

Dupilumab Reduced Severe Exacerbation Rates and Improved Pre-Bronchodilator FEV₁ in Patients With Moderate-to-Severe Asthma Regardless of Exacerbation History of ≥ 1 , ≥ 2 , or ≥ 3 Prior

Exacerbations: LIBERTY ASTHMA TRAVERSE

Jonathan Corren¹, Constance H. Katelaris^{2,3}, Mario Castro⁴, Jorge F. Maspero⁵, Marc Humbert⁶, David M.G. Halpin⁷, Arman Altincatal⁸, Nami Pandit-Abid⁹, Xavier Soler¹⁰, Amr Radwan¹⁰, Juby A. Jacob-Nara⁹, Yamo Deniz¹⁰, and Paul J. Rowe⁹

¹David Geffen School of Medicine at UCLA, Los Angeles, CA, USA; ²Campbelltown Hospital, Campbelltown, NSW, Australia; ³Western Sydney University, Sydney, NSW, Australia; ⁴University of Kansas School of Medicine, Kansas City, KS, USA; ⁵Fundación CIDEA, Buenos Aires, Argentina; ⁶Université Paris–Saclay, INSERM, Assistance Publique Hôpitaux de Paris, Hôpital Bicêtre, Le Kremlin-Bicêtre, France; ⁷University of Exeter Medical School, College of Medicine and Health, University of Exeter, Exeter, UK; ⁸Sanofi, Cambridge, MA, USA; ⁹Sanofi, Bridgewater, NJ, USA; ¹⁰Regeneron Pharmaceuticals, Inc., Tarrytown, NY, USA.

RATIONALE: Recent asthma exacerbation history is an independent predictor of future exacerbation risk. Dupilumab, a fully human monoclonal antibody, blocks the shared receptor component for interleukins (IL)-4 and IL-13, key and central drivers of type 2 inflammation. In LIBERTY ASTHMA TRAVERSE (NCT02134028), dupilumab sustained or further reduced severe exacerbations and improved lung function up to 96 weeks in patients with asthma who participated in a previous dupilumab asthma study, including QUEST (NCT02414854). Throughout TRAVERSE, the safety profile of dupilumab was consistent with the known safety profile. This post hoc analysis assessed long-term dupilumab efficacy in patients from QUEST enrolled in TRAVERSE with blood eosinophils ≥ 150 cells/ μ L or fractional exhaled nitric oxide (FeNO) ≥ 20 ppb at parent study baseline (PSBL), and ≥ 1 , ≥ 2 , or ≥ 3 exacerbations in the year before QUEST.

METHODS: Patients who received dupilumab 200 or 300 mg every 2 weeks (q2w) or placebo q2w in QUEST, received dupilumab 300 mg q2w in TRAVERSE for up to 96 weeks (dupilumab/dupilumab and placebo/dupilumab arms). Endpoints assessed were unadjusted annualized severe exacerbation rate (AER) and change from PSBL in pre-bronchodilator FEV₁.

RESULTS: In QUEST, dupilumab vs placebo reduced severe exacerbation rates in patients regardless of prior exacerbation history (≥ 1 : 0.458 vs 1.107; ≥ 2 : 0.528 vs 1.483; ≥ 3 : 0.617 vs 1.915). Throughout TRAVERSE, dupilumab further reduced severe exacerbation rates in patients who received dupilumab during the parent study, and substantially reduced severe exacerbations in those who received placebo during QUEST and initiated dupilumab in TRAVERSE (AER ≥ 1 : 0.314 vs 0.368; AER ≥ 2 : 0.403 vs 0.453; AER ≥ 3 : 0.445 vs 0.545). Furthermore, dupilumab improved pre-bronchodilator

FEV₁ by mean change (SE) from PSBL of 0.37 (0.02) vs 0.36 (0.02) L in patients with ≥1 prior exacerbation, 0.42 (0.02) vs 0.36 (0.03) L in those with ≥2 prior exacerbations, and 0.48 (0.04) vs 0.38 (0.004) L in those with ≥3 prior exacerbations in the dupilumab/dupilumab and placebo/dupilumab groups, respectively at TRAVERSE Week 12. By Week 96, dupilumab improved pre-bronchodilator FEV₁ by 0.34 (0.02) vs 0.37 (0.03) L, 0.37 (0.04) vs 0.44 (0.04) L, and 0.45 (0.05) vs 0.49 (0.07) L, in patients with ≥1, ≥2, and ≥3 prior exacerbations, respectively.

CONCLUSIONS: Dupilumab showed sustained, long-term reduction in severe exacerbation rates and improved pre-bronchodilator FEV₁, regardless of prior exacerbation history in patients with uncontrolled, moderate-to-severe asthma and blood eosinophil counts of ≥150 cells/μL at parent study baseline.

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