SCLC Outcomes and Real-World Insight with Tarlatamab, a Multi-Center Experience

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Background

Tarlatamab, a bispecific T-cell engager, has demonstrated significant efficacy and duration of response in patients with relapsed/refractory SCLC and is now being utilized as standard of care for second line therapy. Despite widespread use since FDA approval, data regarding outcomes in a real-world population is limited, particularly in patients with active CNS disease.

Methods

This is a multi-center, retrospective study of adult patients with biopsy-proven SCLC who were treated with ≥ 1 dose of tarlatamab (N=69) at Duke University Hospital (n=48) and University of North Carolina Medical Center (n=21) between 05/16/2024 – 10/20/2025. All data was abstracted from the electronic medical record following institutional review board approval. Descriptive statistics were calculated to characterize demographic and disease features.

Results

Among the treated patients, the median age was 67 years old (Range 47 – 86), with 55% (n= 38) males. ECOG status: 0 (n=10), 1 (n=50) and 2 (n= 9). Median lines of prior treatment were 2.0 (0-5). 31 patients (45%) had liver involvement and 32 (46%) had active CNS disease at tarlatamab initiation. 26 of these patients (81%) had radiation within 8 weeks of starting tarlatamab. 12 received WBRT (46%) and the rest received SRS. After tarlatamab, 9 patients received lurbinectedin, 2 topotecan, 2 irinotecan and 1 cisplatin/etoposide.

Tarlatamab Efficacy (Table 1). Tarlatamab Toxicity (Table 2).

Conclusion

Tarlatamab was overall well-tolerated in this real-world cohort and demonstrated preliminary efficacy for active CNS metastases. Real world efficacy appears similar to clinical trial results.

Table 1. Tarlatamab Efficacy

Tarlatamab Efficacy (N=69)	Value
Median Time on Tarlatamab (N=69)	48 days (Range: 6-439), Avg: 88 days
Discontinuation – Progression	31 (45%)
Discontinuation - Toxicity	9 (13%)
Discontinuation - Death	8 (12%)
Ongoing Treatment	18 (26%)
Lost to follow up	4 (6%)
Survival - Alive	37 (54%)
Objective Response Rate amongst those scanned (n=53)	Treatment Response (CR/PR/SD): 24 (45%) Progression: 29 (55%)
Active CNS DIsease (n=32)	Treatment Response: 15 (47%) Progression: 10 (31%) Not assessed: 7 (22%)

Table 2. Tarlatamab Toxicity

Toxicity	Metric	C1D1 (n=69)	C1D8 (N=64)	C1D15 (N=58)
CRS	Number of Patients	30	9	1
	Grade Distribution	G1=17, G2=10, G3=3	G1=5, G2=4	N
	Average Time to Onset (hours)	16	24	16
ICANS	Number of Patients	19	9	0
	Grade Distribution	G1=6, G2=12, G3=1	G1=6, G2=2, G3=1	G2=1
	Average Time to Onset	19	32	20
	CNS Involvement - Yes	9	5	1
CRS *AND* ICANS	Number of Patients	14	4	1