

Real-World Safety Profile of Ciltacabtagene Autoleucel in Triple-Class Refractory Multiple Myeloma: A TriNetX Analysis.

Hira Cheema, MD; Syed Naqvi, MD; Carolina Schinke, MD; Maurizio Zangari, MD; Sharmilan Thanendrarajan, MD; Frits Van Rhee, MD

University of Arkansas for Medical Sciences (UAMS), Little Rock, AR, USA

INTRODUCTION

- Real-world safety data for ciltacabtagene autoleucel (CARVYKTI) in triple-class refractory relapsed/refractory multiple myeloma (RRMM) remain limited.

AIM

- To evaluate the real-world safety profile of ciltacabtagene autoleucel in patients with triple-class refractory RRMM using data from the TriNetX global collaborative network.

METHODS

- Retrospective cohort study using the TriNetX global collaborative network.
- Adult patients (≥18 years) with triple-class refractory RRMM treated with ciltacabtagene autoleucel were identified using standardized coding data.
- Patients receiving idecabtagene vicleucel were excluded.
- Outcomes included grade ≥3 CRS, grade ≥3 ICANS, cytopenias, infections, gastrointestinal toxicities, neurologic complications, and secondary hematologic malignancies.

CONCLUSIONS

- In this large real-world cohort of triple-class refractory RRMM, ciltacabtagene autoleucel demonstrated a safety profile broadly consistent with the CARTITUDE clinical trial program. Cytopenias and infections were the predominant toxicities, while secondary myeloid malignancies, gastrointestinal toxicities, and rare neurologic complications emerged as important long-term safety signals warranting continued surveillance.

RESULTS

Patient Characteristics (N = 1,045)

- Median follow-up: 365 days
- Mean age: 63.5 ± 10.3 years
- Male: 55.4%
- Plasma cell leukemia: 7%
- Extramedullary disease: 4%
- Prior talquetamab: 7%
- Prior teclistamab: 2%
- Cyclophosphamide: 80%
- Melphalan: 55%
- Bendamustine: 8%

Safety Outcomes

Toxicity	n (%)	Toxicity	n (%)
Neutropenia	58.2%	Sepsis	13.6%
Anemia	45.0%	Pneumonia	13.1%
Thrombocytopenia	41.0%	Fungal infections	7.0%
Grade ≥3 CRS	2.1%	CMV infection	4.7%
Grade ≥3 ICANS	2.5%	Noninfectious colitis	12.1%
		Secondary AML	5.6%
		Secondary MDS	2.1%

Parkinsonism and movement disorders were rare.

ACKNOWLEDGEMENTS

- We thank the patients and healthcare providers contributing data to the TriNetX global collaborative network.

CONTACT INFORMATION

Hira Cheema, MD
University of Arkansas for Medical Sciences (UAMS)
Little Rock, AR, USA
Email: hicheema@uams.edu

REFERENCES

- Berdeja JG, et al. Ciltacabtagene autoleucel in relapsed/refractory multiple myeloma. Lancet. 2021.
- CARTITUDE-4 trial program.
- TriNetX global collaborative network.