Dupilumab improves disease control and patient-reported outcomes in adults with atopic dermatitis in clinical practice: Subgroup analysis of Black/African American population from RELIEVE-AD

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INTRODUCTION

- Atopic dermatitis (AD) is a chronic, type 2 inflammatory skin disease associated with persistent symptoms of itch, skin pain, and sleep disturbances[1]
- Dupilumab is a fully human anti-interleukin-4 receptor α monoclonal antibody approved for patients aged ≥6 months with moderate-to-severe AD inadequately controlled by topical therapies[2,3]
- The safety and efficacy of dupilumab have been demonstrated in phase 3 clinical trials[4-12]
- A prospective, real-world, longitudinal patient survey study, RELIEVE-AD, demonstrated that dupilumab treatment leads to rapid and sustained disease control, and improves patient-reported AD-related sleep problems and skin symptoms in adults with moderate-to-severe AD[13]
- A subgroup analysis of patient-reported outcomes (PRO) was conducted in Black/African American adults with AD from the RELIEVE-AD study

OBJECTIVE

- **To evaluate the real-world effectiveness of dupilumab on disease control and AD-related symptoms from the perspective of Black/African American patients, a population in which clinical study data are limited**

METHODS

- In the RELIEVE-AD study, adults with moderate-to-severe AD were identified through the US dupilumab patient support program and invited to participate in an online survey before (baseline) and after dupilumab initiation at Months 1, 2, 3, 6, 9, and 12[13]
- AD disease control was assessed using the AD Control Tool (ADCT; range, 0–24), where a total score <7 indicates disease control
- AD-related sleep problems were assessed using a stand-alone question, "Over the last week, did you experience sleep problems because of your AD?" with response options of Yes or No
- Skin symptoms (skin pain, burning, sensitivity) were assessed using a numerical rating scale (range 0 [no symptoms] to 10 [worst symptom severity]) at baseline and through Month 12
- A subgroup analysis of self-reported data from the Black/African American population was performed

RESULTS

Patient Characteristics

- Of 64 Black/African American patients completing the baseline survey, 43 provided responses at Month 12, with a survey completion rate of 67.2%
- Among patients who completed the survey at Month 12 (N = 43), mean age at study initiation was 38.8 years and a majority of patients were female (**Table 1**)

Disease Control

- Mean total ADCT score was significantly decreased from 16.8 at baseline to 7.3 at Month 1 and was further reduced to 4.9 at Month 12 (both $P<0.0001$; **Figure 1**)
- Disease control was significantly improved at Month 1 and through Month 12 compared with baseline (both $P<0.0001$; **Figure 2**)

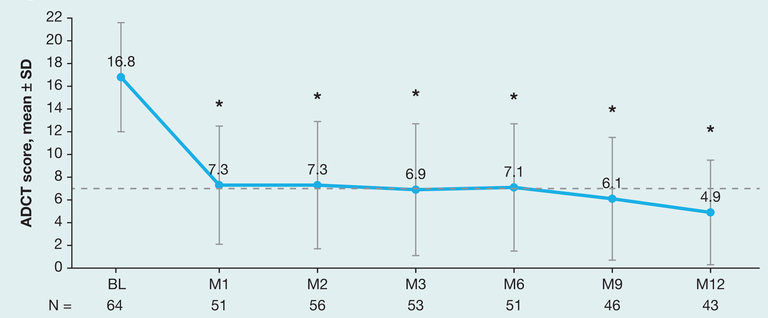
RESULTS (CONT.)

Table 1. Baseline Demographic and Clinical Characteristics of Black/African American Adults with AD

Variable	Baseline (N = 64)	Month 12 (N = 43)
Female, n (%)	55 (85.9)	37 (86.0)
Age, mean (SD)	38.2 (13.8)	38.8 (13.8)
Geographic region, n (%)		
Northeast	10 (15.6)	8 (18.6)
Midwest	7 (10.9)	4 (9.3)
South	40 (62.5)	25 (58.1)
West	7 (10.9)	6 (14.0)
Age at AD diagnosis, n (%)		
≤18 years	37 (57.8)	28 (65.1)
19–34 years	9 (14.1)	6 (14.0)
≥35 years	11 (17.2)	7 (16.3)
Don't remember	7 (10.9)	2 (4.7)
Education, n (%)		
High school diploma or equivalent	12 (18.8)	5 (11.6)
Some college or Associate's degree	30 (46.9)	18 (41.9)
College graduate/Bachelor's degree	14 (21.9)	13 (30.2)
Advanced degree (such as Master's degree, professional degree beyond undergraduate, or Doctorate degree)	8 (12.5)	7 (16.3)
Comorbidities,* n (%)		
Type 2 comorbid diseases (asthma or non-seasonal allergies)	39 (60.9)	27 (62.8)
Seasonal allergies	36 (56.3)	25 (58.1)
Non-seasonal allergies†	26 (40.6)	19 (44.2)
Asthma	24 (37.5)	15 (34.9)
Hypertension (high blood pressure)	16 (25.0)	13 (30.2)
Anxiety	15 (23.4)	8 (18.6)
Depression	11 (17.2)	7 (16.3)
Obesity	17 (26.6)	12 (27.9)
Sleep disorders	6 (9.4)	6 (14.0)
Anemia	18 (28.1)	12 (27.9)
Diabetes mellitus (type 1 or 2)	7 (10.9)	6 (14.0)

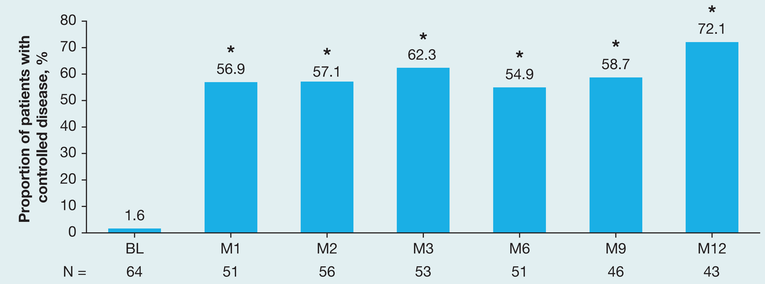
AD, atopic dermatitis; SD, standard deviation.
*Defined as ≥10% among all patients. Responses were not mutually exclusive.
†Allergic rhinitis, allergic conjunctivitis, food allergies, allergic urticaria or hives, and others.

Figure 1. Total ADCT Score



ADCT, Atopic Dermatitis Control Tool; BL, baseline; M, month; SD, standard deviation.
ADCT total score ranges from 0–24 with a higher score indicating worse AD control. Disease control is defined as total score <7.
*$P<0.0001$ vs BL.

Figure 2. Disease Control Status by ADCT Total Score

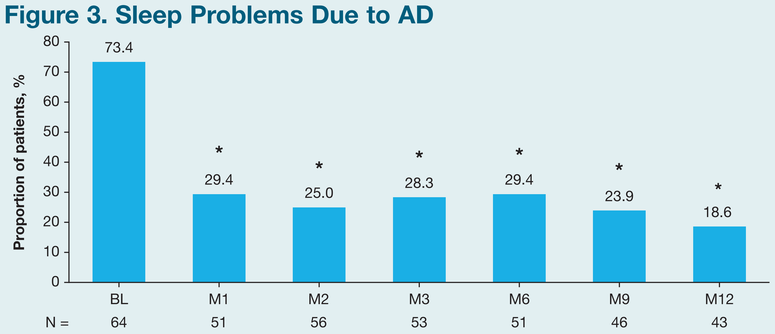


ADCT, Atopic Dermatitis Control Tool; BL, baseline; M, month.
ADCT total score ranges from 0–24 with a higher score indicating worse AD control. Disease control is defined as total score <7.
*$P<0.0001$ vs BL.

Sleep Problems

- AD-related sleep problems were significantly decreased, from 73.4% of patients at baseline to 29.4% at Month 1, and 18.6% at Month 12 (both $P<0.0001$; **Figure 3**)

Figure 3. Sleep Problems Due to AD

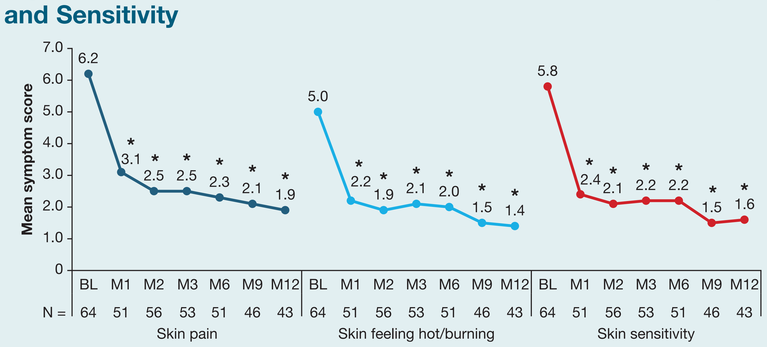


AD, atopic dermatitis; BL, baseline; M, month.
*$P<0.0001$ vs BL.

Skin Symptoms

- Symptom scores for skin pain, burning, and sensitivity significantly improved from baseline to Month 1, and through Month 12 (all $P<0.0001$; **Figure 4**)

Figure 4. Symptom Scores for AD-related Skin Pain, Burning, and Sensitivity



AD, atopic dermatitis; BL, baseline; M, month.
Symptom score range for each category was 0–10; a score of 0 indicates no symptoms. Each category asked the patient to recall the average level over the past week.
*$P<0.0001$ vs BL.

CONCLUSIONS

- **In Black/African American adults with moderate-to-severe AD, treated with dupilumab, significant and rapid improvements in disease control, sleep problems, and skin symptoms were observed**
- **Improvements in disease control and PRO were sustained over the 1-year study period**
- **Interpretation of the results of this subgroup analysis should account for the small sample size and attrition over the study period**

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