Tapinarof Cream 1% Once Daily is Efficacious in the Treatment of Mild to Severe Plaque Psoriasis in the Head and Neck Region

Linda Stein Gold,[1] George Michael Lewitt,[2] Benjamin Lockshin,[3] Philip M. Brown,[4] Katherine Tillman,[4] Nancy Fitzgerald,[4] Brandon Kirsch,[4] Anna M. Tallman,[4] Abel D. Jarell[5]

[1]Henry Ford Health System, Detroit, MI, USA; [2]Illinois Dermatology Institute, Chicago, IL, USA; [3]DermAssociates, Silver Spring, MD, USA; [4]Dermavant Sciences, Inc., Morrisville, NC, USA; [5]Northeast Dermatology Associates, Portsmouth, NH, USA

INTRODUCTION

- Up to 80% of patients with plaque psoriasis experience lesions in the head and neck region, with the scalp being one of the most commonly affected areas[1–3]
- Psoriasis affecting the head and neck region is difficult to treat due to the presence of hair and the poor cosmetic elegance of many topical therapies[1]
  - Consequently, patients often have low adherence and satisfaction with treatment[1,4]
- Topical corticosteroids, although efficacious, are associated with adverse events (AEs), including atrophy, acne, rosacea, perioral dermatitis, facial erythema, hirsutism, ecchymosis, and striae, in addition to the risk of systemic AEs, which can limit their use[5]
- There is a need for effective, cosmetically elegant, non-steroidal topical therapies that can be used without restrictions relating to duration or extent of use, or site of application
- Tapinarof cream 1% (VTAMA®, Dermavant Sciences, Inc.) is a non-steroidal, cosmetically elegant, topical aryl hydrocarbon receptor agonist approved for the treatment of plaque psoriasis in adults with no restrictions on location, extent, or duration of use[6]
- In the phase 3 PSOARING trial program, tapinarof cream 1% once daily (QD) was efficacious and well tolerated for the treatment of plaque psoriasis for up to 12 weeks, including for the head and neck region[7–9]
  - Tapinarof cream 1% QD demonstrated clinically meaningful, consistent, and durable efficacy in the head and neck region; however, efficacy data specific to the scalp were not captured[9]

OBJECTIVE

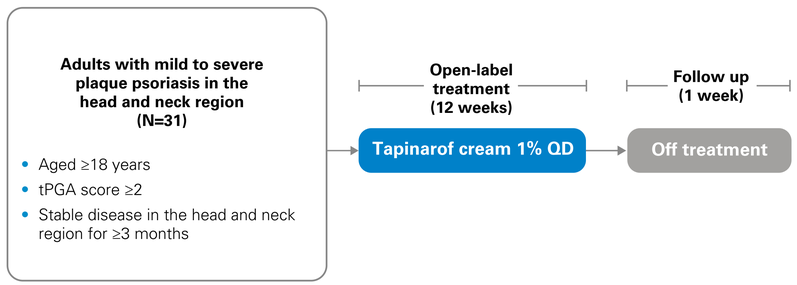
- To present efficacy, safety, and tolerability results from the 12-week, open-label, phase 4 trial of tapinarof cream 1% QD for the treatment of adults with mild to severe plaque psoriasis in the head and neck region, including the scalp (NCT05789576)

MATERIALS AND METHODS

Trial Design

- In this open-label, multicenter trial, adults with mild to severe plaque psoriasis affecting the head and neck region received tapinarof cream 1% QD for 12 weeks, followed by 1 week of follow-up (**Figure 1**)

Figure 1. Plaque Psoriasis (Head and Neck Region) Trial Design



The tPGA is a target lesion assessment of efficacy for psoriasis affecting the head and neck region.
QD, once daily; tPGA, target lesion Physician's Global Assessment.

Endpoints and Statistical Analyses

- The primary efficacy endpoint was a target lesion Physician's Global Assessment (tPGA) response at Week 12, defined as the proportion of patients with a tPGA score of clear (0) or almost clear (1) and ≥2-grade improvement from baseline at Week 12
- Additional efficacy endpoints included:
  - Time to achieve a tPGA response, and proportion of patients with complete clearance (tPGA score=0) by visit
  - Proportion of patients with ≥75% and ≥90% improvement in Psoriasis Area and Severity Index score (PASI75 and PASI90) in the head and neck region
- Local tolerability was evaluated using investigator-assessed Local Tolerability Scale (LTS) scores by visit
  - The LTS is evaluated on a 5-point scale of 0 (no irritation) to 4 (very severe) for dryness, erythema, and peeling
- Safety assessments included incidence, frequency, and duration of treatment-emergent adverse events (TEAEs)
- Efficacy endpoints were summarized using observed cases based on the intention-to-treat population

RESULTS

Baseline Patient Demographics and Disease Characteristics

- Overall, 31 patients were enrolled at 8 sites in the US (**Table 1**):
  - 80.6% of patients (n=25/31) completed treatment
  - Patients' mean age was 55.5 years and 51.6% were male
- At baseline, 58.1% had the target lesion on the scalp and 54.8% had a tPGA score of 3

Table 1. Baseline Demographics and Disease Characteristics

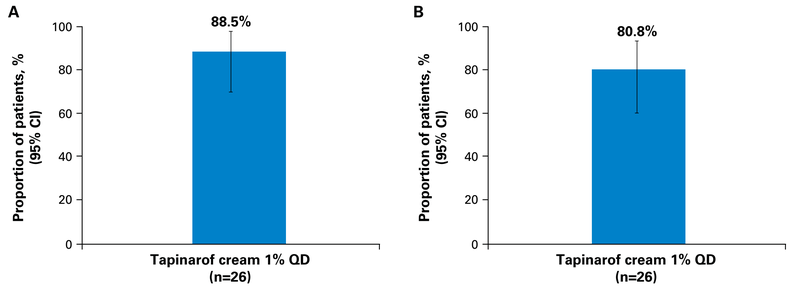
	Tapinarof cream 1% QD (N=31)
Age, years, mean (SD)	55.5 (16.9)
Male, n (%)	16 (51.6)
tPGA score, n (%)	
2 – Mild	12 (38.7)
3 – Moderate	17 (54.8)
4 – Severe	2 (6.5)
PASI (head and neck region), mean (SD), (min, max)	1.5 (0.52), (0.4, 2.7)
Location of target lesion, n (%)	
Scalp	18 (58.1)
Face	11 (35.5)
Neck	2 (6.5)

QD, once daily; PASI, Psoriasis Area and Severity Index; SD, standard deviation; tPGA, target lesion Physician's Global Assessment.

Achievement of tPGA Response and Complete Clearance at Week 12

- At Week 12, 88.5% (n=23/26) achieved a tPGA response and 80.8% (n=21/26) achieved complete clearance (tPGA=0) with tapinarof cream 1% QD (**Figure 2**)
- There was rapid onset of efficacy, with both tPGA response and complete clearance achieved as early as Week 1 (the first assessment) in some patients
- Median times to tPGA response and complete clearance were ~4 and 8 weeks, respectively

Figure 2. Proportion of Patients who Achieved (A) a tPGA Response* and (B) Complete Clearance (tPGA=0) at Week 12

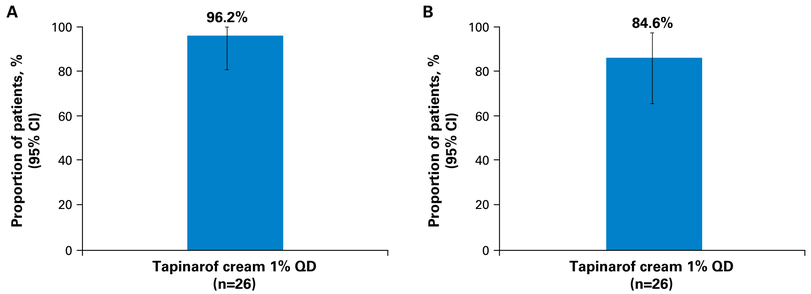


95% CI calculated using Clopper Pearson method.
*tPGA score of clear (0) or almost clear (1) and ≥2-grade improvement from baseline at Week 12.
Intention-to-treat, observed cases. CI, confidence interval; QD, once daily; tPGA, target lesion Physician's Global Assessment.

Improvement in PASI at Week 12

- Overall, 96.2% (n=25/26) and 84.6% (n=22/26) achieved a ≥75% and ≥90% improvement in PASI (head and neck region), respectively, from baseline (**Figure 3**)

Figure 3. Proportion of Patients who Achieved a (A) PASI75 Response* and (B) PASI90 Response† in the Head and Neck Region at Week 12

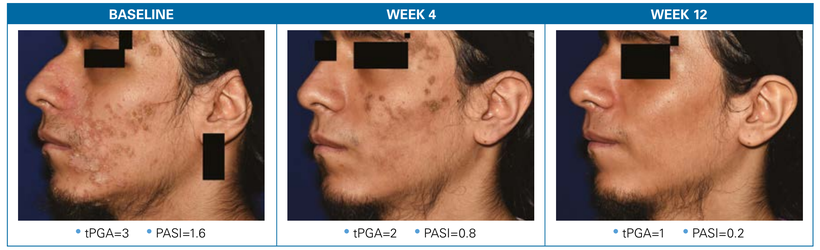


95% confidence interval calculated using Clopper Pearson method.
*≥75% improvement in PASI score from baseline. †≥90% improvement in PASI score from baseline.
Intention-to-treat, observed cases. CI, confidence interval; PASI, Psoriasis Area and Severity Index; QD, once daily.

Achievement of the Primary and Additional Efficacy Endpoints at Week 12

- The patient in **Figure 4** has Hispanic ethnicity (self identified) and had moderate disease (tPGA=3) at baseline, with improvement in the target lesion as early as Week 4, and continued improvement to achieve the primary efficacy endpoint of almost clear skin (tPGA=1) at Week 12
- At baseline, the patient had a PASI score of 1.6; a ≥75% improvement in PASI score from baseline (PASI=0.2) was achieved at Week 12

Figure 4. Achievement of tPGA Success and PASI75 Response at Week 12 in a Patient with Plaque Psoriasis Affecting the Head and Neck Treated with Tapinarof Cream 1% QD

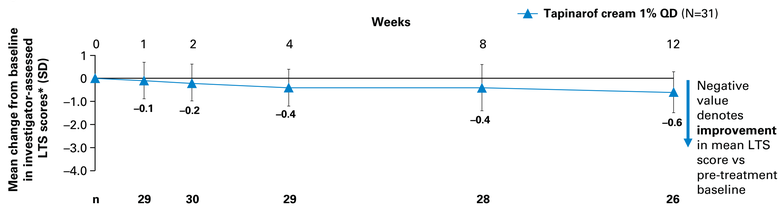


The tPGA is a target lesion assessment of efficacy for psoriasis affecting the head and neck region. Example of one representative target lesion in a tapinarof-treated patient from the open-label phase 4 trial. Individual results may vary.
PASI75, ≥75% improvement in PASI score from baseline; PASI, Psoriasis Area and Severity Index; QD, once daily; tPGA, target lesion Physician's Global Assessment.

Investigator-assessed Local Tolerability

- Tapinarof cream was very well tolerated, and improvements from pre-treatment baseline scores were observed through Week 12 (**Figure 5**)
- Most patients had no irritation (LTS score=0) affecting the head and neck region at all visits (**Figure 5**)

Figure 5. Tapinarof Cream 1% QD Demonstrated No Irritation Over 12 Weeks Plus Improvements from Pre-treatment Score in the Head and Neck Region from Baseline



Week 0 is baseline, pre-treatment. Negative LTS scores indicate improvement.
*LTS scores for the head and neck region. The LTS score is evaluated on a 5-point scale of 0 (no irritation) to 4 (very severe) for dryness, erythema, and peeling.
Intention-to-treat population. LTS, local tolerability scale; QD, once daily; SD, standard deviation.

Safety

- Most TEAEs were mild or moderate; the most frequent TEAEs were contact dermatitis, folliculitis, and headache
- No atrophy, striae, telangiectasia, acne, rosacea, perioral dermatitis, facial erythema, hirsutism, ecchymosis, or withdrawal phenomena were reported in this phase 4 trial

CONCLUSIONS

- Tapinarof cream 1% QD demonstrated rapid onset of clinically meaningful efficacy as early as Week 1, with continued improvement through Week 12, in patients with plaque psoriasis affecting the head and neck region, including the scalp
- A tPGA response and complete clearance (tPGA=0), including the scalp, were achieved by 88.5% and 80.8% of patients, respectively, at Week 12
  - 58% of patients had a target lesion on the scalp
- PASI75 and PASI90 responses in the head and neck region at Week 12 were achieved by 96.2% and 84.6% of patients, respectively
- Tapinarof was well-tolerated and TEAEs were consistent with those seen in previous trials
- Tapinarof cream is a cosmetically elegant, well-tolerated, non-steroidal treatment option in adults with mild to severe plaque psoriasis, in the head and neck region, including the scalp

REFERENCES

1. Mosca M, et al. *Dermatol Ther.* 2021;11:769–797. 2. National Psoriasis Foundation. Available at: https://www.psoriasis.org/locations-and-types/. Accessed November 2023. 3. Kragballe K, et al. *Curr Probl Dermatol.* 2009;38:160–171. 4. Gupta S, et al. *Dermatol Ther.* 2021;11:2057–2075. 5. Yasir M, et al. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023. https://www.ncbi.nlm.nih.gov/books/NBK531462/. Accessed November 2023. 6. Dermavant Sciences. VTAMA (tapinarof) cream, 1%: US prescribing information. 2022. https://www.accessdata.fda.gov/drugsatfda_docs/label/2022/215272s000lbl.pdf. Accessed November 2023. 7. Lebwohl M, et al. *N Engl J Med.* 2021;385:2219–2229. 8. Strober B, et al. *J Am Acad Dermatol.* 2022;87:800–806. 9. Stein Gold L, et al. Poster Presentation at American Academy of Dermatology Annual Meeting, New Orleans, LA, USA, March 17–21, 2023.

ACKNOWLEDGMENTS

This trial was funded by Dermavant Sciences, Inc. The authors thank the participating investigators, patients and their families, and colleagues involved in the conduct of the trial. L.S.G. has served as a consultant, and/or has received payment for the development of educational presentations, and/or has received grants from Amgen, Arcutis, Bristol Myers Squibb, Dermavant Sciences, Inc., Eli Lilly, LEO Pharma, Ortho Dermatologics, Pfizer, and UCB Pharma. G.M.L. has served as a consultant, speaker, investigator, or advisory board member for and/or has received grants from AbbVie, Amgen, Inc., Bristol Myers Squibb, Dermavant Sciences, Inc., DermTech, Eli Lilly, Galderma, LEO Pharma, Janssen, Novan, Inc., Pfizer, Orthodermatologics, and UCB Pharma. B.L. has served as a consultant, speaker, or investigator for Abbvie, Amgen, Arcutis, Boehringer Ingelheim, Castle, Celgene, CorronaRegistry, Dermavant Sciences, Inc., Dermira, DermTech, Eli Lilly, Franklin Bioscience, Galderma, Incyte, LEO Pharma, Novartis. Pfizer, Regeneron, Sanofi, Strata Skin Sciences, TreviTherapeutics, Inc., UCB Pharma, and Vanda. P.M.B., K.T., N.F, B.K., and A.M.T. are employees of Dermavant Sciences, Inc. with stock options. A.D.J. has received research funding from Dermavant Sciences Inc. as an investigator on this trial. Editorial and medical writing support under the guidance of the authors was provided by ApotheCom, UK, and was funded by Dermavant Sciences, Inc., in accordance with Good Publication Practice (GPP) guidelines (*Ann Intern Med.* 2022;175:1298–1304).

Contact Dr Stein Gold at LSTEIN1@hfhs.org with questions or comments.