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Obstructive Sleep Apnea and Outcomes After CAR-T Therapy in Diffuse Large B-Cell Lymphoma: A Real-World TriNetX Study

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INTRODUCTION

CAR-T therapy has transformed treatment of relapsed/refractory diffuse large B-cell lymphoma (DLBCL), but treatment-related morbidity and mortality remain substantial. Obstructive sleep apnea (OSA)—linked to chronic inflammation, intermittent hypoxia, and cardiopulmonary dysfunction—may adversely affect outcomes after intensive immunotherapy. Data on OSA and CAR-T outcomes are limited.

AIM & OBJECTIVE

To investigate the association between preexisting OSA and clinical outcomes among patients with DLBCL receiving CAR-T therapy.

METHODS

Retrospective cohort study using the TriNetX Global Collaborative Network (173 healthcare organizations). Adults with DLBCL who underwent CAR-T therapy (axicabtagene ciloleucel, lisocabtagene maraleucel, tisagenlecleucel) between January 2015 and May 2026 were identified via ICD-10, HCPCS, ICD-10-PCS, and RxNorm codes and stratified by presence/absence of OSA (ICD-10 G47.33). The primary outcome was all-cause mortality; secondary outcomes were ICU admission and sepsis at 1 and 3 years. 1:1 propensity-score matching balanced age, sex, race, obesity, hypertension, diabetes, chronic respiratory disease, and CKD.

CONCLUSIONS

In this real-world matched analysis, preexisting OSA was not significantly associated with increased 1-year mortality after CAR-T therapy in DLBCL. Larger, longer-term studies are warranted to further define the impact of OSA on CAR-T outcomes. [Submitted abstract reported 1-year data; conclusion summarizes those results.]

RESULTS

Before matching, 266 patients with OSA and 1,592 without OSA were identified; after matching, the 1-year cohort included 159 per group. At 1 year, all-cause mortality was 13.5% (17/126 evaluable) in the OSA cohort vs 11.8% (16/136) in the non-OSA cohort (RR 1.147, 95% CI 0.606-2.171; HR 1.121, 95% CI 0.566-2.220; log-rank P=0.742). One-year survival was 83.5% (OSA) vs 85.0% (non-OSA).

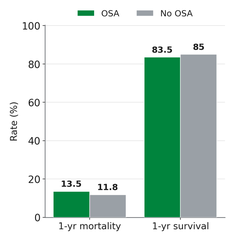

Figure. One-year mortality and survival by OSA status. Differences were small and not statistically significant.

Outcome	OSA	No OSA	Effect	P
1-yr mortality	13.5%	11.8%	HR 1.12	0.742
1-yr survival	83.5%	85.0%	—	—

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REFERENCES

1. Data source: TriNetX Global Collaborative Network.
2. Analyses performed on de-identified, aggregated records; this study did not constitute human-subjects research.