EMPOWER-Lung 1: Phase III first-line (1L) cemiplimab monotherapy vs platinum-doublet chemotherapy (chemo) in advanced non-small cell lung cancer (NSCLC) with programmed cell death-ligand 1 (PD-L1) ≥50%


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Background
EMPOWER-Lung 1 is a multicentre, open-label, global, phase III study of cemiplimab, an anti–PD-1, in patients (pts) with treatment-naïve stage IIIB, IIIC, or IV squamous or non-squamous NSCLC with PD-L1 expressed in ≥50% of tumour cells.

Methods
Pts were randomised 1:1 to receive cemiplimab 350 mg Q3W IV or investigator’s choice of chemo. Crossover (CO) from chemo to cemiplimab was allowed following progression. The primary endpoints were overall survival (OS) and progression-free survival (PFS) per blinded Independent Review Committee. A prespecified interim analysis was performed after 50% of OS events. Data are presented per intention-to-treat (ITT) and in a PD-L1 ≥50% ITT population which comprised only pts with PD-L1 ≥50% by 22C3 per instruction for use (after recommended retesting in some pts). Data cut-off was 1 March 2020.

Results
In the ITT population (median follow-up: 13.1 months), median OS was 22.1 months (95% CI: 17.7–not evaluable [NE]) with cemiplimab (n=356) vs 14.3 months (95% CI: 11.7–19.2) with chemo (n=354; HR, 0.68; 95% CI: 0.53–0.87; P=0.002). Median PFS was 6.2 months (95% CI: 4.5–8.3) with cemiplimab vs 5.6 months (95% CI: 4.5–6.1) with chemo (HR, 0.59; 95% CI: 0.49–0.72; P=0.0001). In the PD-L1 ≥50% ITT population (median follow-up: 10.8 months), median OS was not reached (95% CI: 17.9–NE) with cemiplimab (n=283) vs 14.2 months (95% CI: 11.2–17.5) with chemo (n=280; HR, 0.57; 95% CI: 0.42–0.77; P=0.0002). Median PFS was 8.2 months (95% CI: 6.1–8.8) with cemiplimab vs 5.7 months (95% CI: 4.5–6.2) with chemo (HR, 0.54; 95% CI: 0.43–0.68; P<0.0001). CO rate to cemiplimab was 73.9%. In the ITT population, cemiplimab was associated with higher response rate (36.5% vs 20.6%), longer median duration of response (21.0 months vs 6.0 months) and lower rates of Grade ≥3 adverse events regardless of attribution (37.2% vs 48.5%) compared to chemo.

Conclusions
In this study, 1L cemiplimab monotherapy significantly improved OS and PFS vs chemo in pts with advanced NSCLC with PD-L1 ≥50%, despite high CO rate, providing rationale for cemiplimab as a new treatment option for this patient population.

Clinical trial identification
NCT03088540.

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