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Effect of tezepelumab versus placebo on exacerbation-related systemic corticosteroid use and COPD-related healthcare utilization over time in patients with moderate to very severe COPD with elevated blood eosinophil counts (COURSE)

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Background: Tezepelumab numerically reduced rates of COPD-related healthcare resource utilization (HCRU) over 52 weeks vs placebo in patients with moderate to very severe COPD and an elevated baseline blood eosinophil count (BEC) of ≥150 cells/μL in the phase 2a COURSE study (NCT04039113).

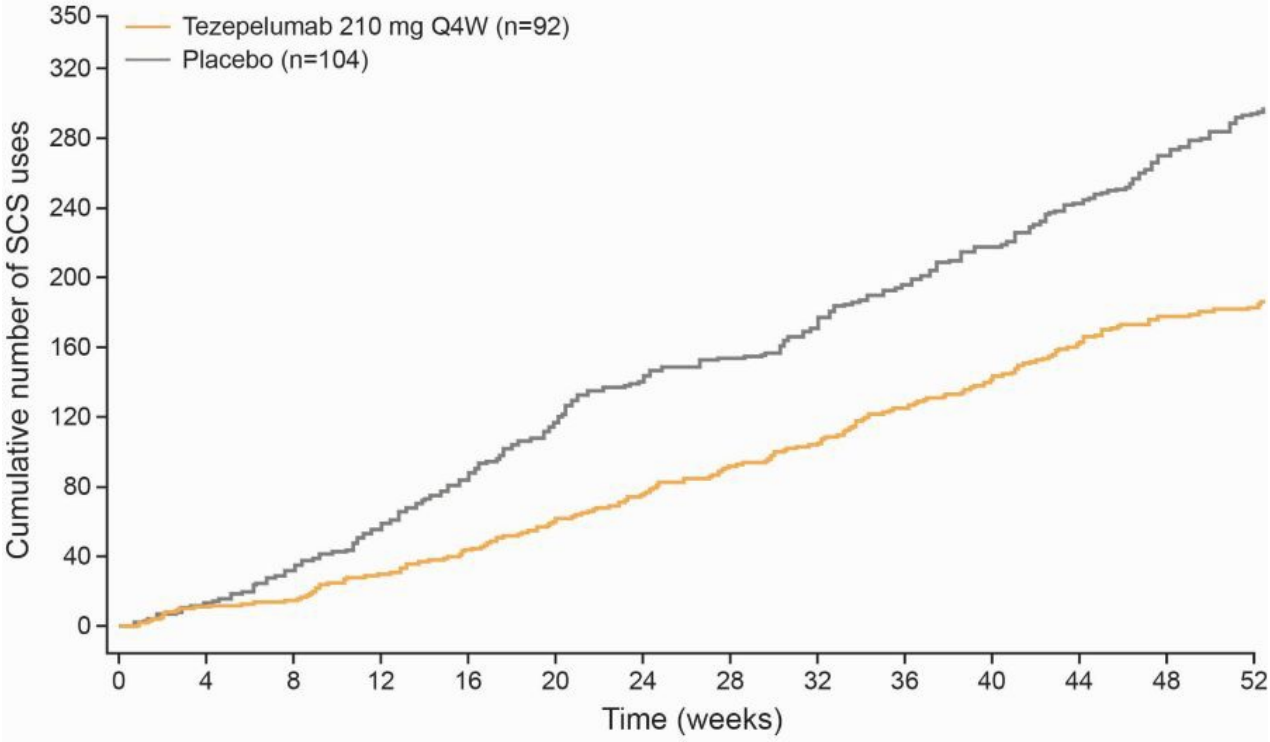
Objective: To assess the effect of tezepelumab on cumulative exacerbation-related systemic corticosteroid (SCS) use and COPD-related HCRU over time among COURSE patients with a baseline BEC of ≥150 cells/μL.

Methods: COURSE was a randomized, double-blind, placebo-controlled study. Patients (≥40–80 years old) with moderate to very severe COPD received tezepelumab 420 mg or placebo subcutaneously every 4 weeks for up to 52 weeks.

Results: Overall, 92 (tezepelumab) and 104 (placebo) patients had a baseline BEC of ≥150 cells/μL. Tezepelumab reduced cumulative SCS use over time vs placebo from week 4 (**Figure**). For HCRU, reductions were observed with tezepelumab vs placebo for primary healthcare physician visits from week 4, telephone calls to physicians from week 8, specialists visits from week 12, and hospital admissions (including ED visits >24 hours) from week 16 and maintained to week 52 (tezepelumab vs placebo: primary healthcare physician visits, 24 vs 57; physician telephone calls, 60 vs 103; specialists visits, 38 vs 65; hospital admissions, 17 vs 33, respectively).

Conclusions: Tezepelumab reduced cumulative exacerbation-related SCS use and COPD-related HCRU over time in patients with elevated BECs.

Figure. Cumulative SCS use over time in patients with a baseline BEC of ≥150 cells/µL



BEC, blood eosinophil count; Q4W, every 4 weeks; SCS, systemic corticosteroid.