EVALUATING DEMOGRAPHICS, COMORBIDITIES, COMPLICATIONS, AND HEALTHCARE BURDEN AMONG 745 ADULTS WITH MANTLE CELL LYMPHOMA UNDERGOING BREXUCABTAGENE AUTOLEUCEL THERAPY IN THE UNITED STATES

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INTRODUCTION

Brexucabtagene autoleucel (**brexu-cel**) is a novel **CAR T-cell therapy** approved in 2020 for relapsed or recurrent mantle cell lymphoma (MCL).

Despite its clinical promise, **real-world data on patient outcomes and treatment-related complications remain limited**.

This study aims to bridge this gap using a **nationally representative sample**.

AIM

To evaluate **patient and hospital demographics, comorbidities, in-hospital complications, and healthcare burden** among adults with MCL undergoing **brexu-cel therapy** in the United States.

METHOD

Study Design: Retrospective analysis using the National Inpatient Sample (NIS), 2021–2023.

Study Population: Adults with MCL who underwent brexu-cel therapy.

Variables Assessed: Patient and hospital demographics, Charlson Comorbidity Index (CCI), in-hospital complications, and healthcare burden.

Statistical Analysis: Survey-weighted estimates were calculated to account for the complex sampling design of the NIS.

ICANS Analysis: Data on ICANS were available and analyzed for the 2022–2023 subset only.

CONCLUSIONS

- Brexu-cel therapy was associated with several in-hospital complications, particularly CRS and ICANS.
- As this analysis captures only the index hospitalization, CAR T-cell toxicities occurring after discharge may be underestimated.
- These findings highlight the importance of coordinated outpatient monitoring and extended surveillance following hospitalization.

RESULTS

PATIENT & HOSPITAL CHARACTERISTICS

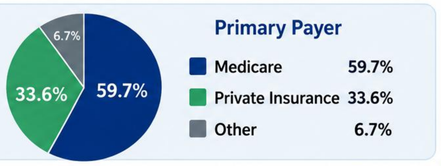
745 adults with MCL received brexu-cel therapy.

Mean age: **66.6** years; median age: **68.0 years.**

75.8% Male | **24.2%** Female

Mean Charlson Comorbidity Index: **3.0**

100% of procedures were performed at urban teaching centers.



IN-HOSPITAL COMPLICATIONS

Acute kidney injury	24.8%
Acute respiratory failure	8.7%
ICU admission	6.0%
Sepsis	6.0%
Mechanical ventilation	3.4%
Dialysis	2.0%
Ischemic stroke	2.0%

CAR T-Cell–Related Toxicities

CRS: 69.8%

Grade 1	30.2%
Grade 2	30.2%
Grade 3	4.0%
Grade 4	2.7%
Grade unknown	2.7%

ICANS: 40.2%

Grade 1	10.3%
Grade 2	9.3%
Grade 3	13.1%
Grade 4	4.7%
Grade unknown	2.8%

ICANS data available for 2022–2023 only.

Mortality & Healthcare Burden

Overall in-hospital mortality: **3.4%**

Mean length of stay: **18.6 days**

Mean hospital charges: **$1,814,226**

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