

INTRODUCTION

Extensive-stage small cell lung cancer (ES-SCLC) is an aggressive malignancy associated with a poor prognosis.

The IMpower133 trial showed that adding the immune-checkpoint inhibitor atezolizumab (anti-PD-L1) to platinum-based chemotherapy improved survival, establishing it as first-line standard of care.

We evaluated five-year real-world outcomes of first-line carboplatin–etoposide with atezolizumab (CarbEtopAtezo) versus carboplatin–etoposide alone (CarbEtop) in ES-SCLC at a single UK centre.

METHODS

Single-centre retrospective cohort analysis was performed at University Hospitals of Leicester NHS Trust.

First-line CarbEtop or CarbEtopAtezo for ES-SCLC ; 5 years of record.

Endpoints were progression-free survival (PFS), overall survival (OS), overall response rate (ORR), and grade 3 adverse events.

Kaplan–Meier plots and Cox hazard ratios (HR), and Fisher's exact test analysed in R software.

RESULTS

159 patients were included: 127 received CarbEtopAtezo and 32 CarbEtop alone (Table 1). PFS was different between the groups (HR: 0.59, P=0.015; see Figure 1). Median PFS and 6-month PFS were similar (p=0.171). At 12 months there was a significant difference in PFS rate between CarbEtop (12.2%) and CarbEtopAtezo (30.8%), p=0.038.

Table 1. Baseline Characteristics

Characteristics	All patients (n=159)
Female	50.3%
Median age	68.8 years
ECOG performance status 0–1	68%
Brain metastases at diagnosis	22%
CarbEtopAtezo / CarbEtop	127 / 32

Table 2. Efficacy and Safety Outcomes

Outcome	Carbo/Etop + Atezo (n=127)	Carbo/Etop (n=32)	P value
12-month PFS	30.8%	12.2%	0.038
Median OS	11.7 months	12.1 months	NS
Overall response rate	73.6%	48.1%	0.020
Grade ≥3 adverse events	19%	20%	NS

Figure 1. Progression-Free Survival

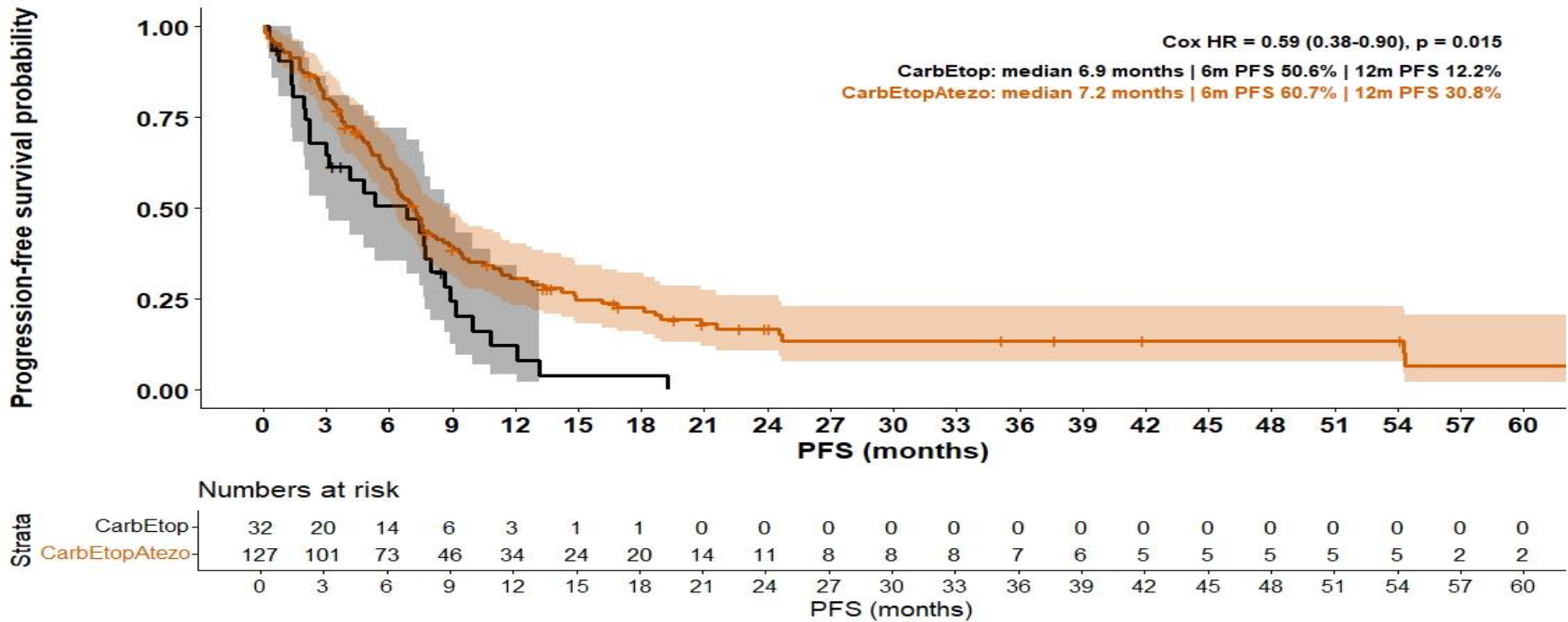


Figure 2. Overall Survival

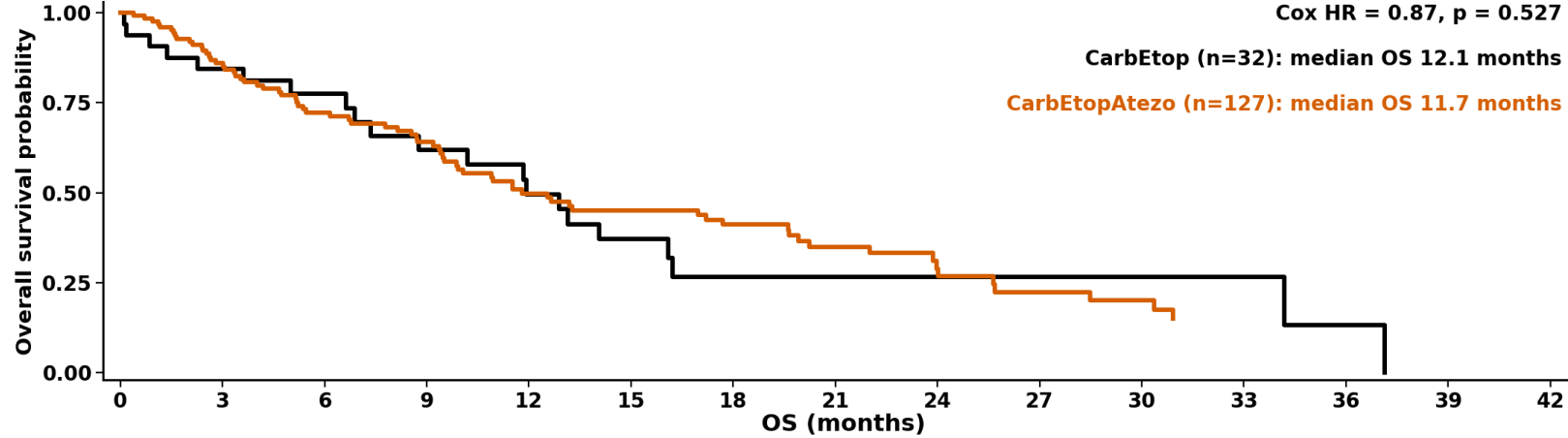


Table 3. Comparison with IMpower133

Endpoint	This real-world cohort (CarbEtopAtezo)	IMpower133 (atezolizumab arm)
6-month PFS rate	60.7%	30.9%
12-month PFS rate	30.8%	12.6%
Median OS	11.7 months	12.3 months

DISCUSSION

Atezolizumab improved response rate and progression free survival. (ORR 73.6% vs 48.1%; PFS HR 0.59), with 12-month PFS more than doubled

This PFS benefit did not translate into an OS benefit.(Figure 2)

Grade 3 adverse events were comparable between groups (19% vs 20%).

CONCLUSION

In real-world practice, adding atezolizumab to carboplatin–etoposide improved ORR and PFS in ES-SCLC, with efficacy comparable to IMpower133.

No OS benefit was seen, likely reflecting unequal group sizes (127 vs 32) and differing post-progression treatments. These data support the regimen's effectiveness outside a trial setting.

REFERENCES & ACKNOWLEDGEMENTS

1. Horn L, Mansfield AS, Szczesna A, et al. First-line atezolizumab plus chemotherapy in extensive-stage small-cell lung cancer (IMpower133). N Engl J Med. 2018;379(23):2220–2229.

2. Liu SV, Reck M, Mansfield AS, et al. Updated overall survival and PD-L1 subgroup analysis of IMpower133. J Clin Oncol. 2021;39(6):619–630.

3. Dingemans AC, Früh M, Ardizzoni A, et al. Small-cell lung cancer: ESMO Clinical Practice Guidelines. Ann Oncol. 2021;32(7):839–853.