COMPARATIVE REAL-WORLD OUTCOMES OF CAR-T THERAPY VERSUS STANDARD SYSTEMIC THERAPY IN DIFFUSE LARGE B-CELL LYMPHOMA

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INTRODUCTION

Chimeric antigen receptor T-cell (CAR-T) therapy has transformed the treatment landscape for relapsed or refractory diffuse large B-cell lymphoma (DLBCL). However, real-world comparative data on survival, healthcare utilization, and treatment-related toxicity remain limited.

AIM

To evaluate real-world survival and toxicity outcomes among patients with DLBCL receiving CAR-T therapy compared with standard systemic therapy.

METHOD

- Retrospective propensity-matched cohort study using a federated electronic health record network of 112 healthcare organizations; outcomes were assessed from 30 days through 5 years after index therapy.
- Adults with DLBCL receiving CAR-T therapy were compared with patients receiving non–CAR-T systemic treatment, including polatuzumab vedotin, tafasitamab, lenalidomide, bendamustine, platinum- or gemcitabine-based regimens, selinexor, or loncastuximab tesirine.
- Patients with multiple myeloma, acute lymphoblastic leukemia, Hodgkin lymphoma, or prior stem cell transplantation were excluded.
- 1:1 propensity score matching balanced demographics and comorbidity burden; 1,421 patients were included in each group.

RESULTS

Thirty-day mortality was comparable with CAR-T and standard therapy (6.2% vs 5.8%).

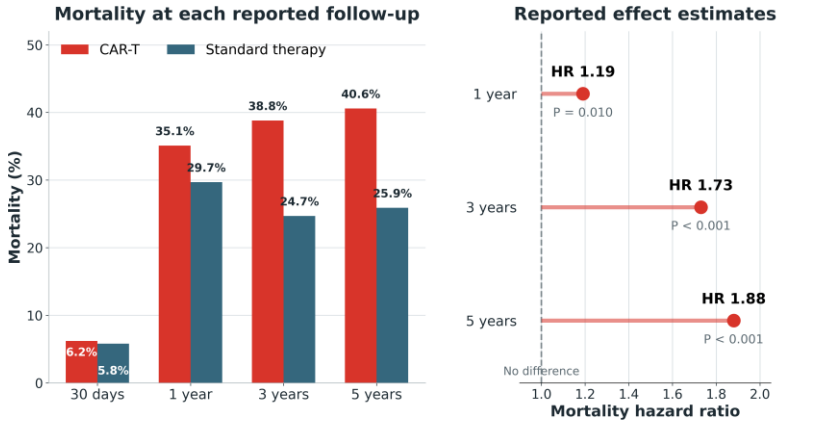
Mortality was higher with CAR-T at 1 year (35.1% vs 29.7%; HR, 1.19; P = 0.010), 3 years (38.8% vs 24.7%; HR, 1.73; P < 0.001), and 5 years (40.6% vs 25.9%; HR, 1.88; P < 0.001).

Mechanical ventilation was more frequent after CAR-T (18.5% vs 9.7%; RR, 1.91; P < 0.001).

Infectious complications and ICU-level care were more frequent with CAR-T, whereas overall

hospitalization rates were similar.

Reported mortality after CAR-T versus standard systemic therapy



Matched n = 1,421 per group. Bars reproduce the abstract's reported mortality percentages; they are not a Kaplan–Meier curve.

CONCLUSIONS

In this propensity-matched real-world cohort, CAR-T therapy was associated with higher long-term mortality, mechanical ventilation, and infectious complications than standard systemic therapy.

These associations may reflect residual differences in disease severity, treatment selection, and CAR-T–related toxicity; improved risk stratification and supportive care are warranted.

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