Efficacy and Safety of Triple-Combination Clindamycin Phosphate 1.2%/Benzoyl Peroxide 3.1%/Adapalene 0.15% Polymeric Gel in Pediatric Participants with Acne

Lawrence F Eichenfield, MD[1]; Linda Stein Gold, MD[2]; Leon H Kircik, MD[3,4,5]; William P Werschler, MD[6]; Kenneth Beer, MD[7]; Zoe D Draelos, MD[8]; Emil A Tanghetti, MD[9]; Kim Papp, MD, PhD[10]; Hilary Baldwin, MD[11,12]; Edward Lain, MD, MBA[13]; Neil Sadick, MD[14,15]; Eric Guenin, PharmD, PhD, MPH[16]

[1]University of California, San Diego School of Medicine and Rady Children's Hospital, San Diego, CA; [2]Henry Ford Hospital, Detroit, MI; [3]Icahn School of Medicine at Mount Sinai, New York, NY; [4]Indiana University Medical Center, Indianapolis, IN; [5]Physicians Skin Care, PLLC, DermResearch, PLLC, and Skin Sciences, PLLC, Louisville, KY; [6]Elson S. Floyd College of Medicine, Washington State University, Spokane, WA; [7]University of Miami Miller School of Medicine, Miami, FL; [8]Dermatology Consulting Services, PLLC, High Point, NC; [9]Center for Dermatology and Laser Surgery, Sacramento, CA; [10]K.Papp Clinical Research and Probity Medical Research, Waterloo, ON, Canada; [11]The Acne Treatment and Research Center, Brooklyn, NY; [12]Robert Wood Johnson University Hospital, New Brunswick, NJ; [13]Austin Institute for Clinical Research, Austin, TX; [14]Weill Cornell Medical College, New York, NY; [15]Sadick Dermatology, New York, NY; [16]Ortho Dermatologics*, Bridgewater, NJ

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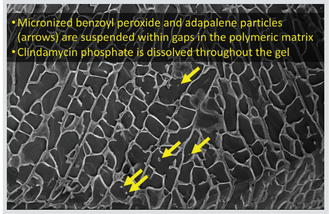
SYNOPSIS

- Prevalence of acne is near-universal during teenage years[1]; acne in adolescence has profound psychosocial impacts, and younger age is associated with greater acne severity[2,3]
- Managing acne in younger patients is complicated by low rates of treatment adherence[4] and the potential for more irritation with topical treatments than adults[5]
- Combining topical therapies that have multiple mechanisms of action can improve efficacy,[6] and formulating them into a single fixed-combination product can improve adherence to acne treatment[7]
- In a phase 2 clinical trial, clindamycin phosphate (CLIN) 1.2%/benzoyl peroxide (BPO) 3.1%/adapalene (ADAP) 0.15% (IDP-126) polymeric mesh gel—the first fixed-dose triple-combination topical formulation in development for acne (**Figure 1**)—was well tolerated and demonstrated superior efficacy to vehicle and all three of the component dyad combination gels[8]

FIGURE 1. **IDP-126 Polymeric Mesh Gel**



1000x magnification (Cryo Scanning Electron Microscopy). IDP-126, clindamycin phosphate 1.2%/benzoyl peroxide 3.1%/adapalene 0.15%.

OBJECTIVE

- The objective of this post hoc analysis was to evaluate efficacy and safety of IDP-126 gel in children and adolescents (aged 9–17 years) with acne

METHODS

- In a phase 2, double-blind, 12-week study (NCT03170388), eligible participants aged ≥9 years with moderate-to-severe acne were randomized (1:1:1:1:1) to receive once-daily IDP-126 gel, vehicle gel, or 1 of 3 component dyad combination gels (BPO/ADAP, CLIN/BPO, or CLIN/ADAP)
  - CeraVe® hydrating cleanser, CeraVe® moisturizing lotion (L'Oreal, New York, NY), and sunscreen were provided as needed for optimal moisturization/cleaning of the skin
- Acne severity was assessed via Evaluator's Global Severity Score (EGSS), which was scored as: *0 (clear)* = Normal, clear skin/no evidence of acne; *1 (almost clear)* = Rare noninflammatory lesions, with rare noninflamed papules; *2 (mild)* = Some noninflammatory lesions, with few inflammatory lesions; *3 (moderate)* = Noninflammatory lesions predominate, with multiple inflammatory lesions: several/many comedones and papules/pustules, ≤1 nodulocystic lesion; *4 (severe)* = Inflammatory lesions more apparent, many comedones/papules/pustules, ≤2 nodulocystic lesions
- Efficacy assessments included reductions from baseline in inflammatory and noninflammatory lesion counts and treatment success (percentage of participants achieving ≥2-grade reduction in EGSS and a score of 0 or 1)
- Treatment-emergent adverse events (TEAEs) were also assessed

RESULTS

Participants

- Of 740 participants in the intent-to-treat population (mean age ~19.5 years), 394 were 9–17 years of age (mean ~14.9 years)
- Compared with the overall study population, a greater percentage of pediatric participants were male (9–17 years: 49.5%; overall: 38.8%) and self-identified their race as White (79.7% vs 69.2%)
- Most pediatric participants (82.2%) had a baseline EGSS score of 3 (moderate), similar to the overall study population (84.2%)
- Treatment compliance was >92% across all treatment groups

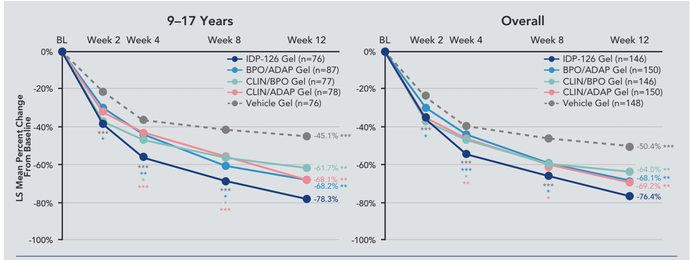
Efficacy

- At week 12, participants treated with IDP-126 experienced ≥70% mean reductions from baseline in inflammatory and noninflammatory lesion counts, regardless of age (**Figures 2 and 3**)
  - Significantly greater reductions with IDP-126 versus vehicle in inflammatory and noninflammatory lesions were observed as early as week 2 ($P<0.05$, both)
- Over half of participants treated with IDP-126 achieved treatment success at week 12, versus less than 35% with any of the dyad combinations or vehicle (**Figure 4**)
- Images depicting acne improvement in pediatric participants treated with IDP-126 are shown in **Figure 5**

Safety

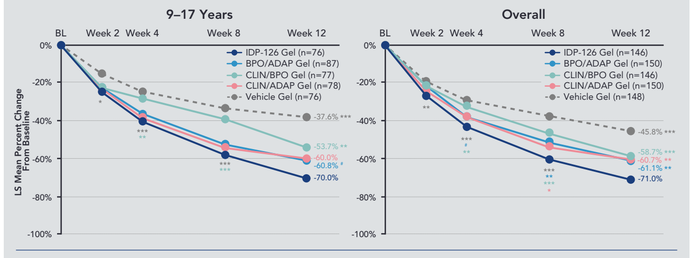
- TEAE rates were similar between pediatric participants and the overall population (**Table 1**)
- Of TEAEs deemed related to treatment—which were primarily mild to moderate in severity—the most common were application site pain and dryness, regardless of age
- No serious adverse events were considered related to treatment
- Rates of IDP-126 study drug discontinuation were low among both pediatric participants (n=1; 1.3%) and the overall population (n=4; 2.8%)

FIGURE 2. **Inflammatory Lesion Reductions by Study Visit (ITT Population)**



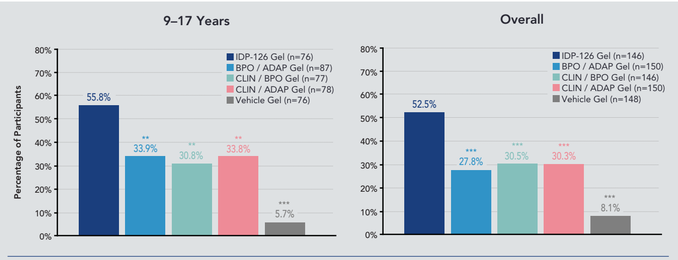
*$P\leq0.05$; **$P<0.01$; ***$P\leq0.001$ vs IDP-126.
ADAP, adapalene 0.15%; BL, baseline; BPO, benzoyl peroxide 3.1%; CLIN, clindamycin phosphate 1.2%; IDP-126, clindamycin phosphate 1.2%/benzoyl peroxide 3.1%/adapalene 0.15%; ITT, intent to treat; LS, least squares.

FIGURE 3. **Noninflammatory Lesion Reductions by Study Visit (ITT Population)**



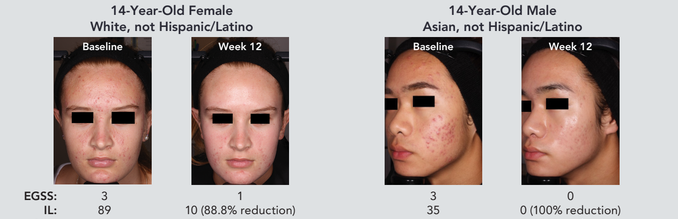
*$P<0.05$; **$P<0.01$; ***$P\leq0.001$ vs IDP-126. *$P=0.051$ vs IDP-126.
Post hoc analyses not powered to detect significant differences in the pediatric population.
ADAP, adapalene 0.15%; BL, baseline; BPO, benzoyl peroxide 3.1%; CLIN, clindamycin phosphate 1.2%; IDP-126, clindamycin phosphate 1.2%/benzoyl peroxide 3.1%/adapalene 0.15%; ITT, intent to treat; LS, least squares.

FIGURE 4. **Treatment Success[a] at Week 12 (ITT Population)**



*$P<0.05$; **$P<0.01$; ***$P<0.001$ vs IDP-126.
[a]Treatment success defined as at least a 2-grade reduction from baseline in EGSS and a score of 0 (clear) or 1 (almost clear).
ADAP, adapalene 0.15%; BPO, benzoyl peroxide 3.1%; CLIN, clindamycin phosphate 1.2%; EGSS, Evaluator's Global Severity Score; IDP-126, clindamycin phosphate 1.2%/benzoyl peroxide 3.1%/adapalene 0.15%; ITT, intent to treat.

FIGURE 5. **Acne Improvements With IDP-126**



Individual results may vary.
EGSS, Evaluator's Global Severity Score; IDP-126, clindamycin phosphate 1.2%/benzoyl peroxide 3.1%/adapalene 0.15%; IL, inflammatory lesions; NIL, noninflammatory lesions.

TABLE 1. **Summary of Adverse Events Through Week 12 (Safety Population)**

	9–17 years					Overall				
Participants, n (%)	IDP-126 (n=75)	BPO / ADAP (n=84)	CLIN / BPO (n=77)	CLIN / ADAP (n=76)	Vehicle (n=76)	IDP-126 (n=141)	BPO / ADAP (n=146)	CLIN / BPO (n=144)	CLIN / ADAP (n=148)	Vehicle (n=146)
Any TEAE	32 (42.7)	30 (35.7)	17 (22.1)	21 (27.6)	14 (18.4)	51 (36.2)	52 (35.6)	26 (18.1)	40 (27.0)	22 (15.1)
Discontinued study drug due to TEAE	1 (1.3)	4 (4.8)	0	0	1 (1.3)	4 (2.8)	8 (5.5)	0	3 (2.0)	2 (1.4)
Related TEAEs	13 (17.3)	19 (22.6)	3 (3.9)	8 (10.5)	1 (1.3)	28 (19.9)	32 (21.9)	3 (2.1)	18 (12.2)	2 (1.4)
Related TEAEs reported by ≥3% of participants in any treatment group										
Application site pain	5 (6.7)	10 (11.9)	1 (1.3)	1 (1.3)	0	11 (7.8)	16 (11.0)	1 (0.7)	5 (3.4)	1 (0.7)
Application site dryness	5 (6.7)	4 (4.8)	2 (2.6)	4 (5.3)	0	9 (6.4)	8 (5.5)	2 (1.4)	9 (6.1)	0
Application site irritation	0	3 (3.6)	1 (1.3)	2 (2.6)	0	3 (2.1)	4 (2.7)	1 (0.7)	3 (2.0)	0
Application site exfoliation	2 (2.7)	1 (1.2)	0	0	1 (1.3)	5 (3.5)	3 (2.1)	0	2 (1.4)	1 (0.7)
Application site erythema	0	1 (1.2)	1 (1.3)	0	0	2 (1.4)	2 (1.4)	1 (0.7)	5 (3.4)	0

ADAP, adapalene 0.15%; BPO, benzoyl peroxide 3.1%; CLIN, clindamycin phosphate 1.2%; IDP-126, clindamycin phosphate 1.2%/benzoyl peroxide 3.1%/adapalene 0.15%; TEAE, treatment-emergent adverse event.

CONCLUSIONS

- In pediatric participants with moderate-to-severe acne, IDP-126—the first fixed-dose, triple-combination clindamycin phosphate 1.2%/benzoyl peroxide 3.1%/adapalene 0.15% polymeric mesh gel—was efficacious and well tolerated after 12 weeks of once-daily use
- IDP-126 showed superior efficacy to vehicle and all 3 component dyad combination gels
  - In pediatric participants, over half achieved treatment success and mean lesion reductions were at least 70% by week 12 with IDP-126, similar to the overall study population
  - To our knowledge, such improvements have not been observed with any FDA-approved topical acne treatment, though study populations may differ
- The superior efficacy and favorable safety profile of triple-combination IDP-126 gel demonstrate its potential as a new treatment option in the acne armamentarium

AUTHOR DISCLOSURES

LFE has served as investigator and/or consultant for AbbVie, Incyte, LEO Pharma, Lilly, Novartis, Pfizer, Regeneron, Ortho Dermatologics, Sanofi. LSG has served as investigator/consultant, or speaker for Ortho Dermatologics, LEO Pharma, Dermavant, Incyte, Novartis, AbbVie, Pfizer, Sun Pharma, UCB, Arcutis, Lilly. LHK has served as investigator, advisor, speaker, consultant for Ortho Dermatologics. WPW has served as investigator for Ortho Dermatologics. KB has received funding from Allergan, Galderma, Evolus, Revance. ZDD has received funding from Ortho Dermatologics. EAT has served as speaker for Novartis, Ortho Dermatologics, Sun Pharma, Lilly, Galderma, AbbVie, Dermira; consultant/clinical studies for Hologic, Ortho Dermatologics, Galderma; stockholder for Accure. KP has received research funds from, is consultant/speaker for AbbVie, Amgen, Arcutis, Bausch Health, Boehringer Ingelheim, Avillion, Dermavant, Dermira, Bristol-Myers Squibb, Celgene, Eli Lilly, Glaxo Smith-Kline, Incyte, Janssen R & D, Kyowa Hakko Kirin, LEO Pharma, Meiji Seika Pharma, Merck-Serono, Merck Sharp & Dome, Novartis, Ortho Dermatologics, Pfizer, Regeneron, Sanofi Genzyme, Sun Pharma, UCB; consultant for Almirall, Aurinia Pharma, CanFite, Evelo, Horizon Pharma, Menlo Therapeutics, Reistone Therapeutics, Tanabe Mitsubishi. HB has served as advisor, investigator, on speakers' bureaus for Almirall, Cassiopea, Foamix, Galderma, Ortho Dermatologics, Sol Gel, Sun Pharma. EL has served as investigator, consultant and/or speaker for Ortho Dermatologics, AbbVie, Almirall, Amgen, Arcutis, Dermavant, EPI Health, Galderma, Incyte, LEO Pharma, Novartis, Eli Lilly, Pfizer, Sun Pharma, UCB, Endo Intl., ChemoCentryx, Biorasi, Sirnaomics, Evelo Biosciences, Concert Pharma, Cara Therapeutics, Castle Biosciences, Mindera, Biofrontera, Alfasigma, AiVivo Biopharma, Anaptys Bio, Bausch Health, Dr. Reddy's, Trevi Therapeutics. NS has served on advisory boards, as consultant, investigator, speaker, and/or other, received honoraria and/or grants/research funding from Almirall, Actavis, Allergan, Anacor Pharma, Auxilium Pharma, Bausch Health, Bayer, Biorasi, BTG, Carma Labs, Cassiopea, Celgene Corp, Cutera, Cynosure, DUSA Pharma, Eclipse Medical, Eli Lilly, Endo Intl., EndyMed Medical, Ferndale Labs, Galderma, Gerson Lehrman Group, Hydropeptide, Merz Aesthetics, Neostrata, Novartis, Nutraceutical Wellness, Palomar Medical Technologies, Prescriber's Choice, Regeneron, Roche Laboratories, Samumed, Solta Medical, Storz Medical AG, Suneva Medical, Vanda Pharma, Venus Concept. EG is an employee of Ortho Dermatologics and may hold stock and/or stock options in its parent company.

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