RACIAL DISPARITIES IN CAR-T–TREATED DIFFUSE LARGE B-CELL LYMPHOMA: COMPARATIVE OUTCOMES IN BLACK AND WHITE PATIENTS

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Introduction

The advent of CAR-T therapy has reshaped the management of relapsed/refractory diffuse large B-cell lymphoma (DLBCL), improving the progression-free and overall survival rates. However, there is limited data on race-specific outcomes.

Aim

To evaluate the different clinical outcomes between Black and White adults with DLBCL treated with CAR-T therapy in the United States.

Objectives

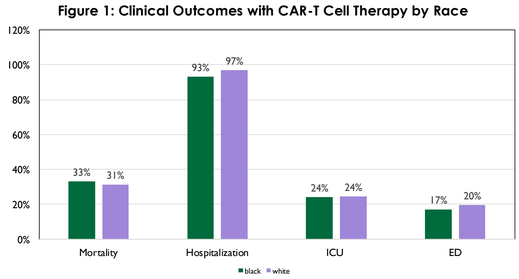
- To assess the differences in mortality among Black vs White patients receiving CAR-T for relapsed/refractory DLBCL
- To evaluate the racial differences in hospitalizations, ICU, ED, and palliative care
- To compare survival outcomes in both groups using Kaplan-Meier and hazard ratios.
- To examine the racial differences in hypertension, CAD, heart failure, DVT and PE rates.
- To evaluate the rate of metabolic conditions such as diabetes, osteoporosis in both groups.

Methods

- We used the TriNetX US Collaborative Network to identify adults (≥18 years) with DLBCL who received CAR-T therapy (2000–2025).
- Two cohorts were created: Black (n=199) and White (n=2,035) patients. Propensity score matching resulted in 193 patients per group.
- The primary outcome was mortality.
- Secondary outcomes included hospitalizations, ICU/ED visits, cardiovascular events, thromboembolic events, metabolic conditions, and palliative care.
- Risk ratios (RR) with 95% CI and Kaplan-Meier survival with hazard ratios (HR) were calculated.

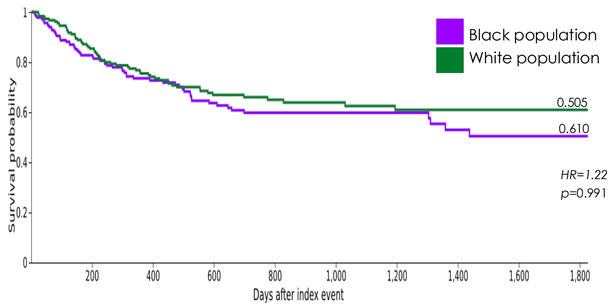
Results

Figure 1: Clinical Outcomes with CAR-T Cell Therapy by Race



Results

Figure 2: Kaplan Meier Survival analysis for racial differences in CAR-T cell-Treated Diffuse Large B-cell lymphoma



- Matched Black and White cohorts were balanced in age (mean 58.6 vs. 58.9 years respectively) and baseline comorbidities.
- Mortality was comparable (33.0% in Black vs. 31.4% in White patients; RR=1.05, 95% CI 0.78–1.41, *p*=0.741).
- Kaplan-Meier analysis showed a lower 5-year survival rate (50.5% vs. 61.0%; HR: 1.22; *p*=0.991), although it was not statistically significant.
- Cardiovascular outcomes including hypertension (19.1% vs. 26.7%, *p*=0.213) and heart failure (9.2% vs. 5.6%, *p*=0.199) showed no statistically significant differences.
- Diabetes was more common in Black patients (11.3% vs. 6.3%; RR=1.79, *p*=0.121), while osteoporosis rates were similar.
- DVT, PE, and CAD risks were also nearly identical across the groups. ICU admission, ED visits, and palliative care encounters also occurred at similar frequencies.

Conclusion

- Clinical outcomes after CAR-T therapy for DLBCL were broadly similar between Black and White patients, likely limited by the small sample size.
- Larger studies are needed to better assess disparities in CAR-T therapy outcomes.

References

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