Dupilumab Treatment Reduces Total IgE Levels in Patients 6 Months and Older with Moderate-to-Severe Atopic Dermatitis

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Rationale: Atopic dermatitis (AD) is a type 2 inflammatory disease characterized by elevations in several biomarkers including serum IgE – a key downstream mediator in the type 2 adaptive immune response.

Methods: Patients with moderate-to-severe AD were enrolled for 16 weeks in any of six randomized, placebo-controlled, phase 3 studies: in LIBERTY AD PRESCHOOL (NCT03346434 part B) patients aged 6 months to 5 years were treated with dupilumab 200/300mg every 4 weeks (q4w) + topical corticosteroids (TCS; n=83), or placebo + TCS (n=79); in LIBERTY AD PEDS (NCT03345914) patients aged 6–11 years were treated with dupilumab + TCS (100/200mg q2w [n=122], 300mg q4w [n=122]), or placebo + TCS (n=123); in LIBERTY AD ADOL (NCT03054428) patients aged 12–17 years were treated with dupilumab (200/300mg q2w [n=82], 300mg q4w [n=83]), or placebo (n=85); and in LIBERTY AD CHRONOS/SOLO1/SOLO2 (NCT02260986/NCT02277743/NCT02277769, pooled) patients aged ≥18 years were treated with dupilumab (300mg q2w [n=563],300mg qw [n=781]), or placebo (n=775). TCS were allowed in CHRONOS only.

Results: At Week 16, dupilumab treatment significantly ($p<0.0001$) reduced median total serum IgE levels (kU/L [IQR]) compared with placebo in patients aged 6 months to 5 years (843 [207–3300] vs 3625 [540.5–8585]), 6–11 years (1519 [532–3808] vs 3862 [1166–9999]), 12–17 years (1391 [436–2842] vs 4569 [800.5–10000]), and ≥18 years (1340 [229–4360] vs 3722 [555–10000]).

Conclusion: Dupilumab treatment reduced total serum IgE levels in patients aged 6 months and older with moderate-to-severe AD. Overall safety was consistent with the known dupilumab safety profile.

Keywords: Cross-Age, moderate-to-severe, biomarkers, type 2 inflammation, IgE

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