Effectiveness of Hydrogen Peroxide Topical Solution 40% and 45% (w/w) in Patients With Seborrheic Keratoses on the Trunk, Extremities, and Face: Results of a Phase 2, Randomized, Double-Blind, Vehicle-Controlled, Parallel-Group Study

Janet DuBois, MD[1]; Kimberly Grande, MD, FAAD[2]; Mark Bradshaw, PhD[3]; Judith Schnyder, MBA[4]

[1]DermResearch, Inc., Austin, TX; [2]The Skin Wellness Center, Knoxville, TN; [3]GCP-MB, LLC, Asbury Park, NJ; [4]Aclaris Therapeutics, Inc., Wayne, PA

CONCLUSIONS

1. In eligible patients with SKs, 2 treatments with HP40 or HP45 resulted in statistically significant reductions of SK lesions vs vehicle
2. No significant differences were observed for treatment with HP40 vs HP45, with the exception of SK lesions on the trunk
3. Findings of this Phase 2 study demonstrate the effectiveness and safety of topical treatment with HP40 and HP45 in patients with SKs on the face, extremities, and trunk

INTRODUCTION

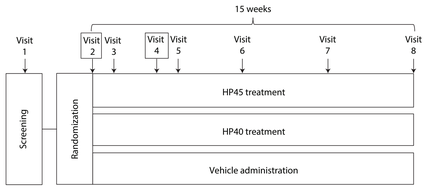
- Seborrheic keratoses (SKs) are benign cutaneous lesions affecting approximately 84 million individuals in the United States[1]
- Current treatment options for SKs require surgical or ablative procedures, including liquid nitrogen cryotherapy, shave removal, curettage, chemical peels, and laser treatments[2,3]
  - The efficacy, safety, and tolerability profiles of these therapies are not well established, and some of these procedures can lead to adverse cosmetic effects[2-6]
  - Until recently, a safe, effective, noninvasive, and cosmetically acceptable treatment was not available for the successful removal of SK lesions
- The US Food and Drug Administration has approved a proprietary, stabilized hydrogen peroxide topical solution 40% (w/w) (HP40) for the treatment of raised SKs[7]
- The objective of this presentation is to describe findings of a Phase 2 study designed to evaluate the efficacy and safety of HP40 compared with a proprietary hydrogen peroxide topical solution 45% (w/w) (HP45) for the treatment of SKs on the trunk, extremities, and face

MATERIALS AND METHODS

Study Design

- A Phase 2, multicenter, randomized, double-blind, vehicle-controlled, parallel-group study (NCT03148691) was designed to include 3 treatment groups (vehicle, HP40, HP45)
- The study comprised 8 study visits over a maximum of 127 days, with target lesions treated at 2 treatment visits (**Figure 1**)
  - During screening (visit 1), 4 eligible SK target lesions located on the trunk, extremities, and face were identified for each patient; ≥1 target lesion must have been on the face and ≥1 must have been on the trunk or extremities
  - At visit 2, patients were randomized in a 1:2:2 ratio to receive vehicle, HP40, or HP45, respectively, and received the first treatment
- After a follow-up examination on day 8 (visit 3), target lesion assessments and retreatment occurred during visit 4 (day 22) if lesions met retreatment criteria
- Visits 5, 6, and 7 (days 29, 50, and 78) included follow-up, as well as target lesion assessment at visits 6 and 7, followed by a final target lesion assessment at end-of-study visit 8 (day 106)
- The per-protocol population included all eligible patients who received all study treatments, completed visit 8, had all target lesions assessed by the validated Physician Lesion Assessment™ (PLA) at study visit 8, and did not have a protocol violation during the study

Figure 1. Study Design



All target SK lesions were treated during visit 2; SK lesions meeting the criteria for retreatment were treated at visit 4. HP40, hydrogen peroxide topical solution, 40% (w/w); HP45, hydrogen peroxide topical solution, 45% (w/w); SK, seborrheic keratosis.

Study Patients

- Eligible patients were ≥18 years of age with a diagnosis of 4 typical, clinically stable SK target lesions on the trunk, extremities, and face (≥1 target lesion on the face and ≥1 target lesion on the trunk or extremities)
  - Target lesions were required to be discrete with a clinically typical appearance; PLA (**Table 1**) grade ≥2; length and width 5 to 15 mm, thickness ≤2 mm; and not be obstructed or within 5 mm of the orbital rim

Study Assessments

- Lesion severity (primary effectiveness parameter) was assessed using the PLA (**Table 1**)

Table 1. PLA Scoring

Grade	Description
0	Clear: no visible SK lesion
1	Near clear: a visible SK lesion with a surface appearance different from the surrounding skin (not elevated)
2	Thin: a visible SK lesion (thickness ≤1 mm)
3	Thick: a visible SK lesion (thickness >1 mm)

PLA, Physician Lesion Assessment; SK, seborrheic keratosis.

- Efficacy was analyzed in the per-protocol population using a pairwise comparison between groups based on the mean per-patient percentages of target lesions clear (PLA = 0) at day 106 (visit 8)
- Safety assessments included treatment-emergent adverse events (TEAEs)

RESULTS

Study Patients

- A total of 253 patients were randomized to receive HP40 (n=103), HP45 (n=100), or vehicle (n=50)
- Baseline demographics and clinical characteristics were similar across groups (**Table 2**)

Table 2. Baseline Demographics and Clinical Characteristics, Safety Population

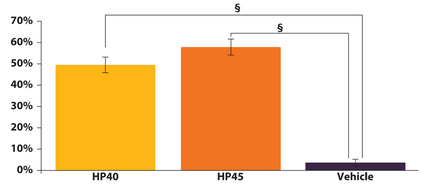
Characteristic	HP40 (n=103)	HP45 (n=100)	Vehicle (n=50)
Age, y			
Mean (SD)	69.1 ± 8.8	70.0 ± 8.1	69.0 ± 8.3
Range	49–87	45–89	53–89
Age group			
18–55 y	7 (6.8)	4 (4.0)	2 (4.0)
56–70 y	53 (51.5)	54 (54.0)	30 (60.0)
≥71 y	43 (41.7)	42 (42.0)	18 (36.0)
Gender			
Female	59 (57.3)	67 (67.0)	31 (62.0)
Race			
White	98 (95.1)	92 (92.0)	46 (92.0)
African American	4 (3.9)	8 (8.0)	4 (8.0)
Asian	1 (1.0)	0	0
Fitzpatrick skin type			
I	10 (9.7)	9 (9.0)	6 (12.0)
II	45 (43.7)	40 (40.0)	24 (48.0)
III	36 (35.0)	35 (35.0)	14 (28.0)
IV	8 (7.8)	7 (7.0)	2 (4.0)
V	4 (3.9)	8 (8.0)	4 (8.0)
VI	0	1 (1.0)	0

Data are n (%) unless otherwise indicated.
HP40, hydrogen peroxide topical solution, 40% (w/w); HP45, hydrogen peroxide topical solution, 45% (w/w).

Efficacy

- A total of 240 patients were enrolled in the per-protocol population (HP40, n=101; HP45, n=92; vehicle, n=47)
- The mean per-patient percentage of all target lesions clear at visit 8 (primary efficacy variable) was significantly greater among patients treated with HP40 (49.5%) and HP45 (57.9%) vs vehicle (3.7%; $P<0.0001$ each; **Figure 2**)
  - No significant differences were observed for comparisons of HP40 vs HP45

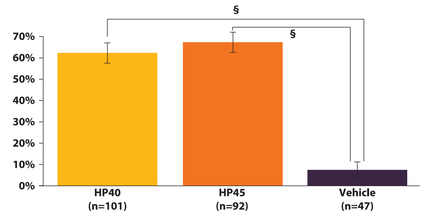
Figure 2. Mean Per-Patient Percentages of All Target Lesions Clear at Visit 8 by Treatment



HP40, hydrogen peroxide topical solution, 40% (w/w); HP45, hydrogen peroxide topical solution, 45% (w/w).
§$P<0.0001$.

- The mean per-patient percentage of target lesions clear on the face at visit 8 was significantly greater for comparisons of HP40 (62.2%) and HP45 (67.2%) vs vehicle (7.5%; $P<0.0001$ each; **Figure 3**)
  - No significant differences were observed for comparisons of HP40 vs HP45

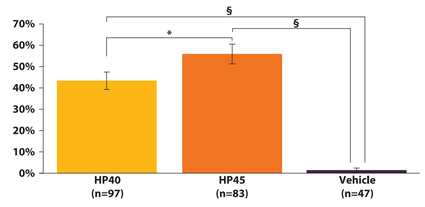
Figure 3. Mean Per-Patient Percentages of Target Lesions Clear (PLA = 0) on the Face at Visit 8 by Treatment



§$P<0.0001$.

- The mean per-patient percentage of target lesions clear on the trunk at visit 8 was significantly greater for comparisons of HP40 (43.3%) and HP45 (55.8%) vs vehicle (1.4%; $P<0.0001$ each; **Figure 4**)
  - A significant difference was also observed in mean per-patient percentage target lesions clear on the trunk at visit 8 for HP40 (43.3%) vs HP45 (55.8%; $P<0.02$)

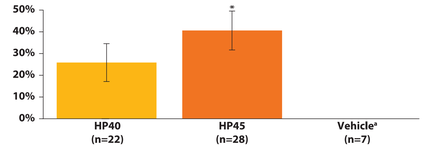
Figure 4. Mean Per-Patient Percentages of Target Lesions Clear (PLA = 0) on the Trunk at Visit 8 by Treatment



*$P<0.05$; §$P<0.0001$.

- For target lesions clear on the extremities, only HP45 resulted in significant improvements vs vehicle (40.5% vs 0.0%; $P=0.02$; **Figure 5**)

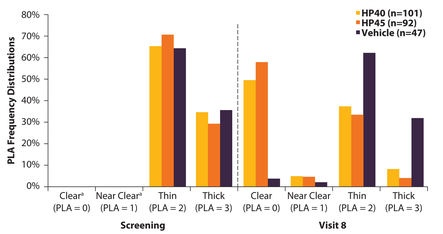
Figure 5. Mean Per-Patient Percentages of Target Lesions Clear (PLA = 0) on the Extremities at Visit 8 by Treatment



*$P<0.05$.
[a]The value for Vehicle was 0.

- From screening to the end of the study (visit 8), a greater number of SK lesions among patients treated with HP40 or HP45 changed from thin or thick to clear compared with vehicle (**Figure 6**)

Figure 6. Distribution of Lesion Types at Screening and Visit 8 by Treatment



[a]Values for Clear and Near Clear were 0 at screening.

Safety

- The most common TEAEs reported in the HP40 and HP45 treatment groups (≥2 patients in either group) were nasopharyngitis, bronchitis, drug eruption, headache, and hypertension
- 4 serious TEAEs occurred across the 3 groups (HP40: syncope, deep vein thrombosis; HP45: pancreatic carcinoma; vehicle: atrial fibrillation); none were related to study medication
- Please see AAD 2019 ePoster by DuBois et al, Safety of Hydrogen Peroxide Topical Solution 40% and 45% (w/w) in Patients With Seborrheic Keratoses on the Trunk, Extremities, and Face, for a more complete, detailed description of safety findings from this study

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Disclosures

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