27482

Efficacy of Ruxolitinib Cream Among Patients With Atopic Dermatitis Based on Previous Medication History: Pooled Results From Two Phase 3 Studies

Presented at the
American Academy of Dermatology Virtual Meeting Experience
April 23–25, 2021

Andrew Blauvelt, MD, MBA,[1] Lawrence F. Eichenfield, MD,[2] Michael E. Kuligowski, MD, PhD, MBA,[3] May E. Venturanza, MD,[3] Kang Sun, PhD,[3] Haobo Ren, PhD,[3] Jonathan I. Silverberg, MD, PhD, MPH[4]

[1]Oregon Medical Research Center, Portland, OR; [2]Departments of Dermatology and Pediatrics, University of California San Diego, San Diego, CA; [3]Incyte Corporation, Wilmington, DE; [4]George Washington University, Washington, DC

Background

- Treatments for atopic dermatitis (AD) include topical corticosteroids (TCS), topical calcineurin inhibitors (TCI), and systemic immunomodulatory agents[1]
- Current topical treatments may be insufficient because of inadequate efficacy, delayed onset of efficacy, duration-of-use limitations, anatomic use restrictions, poor tolerability, and/or adverse reactions[1,2]
  - TCS are associated with decreased skin thickness and elasticity (eg, striae); they are also not recommended for long-term application or use in sensitive areas
  - TCI are associated with local reactions, such as stinging and burning
- In two phase 3 randomized studies of identical design (TRuE-AD1 [NCT03745638] and TRuE-AD2 [NCT03745651]), ruxolitinib cream, a topical selective inhibitor of Janus kinase (JAK) 1 and JAK2, demonstrated anti-inflammatory activity with rapid and sustained antipruritic action vs vehicle and was well tolerated in adults and adolescents with AD[3]

Objective

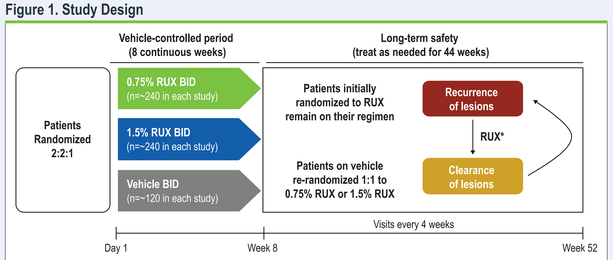
- To describe the efficacy and safety of ruxolitinib cream, based on previous medication history, using pooled data from two phase 3 trials in adolescent and adult patients with AD

Methods

Study Design and Patients

- Eligible patients were aged ≥12 years with AD for ≥2 years and had an Investigator's Global Assessment (IGA) score of 2 or 3 and 3%–20% affected body surface area (excluding scalp)
- Key exclusion criteria were unstable course of AD, other types of eczema, immunocompromised status, use of AD systemic therapies during the washout period and during the study, use of AD topical therapies (except bland emollients) during the washout period and during the study, and any serious illness or medical condition that could interfere with study conduct, interpretation of data, or patients' well-being
  - The washout period for prior therapies was 1 week for topical AD treatments, 4 weeks for systemic corticosteroids or other immunomodulating agents, and 12 weeks or 5 half-lives for biologics
- TRuE-AD1 and TRuE-AD2 had identical study designs (**Figure 1**)
  - In both studies, patients were randomized (2:2:1) to 1 of 2 ruxolitinib cream strength regimens (0.75% twice daily [BID] or 1.5% BID) or vehicle cream BID for 8 weeks of double-blinded treatment
  - Patients on ruxolitinib cream subsequently continued treatment for 44 weeks; patients initially randomized to vehicle were re-randomized 1:1 (blinded) to either ruxolitinib cream regimen

Figure 1. Study Design



AD, atopic dermatitis; BID, twice daily; BSA, body surface area; RUX, ruxolitinib cream.
* Patients self-evaluated recurrence of lesions between study visits and treated lesions with active AD (≤20% BSA). If lesions cleared between study visits, patients stopped treatment 3 days after lesion disappearance. If new lesions were extensive or appeared in new areas, patients contacted the investigator to determine if an additional visit was needed.

Assessments

- Efficacy endpoints included in this subanalysis of patients by previous medication use were similar to the primary analysis of the overall population and included the proportion of patients achieving IGA-treatment success (IGA-TS; score of 0 or 1 with ≥2-grade improvement from baseline), ≥75% improvement in Eczema Area and Severity Index vs baseline (EASI-75), and a ≥4-point improvement in itch numerical rating scale score from baseline (NRS4)

Statistical Analysis

- All analyses were conducted using the pooled data from both studies
- Efficacy data were analyzed by logistic regression and reported descriptively
- Safety and tolerability were assessed by treatment-emergent adverse events (AEs)
- The efficacy population consisted of 1208 patients (vehicle, n=244; 0.75% ruxolitinib cream, n=483; 1.5% ruxolitinib cream, n=481)
- The safety population consisted of all randomized patients

Results

Patients

- A total of 1249 patients (median age, 32 years) were randomized
- Distribution of baseline demographics and clinical characteristics was similar across treatment groups (**Table 1**)

Table 1. Patient Demographics and Baseline Clinical Characteristics

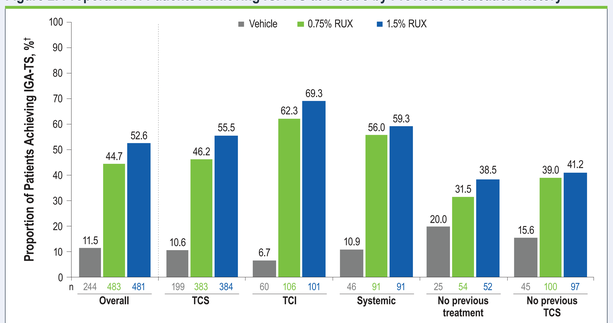
Characteristic	Vehicle (n=250)	0.75% RUX (n=500)	1.5% RUX (n=499)	Total (N=1249)
Age, median (range), y	34.0 (12–82)	33.0 (12–85)	31.0 (12–85)	32.0 (12–85)
Female, n (%)	159 (63.6)	304 (60.8)	308 (61.7)	771 (61.7)
Race, n (%)				
White	170 (68.0)	345 (69.0)	355 (71.1)	870 (69.7)
Black	61 (24.4)	118 (23.6)	113 (22.6)	292 (23.4)
Asian	10 (4.0)	16 (3.2)	20 (4.0)	46 (3.7)
Other	9 (3.6)	21 (4.2)	11 (2.2)	41 (3.3)
Region, n (%)				
North America	172 (68.8)	342 (68.4)	341 (68.3)	855 (68.5)
Europe	78 (31.2)	158 (31.6)	158 (31.7)	394 (31.5)
BSA, mean (SD), %	9.6 (5.5)	10.0 (5.3)	9.6 (5.3)	9.8 (5.4)
EASI, mean (SD)	7.8 (4.8)	8.1 (4.9)	7.8 (4.8)	8.0 (4.8)
IGA, n (%)				
2	64 (25.6)	125 (25.0)	123 (24.6)	312 (25.0)
3	186 (74.4)	375 (75.0)	376 (75.4)	937 (75.0)
Itch NRS score, mean (SD)	5.1 (2.4)	5.2 (2.4)	5.1 (2.5)	5.1 (2.4)
≥4, n (%)	159 (63.6)	324 (64.8)	315 (63.1)	798 (63.9)
Duration of disease, median (range), y	16.5 (0.8–79.1)	15.1 (0.1–68.8)	16.1 (0–69.2)	15.8 (0–79.1)
Facial involvement, n (%)*	93 (37.2)	195 (39.0)	197 (39.5)	485 (38.8)
Number of flares in last 12 mo, mean (SD)*	7.3 (25.7)	5.2 (6.7)	6.0 (17.6)	5.9 (16.5)
Previous AD medication, n (%)†				
TCS	199 (81.6)	383 (79.3)	384 (79.8)	966 (80.0)
TCI	60 (24.6)	106 (21.9)	101 (21.0)	267 (22.1)
Systemic therapy	46 (18.9)	91 (18.8)	91 (18.9)	228 (18.9)
No previous treatment	25 (10.2)	54 (11.2)	52 (10.8)	131 (10.8)
No previous TCS	45 (18.4)	100 (20.7)	97 (20.2)	242 (20.0)

AD, atopic dermatitis; BSA, body surface area; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; NRS, numerical rating scale; RUX, ruxolitinib cream; TCI, topical calcineurin inhibitor; TCS, topical corticosteroid.
* Patient reported.
† Efficacy-evaluable population (vehicle, n=244; 0.75% RUX, n=483; 1.5% RUX, n=481).

Efficacy

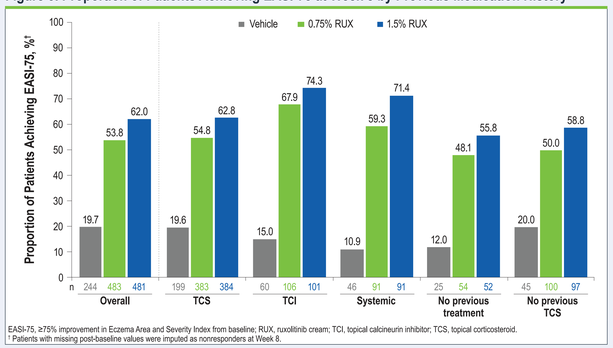
- Regardless of previous treatment, substantially more patients who received either strength of ruxolitinib cream achieved IGA-TS (**Figure 2**), EASI-75 (**Figure 3**), and itch NRS4 (**Figure 4**) at Week 8 vs vehicle; differences were also observed for ruxolitinib cream vs vehicle among patients who received no previous treatment or no TCS
- Clinical pictures illustrating the efficacy of ruxolitinib cream in patients who received prior therapies are shown in **Figure 5**

Figure 2. Proportion of Patients Achieving IGA-TS at Week 8 by Previous Medication History



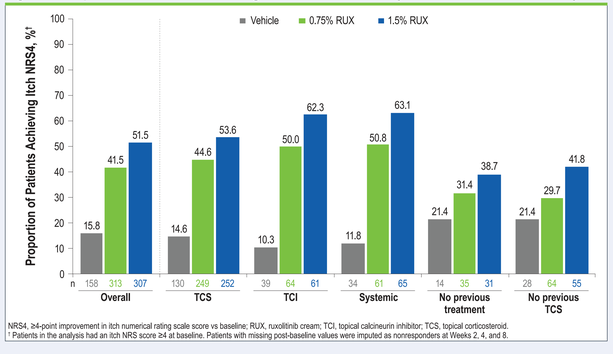
IGA-TS, Investigator's Global Assessment-treatment success; RUX, ruxolitinib cream; TCI, topical calcineurin inhibitor; TCS, topical corticosteroid.
† Patients achieving an IGA score of 0 or 1 with an improvement of ≥2 points from baseline. Patients with missing post-baseline values were imputed as nonresponders at Week 8.

Figure 3. Proportion of Patients Achieving EASI-75 at Week 8 by Previous Medication History



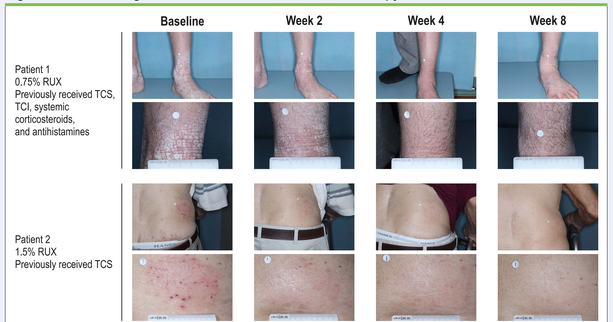
EASI-75, ≥75% improvement in Eczema Area and Severity Index from baseline; RUX, ruxolitinib cream; TCI, topical calcineurin inhibitor; TCS, topical corticosteroid.
† Patients with missing post-baseline values were imputed as nonresponders at Week 8.

Figure 4. Proportion of Patients Achieving Itch NRS4 at Week 8 by Previous Medication History



NRS4, ≥4-point improvement in itch numerical rating scale score vs baseline; RUX, ruxolitinib cream; TCI, topical calcineurin inhibitor; TCS, topical corticosteroid.
† Patients in the analysis had an itch NRS score ≥4 at baseline. Patients with missing post-baseline values were imputed as nonresponders at Weeks 2, 4, and 8.

Figure 5. Clinical Images in Patients Who Received Prior Therapy



RUX, ruxolitinib cream; TCI, topical calcineurin inhibitor; TCS, topical corticosteroid.

Safety

- Ruxolitinib cream was well tolerated across all subgroups of previous treatment (**Table 2**)

Table 2. Treatment-Emergent Adverse Events During the 8-Week Vehicle-Controlled Period

n (%)	Vehicle, n (%)	0.75% RUX, n (%)	1.5% RUX, n (%)
All patients	n=250	n=500	n=499
TEAE	83 (33.2)	145 (29.0)	132 (26.5)
Treatment-related AE	28 (11.2)	23 (4.6)	24 (4.8)
Discontinuation due to a TEAE	8 (3.2)	4 (0.8)	4 (0.8)
Serious TEAE*	2 (0.8)	4 (0.8)	3 (0.6)
Previous TCS	n=205	n=400	n=401
TEAE	69 (33.7)	123 (30.8)	110 (27.4)
Application site reaction	14 (6.8)	8 (2.0)	7 (1.7)
Treatment-related AE	23 (11.2)	19 (4.8)	20 (5.0)
Discontinuation due to a TEAE	8 (3.9)	2 (0.5)	4 (1.0)
Serious TEAE*	2 (1.0)	4 (1.0)	3 (0.7)
Previous TCI	n=60	n=107	n=101
TEAE	23 (38.3)	45 (42.1)	38 (37.6)
Application site reaction	6 (10.0)	2 (1.9)	3 (3.0)
Treatment-related AE	11 (18.3)	9 (8.4)	8 (7.9)
Discontinuation due to a TEAE	4 (6.7)	0	1 (1.0)
Serious TEAE*	1 (1.7)	0	1 (1.0)
Previous systemic therapy	n=46	n=93	n=95
TEAE	21 (45.7)	35 (37.6)	30 (31.6)
Application site reaction	7 (15.2)	2 (2.2)	3 (3.2)
Treatment-related AE	12 (26.1)	7 (7.5)	8 (8.4)
Discontinuation due to a TEAE	5 (10.9)	0	1 (1.1)
Serious TEAE*	1 (2.2)	1 (1.1)	0
No previous treatment	n=25	n=54	n=52
TEAE	9 (36.0)	6 (11.1)	12 (23.1)
Application site reaction	2 (8.0)	1 (1.9)	1 (1.9)
Treatment-related AE	3 (12.0)	1 (1.9)	2 (3.8)
Discontinuation due to a TEAE	0	1 (1.9)	0
Serious TEAE*	0	0	0
No previous TCS	n=45	n=100	n=98
TEAE	14 (31.1)	22 (22.0)	22 (22.4)
Application site reaction	4 (8.9)	3 (3.0)	1 (1.0)
Treatment-related AE	5 (11.1)	4 (4.0)	4 (4.1)
Discontinuation due to a TEAE	0	2 (2.0)	0
Serious TEAE*	0	0	0

AE, adverse event; TCI, topical calcineurin inhibitor; TCS, topical corticosteroid; TEAE, treatment-emergent adverse event.
* None were related to ruxolitinib treatment.

Conclusions

- **Ruxolitinib cream demonstrated a high level of efficacy in patients with AD regardless of previous use of topical or systemic therapy**
- **Ruxolitinib cream was well tolerated regardless of previous use of topical or systemic therapy**

Disclosures

AB has served as a scientific advisor and/or clinical study investigator for AbbVie, Aligos, Almirall, Amgen, Arcutis, Arena, Athenex, Boehringer Ingelheim, Bristol Myers Squibb, Dermavant, Eli Lilly and Company, Evommune, Forte, Galderma, Incyte Corporation, Janssen, Landos, LEO Pharma, Novartis, Pfizer, Rapt, Regeneron, Sanofi Genzyme, Sun Pharma, and UCB Pharma. LFE has served as an investigator, consultant, speaker, or data safety monitoring board member for AbbVie, Almirall, Arcutis, Asana, Dermavant, Eli Lilly, Forte Biosciences, Galderma, Ichnos/Glenmark, Incyte Corporation, Janssen, LEO Pharma, Novartis, Ortho Dermatologics, Otsuka, Pfizer, Regeneron, and Sanofi Genzyme. MEK, MEV, KS, and HR are employees and shareholders of Incyte Corporation. JIS has received honoraria for advisory board, speaker, and consultant services from AbbVie, Asana, Bluefin, Boehringer Ingelheim, Celgene, Dermavant, Dermira, Eli Lilly, Galderma, GlaxoSmithKline, Glenmark, Incyte Corporation, Kiniksa, LEO Pharma, Menlo, Novartis, Pfizer, Realm, Regeneron, and Sanofi and research grants for investigator services from Galderma and GlaxoSmithKline.

Acknowledgments

The authors thank the patients, investigators, and investigational sites whose participation made the study possible. Support for this study was provided by Incyte Corporation (Wilmington, DE). Writing assistance was provided by Tania Iqbal, PhD, an employee of ICON (North Wales, PA), and was funded by Incyte Corporation.

References

1. Langan SM, et al. *Lancet.* 2020;396(10247):345-360. **2.** Eichenfield LF, et al. *J Am Acad Dermatol.* 2014;71(1):116-132. **3.** Papp K, et al. *Br J Dermatol.* 2020;183(4):e116.

To download a copy of this poster, scan code.