Disease Control and Quality of Life: Efficacy Outcomes from the Phase 2b Trial of CBP-201 in Patients with Atopic Dermatitis (CBP-201-WW001)

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Introduction: CBP-201 is a novel monoclonal antibody targeting IL-4Rα. In a Phase 2b trial (WW001), all three doses of CBP-201 met the primary endpoint in the treatment of moderate-to-severe atopic dermatitis (AD) with significant percent reductions in least square mean (LSM) EASI scores observed at Week 16 with CBP-201 300mg Q2W (-63.0%; p=0.001), 150mg Q2W (-57.5%; p=0.01), and 300mg Q4W (-65.4%; p=0.0002) vs placebo (-40.7%). Key secondary endpoints were also met. Here, we report additional efficacy outcomes from WW001, including investigator-assessed AD severity, patient-reported disease control and quality of life (QoL).

Methods: In WW001 (NCT04444752), 226 adults with moderate-to-severe AD were randomized (1:1:1:1), double-blind, to subcutaneous CBP-201 (300mg Q2W, 150mg Q2W, 300mg Q4W) or placebo. During the 16-week treatment and 8-week follow-up periods, AD symptoms and QoL were assessed using the investigator-assessed SCORAD (total score 0–103), Patient Oriented Eczema Measure (POEM; total score 0–28), and Dermatology Life Quality Index (DLQI; total score 0–30). Higher scores indicate worse AD and QoL. Changes in LSM scores were analyzed using an ANCOVA model (including treatment, baseline score, and baseline Investigator's Global Assessment) and Last Observation Carried Forward (LOCF) methodology. For SCORAD itch and sleep loss (0–10 on a visual analog scale [VAS]), a clinically meaningful score was defined as <2 points (among patients with ⩾2 points at baseline).

Results: At baseline, SCORAD, POEM, and DLQI total scores were comparable across the CBP-201 arms (300mg Q2W, 150mg Q2W, 300mg Q4W) and placebo arm. Across the respective treatment arms, mean (SD) total scores at baseline were: SCORAD = 65.9 (12.1), 62.8 (12.5), 61.8 (9.7), and 67.5 (11.6); POEM = 20.1 (6.6), 17.9 (6.4), 17.6 (6.6), and 20.0 (5.5); DLQI = 13.6 (7.8), 12.1 (6.1), 13.5 (7.9), and 13.9 (6.2).

Mean SCORAD, POEM, and DLQI total scores improved rapidly by Week 2 with all CBP-201 doses, and at Week 16 were 49.2–61.8% lower than at baseline, vs 32.0–38.1% with placebo.

LSM reductions in SCORAD, POEM, and DLQI total scores were statistically significant with all CBP-201 doses vs placebo at Week 16 (Figure). In the CBP-201 arms (300mg Q2W, 150mg Q2W, 300mg Q4W) vs placebo at Week 16, LSM SCORAD scores decreased by -35.69 ($p<0.0001$), -30.57 ($p=0.0020$), and -33.23 ($p=0.0002$) vs -19.53, respectively; LSM POEM scores decreased by -10.69 ($p<0.0001$), -9.17 ($p=0.0004$), and -9.20 ($p=0.0004$) vs -5.47, respectively; LSM DLQI scores decreased by -7.80 ($p=0.0014$), -6.62 ($p=0.0250$), and -7.10 ($p=0.0075$) vs -4.19, respectively.

In post hoc analyses, for each CBP-201 dose vs placebo, greater proportions of patients achieved clinically meaningful improvements in SCORAD sleep loss and SCORAD itch VAS scores at Week 2 and at all subsequent time points. Regarding SCORAD sleep loss score, in the CBP-201 arms (300mg Q2W, 150mg Q2W, 300mg Q4W) vs placebo at Week 16, 66.7%, 47.9%, and 48.0% vs 37.5% of patients achieved clinically meaningful improvement. The proportions of patients achieving a clinically meaningful improvement in SCORAD itch score at Week 16 with CBP-201 were 47.9%, 22.9%, 28.0% vs 12.5% with placebo.

Among patients in China (N=32), who had higher baseline EASI scores than in the global population (median 26.9 vs 21.2), changes in SCORAD, POEM, and DLQI scores with CBP-201 at Week 16 tended to be greater than in the global population (Figure).

Conclusion: In this Phase 2b trial, patients with moderate-to-severe AD experienced rapid and clinically meaningful reductions in the symptoms and burden of AD. These patient-reported improvements are mirrored by reductions in investigator-assessed AD severity and are compatible with previously reported investigator-assessed findings in this trial, including reductions in the primary endpoint (EASI at Week 16). Additionally, these data demonstrate the possibility of a convenient, reliably efficacious 2- and 4-week dosing option not available with other biologic treatments for moderate-to-severe AD. CBP-201 300mg Q2W and 300mg Q4W dosing warrant further investigation in larger Phase 3 clinical trials.

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Change from baseline in SCORAD, POEM and DLQI scores at Week 16 (LOCF)