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Real-World Treatment Patterns and Survival Outcomes in Relapsed/Refractory Multiple Myeloma (RRMM) in a MajesTEC-3 Study–Like Population From the US Optum Claims Database

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Key Takeaway

Real-world data from the US Optum claims database highlight that outcomes generally worsen with lenalidomide refractoriness and each subsequent LOT, which supports the earlier use of highly effective, novel treatments, such as Tec-Dara, to maximize long-term patient outcomes

Conclusions

In this MajesTEC-3–like population, most patients received a traditional triplet combination as their first index regimen

Median TTNT was 15.9 months, and median OS was 40.3 months, with poorer OS outcomes associated with refractoriness to lenalidomide and increasing prior LOTs

These results provide important real-world context for the value of novel regimens, such as Tec-Dara, in patients with early relapses after PI- and lenalidomide-based therapy

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Introduction

- Despite rapid advances in treatment options, multiple myeloma (MM) remains characterized by multiple relapses[1]
- The treatment of patients with relapsed/refractory MM (RRMM) is increasingly challenging, in part due to the frequent front-line use of anti-CD38 monoclonal antibodies, proteasome inhibitors (PIs), and immunomodulatory drugs (IMiDs), and is further compounded by the high attrition observed across successive lines of therapy (LOTs)[2-4]
- Furthermore, long-term outcomes progressively deteriorate with each successive relapse and LOT,[2,4] thus underscoring the high unmet clinical need for novel, effective treatments for use as early as after the first relapse
- Utilizing novel B-cell maturation antigen (BCMA)–targeted therapies can help to improve outcomes in patients with RRMM who are double- or triple-class exposed
  - In the phase 3 MajesTEC-3 study, the BCMA×CD3 bispecific antibody teclistamab in combination with daratumumab (Tec-Dara) significantly improved progression-free survival (PFS; hazard ratio [HR], 0.17; *P*<0.0001) and overall survival (OS; HR, 0.46; *P*<0.0001) in patients with RRMM and 1 to 3 prior LOTs, 85.2% of whom were refractory to an IMiD (83.6% to lenalidomide)[5,6]
  - Given these results, Tec-Dara recently received approval in the United States for the treatment of RRMM in patients with ≥1 LOT, including a PI and an IMiD[7]
- Given that most patients can receive upfront PIs and lenalidomide and/or anti-CD38 therapy, we looked to characterize real-world treatment patterns and outcomes in an RRMM population similar to that in the MajesTEC-3 study in order to better contextualize its findings

Methods

- Data were collected from the US Optum claims database, which was linked to mortality data to capture survival outcomes, between January 2016 and May 2025
- Eligible patients were restricted to those with an index date (defined as the date of initiation of second-line and beyond RRMM treatment) between January 2021 and later
  - Claims data from before January 2021 were used for curation of patient treatment history and outcomes
- A real-world cohort that reflected patients in the MajesTEC-3 study was generated by applying key MajesTEC-3 inclusion criteria:
  - Diagnosis of RRMM
  - 1 to 3 prior LOTs, including a PI and lenalidomide (patients who had received only 1 prior LOT were required to have lenalidomide-refractory disease)
  - No prior BCMA exposure
  - Patients could be anti-CD38 exposed but not refractory (defined as having a change in treatment within 60 days of the last therapy without an anti-CD38 agent as a component of the immediate next LOT[8])
- In this analysis, only the "first index" LOT for RRMM that was initiated during the study period was considered for each eligible patient
- Patient characteristics and treatment regimens were summarized descriptively
- Time-to-event endpoints, including OS and time to next treatment (TTNT), were estimated using the Kaplan-Meier method
  - 95% confidence intervals (CIs) were calculated from a Cox proportional hazards model

Results

Patient demographic and disease characteristics

- In total, 1453 patients met the inclusion criteria (**Table 1**)
  - Of the included patients, 36.1% had 1 prior LOT, 53.7% had 2 prior LOTs, and 10.2% had 3 prior LOTs; 80.7% and 83.5% of patients were refractory to a PI and lenalidomide, respectively
- Median time from index date to end of follow-up was 40.3 months

Table 1: Patient demographic and disease characteristics

Characteristic, n (%)	N=1453
Age category at index	
≤65 years	222 (15.3)
>65-75 years	633 (43.6)
>75 years	598 (41.2)
Sex	
Male	710 (48.9)
Female	743 (51.1)
Race	
Asian	51 (3.5)
Black or African American	347 (23.9)
Unknown/missing	236 (16.2)
White	819 (56.4)
Type of insurance	
Commercial	199 (13.7)
Medicare	1254 (86.3)
Median (IQR) duration of time from diagnosis to index date, years	2.1 (0.97-4.03)
Number of prior LOTs	
1	525 (36.1)
2	780 (53.7)
3	148 (10.2)
Prior daratumumab	
No	1265 (87.1)
Yes	188 (12.9)
PI refractory	
No	281 (19.3)
Yes	1172 (80.7)
PI and IMiD refractory	
No	488 (33.6)
Yes	965 (66.4)
IMiD refractory	
No	235 (16.2)
Yes	1218 (83.8)
Lenalidomide refractory	
No	240 (16.5)
Yes	1213 (83.5)

IQR, interquartile range; IMiD, immunomodulatory drug; LOT, line of therapy; PI, proteasome inhibitor.

RRMM treatment regimens

- A high degree of variability was observed in the first index treatment regimen received for RRMM; the most common triplet regimen was daratumumab plus pomalidomide and dexamethasone (n=205 [14.1%]; **Table 2**), a comparator in the MajesTEC-3 study[5]

Table 2: Most common[a] first index treatment regimens for RRMM

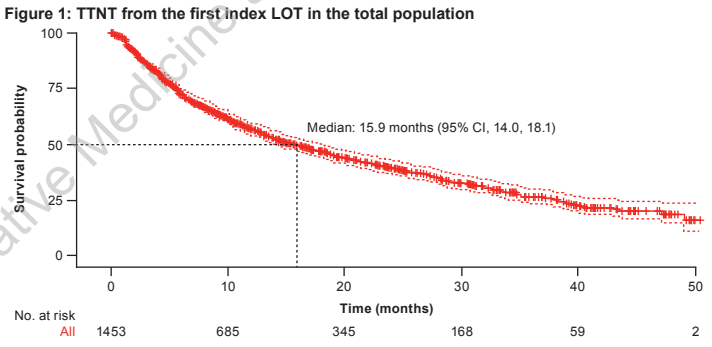
Treatment regimen, n (%)	Frequency N=1453
Daratumumab, pomalidomide, dexamethasone (DPd)	205 (14.1)
Other daratumumab-based combination	198 (13.6)
Others	179 (12.3)
Daratumumab monotherapy	153 (10.5)
Other doublet combination	149 (10.3)
Daratumumab, bortezomib, dexamethasone (DVd)	109 (7.5)
Daratumumab, carfilzomib, dexamethasone (DKd)	95 (6.5)
Pomalidomide, dexamethasone (Pd)	93 (6.4)

[a]Most common was defined as treatment regimens reported in ≥5% of patients.
RRMM, relapsed/refractory multiple myeloma.

TTNT

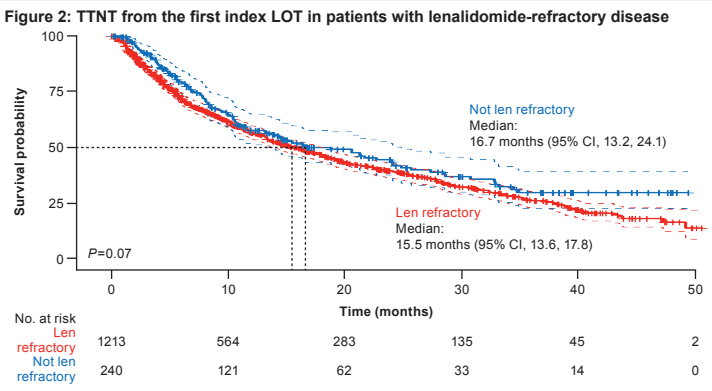
- Median TTNT from the first index LOT was 15.9 months in the total population (**Figure 1**)
- Median TTNT was numerically shorter with increasing LOT, at 16.8 months (95% CI, 14.8, 20.5), 14.9 months (95% CI, 13.3, 18.4), and 11.4 months (95% CI, 9.7, 19.8) in patients with 1, 2, and 3 prior LOTs, respectively (*P*=0.32)
- There was a relatively shorter median TTNT in patients who were lenalidomide refractory versus those who were not (**Figure 2**)

Figure 1: TTNT from the first index LOT in the total population



Dotted lines represent confidence intervals.
CI, confidence interval; LOT, line of therapy; TTNT, time to next treatment.

Figure 2: TTNT from the first index LOT in patients with lenalidomide-refractory disease

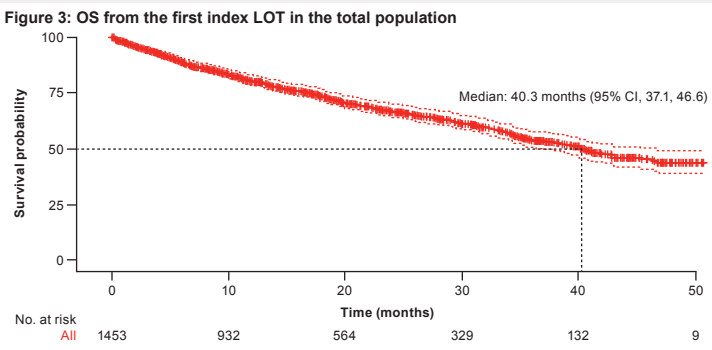


Dotted lines represent confidence intervals.
CI, confidence interval; len, lenalidomide; LOT, line of therapy; TTNT, time to next treatment.

OS

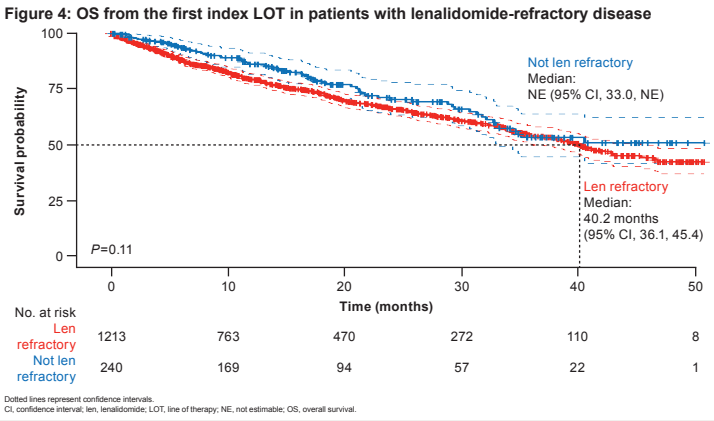
- Median OS from the first index LOT was 40.3 months in the total population (**Figure 3**)
- Median OS was shorter with increasing LOT and was not estimable (NE; 95% CI, 40.2, NE), 38.9 months (95% CI, 34.8, 46.8), and 34.3 months (95% CI, 29.0, 46.6) in patients with 1, 2, and 3 prior LOTs, respectively (*P*=0.048)
- There was a comparatively shorter median OS in patients who were lenalidomide refractory versus those who were not (**Figure 4**)

Figure 3: OS from the first index LOT in the total population



Dotted lines represent confidence intervals.
CI, confidence interval; LOT, line of therapy; OS, overall survival.

Figure 4: OS from the first index LOT in patients with lenalidomide-refractory disease



Dotted lines represent confidence intervals.
CI, confidence interval; len, lenalidomide; LOT, line of therapy; NE, not estimable; OS, overall survival.

Limitations

- In real-world claims data, TTNT serves as a proxy for PFS; however, patients may switch to the next treatment for reasons other than progression (eg, adverse events), and this may lead to an underestimation of PFS
- In claims data, refractoriness is based on the real-world definition rather than confirmed disease progression

References

1. Kumar SK, et al. *Nat Rev Dis Primers*. 2017;3:17046. 2. Rodríguez-Lobato LG, et al. *Blood Cancer J*. 2025;15(1):103. 3. Fonseca R, et al. *BMC Cancer*. 2020;20(1):1087. 4. Wang PF, et al. *Leuk Lymphoma*. 2023;64(2):398-406. 5. Costa LJ, et al. *N Engl J Med*. 2026;394(8):739-752. 6. Mateos MV, et al. Presented at: 67th American Society of Hematology (ASH) Annual Meeting & Exposition; December 6-9, 2025; Orlando, FL, USA. 7. TECVAYLI® (teclistamab-cqyv) injection, for subcutaneous use [package insert]. Horsham, PA, USA: Janssen Biotech, Inc.; 2026. 8. Usmani S, et al. *Blood*. 2015;126(23):4498.

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