CO204

Real-World Treatment Patterns and Outcomes for Patients With Relapsed/Refractory Multiple Myeloma and Prior Lenalidomide/ Proteasome Inhibitors From the US Flatiron Health Database

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Key Takeaway

The lack of standard treatment patterns and high unmet need in patients with RRMM underscore the need for earlier use of more effective and novel therapies

Conclusions

Treatment regimens for patients with RRMM were highly variable in the real-world setting

The current lack of effective treatment regimens was reflected by short times to treatment discontinuation and next LOT

Patients with RRMM had poor rwPFS; further, age ≥75 years, ISS stage III disease at diagnosis, high-risk cytogenetics at baseline, higher ECOG PS score, and lenalidomide-refractory status were found to be strong predictors of poorer rwPFS

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Disclosure

SN is an employee and shareholder of Johnson & Johnson.

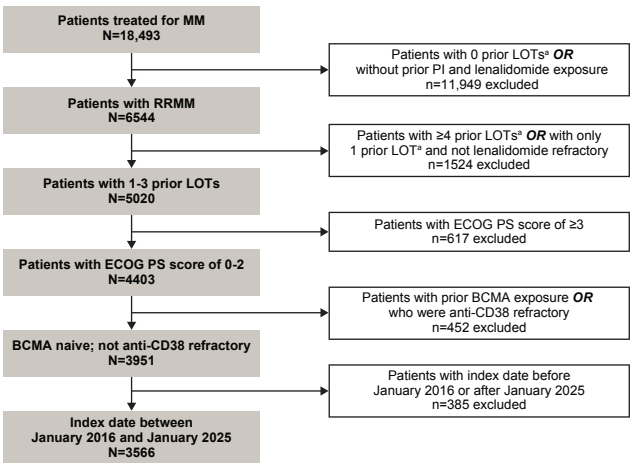
Introduction

- Patients with relapsed/refractory multiple myeloma (RRMM) who have relapsed following first-line treatment, particularly those who are refractory to lenalidomide, are increasingly challenging to treat[1,2]
- Successive lines of therapy (LOTs) for RRMM are typically associated with poorer prognoses and high attrition rates,[3,4] which highlight the unmet need for effective treatment regimens in earlier LOTs
- Understanding real-world treatment patterns and outcomes for patients with RRMM is essential for guiding the development of new and effective treatment options
- Here we describe current standard-of-care treatment patterns and real-world outcomes of patients with RRMM in early LOTs

Methods

- Data were collected from the US Flatiron Health database for patients who initiated RRMM treatment between January 2016 and January 2025
  - The initiation date of the first treatment for RRMM was defined as the index date
- Eligibility criteria for patient selection are shown in **Figure 1**
- For this analysis, only the first (index) LOT for RRMM that was initiated during the study period was considered for each eligible patient
- Patient characteristics were summarized descriptively
- Time-to-event endpoints were summarized using Kaplan-Meier methods
  - Real-world progression-free survival (rwPFS) was reported to reflect the collection of disease-progression data in real-world practice

Figure 1: Patient selection in the US Flatiron Health database



BCMA, B-cell maturation antigen; ECOG PS, Eastern Cooperative Oncology Group performance status; LOT, line of therapy; MM, multiple myeloma; PI, proteasome inhibitor. [a]LOTs were defined within the Flatiron Health database.

Results

Patient demographic and disease characteristics

- In total, 3566 patients met the inclusion criteria (**Figure 1**)
- Of the included patients, 1010 (28.3%) had 1 prior LOT, 2208 (61.9%) had 2 prior LOTs, 348 (9.8%) had 3 prior LOTs, 2089 (58.6%) had lenalidomide-refractory myeloma, and 540 (15.1%) were daratumumab exposed (**Table 1**)

Table 1: Baseline demographic and disease characteristics

Characteristic	N=3566
Median (IQR) age, years	70 (62-76)
Gender, n (%)	
Male	1905 (53.4)
Female	1661 (46.6)
Race, n (%)	
White	2267 (63.6)
Black or African American	630 (17.7)
Not reported or other	669 (18.8)
ECOG PS score, n (%)	
0	1272 (35.7)
1	1742 (48.9)
2	552 (15.5)
Duration of time from diagnosis to index date, n (%)	
<4 years	2798 (78.5)
≥4 years	768 (21.5)
Cytogenetic risk category, n (%)	
High	1223 (34.3)
Standard	1541 (43.2)
Unknown	802 (22.5)
ISS disease stage, n (%)	
Stage I	869 (24.4)
Stage II	797 (22.3)
Stage III	726 (20.4)
Unknown	1174 (32.9)
Number of prior LOTs, n (%)	
1	1010 (28.3)
2	2208 (61.9)
3	348 (9.8)
Anti-CD38 exposed, n (%)	699 (19.6)
Daratumumab exposed	540 (15.1)
IMiD refractory, n (%)	2158 (60.5)
Lenalidomide refractory	2089 (58.6)
PI refractory, n (%)	2013 (56.4)
PI and IMiD refractory, n (%)	1394 (39.1)

ECOG PS, Eastern Cooperative Oncology Group performance status; IMiD, immunomodulatory drug; IQR, interquartile range; ISS, International Staging System; PI, proteasome inhibitor.

RRMM treatment regimens

- There was a high degree of variability in the first index treatment regimens received for RRMM
- Daratumumab plus pomalidomide/dexamethasone was the only regimen received by ≥10% of patients (n=422 [11.8%]; **Table 2**)

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

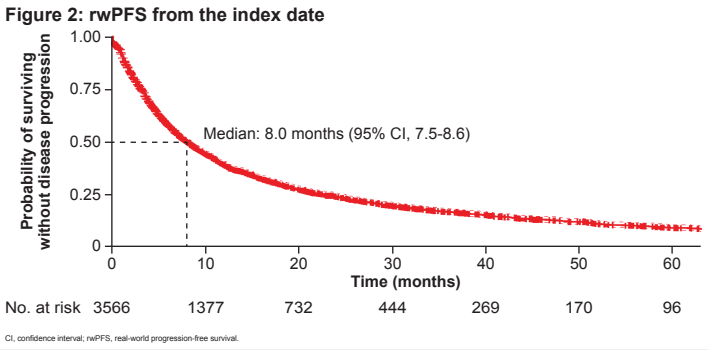
Treatment regimen, n (%)	N=3566
Daratumumab + pomalidomide + dexamethasone	422 (11.8)
Daratumumab monotherapy	280 (7.9)
Daratumumab + bortezomib + dexamethasone	212 (5.9)
Lenalidomide + dexamethasone	200 (5.6)
Daratumumab + carfilzomib + dexamethasone	194 (5.4)
Daratumumab + lenalidomide + dexamethasone	190 (5.3)
Pomalidomide + dexamethasone	155 (4.3)
Carfilzomib + dexamethasone	138 (3.9)
Bortezomib + lenalidomide + dexamethasone	131 (3.7)
Carfilzomib + pomalidomide + dexamethasone	114 (3.2)
Bortezomib + dexamethasone	109 (3.1)

RRMM, relapsed/refractory multiple myeloma.
[a]Treatment regimens reported in ≥3% of patients.

Real-world outcomes

- Median rwPFS from the index date was 8.0 months (**Figure 2**)

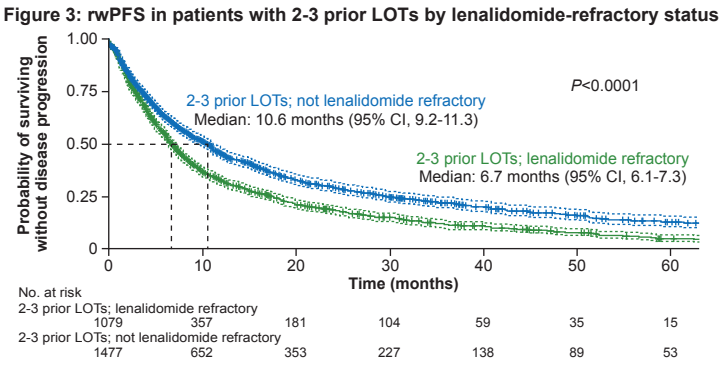
Figure 2: rwPFS from the index date



CI, confidence interval; rwPFS, real-world progression-free survival.

- Among patients with 2 to 3 prior LOTs, median rwPFS was 6.7 months in those with lenalidomide-refractory RRMM versus 10.6 months in those without (**Figure 3**)

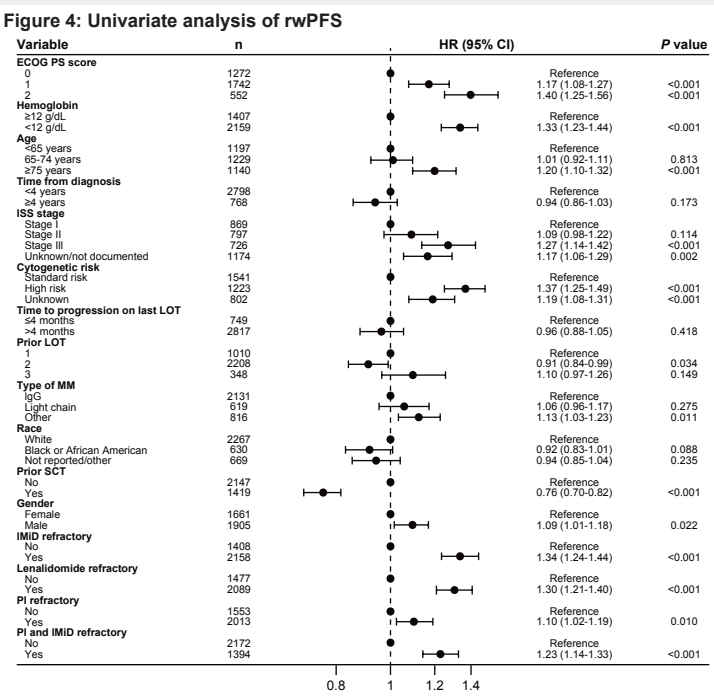
Figure 3: rwPFS in patients with 2-3 prior LOTs by lenalidomide-refractory status



CI, confidence interval; LOT, line of therapy; rwPFS, real-world progression-free survival.

- A univariate analysis revealed that multiple factors were strong predictors of poorer rwPFS, including age ≥75 years, International Staging System (ISS) stage III disease at diagnosis, high-risk cytogenetics at baseline, higher Eastern Cooperative Oncology Group performance status (ECOG PS) score, and lenalidomide refractoriness, among others (**Figure 4**)

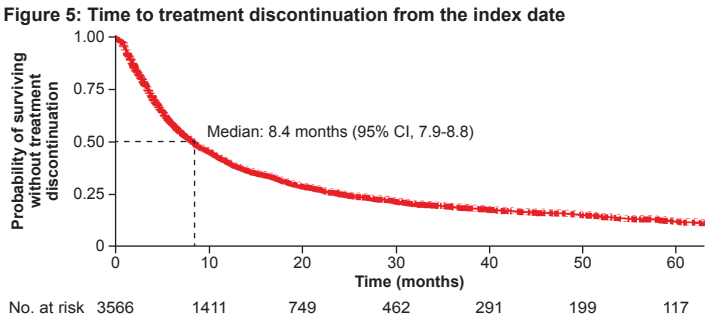
Figure 4: Univariate analysis of rwPFS



CI, confidence interval; ECOG PS, Eastern Cooperative Oncology Group performance status; HR, hazard ratio; IgG, immunoglobulin G; IMiD, immunomodulatory drug; ISS, International Staging System; LOT, line of therapy; MM, multiple myeloma; PI, proteasome inhibitor; rwPFS, real-world progression-free survival; SCT, stem cell transplant.

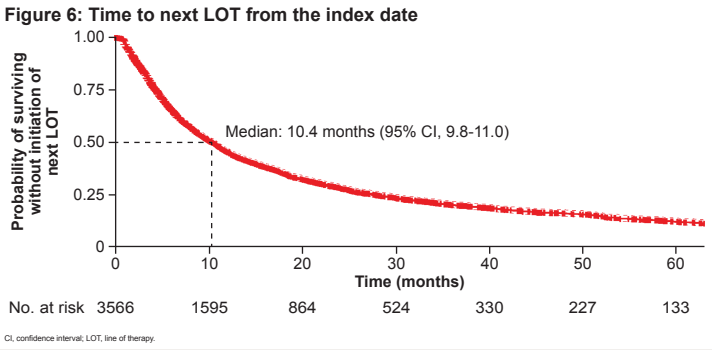
- The heterogeneity in standard-of-care regimens and lack of effective treatments available for patients with RRMM were reflected in short times to treatment discontinuation (8.4 months; **Figure 5**) and initiation of the next LOT (10.4 months; **Figure 6**)

Figure 5: Time to treatment discontinuation from the index date



CI, confidence interval.

Figure 6: Time to next LOT from the index date



CI, confidence interval; LOT, line of therapy.

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