Onset and maintenance of optimal itch response in adult patients with moderate-to-severe atopic dermatitis treated with dupilumab: post hoc analysis from LIBERTY AD CHRONOS

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Introduction/Background: Pruritus is one of the essential features of atopic dermatitis (AD) and is consistently reported by patients as the most burdensome symptom of the disease. Itch not only impacts quality of life but also contributes to furthering AD pathogenesis through the itch-scratch cycle and additional breakdown of the epidermal barrier. A treat-to-target concept established goals to guide treatment with systemic therapies in AD, including those for itch.¹-³

Objectives: To assess onset and maintenance of optimal itch response according to the treat-to-target concept in adult patients with moderate-to-severe AD treated with dupilumab + concomitant topical corticosteroids (TCS).
**Methods:** LIBERTY AD CHRONOS (NCT02260986), a 52-week trial, enrolled patients aged ≥18 years with moderate-to-severe AD. Patients treated with dupilumab every 2 weeks + TCS or placebo + TCS were included in this post hoc analysis. Optimal itch response per the treat-to-target concept was defined as Peak Pruritus Numerical Rating Scale (PP-NRS) score of ≤4, achieved after 6 months of treatment\(^1\). We assessed time to optimal itch response, percentage of patients achieving optimal itch response, and maintenance of optimal itch response. For maintenance of optimal itch response, the total number and percentage of weeks with PP-NRS ≤4 were calculated for each patient, and maximum duration was assessed as the longest period of consecutive weeks with PP-NRS ≤4 for each patient.

**Results:** Median (interquartile range) PP-NRS score at baseline was 7.7 (6.6–8.5) for patients treated with dupilumab + TCS and 7.6 (6.3–8.6) for patients who received placebo + TCS. Median time (95% CI) to achieve optimal itch response was 29 (22–43) days for patients treated with dupilumab+ TCS and 64 (43–105) days for patients who received placebo + TCS (HR [95% CI] = 1.668 [1.292–2.153]; \(P < 0.0001\)).

61.3% of patients treated with dupilumab + TCS achieved optimal itch response at 6 months, compared with 26.7% of those who received placebo + TCS (\(P < 0.0001\)). Significantly more patients treated with dupilumab + TCS maintained optimal itch response than patients who received placebo + TCS through 52 weeks.

In the dupilumab group, median (Q1–Q3) maintenance of optimal itch response was 40 (11–50) weeks, compared with 3 (0–23) weeks in the placebo group (\(P < 0.0001\)), which corresponds to 77.1% of the total study duration (52 weeks) in the dupilumab group, compared with 5.7% in the placebo group. Maximum consecutive duration with optimal itch response was also significantly longer in dupilumab-treated patients than in patients who received placebo (median [Q1–Q3]: 29.2 [4–50] weeks for dupilumab vs 2.0 [0–13] weeks for placebo; \(P < 0.0001\)).
**Conclusions:** Patients treated with dupilumab + TCS achieved optimal itch response rapidly and significantly faster than patients who received placebo + TCS; 29 days in dupilumab-treated patients compared with 64 days in those who received placebo. Significantly more patients treated with dupilumab + TCS achieved and maintained optimal itch response than patients who received placebo + TCS through 52 weeks. Dupilumab + TCS also led to a significantly longer maintenance of optimal itch response (40 weeks) compared with placebo + TCS (3 weeks).

**Keywords:** atopic dermatitis, adult, itch, treat-to-target, dupilumab

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