Tarlatamab for Patients with Previously Treated Small-Cell Lung Cancer

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N Engl J Med. 2023 Oct 20.
DOI: 10.1056/NEJMoa2307980

Abstract

Background: Tarlatamab, a bispecific T-cell engager immunotherapy targeting delta-like ligand 3 and CD3, showed promising antitumor activity in a phase 1 trial in patients with previously treated small-cell lung cancer.

Methods: In this phase 2 trial, we evaluated the antitumor activity and safety of tarlatamab, administered intravenously every 2 weeks at a dose of 10 mg or 100 mg, in patients with previously treated small-cell lung cancer. The primary end point was objective response (complete or partial response), as assessed by blinded independent central review according to the Response Evaluation Criteria in Solid Tumors, version 1.1.

Results: Overall, 220 patients received tarlatamab; patients had previously received a median of two lines of treatment. Among patients evaluated for antitumor activity and survival, the median follow-up was 10.6 months in the 10-mg group and 10.3 months in the 100-mg group. An objective response occurred in 40% (97.5% confidence interval [CI], 29 to 52) of the patients in the 10-mg group and in 32% (97.5% CI, 21 to 44) of those in the 100-mg group. Among patients with an objective response, the duration of response was at least 6 months in 59% (40 of 68 patients). Objective responses at the time of data cutoff were ongoing in 22 of 40 patients (55%) in the 10-mg group and in 16 of 28 patients (57%) in the 100-mg group. The median progression-free survival was 4.9 months (95% CI, 2.9 to 6.7) in the 10-mg group and 3.9 months (95% CI, 2.6 to 4.4) in the 100-mg group; the estimates of overall survival at 9 months were 68% and 66% of patients, respectively. The most common adverse events were cytokine-release syndrome (in 51% of the patients in the 10-mg group and in 61% of those in the 100-mg group), decreased appetite (in 29% and 44%, respectively), and pyrexia (in 35% and 33%). Cytokine-release syndrome occurred primarily during treatment cycle 1, and events in most of the patients were grade 1 or 2 in severity. Grade 3 cytokine-release syndrome occurred less frequently in the 10-mg group (in 1% of the patients) than in the 100-mg group (in 6%). A low percentage of patients (3%) discontinued tarlatamab because of treatment-related adverse events.

Conclusions: Tarlatamab, administered as a 10-mg dose every 2 weeks, showed antitumor activity with durable objective responses and promising survival outcomes in patients with previously treated small-cell lung cancer. No new safety signals were identified. (Funded by Amgen; DeLLphi-301 ClinicalTrials.gov number, NCT05060016.).