.

	f-PGA			
	Baseline (N = 42)	4-weeks visit (N = 41)	16-weeks visit (N = 39)	24-weeks visit (N = 34)
Clear	25 (59.5%)	26 (63.4%)	31 (79.5%)	27 (79.4%)
Almost clear	4 (9.5%)	6 (14.6%)	2 (5.1%)	7 (20.6%)
Mild	9 (21.4%)	7 (17.1%)	6 (15.4%)	0 (0%)
Moderate	4 (9.5%)	2 (4.9%)	0 (0%)	0 (0%)
Severe	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Very severe	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Table 5. palmoplantar PGA score (pp-PGA) distribution over time. Data were expressed as absolute number (percentage). In cases of N (%) not matching the total in the baseline group, the remainder is attributable to missing data for patients. pp-PGA, palmoplantar physician global assessment.

	pp-PGA			
	Baseline (N = 41)	4-weeks visit (N = 40)	16-weeks visit (N = 38)	24-weeks visit (N = 33)
Clear	33 (80.5%)	33 (82.5%)	33 (86.8%)	30 (90.9%)
Almost clear	2 (4.9%)	2 (5.0%)	1 (2.6%)	3 (9.1%)
Mild	3 (7.3%)	4 (10%)	4 (10.5%)	0 (0%)
Moderate	3 (7.3%)	1 (2.5%)	0 (0%)	0 (0%)
Severe	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Very severe	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Table 6. Scalp PGA score (sc-PGA) distribution over time. Data were expressed as absolute number (percentage). In cases of N (%) not matching the total in the baseline group, the remainder is attributable to missing data for patients. sc-PGA, scalp specific physician global assessment.

	sc-PGA			
	Baseline (N = 41)	4-weeks visit (N = 39)	16-weeks visit (N = 38)	24-weeks visit (N = 32)
Clear	14 (34.1%)	15 (38.5%)	24 (63.2%)	23 (71.9%)
Almost clear	0 (0%)	12 (30.8%)	6 (15.8%)	6 (18.8%)
Mild	12(29.3%)	7 (17.9%)	6 (15.8%)	2 (6.3%)
Moderate	10 (24.4)	3 (7.7%)	1 (2.6%)	1 (3.1%)
Severe	5 (12.2%)	2 (5.1%)	1 (2.6%)	0 (0%)
Very severe	0 (0%)	0 (0%)	0 (0%)	0 (0%)

3-year safety follow up[19]. Furthermore, tildrakizumab exhibited a beneficial effect in real-world studies involving patients with psoriasis in difficult-to-treat areas, such as the genitalia, scalp, nails, and palms/soles (22–25). *Ruggiero* et al. (21) recently conducted a comparative analysis of the efficacy and safety of the three IL-23 inhibitors, in a real-world setting. The study demonstrated comparable efficacy and safety for guselkumab and risankizumab over 40–44 weeks of treatment and for tildrakizumab over 28 weeks of treatment in patients aged ≥65 years (21). However, the sample sizes were very small (guselkumab, *N* = 20; risankizumab, *N* = 8; tildrakizumab, *N* = 6) (21). The findings by *Ruggiero* et al. (21) were aligned with those from randomized clinical trials (20), endorsing the safety and efficacy of tildrakizumab, in elderly patients.

Over the 28 weeks of treatment, we observed a notable increase in the percentage of patients achieving PASI75, PASI90, and PASI100. Additionally, there was a significant decrease in the mean PASI. The percentage of patients achieving PASI ≤2 increased to 82.5% after 28 weeks of treatment, surpassing the percentages of patients aged ≥65 years achieving PASI < 3 after 28 weeks of treatment with tildrakizumab in reSURFACE 1 and reSURFACE 2 trials (51.9% and 58.3% for patients treated with tildrakizumab 100 mg or 200 mg, respectively) (19).

These findings are consistent with other real-world experiences (25) showing higher effectiveness of tildrakizumab compared with phase-III trials. This difference could be explained by a higher baseline PASI of patients enrolled in the pooled analysis of phase-III trials (19), compared to ours, indicating a lower disease severity in our patients. Nevertheless, the six patients treated with tildrakizumab in the real-world study (21) by *Ruggiero* et al. had a baseline mean PASI similar to ours (14.8 ± 9.1 vs. 13.6 ± 9.1) but exhibited a higher mean PASI after 28 weeks of treatment as compared to our results (4.1 ± 5.2 vs. 1.3 ± 1.7, respectively). Additionally, the percentage of patients achieving PASI90 and PASI100 after 28 weeks of treatment was lower in their study (21) as compared to our population (50% and 33.3% achieving PASI90 and PASI100 in Ruggiero's study (21) vs. 60% and 45.2% in our study). However, the sample size of our study was eight times folds higher than Ruggiero's (21), making it challenging to draw firm conclusions.

Our study participants are slightly older than those included in both clinical trials (19) and *Ruggiero* et al. study (21) (mean age 73.1 ± 6.0 in our study versus 68.0 (65.0–82.0) and 66.6 ± 1.5, respectively). However, there is currently no evidence indicating an age-related effect on the response to biologics in elderly individuals (11). In our cohort, patients aged 75 years or more appeared to achieve PASI75 rapidly, as indicated by multivariate logistic regression analysis at the 4-week time point, suggesting this demographic to have comparable chances of benefiting from tildrakizumab treatment as compared to the younger patients.

Moreover, our patients had a lower mean BMI compared to those enrolled in Ter Haar's study (19) (27.9 ± 4.5 vs. 30.7 ± 7.5, respectively). Biologic treatments for psoriasis often exhibit variations in efficacy based on the patient's weight, with some showing reduced effectiveness in obese individuals (37–39).

In our study, 71.4% of patients had cardio-metabolic comorbidities (arterial hypertension, diabetes mellitus, hyperlipidemia, cardiovascular diseases), while *Ter Haar* et al. reported 56.9% of patients aged 65 years or older with metabolic disorders (19). Although the two categories of comorbidities are not exactly superimposable, we believe that the metabolic status is unlikely to affect the response to tildrakizumab treatment. This perspective aligns with a post-hoc analysis of 5-year data from the reSURFACE trials, which did not reveal any impact of metabolic syndrome on tildrakizumab efficacy and safety (40).

In our study, the percentage of patients previously treated with biologics was higher (42.8%, 21 out of 49 patients) compared to the 21.6% of patients aged 65 years or older previously treated with biologics by *Ter Haar* et al. (19). However, it is challenging to determine if this could affect the response to treatment. Our study's multivariate logistic regression analysis revealed that the bio-naive status decreased the odds of achieving PASI100 at 16 weeks but did not have an effect at other time points, nor on PASI90 and PASI75 responses. Meanwhile, Ter Haar's study (19) reported a lack of effect of prior exposure to biologics on absolute PASI values at 28 weeks. The different group sizes of bio-experienced patients, along with the variation in endpoints and time points considered (PASI100 at 16 weeks in our study and absolute PASI at 28 weeks in the pooled analysis of clinical trials (19)), prevent us from drawing firm conclusions.

As regards specific difficult-to-treat areas, the outcomes indicate a steady rise in the proportion of patients attaining a clear or nearly clear PGA across various difficult-to-treat regions, encompassing the genitalia, fingernails, palmoplantar areas, and the scalp, throughout the 28 weeks of treatment. Significantly, over 90% of patients attained clear sPGA-G and pp-PGA scores, while more than 70% achieved a clear f-PGA and Sc-PGA within the 28 weeks of treatment. These findings align with the previously reported effectiveness of tildrakizumab and other anti-IL-23 drugs in addressing psoriasis in challenging areas (41–43), as also observed in younger patients (22–25).

Tildrakizumab was well tolerated in our study, in accordance with data from both clinical trials and real-world experiences (19,25).

Limitations of the study

The study has certain acknowledged limitations. Firstly, it enrolled a relatively small number of patients, emphasizing the necessity for further research to evaluate the long-term optimal management of psoriasis in elderly patients within real-life settings. Additionally, the study only assessed treatment response up to the 28-week time point. Investigating the extended impact of

tildrakizumab on larger samples and over an extended follow-up period is crucial to substantiate its potential as a therapeutic option for treating psoriasis in elderly patients. In particular, due to the limited follow-up, only limited information could be provided regarding the safety profile of tildrakizumab. Despite these limitations, we demonstrated the efficacy of tildrakizumab in a population slightly older than those commonly included in previous studies, with a substantial percentage of patients (40.8%) aged 75 years or older, half of whom had involvement in difficult-to-treat areas. This demographic is often underrepresented in clinical trials, providing novelty and originality to our work.

Conclusion

In this study, a 28-week course of tildrakizumab treatment demonstrated highly favorable outcomes for elderly patients, half of which with psoriasis in difficult-to-treat areas. Notably, 40.8% of patients were aged 75 years or older. Over 90% of patients achieved clear sPGA-G and pp-PGA scores, while more than 70% reached a clear f-PGA and Sc-PGA within the treatment period. Additionally, consistent improvements in PASI scores were observed from weeks 4 to 28, surpassing those reported in the limited literature available for tildrakizumab in elderly patients. These encouraging results present a new therapeutic opportunity for a subset of patients facing the challenges of advanced age, comorbidities, and multiple concomitant medications, which are known to complicate treatment choices. However, conclusive validation of these findings requires further research with larger sample sizes and longer-term follow-up.

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Ethics approval

Institutional review board approval was exempted as the study protocol did not deviate from standard clinical practice. All included patients provided written consent for retrospective study of data collected during routine clinical practice (demographics, clinical scores). The study was conducted in accordance with the Helsinki Declaration of 1964 and its later amendments. Data collection and handling complied with applicable laws, regulations, and guidance regarding patient protection, including patient privacy

Discloure statement

D. Orsini has been a speaker and/or consultant for Abbvie, LeoPharma, UCB, Bristol-Meyer-Squibb and Boehringer-Ingelheim. G Caldarola has received consulting fees, honoraria and support for attending meetings from Abbvie, Lilly, Almirall, Janssen, UCB, Novartis and Leopharma; A. Dattola has served as a speaker, consultant or advisory board member from Abbvie, Almirall, Amgen, Eli Lilly, Leo Pharma, Janssen, Novartis, Boehringer Ingelheim and UCB Pharma. C De Simone has received support for consulting fees, honoraria and support for attending meetings from Abbvie, Lilly, Janssen, UCB, Novartis, Leopharma, Sanofi and Almiral; L. Bianchi has received honoraria as a speaker or consultant for AbbVie, Janssen, Almirall Eli-Lilly, Leopharma, Novartis, Sanofi, Pfizer and UCB Pharma; K Peris has received support for consulting fees and honoraria from Abbvie, Almirall, Biogen, Celgene, Janssen Galderma, Novartis, Lilly, Novartis, Pierre Fabre, Sandoz, Sanofi and Sun Pharma.

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Data availability statement

Additional data supporting the findings of this study are available from the Corresponding Author on reasonable request.

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