



Efficacy and safety of switching from dupilumab to upadacitinib versus continuous upadacitinib in moderate-to-severe atopic dermatitis: Results from an open-label extension of the phase 3, randomized, controlled trial (Heads Up)

Andrew Blauvelt, MD,^a Barry Ladizinski, MD,^b Vimal H. Prajapati, MD,^{c,d,e,f,g,h} Vivian Laquer, MD,ⁱ Alison Fischer, MD,^{j,k} Samantha Eisman, MD,^l Xiaofei Hu, PhD,^b Tianshuang Wu, PhD,^b Brian M. Calimlim, DRPH,^b Blair Kaplan, PharmD,^b Yingyi Liu, PhD,^b Henrique D. Teixeira, PhD,^b John Liu, MD,^b and Kilian Eyerich, MD, PhD^{m,n}

Background: Characterization of upadacitinib use and switching from dupilumab to upadacitinib among patients with moderate-to-severe atopic dermatitis (AD) is needed.

Objective: To evaluate the long-term safety and efficacy of continuous upadacitinib 30 mg and switching to upadacitinib after 24 weeks of dupilumab.

Methods: Adults who completed the phase 3b clinical trial of oral upadacitinib 30 mg vs injectable dupilumab 300 mg (Heads Up) and entered a 52-week open-label extension (OLE) (NCT04195698) were included. All patients received 30-mg upadacitinib during the open-label period. We report results of a prespecified interim OLE 16-week analysis.

Results: Patients ($n = 239$) continuing upadacitinib maintained high levels of skin and itch response. Patients ($n = 245$) switching from dupilumab experienced additional incremental improvements in clinical responses within 4 weeks of starting upadacitinib. Most patients who did not achieve adequate clinical

From the Oregon Medical Research Center, Portland, Oregon^a; AbbVie Inc, North Chicago, Illinois^b; Division of Dermatology, Department of Medicine, University of Calgary, Calgary, Alberta, Canada^c; Section of Community Pediatrics, Department of Pediatrics, University of Calgary, Calgary, Alberta, Canada^d; Section of Pediatric Rheumatology, Department of Pediatrics, University of Calgary, Calgary, Alberta, Canada^e; Skin Health & Wellness Centre, Calgary, Alberta, Canada^f; Dermatology Research Institute, Calgary, Alberta, Canada^g; Probit Medical Research, Calgary, Alberta, Canada^h; First OC Dermatology Research, Fountain Valley, Californiaⁱ; Southside Dermatology, Tulsa, Oklahoma^j; Oklahoma State University Center for Health Sciences, Tulsa, Oklahoma^k; Sinclair Dermatology, East Melbourne, Victoria, Australia^l; Karolinska Institutet and Karolinska University Hospital, Stockholm, Sweden^m; and Department of Dermatology and Venerology, School of Medicine, University of Freiburg, Freiburg, Germany.ⁿ

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IRB approval status: An independent ethics committee and review board (ADVARRA, approval number Pro00043293) approved the study protocol, informed consent forms, and recruitment materials before patient enrollment.

As this is an extension study, some data from the original Heads Up clinical trial (NCT03738397) has been previously reported in

a published article: Blauvelt A, Teixeira HD, Simpson EL, et al. Efficacy and safety of upadacitinib vs dupilumab in adults with moderate-to-severe atopic dermatitis: a randomized clinical trial. *JAMA Dermatol.* 2021;157(9):1047-1055. Results from the open-label extension (NCT04195698) were presented at the 30th European Academy of Dermatology and Venereology (EADV) Congress, September 28, 2021, to October 2, 2021. Blauvelt A, Ladizinski B, Prajapati VH, et al. Efficacy and safety of switching from dupilumab to upadacitinib or continuous upadacitinib in moderate-to-severe atopic dermatitis: results from an open-label extension trial.

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Correspondence to: Andrew Blauvelt, MD, Oregon Medical Research Center, 9495 SW Locust St, Ste G, Portland, OR 97223. E-mail: ablauvelt@oregonmedicalresearch.com.

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responses with dupilumab did so with upadacitinib. The safety profile of upadacitinib up to 40 weeks (week 16 of OLE) was consistent with previous phase 3 AD studies, with no new safety risks observed.

Limitations: Open-label study design.

Conclusions: Clinical responses are maintained with continuous upadacitinib through 40 weeks and patients regardless of prior dupilumab response experienced improved outcomes when switched to upadacitinib. No new safety risks were observed. (J Am Acad Dermatol 2023;89:478-85.)

Key words: atopic dermatitis; dupilumab; safety; treatment outcome; upadacitinib.

INTRODUCTION

Atopic dermatitis (AD) is a chronic, highly pruritic, immune-mediated inflammatory disease.¹⁻³ Dupilumab was the first biologic approved to treat AD⁴; however, after 16 weeks of treatment, <40% of patients achieved clear or almost clear skin and maximal response is not observed until after week 12.⁵

Upadacitinib is an oral, selective Janus kinase inhibitor approved to treat adolescents and adults with moderate-to-severe AD.⁶ In a head-to-head phase 3, randomized, controlled trial in adults with moderate-to-severe AD (Heads Up), upadacitinib 30 mg orally once daily demonstrated superior skin clearance and itch reduction at week 16 vs dupilumab 300 mg subcutaneously every 2 weeks (after a 600 mg loading dose), with significant improvements in skin clearance and itch reduction noted as early as week 2 and week 1, respectively, and numerically better improvements than dupilumab through week 24.⁷ The safety and efficacy of upadacitinib in the Heads Up study was consistent with reports in other phase 3 AD studies (Measure Up 1, Measure Up 2, and AD Up).⁷⁻⁹ After successful completion of Heads Up, patients had the option to enter an open-label extension (OLE) study to receive 30-mg upadacitinib for up to an additional 52 weeks. We present prespecified 16-week interim results of the OLE study.

METHODS

Patients

Adults (aged 18-75 years) with moderate-to-severe AD who completed Heads Up⁷ without meeting study drug discontinuation criteria or developing any permanent discontinuation criteria were eligible for OLE enrollment. The OLE was approved on April 30, 2020, by ADVARRA (approval number

Pro00043293). Patients provided written informed consent before enrollment.

Study design

This is a 16-week interim analysis of a 52-week OLE (M19-850, NCT04195698) of the head-to-head trial, Heads Up (M16-046, NCT03738397). The baseline visit of this OLE corresponds to week 24 of Heads Up, adding up to 40 weeks of treatment between the 2 studies. Patients

receiving once daily oral upadacitinib 30 mg until week 24 in Heads Up continued the same dose of upadacitinib. Patients receiving subcutaneous dupilumab 300 mg every other week until week 22 in Heads Up switched to once daily oral upadacitinib 30 mg (Supplementary Fig 1, available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgcd/1>).⁷

Assessments

The primary end point of the study was safety and included the incidence of treatment-emergent adverse events (AEs), serious adverse events (SAEs), AEs of special interest, and AEs leading to discontinuation of study drug. Safety was assessed from the first upadacitinib dose in Heads Up or the OLE, whichever was earlier, through 30 days after the last upadacitinib dose.

Efficacy end points were utilized to determine whether skin clearance and itch improvement with upadacitinib that was observed at week 24 of Heads Up were maintained among patients who continued to receive upadacitinib during the OLE, and whether skin clearance and itch improvement with dupilumab that was observed at week 24 of Heads Up were maintained or improved among patients who switched to upadacitinib.

Exploratory efficacy end points included the proportion of patients who achieved at least a 75%, 90%, or 100% improvement from baseline in Eczema Area

CAPSULE SUMMARY

- Upadacitinib was well-tolerated and maintained high levels of skin clearance and itch improvement through 40 weeks in patients with moderate-to-severe atopic dermatitis.
- Patients who switched to upadacitinib experienced improved skin and itch outcomes regardless of prior dupilumab response status.

Abbreviations used:

AD:	atopic dermatitis
AE:	adverse event
AST:	aspartate aminotransferase
CPK:	creatinine phosphokinase
EASI:	Eczema Area and Severity Index
E:	event
LOCF:	last observation carried forward
OLE:	open-label extension
PY:	patient years
SAE:	serious adverse event
WP-NRS:	Worst Pruritus-Numerical Rating Scale

and Severity Index (EASI75, EASI90, and EASI100, respectively); a ≥ 4 -point improvement from baseline in Worst Pruritus-Numerical Rating scale (WP-NRS) for patients with baseline WP-NRS of ≥ 4 (Δ WP-NRS of ≥ 4); EASI75, EASI90, or EASI100 among patients who did not achieve EASI75 (minimal threshold response for skin clearance and primary end point variable in Heads Up) with dupilumab at week 24 of Heads Up; and Δ WP-NRS of ≥ 4 among patients who did not achieve Δ WP-NRS of ≥ 4 (minimal threshold response for itch) with dupilumab at week 24 of Heads Up. All efficacy values were assessed relative to baseline, defined as the last nonmissing observation on or before the first dose of study drug in Heads Up.

Post hoc efficacy assessments included the proportion of patients who achieved WP-NRS of 0 or 1; EASI90 and WP-NRS of 0 or 1 concurrently; EASI100 and WP-NRS of 0 or 1 concurrently; and EASI75 and Δ WP-NRS of ≥ 4 concurrently. Incremental response level improvements in EASI (EASI75 to < 90 , EASI90 to < 100 , or EASI100) and itch (WP-NRS 4, WP-NRS 2 or 3, or WP-NRS 0 or 1) among patients who switched to upadacitinib were also assessed. Because EASI75 is a common primary end point and itch is a hallmark of AD,¹⁰ we evaluated skin clearance and itch improvement among patients who did not achieve EASI75 or Δ WP-NRS of ≥ 4 with dupilumab (inadequate responders) after switching to upadacitinib.

Statistical analysis

The intent-to-treat population consisted of all patients who received at least 1 upadacitinib dose. Continuous variables were summarized by the number of observations, least-squares mean (SD), median (range), and 95% CI of the least-squares mean values using an observed-cases approach with no imputation of missing values (ie, all observed data before drug discontinuation were included). Complementary summaries using a last observation carried forward (LOCF) approach for missing data

were also prepared (see supplementary material available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgd/1>). Categorical variables were summarized by number and percentages and the 95% CIs of the percentages. Safety data were summarized as exposure-adjusted event (E) rate per 100 patient years (PYs) in all patients enrolled in the OLE (patients receiving continuous upadacitinib and those switching from dupilumab to upadacitinib were pooled).

RESULTS

Patients

Among the 635 patients who completed week 24 of Heads Up, 484 entered the OLE; 239 continued to receive upadacitinib, and 245 switched from dupilumab to upadacitinib. Baseline demographic and disease characteristics were similar between the 2 groups entering the OLE (Supplementary Table D). As in Heads Up, approximately half of the patients in each patient group previously received systemic treatment. Median upadacitinib exposure at data cutoff was 366 (range, 172–554) days for patients continuing upadacitinib and 198 (range, 56–375) days for patients switching from dupilumab to upadacitinib. There were no differences in baseline demographics or disease characteristics between patients who were randomized at baseline of Heads Up and those who entered the OLE.

Safety

The safety profile of upadacitinib up to week 40 was consistent with that observed in other phase 3 AD clinical trials¹¹; AEs reported among patients switching from dupilumab to upadacitinib were similar to those observed in patients receiving continuous upadacitinib. In all patients who received at least 1 upadacitinib dose, the incidence of SAEs and AEs leading to study drug discontinuation were 5.2 E/100 PY and 4.4 E/100 PY, respectively (Supplementary Table II and Supplementary Table III). The most common AEs (> 10 E/100 PY) were acne (30.5 E/100 PY), worsening AD (20.8 E/100 PY), blood creatinine phosphokinase (CPK) increase (18.0 E/100 PY), and nasopharyngitis (13.0 E/100 PY). One death because of bone tuberculosis occurred in a 69-year-old woman with no significant risk factors other than a history of missionary work; this event was deemed by the study physician to have no reasonable possibility of being related to study drug.

AEs of special interest

As summarized in Supplementary Table IV, the incidence of serious infections and opportunistic

infections (excluding tuberculosis and herpes zoster) were low (1.8 E/100 PY and 1.6 E/100 PY, respectively). Similar to the global phase 3 studies, most opportunistic infections were eczema herpeticum. COVID-19 pneumonia (2 patients) and eczema herpeticum (2 patients) were serious infections reported in >1 patient. Most herpes zoster cases were mild and involved a single dermatome; 1 patient experienced involvement of 2 dermatomes, and 2 patients experienced noncutaneous involvement (1 ophthalmic; 1 oticus [Ramsay Hunt syndrome]). No patient discontinued treatment because of herpes zoster.

No CPK elevations were considered an SAE, although 2 patients discontinued study drug because of CPK elevations. A 22-year-old woman experienced transient elevations of CPK ($>10.0 \times$ upper limit of normal) and aspartate aminotransferase (AST, >5.0 to $20.0 \times$ upper limit of normal) following vigorous physical activity and was diagnosed with mild rhabdomyolysis deemed possibly related to study drug; the patient was not treated for these events, study drug (upadacitinib 30 mg) was not interrupted, and CPK and AST levels returned to normal within 8 days.

The occurrence of cytopenia AEs was low (Supplementary Table IV). No cases of neutropenia or lymphopenia were considered SAEs or resulted in study drug discontinuation. A 69-year-old woman with bone tuberculosis experienced a grade 3 decrease in hemoglobin levels that was considered an SAE and led to discontinuation, but was deemed by the physician to have no reasonable possibility of being related to study drug.

Occurrences of hepatic disorder mostly consisted of mild liver enzyme elevation, with grade 3 elevations of AST and bilirubin in 3 patients and 1 patient, respectively. No patient discontinued study drug because of hepatic disorders. There were no malignancies, gastrointestinal perforation, major adverse cardiovascular events, or venous thromboembolic events.

Efficacy with continuous upadacitinib

Among patients receiving continuous upadacitinib, mean EASI improved from 30.5 at baseline to 2.6 at week 24 of Heads Up. At week 40 (week 16 of OLE), EASI improvements were maintained at a level similar to that at week 24 of Heads Up with a mean EASI of 2.7 (range, 0-40.2); 91% of patients receiving continuous upadacitinib had an EASI of ≤ 7 . In addition, 73.6% achieved EASI90, and 54.2% achieved WP-NRS of 0 or 1 (Fig 1). Concurrent achievement of EASI90 and WP-NRS of 0 or 1 was reached by 50.0%. The proportions of patients who

achieved EASI75, EASI100, Δ WP-NRS of ≥ 4 , and concurrent EASI100 and WP-NRS of 0 or 1 at week 40 were also maintained with continuous upadacitinib compared with week 24 of Heads Up (Supplementary Fig 2, available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgdc/1>).

Efficacy with upadacitinib after switching from dupilumab

Among patients switching to upadacitinib. Mean EASI improved with dupilumab from 28.8 at baseline to 3.29 at week 24 of Heads Up. After switching to upadacitinib, mean EASI further improved to 1.09 at week 16 of the OLE. EASI ranged from 0 to 10.8 and 98% of patients who switched from dupilumab to upadacitinib had EASI of ≤ 7 at week 16 (Supplementary Fig 3, available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgdc/1>). The proportion of patients who achieved EASI75 increased within 4 weeks of switching to upadacitinib from 85.7% to 96.2%, reaching 96.6% at week 16 of the OLE (Supplementary Fig 2). Furthermore, 48.1% achieved EASI100 within 4 weeks of switching to upadacitinib compared with 16.0% after 24 weeks with dupilumab. Complementary LOCF analyses are provided in Supplementary Fig 4 (available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgdc/1>). Four (2.0%) of 197 patients who achieved EASI75 after 24 weeks of dupilumab did not maintain EASI75 at week 16 after switching to upadacitinib.

Itch improvement was observed with 82.8% of patients achieving Δ WP-NRS of ≥ 4 within 4 weeks of switching to upadacitinib compared with 63.4% of patients after 24 weeks of dupilumab (Supplementary Fig 2). Over half of patients switching to upadacitinib concurrently achieved EASI90 and WP-NRS of 0 or 1 by week 16 of the OLE, whereas less than one-third of patients achieved these concurrent end points with 24 weeks of dupilumab (Fig 1). Complementary LOCF analyses are provided in Supplementary Fig 4. Four (2.3%) of 172 patients who achieved WP-NRS of ≤ 4 after 24 weeks of dupilumab did not maintain WP-NRS of ≤ 4 at week 16 after switching to upadacitinib.

Among patients with prior dupilumab response. Incremental improvements in EASI and WP-NRS scores occurred within 4 weeks of starting upadacitinib (Fig 2). Among patients achieving EASI75 but not EASI90 with dupilumab, 84.1% achieved EASI90 after 16 weeks of upadacitinib; among patients achieving EASI90 but not EASI100 with dupilumab, 45.7% achieved EASI100 after 16 weeks of upadacitinib. Similar patterns were observed for WP-NRS: 22 (86.7%) of 30 and 43

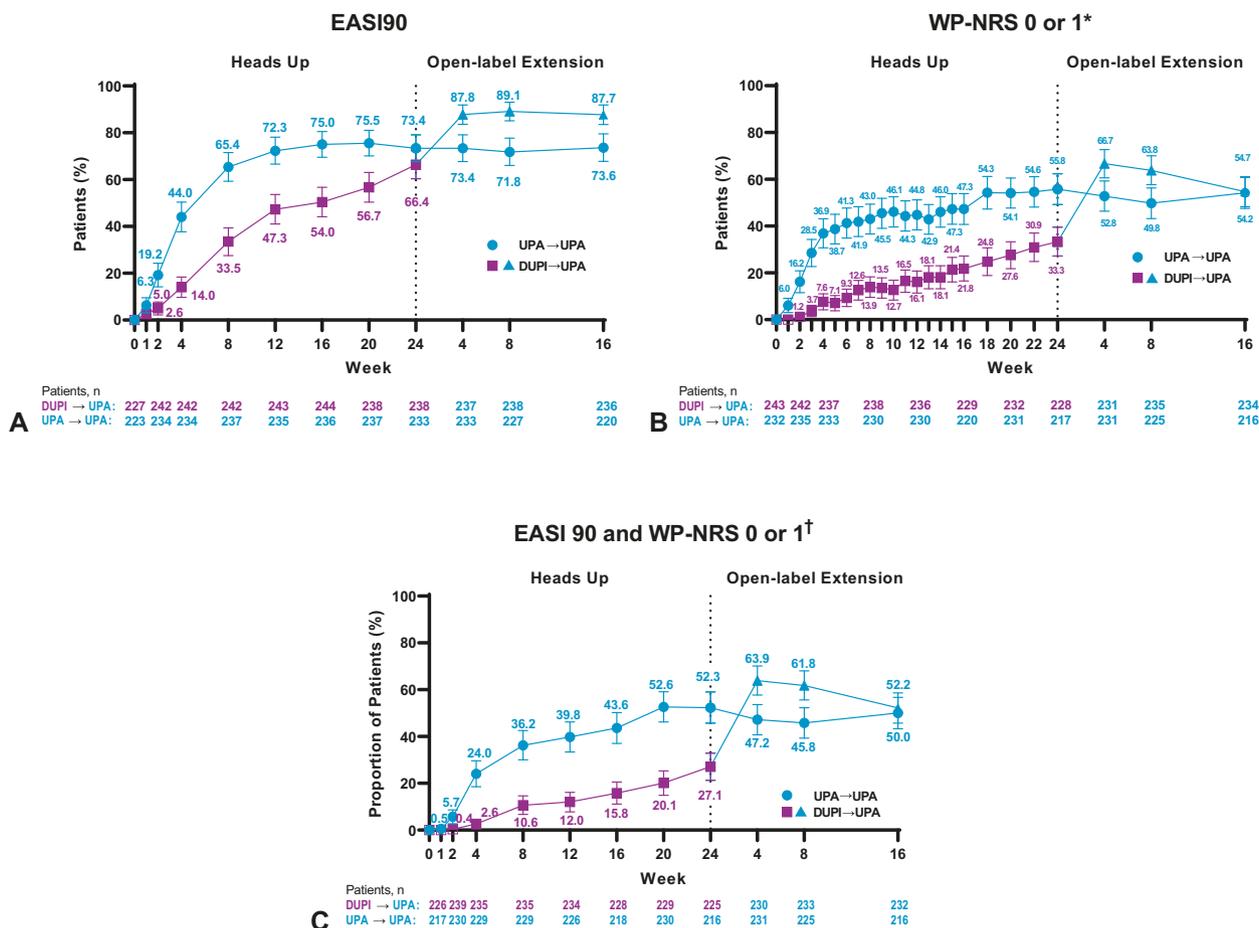


Fig 1. Achievement of (A), EASI90; (B), WP-NRS of 0 or 1; and (C) concurrent EASI90 and WP-NRS of 0 or 1 over time during Heads Up and the open-label extension (OC). *Assessed in patients with WP-NRS of >1 at baseline. †Assessed in patients with baseline WP-NRS of ≥4. Error bars indicate 95% CI. *DUPI*, Dupilumab; *EASI90*, at least a 90% improvement from baseline in Eczema Area and Severity Index from baseline; *OC*, observed case; *UPA*, upadacitinib; *WP-NRS*, Worst Pruritus-Numerical Rating Scale.

(63.2%) of 68 patients who achieved WP-NRS of 4 and WP-NRS of 2 or 3 with dupilumab, respectively, then achieved lower WP-NRS scores after 16 weeks of upadacitinib.

Among patients without minimal threshold response to prior dupilumab. After 16 weeks of upadacitinib, 87.5% (28/32) of patients who had not achieved EASI75 after 24 weeks of dupilumab achieved EASI75; 46.9% of these patients achieved EASI90 but not EASI 100 and 21.9% achieved EASI100 (Supplementary Fig 5, available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgdc/1>). Furthermore, 57.7% of patients who had not achieved ΔWP-NRS of ≥4 did so after 16 weeks of upadacitinib. Lower itch levels were achieved after 16 weeks of upadacitinib by 66.0% (31/47) of patients with WP-NRS of >4 after 24 weeks of dupilumab; 21.3% of these patients achieved WP-NRS of 0 or 1. Complementary LOCF analyses are

provided in Supplementary Fig 6 (available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgdc/1>). Among 76 patients who did not achieve EASI90 after 24 weeks of dupilumab, 77.6% (95% CI, 68.3%-87.0%) achieved EASI90 after 16 weeks of upadacitinib and among 236 patients who did not achieve EASI100 after 24 weeks of dupilumab, 42.4% (95% CI, 36.1%-48.7%) achieved EASI100 after 16 weeks of upadacitinib.

Among patients with inadequate response to prior dupilumab. Most (92.8%) dupilumab inadequate responders (not achieving either EASI75 or ΔWP-NRS of ≥4 after 24 weeks) achieved EASI75 at week 16 with upadacitinib (Supplementary Fig 7, available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgdc/1>). ΔWP-NRS of ≥4 was subsequently achieved with upadacitinib by 65.3% of dupilumab inadequate responders. Approximately two-thirds of dupilumab inadequate

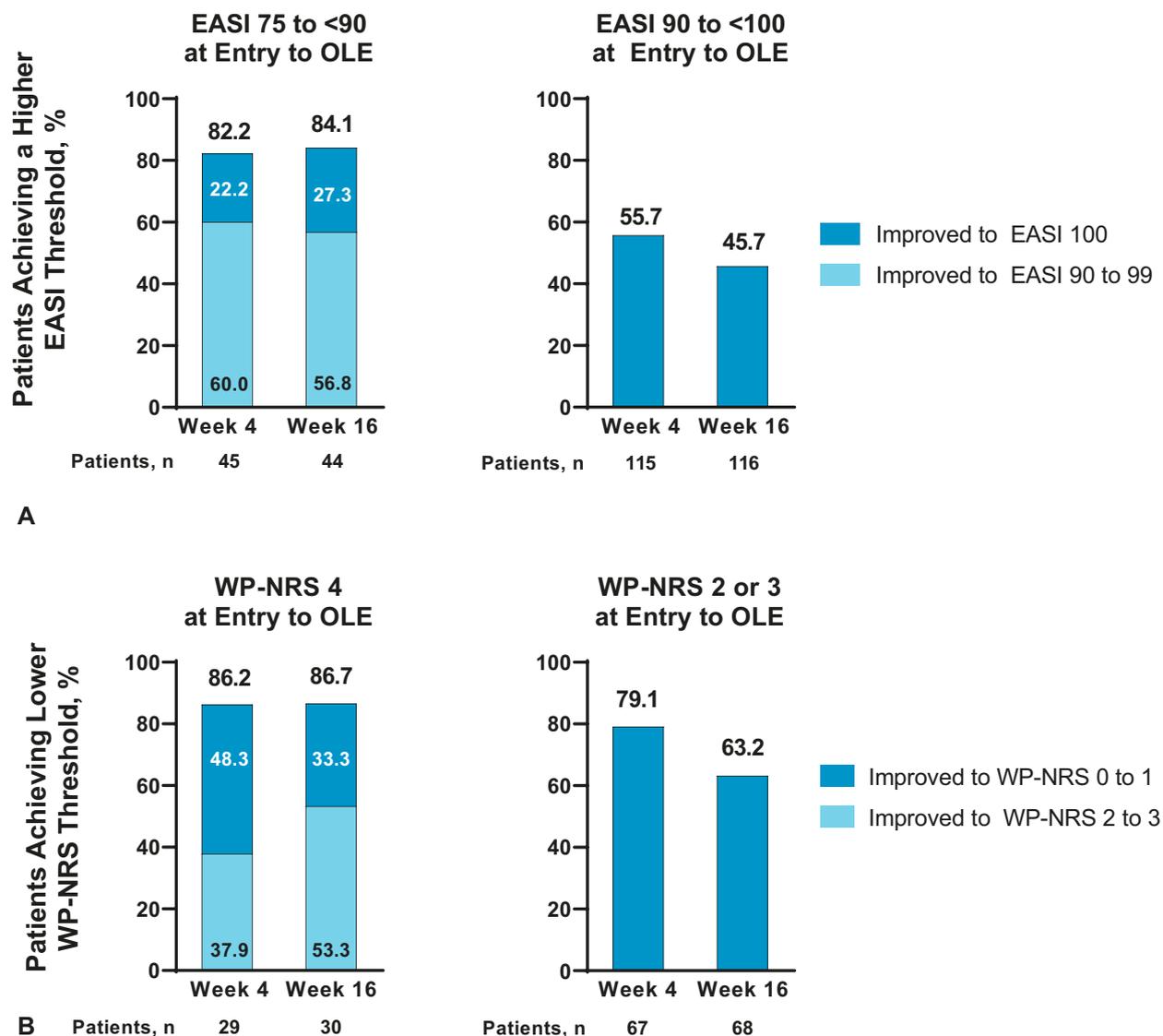


Fig 2. Incremental improvement in clinical response and itch among patients with prior dupilumab response who switched to upadacitinib during the open-label extension and had achieved (A), EASI75 or (B), had a WP-NRS score of ≤ 4 after 24 weeks of dupilumab during Heads Up (OC). *DUPI*, Dupilumab; *EASI75*, at least a 75% improvement from baseline in Eczema Area and Severity Index; *EASI90*, at least a 90% improvement from baseline in EASI; *EASI100*, a 100% improvement from baseline in EASI; *ITT*, intent-to-treat population; *OC*, observed case; *OLE*, open-label extension; *UPA*, upadacitinib; *WP-NRS*, Worst Pruritus-Numerical Rating Scale.

responders concurrently achieved EASI75 and Δ WP-NRS of ≥ 4 . Complementary LOCF analyses are provided in Supplementary Fig 8 (available via Mendeley at <https://data.mendeley.com/datasets/6h4gtrzgd/1>).

DISCUSSION

The safety profile of upadacitinib up to 40 weeks, including rates of severe AEs, SAEs, and AEs leading to discontinuation, was consistent with those reported in Heads Up and other phase 3 clinical trials

for AD with no new safety risks observed.⁷⁻⁹ Acne was the most common AE, an AE consistently reported in previous upadacitinib AD studies.⁷⁻⁹ The most common AE of special interest included CPK elevations, herpes zoster, and hepatic disorder, which were consistently reported in previous upadacitinib and other Janus kinase inhibitor studies.¹²⁻¹⁴

Results from this ongoing OLE demonstrate that skin clearance and itch improvement are maintained with upadacitinib through 40 weeks. A few case

studies have reported maintained or improved skin clearance and itch reduction with upadacitinib treatment among patients who discontinued dupilumab because of conjunctivitis, facial patchy erythema, or facial eczema relapse.¹⁵⁻¹⁸ To our knowledge, our current study is the first to report on the safety and efficacy of upadacitinib among patients who had previously received dupilumab based on data from a clinical trial. Clinical response occurs within 4 weeks after switching from dupilumab to upadacitinib, and most patients who do not achieve a minimal threshold response with or are inadequate responders to dupilumab can achieve multidimensional improvements based on high levels of skin clearance and itch reduction when receiving upadacitinib up to 16 weeks. A 2-week interval between the last dupilumab dose and first upadacitinib dose may not allow for complete elimination of dupilumab, so initial synergistic activity cannot be ruled out.¹⁹

For chronic immune-mediated inflammatory diseases, such as AD, oral systemic therapies with long-term safety and durable efficacy are limited.¹⁻³ With the growing number of available AD treatments, there will likely be a shift to higher skin clearance and itch reduction thresholds,⁷ with clear to almost clear skin (EASI90/100) and little to no itch (WP-NRS of 0 or 1) emerging as the new standards. Study limitations include the open-label design, short washout period for dupilumab, exploratory efficacy end points, and short follow-up duration of upadacitinib among patients switching from dupilumab. Nonetheless, upadacitinib provides greater efficacy compared with dupilumab,⁷ has a favorable benefit-risk profile, and patients regardless of prior dupilumab response status experienced improved outcomes when switched to upadacitinib.

DATA SHARING STATEMENT

AbbVie is committed to responsible data sharing regarding the clinical trials we sponsor. This includes access to anonymized individual and clinical trial-level data (analysis data sets), as well as other information (eg, protocols and clinical study reports), as long as the clinical trials are not part of an ongoing or planned regulatory submission. This includes requests for clinical trial data for unlicensed products and indications.

Clinical trial data can be requested by any qualified researchers who engage in rigorous, independent scientific research, and were provided following review and approval of a research proposal and statistical analysis plan and execution of a data sharing agreement. Data requests can be submitted at any time and the data are accessible for

12 months, with possible extensions considered. For more information on the process, or to submit a request, visit the following link: <https://www.abbvieclinicaltrials.com/hcp/data-sharing/>.

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Conflicts of interest

Dr Blauvelt has served as a speaker (received honoraria) for AbbVie, Arcutis, Bristol Myers Squibb, Eli Lilly, Pfizer, Regeneron, Sanofi, and UCB. He has served as a scientific advisor (received honoraria) for AbbVie, Abcentra, Affibody, Aligos, Almirall, Alumis, Amgen, Anaptysbio, Arcutis, Arena, Aslan, Athenex, Bluefin Biomedicine, Boehringer Ingelheim, Bristol Myers Squibb, Cara Therapeutics, Dermavant, EcoR1, Eli Lilly, Escient, Evelo, Evommune, Forte, Galderma, HighlightII Pharma, Incyte, InnoventBio, Janssen, Landos, LEO Pharma, Merck, Novartis, Pfizer, Rapt, Regeneron, Sanofi Genzyme, Spherix Global Insights, Sun Pharma, TLL Pharmaceutical, TrialSpark, UCB Pharma, Vibliome, and Xencor. He has been a clinical study investigator (institution has received clinical study funds) for AbbVie, Acelyrin, Almirall, Amgen, Arcutis, Athenex, Boehringer Ingelheim, Bristol Myers Squibb, Concert, Dermavant, Eli Lilly, Evelo, Evommune, Galderma, Incyte, Janssen, LEO Pharma, and Merck. Dr Prajapati has served as an investigator for AbbVie, Amgen, Arcutis, Arena, Asana, Bausch Health, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Concert, Dermavant, Dermira, Eli Lilly, Galderma, Incyte, Janssen, LEO Pharma, Nimbus Lakshmi, Novartis, Pfizer, Regeneron, Reistone, Sanofi Genzyme, UCB Pharma, and Valeant. He has served as a consultant, advisor and/or speaker for AbbVie, Actelion, Amgen, Aralez, Arcutis, Aspen, Bausch Health, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Cipher, Eli Lilly, Galderma, GlaxoSmithKline, Homeocan, Incyte, Janssen, LEO Pharma, L'Oreal, Medexus, Novartis, PEDIAPHARM, Pfizer, Sanofi Genzyme, Sun Pharma, Tribute, UCB Pharma, and Valeant. Dr Laquer has received honoraria as a consultant from AbbVie, Allos, Aqua, Biogen, Celgene, Eli Lilly, Galderma, Intraderm, LEO Pharma, Mayne, Novartis, and Pfizer. She has served as an investigator for AbbVie, Aiviva, Amgen, Arcutis, Arena, Bellus, Biofrontera, Bristol Meyers Squibb, Cara, Dermavant, Forte, Galderma, Incyte, Kiniksa, Eli Lilly, LEO Pharma, Novan, Novartis, Ortho Dermatologics, Pfizer, Sun Pharma, and UCB. Dr Fischer has served as a principal investigator for AbbVie, UCB, and Eli Lilly. Dr Eisman has served on the Dermatology Advisory Alopecia Areata Board for

Eli Lilly and is or has been an investigator in clinical trials for Pfizer Inc, AbbVie, Arena Pharmaceuticals, Boston Pharmaceuticals, Bristol Myers Squibb, Botanix Pharmaceuticals, Dermira, Eli Lilly, Evelo Biosciences, Immunic Therapeutics, Jansen, Kobiolabs, Kymab Ltd, LEO Pharma, Novartis, TEVA Pharmaceuticals, Tigermed Pharmaceuticals, Suzhou Connect Biopharmaceuticals, and Regeneron Pharmaceuticals. Dr Eyerich has served as a speaker, investigator, and/or advisor for AbbVie, Almirall, Berlin Chemie, Boehringer Ingelheim, Bristol Myers Squibb, Celgene, Hexal, Galapagos, Janssen, Eli Lilly, Pfizer, Novartis, Sanofi, and UCB Pharma. Drs Ladizinski, Hu, Wu, Calimlim, Kaplan, Y Liu, Teixeira, and J Liu are full-time employees of AbbVie and may hold AbbVie stock or stock options.

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