CALCIPOTRIENE AND BETAMETHASONE DIPROPIONATE CREAM DEMONSTRATES SUPERIOR EFFICACY IN MODERATE PLAQUE PSORIASIS COMPARED TO TOPICAL SUSPENSION: A SUBGROUP ANALYSIS OF A PHASE 3 TRIAL

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INTRODUCTION

- Calcipotriene and betamethasone dipropionate (50 microgram/g CAL and 0.5 mg/g BDP) cream (CAL/BDP cream) is based on PAD™ Technology enabling development of an easy to apply, aqueous cream of CAL and BDP, despite their known pH-related instability when combined in the presence of water.
- The objective of this subgroup analysis is to present data from a Phase 3 trial on the efficacy and convenience of CAL/BDP cream in patients with moderate plaque psoriasis compared to CAL/BDP topical suspension (TS).

METHODS

- CAL/BDP cream was evaluated in a Phase 3, randomized, multicenter, investigator-blind, parallel-group trial comparing the efficacy and safety of CAL/BDP cream to CAL/BDP TS in adults with plaque psoriasis (NCT03308799) .
- The trial enrolled 796 patients at 55 clinical sites across the United States. Patients were instructed to apply the trial medication topically once daily to affected areas of the body for up to 8 weeks.
- At baseline, 641 patients with moderate psoriasis, based on Physician Global Assessment (PGA), score of 3, were included in the subgroup analysis.
- The primary efficacy endpoint was the proportion of patients with treatment success at week 8, defined as minimum two-grade decrease from baseline in PGA score to clear or almost clear disease (grade 0 or 1).
- Statistical analyses of the PGA moderate patient subgroup were based on a modified intent-to-treat population (MITT). For PGA, mPASI and DLQI a treatment policy strategy and multiple imputation for missing data were applied. For PTCS a while-on-treatment strategy and last observation carried forward for missing data were applied. Categorial endpoints were evaluated by a logistic regression model and PTCS by an ANCOVA model.

RESULTS

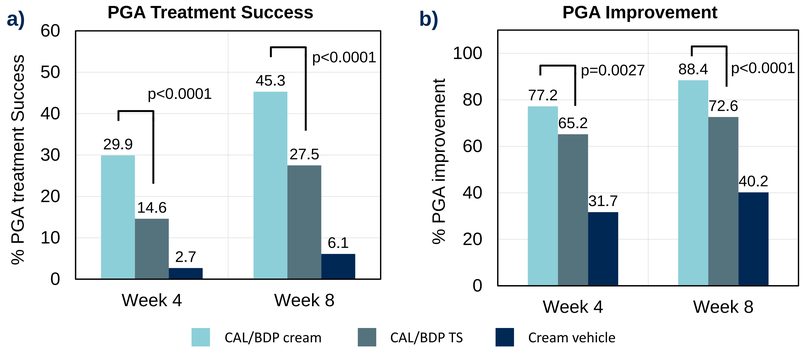
- Baseline characteristics of patients with moderate psoriasis included in this subgroup analysis are presented in **Table 1**.
- The PGA treatment success in patients with moderate psoriasis was significantly greater for CAL/BDP cream (45.3%) than for CAL/BDP TS (27.5%) at Week 8 (p<0.0001) with significant difference also at Week 4 **(Figure 1a).**
- Noticeable difference (≥ 1 grade improvement in PGA) was seen as early as week 1 in the CAL/BDP cream group (38.2% of patients[1]). At week 8, this increased to 88.4% of patients in the CAL/BDP cream group compared to 72.6% in the CAL/BDP TS group (p<0.0001) (**Figure 1b**).

mPASI, modified PASI. DLQI, Dermatology Life Quality Index. PTCS, Psoriasis Treatment Convenience Scale, BDP, betamethasone dipropionate; CAL, calcipotriene; TS, Topical Suspension. MITT, modified intent-to-treat population including all patients with at least one assessment after starting treatment. P-values represent comparison between CAL/BDP cream and CAL/BDP TS. [1]Based on Observed Cases.

Table 1. Baseline characteristics of patients with moderate psoriasis (PGA=3)

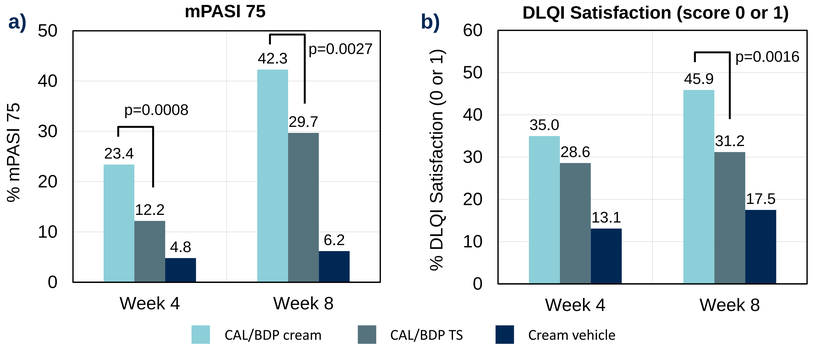
	CAL/BDP Cream (n=271)	CAL/BDP TS (n=278)	Cream Vehicle (n=92)
Mean BSA (SD)	7.9 (6.2)	9.0 (7.3)	8.3 (6.5)
Mean mPASI (SD)	8.0 (3.8)	8.3 (4.1)	7.9 (4.1)
Mean DLQI (SD)	9.6 (6.3)	10.6 (7.0)	9.1 (6.3)

Figure 1. PGA Success (a) and PGA Improvement (b) in patients with moderate psoriasis by weeks of treatment



- CAL/BDP cream demonstrated significantly greater mPASI75 compared to CAL/BDP TS in moderate psoriasis patients (42.3% versus 29.7%; p=0.0027) with significant difference also at Week 4 (p=0.0008) **(Figure 2a)**.
- 45.9% of patients treated with CAL/BDP cream reported DLQI satisfaction at Week 8 (score of 0 or 1, indicating no impact of psoriasis on quality of life) versus 31.2% in the CAL/BDP TS group (p=0.0016) **(Figure 2b)**.

Figure 2. mPASI75 (a) and DLQI Satisfaction (b) in patients with moderate psoriasis by weeks of treatment



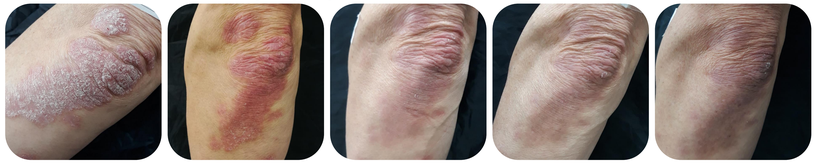
- Treatment convenience of CAL/BDP cream, measured by the Psoriasis Treatment Convenience Scale (PTCS)[1] at Week 8, was demonstrated to be significantly better than CAL/BDP TS on all individual item questions including overall satisfaction (question 6) **(Table 2)**.
- Overall, safety assessments during the trial demonstrated that CAL/BDP cream was well-tolerated.

Table 2. PTCS scores for moderate psoriasis patients (CAL/BDP cream vs. TS)

#	Question	Odds Ratio (CI 95%)		P-value
1	How easy was the treatment to apply to the skin?	2.91	(1.33, 6.37)	0.0075
2	How greasy was the treatment when applying it to the skin?	9.89	(4.50, 18.07)	<0.0001
3	How moisturized did your skin feel after applying the treatment?	3.44	(1.73, 6.84)	0.0004
4	How greasy did your skin feel after applying the treatment?	8.87	(4.44, 17.78)	<0.0001
5	How much did treating your skin disrupt your daily routine?	3.82	(1.82, 8.00)	0.0004
6	Overall, how satisfied were you with the medical treatment?	5.42	(2.64, 11.09)	<0.0001

Odds ratios indicate comparison in favor of CAL/BDP cream to CAL/BDP TS.

Figure 3. Improvement of plaque psoriasis in a patient with moderate psoriasis



Pictures from MC2-01-C2 phase 3 trial; Informed consent to publish pictures has been obtained from the patient.

CONCLUSIONS

- CAL/BDP cream is an innovative topical treatment for plaque psoriasis based on PAD™ Technology.
- CAL/BDP cream showed significant improvement of PGA treatment success, mPASI75, DLQI satisfaction and psoriasis treatment convenience compared to CAL/BDP TS active comparator in patients with moderate plaque psoriasis.
- The combination of high efficacy, favorable safety, and treatment convenience of CAL/BDP cream may lead to improved adherence to therapy and thereby better treatment outcomes for patients with moderate psoriasis.

REFERENCES

[1]Feldman SR, Præstegaard M, Andreasen AH, Selmer J, Holm-Larsen T. Validation of the Self-Reported Psoriasis Treatment Convenience Scale (PTCS). Dermatol Ther (Heidelb). 2021 Dec;11(6):2077-2088.

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