Novel Polymeric Tazarotene 0.045% Lotion for Moderate-to-Severe Acne: Pooled Phase 3 Analysis by Race

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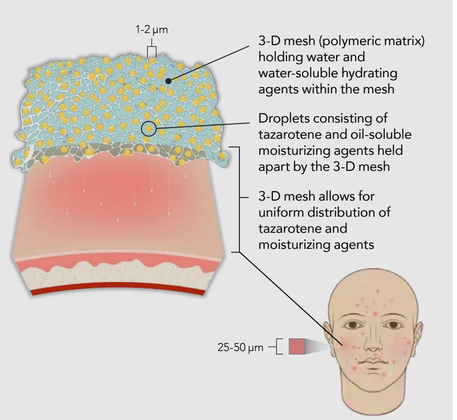
SYNOPSIS

- Patients with skin of color have an increased risk of acne and inflammation-related sequalae, including post-inflammatory hyperpigmentation (PIH) associated with acne resolution or irritation from treatment[1]
- Topical retinoids such as tazarotene treat acne by inhibiting multiple inflammatory pathways and normalizing desquamation[2]; however, skin irritation and other skin reactions may limit the use of some tazarotene gel and cream formulations[3]
- A recently-approved, lower-dose tazarotene 0.045% lotion formulation (Arazlo™, Ortho Dermatologics) was developed utilizing polymeric emulsion technology (**Figure 1**)[4]
  - This highly spreadable lotion formulation was developed to allow for more efficient delivery of tazarotene into dermal layers while reducing the potential for skin irritation[4]

FIGURE 1. Polymeric Emulsion Technology for Tazarotene 0.045% Lotion



OBJECTIVE

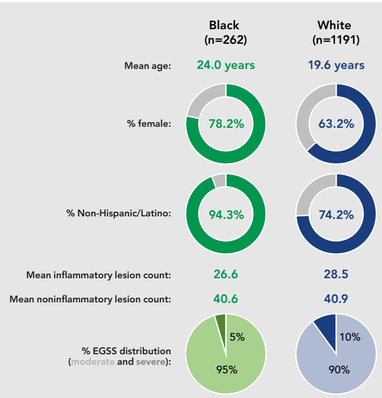
- Data from two phase 3 studies were pooled to evaluate the efficacy and safety of once-daily tazarotene 0.045% lotion compared with vehicle lotion in participants of White or Black race (self-identified)

METHODS

- In two phase 3, double-blind, 12-week studies (NCT03168334; NCT03168321),[5,6] participants with moderate-to-severe acne were randomized 1:1 to tazarotene 0.045% lotion or vehicle lotion (N=1614)
  - In these studies, CeraVe® hydrating cleanser and CeraVe® moisturizing lotion (L'Oreal, NY) were provided as needed for optimal moisturization/cleaning of the skin.
- This pooled, post hoc analysis included subsets of participants segmented by White (n=1191) or Black race (n=262)
- Coprimary endpoints were inflammatory/noninflammatory lesion counts and treatment success; treatment-emergent adverse events (TEAEs) and cutaneous safety and tolerability were also evaluated

RESULTS

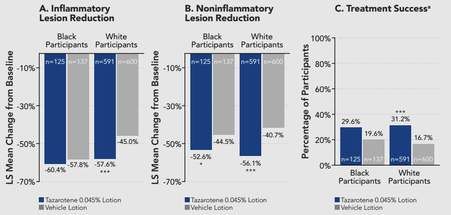
FIGURE 2. Participant Demographics and Baseline Characteristics (ITT Population, Pooled)



- Demographics and baseline characteristics were generally similar between subgroups, though:
  - Black participants were on average older and more likely to be female
  - A higher proportion of White participants had a baseline EGSS of 4 ("severe")

EGSS, Evaluator's Global Severity Score; ITT, intent to treat.

FIGURE 3. Efficacy Outcomes at Week 12 by Race (ITT Population, Pooled)



Tazarotene 0.045% Lotion:
- Black and White participants had a similar reduction in inflammatory and noninflammatory lesions by week 12
  - Lesion counts decreased over time in both Black and White participants (data not shown)
- Greater percentage of Black and White participants achieved treatment success vs vehicle

*P<0.05; ***P<0.001 vs vehicle.
[a]Defined as at least a 2-grade reduction from baseline in Evaluator's Global Severity Score and a score of 'clear' or 'almost clear'.
ITT, intent to treat; LS, least-squares.

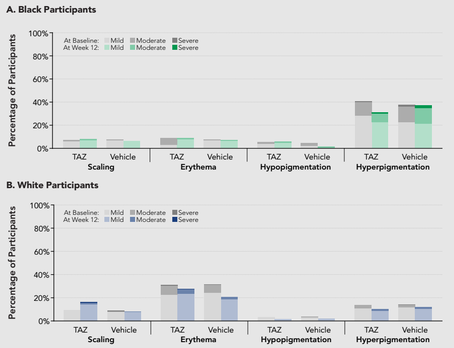
- Rates of TEAEs were similar for TAZ-treated Black and White participants; TEAEs were mostly mild or moderate and unrelated to treatment (**Table 1**)

TABLE 1. Participants Reporting Any Treatment-Emergent Adverse Event (Safety Population, Pooled)

	Black Participants		White Participants	
Participants, n (%)	TAZ 0.045% Lotion (n=121)	Vehicle Lotion (n=132)	TAZ 0.045% Lotion (n=575)	Vehicle Lotion (n=584)
Reporting any TEAE	30 (24.8)	17 (12.9)	165 (28.7)	118 (20.2)
Reporting any SAE[a]	1 (0.8)	1 (0.8)	3 (0.5)	3 (0.5)
Discontinued due to a TEAE[b]	5 (4.1)	0	16 (2.8)	4 (0.7)
Severity of TEAEs reported				
Mild	22 (18.2)	8 (6.1)	103 (17.9)	63 (10.8)
Moderate	7 (5.8)	7 (5.3)	54 (9.4)	53 (9.1)
Severe	1 (0.8)	2 (1.5)	8 (1.4)	2 (0.3)
Relationship to study drug				
Related	15 (12.4)	1 (0.8)	68 (11.8)	8 (1.4)
Unrelated	15 (12.4)	16 (12.1)	97 (16.9)	110 (18.8)
Most common TEAEs[c]				
Application site pain	8 (6.6)	0	30 (5.2)	2 (0.3)
Application site dryness	4 (3.3)	0	24 (4.2)	1 (0.2)
Application site exfoliation	6 (5.0)	0	8 (1.4)	0
Viral URTI[a]	6 (5.0)	2 (1.5)	25 (4.3)	25 (4.3)

[a]No instances were considered by the investigator to be treatment related.
[b]Includes participants who discontinued study drug or prematurely discontinued from the study.
[c]Reported in ≥3% of participants in any treatment group.
SAE, serious adverse event; TAZ, tazarotene; TEAE, treatment-emergent adverse event; URTI, upper respiratory tract infection.

FIGURE 4. Cutaneous Safety by Race (Safety Population, Pooled)



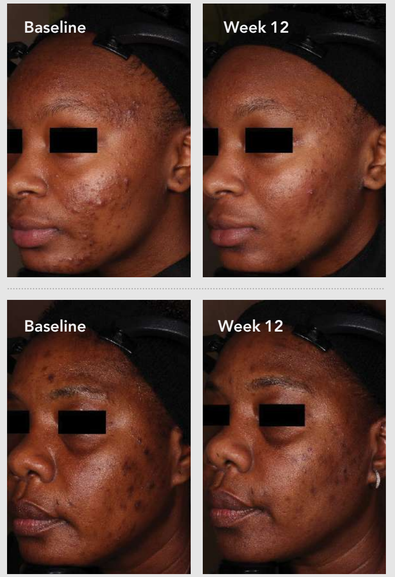
Tazarotene-treated participants:
- High baseline rates of hyperpigmentation (Black participants) and erythema (White participants) decreased by week 12
- Participant-reported tolerability assessments of itching, burning, and stinging were low in both groups (data not shown)

Data for "none" are not shown.
N values were as follows: Black: TAZ baseline n=121, TAZ week 12 n=102, vehicle baseline n=132, vehicle week 12 n=121; White: TAZ baseline n=575, TAZ week 12 n=512, vehicle baseline n=584, vehicle week 12 n=532.
TAZ, tazarotene 0.045% lotion.

CONCLUSIONS

- In two pooled phase 3 studies, tazarotene 0.045% lotion demonstrated efficacy in the treatment of moderate-to-severe acne in both White and Black participants
  - In White participants, tazarotene was significant versus vehicle for all 3 efficacy assessments
  - In Black participants, only reduction in noninflammatory lesions was significant for tazarotene versus vehicle; the lack of a statistical difference in the reduction of inflammatory lesions is likely due to the high response rate to vehicle in Black participants, whereas the statistical analysis of treatment success may have been limited in part by the small sample size
- This new formulation of tazarotene was well tolerated compared with vehicle lotion, and treatment with tazarotene lotion led to improvements in inflammation-associated sequelae of acne, including hyperpigmentation
- Tazarotene 0.045% lotion may be an effective and well tolerated treatment option for acne in patients with skin of color

FIGURE 5. Postinflammatory Hyperpigmentation Improvement in Black Participants



Two participants selected from a post hoc evaluation of study photographs to identify individuals who achieved improvement in postinflammatory hyperpigmentation. Individual results may vary.

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AUTHOR DISCLOSURES

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