

Systematic literature review (SLR) of efficacy, health-related quality of life (HRQoL), and safety of the first-line (1L) treatments of extensive-stage small cell lung cancer (ES-SCLC)

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ABSTRACT

Objectives: ES-SCLC is an aggressive and currently incurable form of lung cancer that is typically treated with chemotherapy plus immunotherapy (IO-chemo), followed by maintenance IO until progression or unacceptable toxicity. This SLR aimed to identify efficacy (overall survival [OS] and progression-free survival [PFS]), safety, and HRQoL outcomes of 1L treatments in patients with ES-SCLC.

Methods: Electronic databases (Embase, MEDLINE, and Cochrane), previous health technology assessments (HTAs), and recent oncology conferences were searched in October 2024 in accordance with the National Institute for Health and Care Excellence (NICE) guidelines. Records were dual screened for eligibility according to prespecified inclusion criteria and assessed for bias using the Cochrane Risk of Bias 2 checklist. Randomized controlled trials (RCTs) comparing IO-chemo with chemotherapy or IO were eligible for inclusion.

Results: The SLR identified 47 eligible publications corresponding to 17 unique RCTs. All RCTs reported OS, with a median OS of 9.1–19.3 months across IO-chemo arms ($p < 0.05$ vs comparators in nine RCTs). Median OS was 8.1–13.5 months for platinum-based chemotherapies. Sixteen RCTs reported median PFS of 3.9–8.2 months. Across IO-chemo arms from 12 RCTs, objective response rates were 33–81%. Safety outcomes were reported in 15 RCTs, and deaths due to adverse events were 0–11% across trials. Six RCTs reported HRQoL outcomes, including the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (Global Health Score improvement range: 4.2–11.3; $n=2$), Factual Assessment of Cancer Therapy-G (time-to-deterioration: not reached; $n=1$) and EuroQol 5-Dimension visual analogue scale (IO vs chemotherapy: -2.30; $n=1$).

Conclusions: This SLR identified a substantial evidence base of high-quality RCTs reporting efficacy and safety in patients with ES-SCLC receiving 1L IO-chemo and confirms that significant evidence gaps exist for patient-reported outcomes. Given the limited survival

benefit of current therapies, new treatments that improve efficacy and reduce treatment-related toxicity are needed.