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Efficacy of Ruxolitinib Cream for Treatment of Atopic Dermatitis in Children Aged 2 to 11 Years by Baseline Clinical Characteristics: Subgroup Analysis From a Randomized Phase 3 Study (TRuE-AD3)

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Introduction

- Atopic dermatitis (AD) is a chronic, heterogeneous, highly pruritic, relapsing inflammatory skin disease affecting approximately 10% of children[1-3]
- Ruxolitinib cream, a topically administered selective Janus kinase (JAK) 1/JAK2 inhibitor,[4] is an effective nonsteroidal monotherapy initially used twice daily continuously to reduce signs and symptoms of AD, and as-needed for longer-term disease control as shown in adults and adolescents with mild to moderate AD, as shown in two phase 3 clinical studies: TRuE-AD1 (NCT03745638) and TRuE-AD2 (NCT03745651)[5,6]
- In the phase 3 study of children aged 2 to 11 years with mild to moderate AD (TRuE-AD3 [NCT04921969]),[7] ruxolitinib cream demonstrated anti-inflammatory and antipruritic activity and was well tolerated through 8 weeks of therapy, consistent with adult/adolescent data (TRuE-AD1/TRuE-AD2) and maximum-use data in children with ≥35% affected body surface area (NCT05034822)[5,8]

Objective

- To evaluate the efficacy of ruxolitinib cream by baseline clinical characteristics of children with AD in a post hoc analysis of data from the TRuE-AD3 study

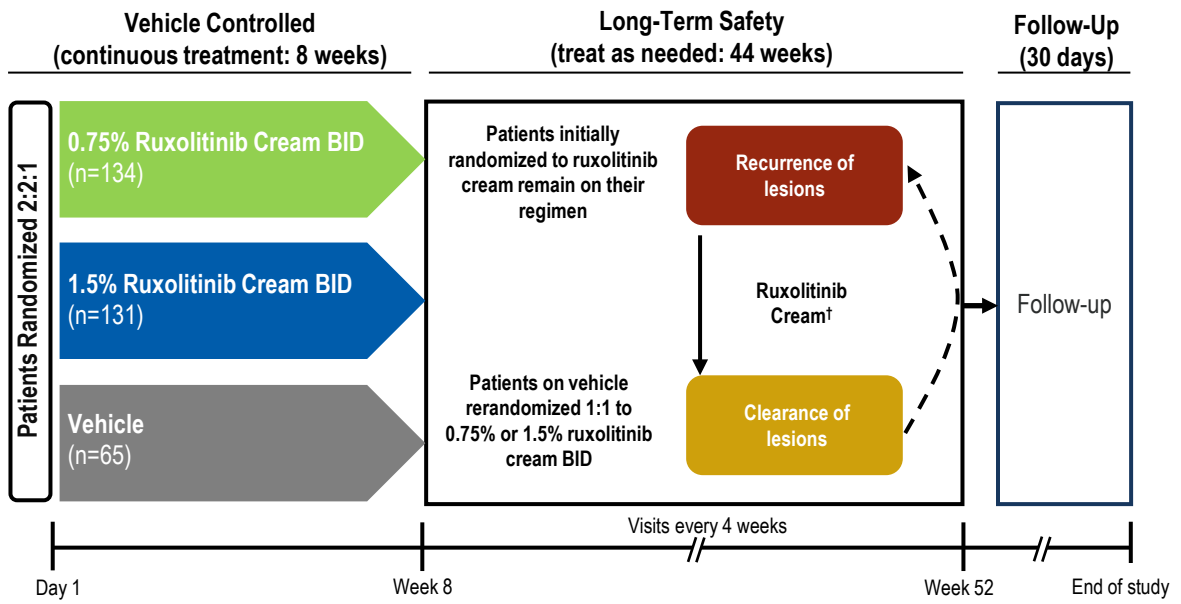
Methods

Patients and Study Design

- The study design is shown in **Figure 1**; the long-term safety period is ongoing

Methods *(cont'd)*

Figure 1. Study Design*



See http://clinicaltrials.gov/study/NCT04921969 for additional inclusion/exclusion criteria.
BID, twice daily; BSA, body surface area; IGA-TS, Investigator's Global Assessment–treatment success; NRS, numerical rating scale; NRS4, ≥4-point improvement in Itch NRS from baseline.
* Primary efficacy endpoint at Week 8 was the percentage of patients achieving IGA-TS (score of 0 or 1 with ≥2-grade improvement from baseline); key secondary endpoints were percentage of patients aged 6 to 11 years with NRS ≥4 at baseline achieving Itch NRS4 at Week 8, Day 7, and Day 3.
† 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 unscheduled additional visit was needed.

Methods *(cont'd)*

Statistical Analyses

- All randomized patients were included in the efficacy analyses, and those who applied ≥1 dose of study drug were included in the safety analyses
- Efficacy endpoints were assessed by Investigator's Global Assessment (IGA) score and Eczema Area and Severity Index (EASI) at baseline
- Patients with missing post-baseline values were imputed as nonresponders

Results

Patients

- A total of 330 patients were randomized, of whom 42 (12.7%) discontinued treatment during the 8-week vehicle-controlled period, mostly due to patient withdrawal (5.5%) or lost to follow-up (3.6%)[7]
- Distribution of baseline demographics and clinical characteristics was similar across treatment groups (**Table 1**)

Results *(cont'd)*

Table 1. Patient Demographics and Baseline Clinical Characteristics

Clinical Characteristic	Vehicle (n=65)	0.75% Ruxolitinib Cream (n=134)	1.5% Ruxolitinib Cream (n=131)	Total (N=330)
Age, median (range), y	6.0 (2–11)	6.0 (2–11)	6.0 (2–11)	6.0 (2–11)
2–6, n (%)	33 (50.8)	68 (50.7)	66 (50.4)	167 (50.6)
7–11, n (%)	32 (49.2)	66 (49.3)	65 (49.6)	163 (49.4)
Female, n (%)	38 (58.5)	73 (54.5)	68 (51.9)	179 (54.2)
Race, n (%)				
White	37 (56.9)	75 (56.0)	68 (51.9)	180 (54.5)
Black	19 (29.2)	45 (33.6)	42 (32.1)	106 (32.1)
Asian	3 (4.6)	7 (5.2)	11 (8.4)	21 (6.4)
Other	6 (9.2)	6 (4.5)	9 (6.9)	21 (6.4)
Not reported	0	1 (0.7)	1 (0.8)	2 (0.6)
Country, n (%)				
United States	65 (100)	129 (96.3)	122 (93.1)	316 (95.8)
Canada	0	5 (3.7)	9 (6.9)	14 (4.2)
Affected BSA, mean (SD), %	10.0 (5.54)	10.0 (5.11)	11.2 (5.58)	10.5 (5.40)
Baseline EASI, mean (SD)	8.6 (5.47)	8.4 (6.11)	8.9 (4.57)	8.6 (5.40)
≤7, n (%)	29 (44.6)	72 (53.7)	51 (38.9)	152 (46.1)
>7, n (%)	36 (55.4)	62 (46.3)	80 (61.1)	178 (53.9)
Baseline IGA, n (%)				
2	16 (24.6)	31 (23.1)	31 (23.7)	78 (23.6)†
3	49 (75.4)	103 (76.9)	100 (76.3)	252 (76.4)
Itch NRS score, mean (SD)*	6.5 (1.79)	6.6 (1.78)	6.9 (1.55)	6.7 (1.70)
Itch NRS score ≥4, n (%)*	37 (97.4)	80 (94.1)	76 (98.7)	193 (96.5)
Duration of disease, median (range), y	4.4 (0.4–11.2)	5.2 (0.3–11.3)	4.7 (0.4–11.2)	4.8 (0.3–11.3)
Had prior AD therapy in last 12 mo, n (%)	46 (70.8)	86 (64.2)	90 (68.7)	222 (67.3)

AD, atopic dermatitis; BSA, body surface area; EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; NRS, numerical rating scale.

* For patients aged 6 to 11 years (vehicle, n=38; 0.75% ruxolitinib cream, n=85; 1.5% ruxolitinib cream, n=77; total, n=200). Score is mean of ≥4 of the 7 days immediately prior to the baseline visit.

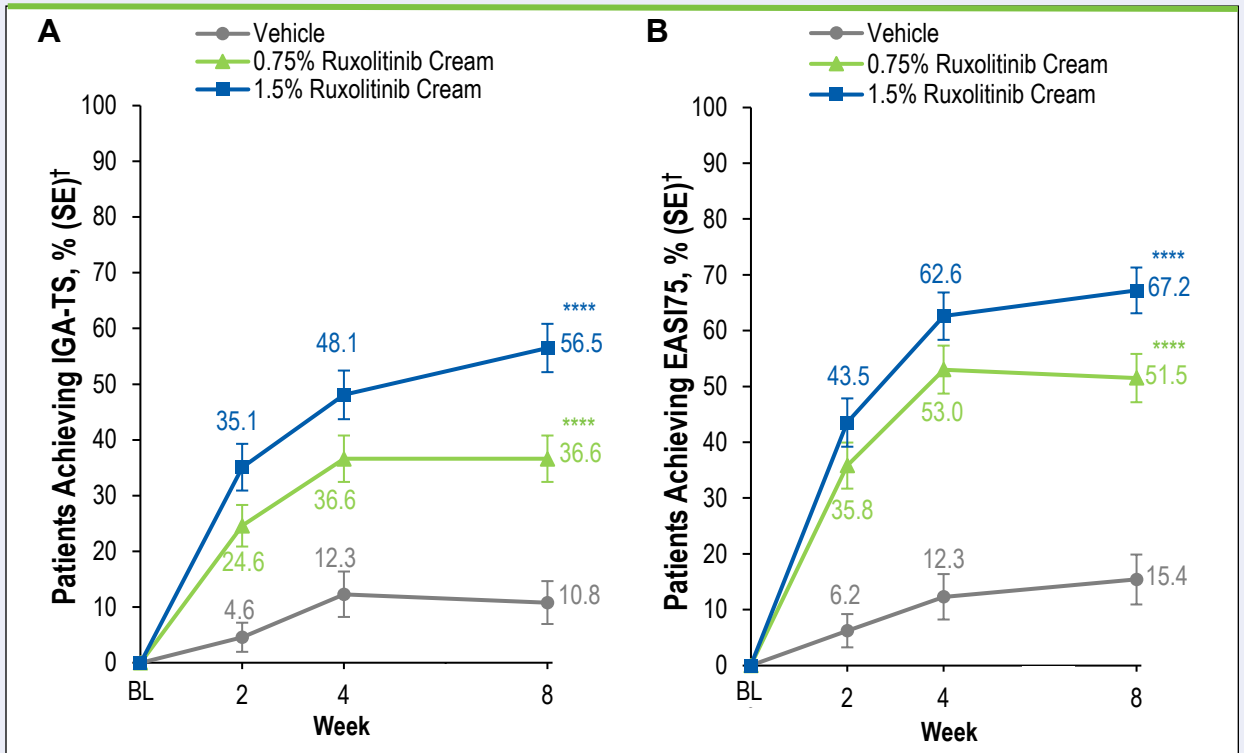
† Capped at 25%.

Results *(cont'd)*

Efficacy

- Clinical improvement as measured by achievement of IGA-TS (**Figure 2A**) and EASI75 (**Figure 2B**) was observed in patients applying 0.75%/1.5% ruxolitinib cream vs vehicle at Week 2, with **efficacy increasing** through Week 8
- Achievement of IGA-TS (**Figure 3**), EASI75 (**Figure 4**), EASI90 (**Figure 5**), and Itch NRS4 (for patients aged 6 to 11 years; **Figure 6**) at Week 8 was **similar** between subgroups with different baseline disease severity

Figure 2. Percentage (SE) of Patients Achieving (A) IGA-TS and (B) EASI75 at Weeks 2, 4, and 8

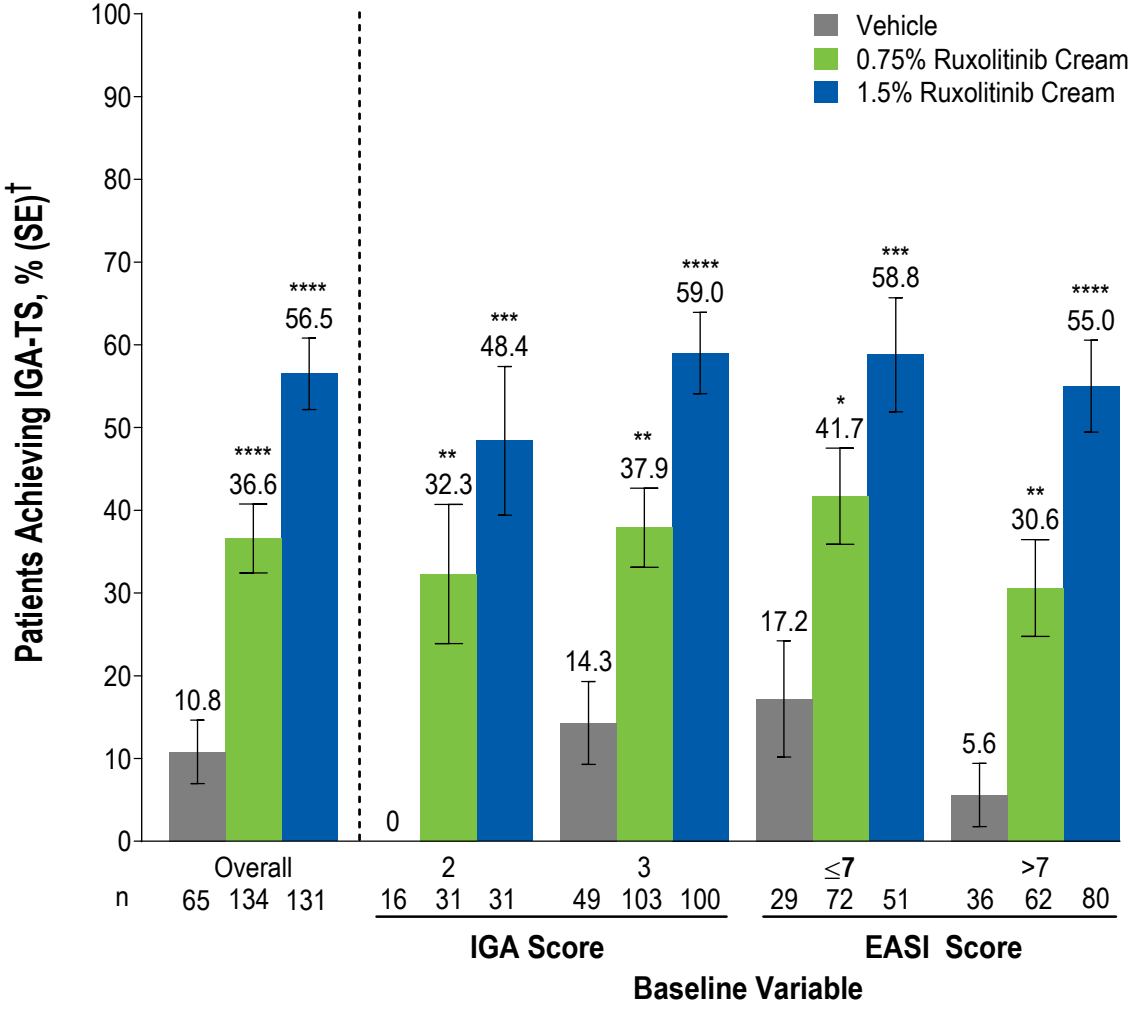


BL, baseline; EASI, Eczema Area and Severity Index; EASI75, ≥75% improvement from baseline in EASI; IGA, Investigator's Global Assessment; IGA-TS, IGA–treatment success.

**** *P*≤0.0001 vs vehicle.

† Patients with missing IGA or EASI post-baseline values at a site visit were imputed as nonresponders for that site visit.

Figure 3. Percentage (SE) of Patients Achieving IGA-TS at Week 8 by Subgroups of Baseline Clinical Characteristics



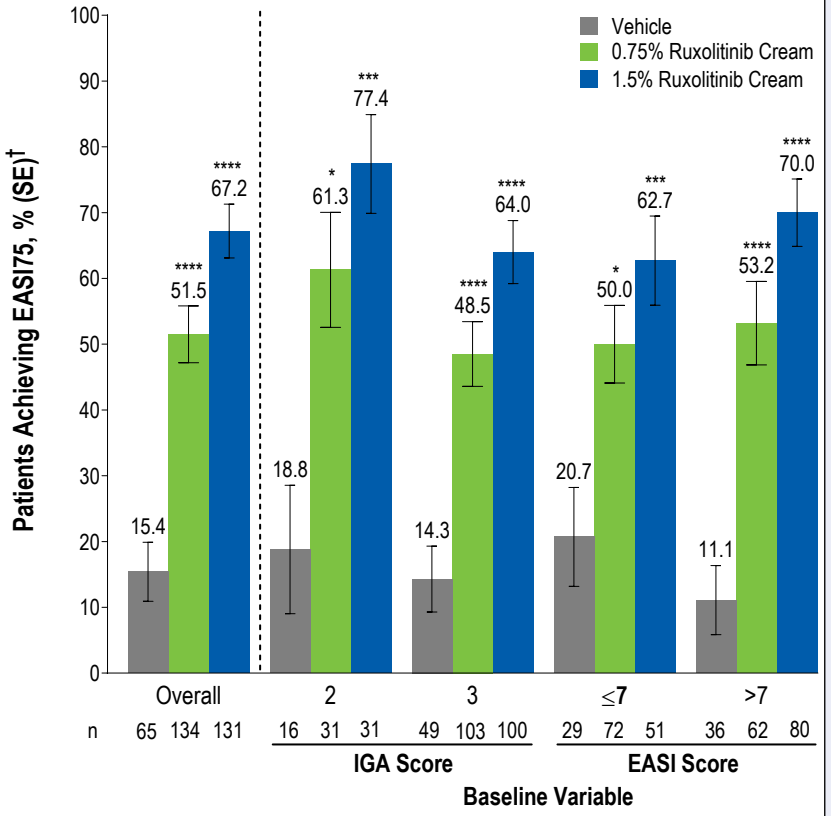
EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; IGA-TS, IGA–treatment success.

* *P*<0.05 vs vehicle; ** *P*<0.01 vs vehicle; *** *P*<0.001 vs vehicle; **** *P*≤0.0001 vs vehicle.

† Patients with missing IGA post-baseline values were imputed as nonresponders at Week 8.

Results *(cont'd)*

Figure 4. Percentage (SE) of Patients Achieving EASI75 at Week 8 by Subgroups of Baseline Clinical Characteristics

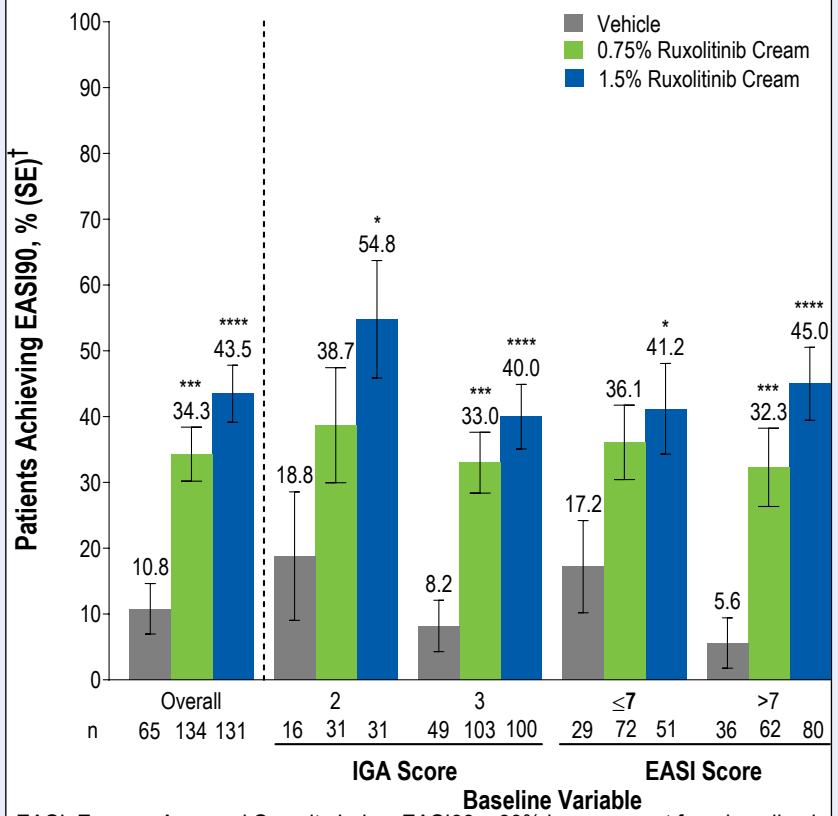


EASI, Eczema Area and Severity Index; EASI75, ≥75% improvement from baseline in EASI; IGA, Investigator's Global Assessment.

* $P<0.05$ vs vehicle; *** $P<0.001$ vs vehicle; **** $P<0.0001$ vs vehicle.

† Patients with missing EASI post-baseline values were imputed as nonresponders at Week 8.

Figure 5. Percentage (SE) of Patients Achieving EASI90 at Week 8 by Subgroups of Baseline Clinical Characteristics

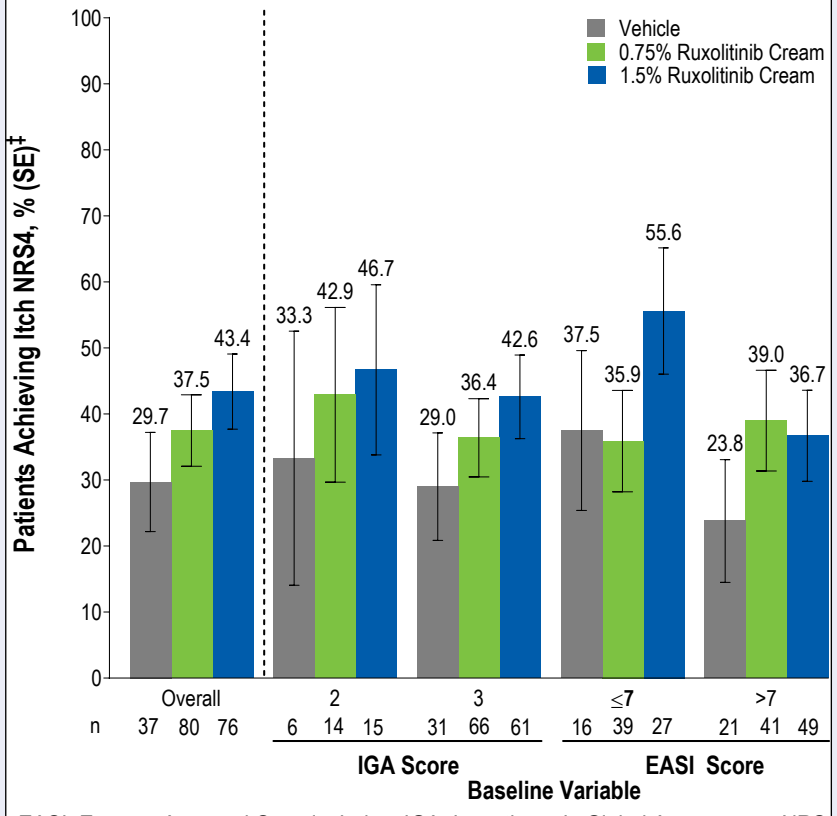


EASI, Eczema Area and Severity Index; EASI90, ≥90% improvement from baseline in EASI; IGA, Investigator's Global Assessment.

* $P<0.05$ vs vehicle; *** $P<0.001$ vs vehicle; **** $P<0.0001$ vs vehicle.

† Patients with missing EASI post-baseline values were imputed as nonresponders at Week 8.

Figure 6. Percentage (SE) of Patients Aged 6 to 11 Years Achieving Itch NRS4 at Week 8 by Subgroups of Baseline Clinical Characteristics†



EASI, Eczema Area and Severity Index; IGA, Investigator's Global Assessment; NRS, numerical rating scale; NRS4, ≥4-point improvement from baseline in Itch NRS.

† For patients aged 6 to 11 years with Itch NRS ≥4 at baseline.

‡ Patients with missing Itch NRS4 post-baseline values were imputed as nonresponders at Week 8.

Safety

- Both strengths of ruxolitinib cream were **well tolerated with few application site reactions** (most commonly application site pain, n=7 [2.7%])[6]
- **No treatment-emergent adverse events (AEs) suggestive of systemic JAK inhibition were reported** (ie, there were no serious infections, major adverse cardiac events, malignancies, or thromboses), and no serious AEs or deaths occurred

Conclusions

- **In children aged 2 to 11 years with mild to moderate AD, efficacy thresholds (eg, IGA-TS and EASI75) were achieved by a greater percentage of patients applying ruxolitinib cream vs vehicle independent of baseline disease severity**
  - **Similar results were observed in a previous study in adolescents and adults[9]**
- **Ruxolitinib cream was well tolerated in children aged 2 to 11 years with mild to moderate AD**

Disclosures

AWA has served as a research investigator and/or scientific advisor to AbbVie, Bristol Myers Squibb, Dermavant, Dermira, Incyte, Janssen, LEO Pharma, Lilly, Modmed, Novartis, Ortho Dermatologics, Pfizer, Regeneron, Sanofi, Sun Pharma, and UCB. LFE has served as an investigator, consultant, speaker, or data safety monitoring board member for AbbVie, Amgen, Arcutis, Aslan, Castle Biosciences, Dermavant, Eli Lilly, Forte Biosciences, Galderma, Incyte Corporation, Janssen, LEO Pharma, Novartis, Ortho Dermatologics, Otsuka, Pfizer, Regeneron, and Sanofi Genzyme. LWL reports research funding from AbbVie, Amgen, Amryt, Arcutis, Avita, Castle Creek, Celgene, Eli Lilly, Galderma, Incyte, Janssen, Kiniksa, Krystal Biotech, Mayne Pharmaceuticals, MoonLake Pharmaceuticals, Novartis, Pfizer, Pyramid Bioscience, Regeneron, Sanofi, Target Pharma, Timber Pharmaceuticals, Trevi Therapeutics, and UCB; and fees from AbbVie, Amryt, Eli Lilly, Kimberly Clark, Novartis, Pfizer, Regeneron, and Verrica. KKB has served as a consultant for the National Eczema Association; an advisor for Incyte; and an investigator for DBV, Incyte, Sanofi, and Siolta Therapeutics. JCJ is a consultant for Pfizer and Sanofi, a speaker for Sanofi, and an investigator for AbbVie, Aclaris Therapeutics, Amgen, AstraZeneca, Bayer, Bristol Myers Squibb, Eli Lilly, Galderma, Incyte, Janssen, NFlection, Novartis, Pfizer, Sanofi, and UCB. SBF has received honoraria, clinical research grants, or fees as a consultant, speaker, advisory board member, and/or investigator for AbbVie, Aclaris Therapeutics, Asana BioSciences, AstraZeneca, Athenex, Celgene Corporation, Cutanea Life Sciences, Eli Lilly, Incyte Corporation, Innovaderm Research, Novartis, Pfizer, Promius Pharma, Regeneron, UCB, Valeant Pharmaceuticals North America, and XBiotech. WS has served as an investigator for AbbVie, Allakos, Amgen, Eli Lilly, Galderma, Incyte, LEO Pharma, Pfizer, Regeneron, and Sanofi; and as a consultant or speaker for AbbVie, Amgen, Eli Lilly, Incyte, LEO Pharma, Novartis, Pfizer, Regeneron, and Sanofi. HS has served as a consultant and/or investigator for AbbVie, Amgen, Asana, Boehringer Ingelheim, Celgene, Dermavant, Dermira, Eli Lilly and Company, Incyte, Janssen/Johnson & Johnson, Kiniksa, LEO Pharma, Sun Pharmaceuticals, UCB, and Xbiotech. BA, DS, and QL are employees and shareholders of Incyte. LFSG has served as an investigator, advisor, and/or speaker for AbbVie, Arcutis, Bristol Myers Squibb, Dermavant, Eli Lilly, Incyte, Ortho Dermatologics, Pfizer, Regeneron, and Sanofi.

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References

1. Langan SM, et al. *Lancet*. 2020;396(10247):345-360. **2.** Hanifin JM, et al. *Dermatitis*. 2007;18(2):82-91. **3.** Silverberg JI, et al. *Ann Allergy Asthma Immunol.* 2021;126(4):417-428.e2. **4.** Quintas-Cardama A, et al. *Blood.* 2010;115 (15):3109-3117. **5.** Papp K, et al. *J Am Acad Dermatol*. 2021;85(4):863-872. **6.** Papp K, et al. *J Am Acad Dermatol*. 2023;88(5):1008-1016. **7.** Eichenfield LF, et al. A Phase 3 Study of Ruxolitinib Cream in Children Aged 2–<12 Years With Atopic Dermatitis (TRuE-AD3): 8-Week Analysis. Presented at: 32nd European Academy of Dermatology and Venereology (EADV) Congress; October 11-14, 2023; Berlin, Germany. **8.** Lee MS, et al. A Maximum-Use Trial of Ruxolitinib Cream in Children Aged 2 to <12 Years With Atopic Dermatitis: 8-Week Analysis. Presented at: Society for Pediatric Dermatology 48th Annual Meeting; July 13-16, 2023; Asheville, NC, USA. **9.** Papp K, et al. Efficacy of Ruxolitinib Cream for the Treatment of Atopic Dermatitis by Baseline Clinical Characteristics: Pooled Subgroup Analysis From Two Randomized Phase 3 Studies. Presented at: American Academy of Dermatology Virtual Meeting Experience; April 23-25, 2021; Virtual.

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