ASSESSING REMISSION AND MORTALITY IN TECLISTAMAB-TREATED RRMM PATIENTS: A TRINETX US NETWORK ANALYSIS

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Introduction

- Relapsed/refractory multiple myeloma (RRMM) remains a challenging clinical entity with limited treatment options.
- Teclistamab, a bispecific antibody targeting BCMA and CD3, has shown promise in clinical trials (1).
- However, real-world data on its effectiveness and survival outcomes in routine practice are still emerging.
- This study leverages a large US electronic health record network to assess remission and mortality outcomes in teclistamab-treated RRMM patients

Aim

To determine the probability of remission and survival in teclistamab-treated RRMM patients and assess the long-term disease burden.

Objectives

To evaluate real-world remission and survival outcomes in adult RRMM patients treated with teclistamab across US healthcare settings.

Methods

- This study was a retrospective cohort analysis conducted using the TriNetX US Collaborative Network, which includes data from 66 healthcare organizations.
- Adult patients (≥18 years) with relapsed/refractory multiple myeloma (RRMM) who received teclistamab between October 25, 2022, and January 1, 2025, were identified.
- Patients with solitary plasmacytoma, plasma cell leukemia, or those included solely for research comparison were excluded.
- The index event was defined as the first administration of teclistamab following an RRMM diagnosis.
- Patients were followed for two years after the index event, and outcomes of interest—mortality and remission—were assessed using Kaplan-Meier survival analysis and risk analysis methods

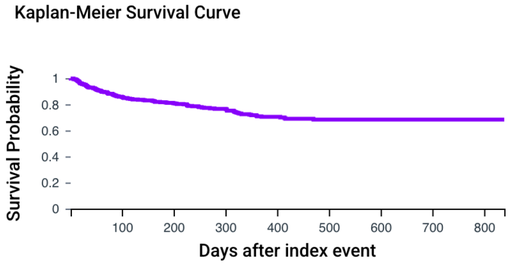


Figure 1. Kaplan–Meier survival curve showing overall survival in teclistamab-treated RRMM patients

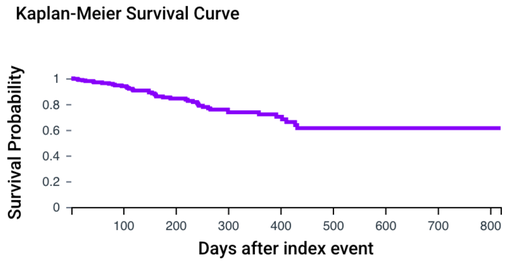


Figure 2. Kaplan–Meier curve for remission outcomes in teclistamab-treated RRMM patients.

Results

- Among 543 patients with relapsed/refractory multiple myeloma treated with teclistamab, 368 were included in mortality analysis. There were 87 deaths, corresponding to a 23.6% risk. Kaplan-Meier estimates showed a 68.6% two-year survival, with median survival not reached (Fig 1).
- For remission, 159 patients were eligible; 36 achieved remission (22.6%). Kaplan-Meier analysis demonstrated a 53.5% probability of remission at two years, with median time not reached (Fig 2).

Summary

- In this real-world analysis, teclistamab demonstrated a 22.6% remission rate and a 68.6% overall survival probability at two years in patients with relapsed/refractory multiple myeloma.

Discussion

- This real-world analysis demonstrates that while teclistamab offers meaningful remission and survival benefits in relapsed/refractory multiple myeloma (1), its use is associated with significant toxicities, including acute kidney injury, neutropenia, thrombocytopenia, pneumonia, and sepsis.
- Immune-related events such as cytokine release syndrome and neurotoxicity were observed but were generally low grade and manageable, aligning with clinical trial data(2).
- Teclistamab shows consistent efficacy, including in older and heavily pretreated patients, but the substantial infection risk and hematologic toxicities highlight the need for vigilant monitoring, supportive measures such as growth factor support and IVIG, and proactive infection prophylaxis to optimize outcomes.

References

1. Nooka et al. Cancer 2023
2. Moreau P, Garfall AL, van de Donk NWCJ, et al. NEJM 2022
3. Hamadeh et al. Blood Advances 2024

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