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Frontline Treatment Patterns in Patients with Newly Diagnosed Multiple Myeloma - Real-World Evidence from a Large Community-based Oncology Practice Network in the US

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Key Takeaway

The findings of this study indicate that there is an opportunity to further optimize the use of clinically advanced regimens such as quadruplets and daratumumab-based triplets for all NDMM patients.

Conclusions

- **The growing usage of quadruplet and daratumumab-based triplet regimens suggests that treatment patterns in community practices are evolving based on the growing body of clinical evidence, however several opportunities for improvement still remain, especially in the black patient population.**
- **While doublet regimen use was still observed among older and frail patients, there was a noticeable increase in usage of 1L DRd in these patients in more recent years.**
- **The use of daratumumab-based quadruplets also increased in recent years, surpassing VRd; more prominently seen among patients with high cytogenetic risk.**
- **Daratumumab-based regimens had longer TTNT and DOT.**

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Poster

Narrated poster video

https://www.congresshub.com/ASH2024/Oncology/Daratumumab/Gordan

Acknowledgements

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Introduction

- Multiple myeloma (MM) is the second most common hematologic cancer in the USA.[1]
- The treatment landscape for newly diagnosed multiple myeloma (NDMM) is evolving and the introduction of several novel agents over the last decade has led to improved survival rate and delayed disease progression in patients with MM.[2,3]
- Given that community oncology clinics treat the majority of patients with NDMM, it is critical to understand the frontline (1L) treatment patterns in this setting.
- Understanding the current treatment landscape for NDMM patients at these community clinics could help identify opportunities for optimizing patient care.
- This study aimed to describe the patient characteristics, treatment patterns, and outcomes of patients with NDMM who received 1L treatment at a clinic within a large community oncology practice network in the US.

Methods

Patients with electronic medical record (EMR) data ('EMR cohort')

- A sample of 1000 adult patients with NDMM who initiated 1L treatment with NCCN recommended MM drugs between January 2018 and October 2022 were randomly selected from the Florida Cancer Specialists and Research Institute's (FCS) EMR database.
- Index date was defined as the date of 1L treatment initiation.
- Exclusion criteria:
  - NCCN recommended MM treatment prior to MM diagnosis,
  - Invasive malignancies (excluding plasmacytomas, non-melanomas, carcinomas in-situ),
  - Amyloid light-chain amyloidosis,
  - Index date ≥1 year after first MM diagnosis,
  - MM diagnosis or treatment outside of FCS,
  - Stem cell transplant (SCT) on or prior to index date,
  - Incomplete patient record,
  - Enrollment in clinical trial prior to index date.

Chart review subgroup

- SCT is not captured in the structured EMR data, so a chart review was conducted in a subset of 500 patients to assess whether patients underwent SCT to avoid misclassifying the treatment gap during SCT as treatment discontinuation.
- All patients receiving daratumumab-based regimens and a random sample of patients receiving bortezomib (V) + lenalidomide (R) + dexamethasone (d) (VRd) were included because VRd was the most prescribed regimen while the use of daratumumab-containing regimens was increasing over time.

Data Analysis

- Baseline characteristics were captured at index date. Treatment discontinuation was defined as a gap >90 days for patients without SCT and a gap >183 days for patients with SCT in 1L.
- Duration of treatment (DOT; defined as the time from the start date of a LOT to the end date of that LOT including maintenance therapies) and time to next treatment (TTNT; defined as time interval between the index date and initiation date of the next LOT or death) were calculated using Kaplan Meier analyses for the chart review subgroup.

Results

EMR cohort: patient characteristics

- Of the 1000 patients in the EMR cohort, 881 were eligible for inclusion in the analysis.
- The median age of patients receiving doublet regimens was higher than those receiving triplet and quadruplet regimens (Table 1).
- The proportion of frail patients was slightly higher among doublet recipients compared to triplet recipients and substantially higher compared to quadruplet recipients (Table 1).

Table 1: Patient characteristics in the EMR cohort

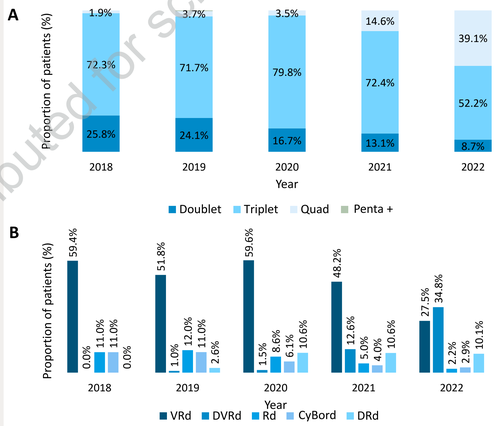
EMR cohort (N = 881[a])	Doublet (N= 157)	Triplet (N= 623)	Quadruplet (N= 100)
Age, median, years	79.0	73.0	70.0
Male, n (%)	78 (49.7)	337 (54.1)	65 (65.0)
Race Black, n (%) White, n (%)	 10 (6.4) 84 (53.5)	 43 (6.9) 330 (53.0)	 4 (4.0) 54 (54.0)
High cytogenetic risk*, n (%)	18 (11.5)	86 (13.8)	28 (28.0)
Frail[b], n (%)	58 (36.9)	205 (32.9)	26 (26.0)
ISS Stage III, n (%)	45 (28.7)	168 (27.0)	22 (22.0)
ECOG Score 0 or 1, n (%)	82 (52.2)	415 (66.6)	64 (64.0)

*High cytogenetic risk was based on provider assessment or as presence of del17p, t[14;16], t[4;14], t(14;20), gain or amp 1q21. [a]Frailty was calculated using a simplified IMWG frailty score (based on age, ECOG, and Charlson Comorbidity Index).[4] [b]1 patient received more than 4 drug regimens and is not described here.
Abbreviations: ECOG, Eastern Oncology Cooperative Group; ISS, international staging system.

EMR cohort: treatment patterns

- 70.7% patients received triplet regimens, 17.8% received monotherapy or doublet regimens, and 11.4% received quadruplet regimens during the study period.
- From 2018 to 2022, the use of doublet regimens decreased from 25.8% to 8.7%, while the use of quadruplet regimens increased from 1.9% to 39.1% (**Figure 1A**) and use of VRd decreased between 2018 and 2022 (**Figure 1B**).

Figure 1: Trends in prescribing pattern from 2018 to 2022 (A) by regimen type and (B) for the top 5 regimens in the EMR cohort



- Most common 1L regimens observed during the study period were VRd (50.3%), daratumumab (D) + VRd (DVRd) (8.9%), Rd (7.9%), cyclophosphamide + Vd (CyBord; 7.0%), and DRd (6.9%).
- Among the 1L regimens, 81.3%, 79.7%, and 22.8% contained proteasome inhibitors (PI), immunomodulatory agents (IMiD), and monoclonal antibodies (mAb), respectively.
- The use of mAb-based regimens (mostly daratumumab-based regimens) increased from 2018 to 2022 (**Figure 2**), with DVRd being the most substantial, replacing VRd as the most frequently used regimen.

Figure 2: Prescribing trends by regimen combination type from 2018 to 2022 in the EMR cohort

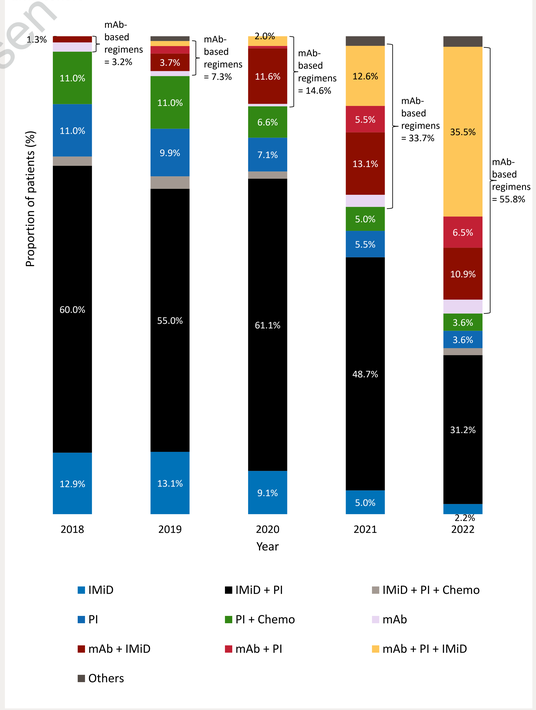


Chart review subgroup: patient characteristics

- Of the 500 patients that were selected for chart review, 319 met the criteria for further analysis, of which 270 patients did not receive SCT and 49 received SCT. Due to the small number of patients with SCT, results are only presented for patients who did not receive SCT in 1L (**Table 2**).
- Patients treated with DRd in 1L were older than those treated with DVRd and VRd, and fewer black and female patients were treated with DVRd and DRd compared to VRd (**Table 2**).

Chart review subgroup: patient characteristics (cont)

- The proportion of frail patients was higher among DRd recipients compared to DVRd and VRd recipients, and the proportion of patients with high cytogenetic risk was higher among DVRd recipients (**Table 2**).

Table 2: Patient characteristics in the chart review subgroup without SCT

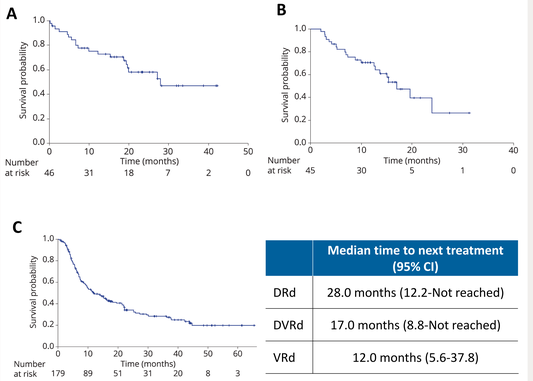
	DRd (N=46)	DVRd (N=45)	VRd (N=179)
Age, median, years	81.0	70.0	75.0
Male, n (%)	26 (56.5)	28 (62.2)	91 (50.8)
Race Black, n (%) White, n (%)	 3 (6.5) 40 (87.0 %)	 4 (8.9) 36 (80.0)	 25 (14.0) 128 (71.5)
High cytogenetic risk*, n (%)	3 (6.5)	20 (44.4)	43 (24.0)
Frail+, n (%)	32 (69.6)	20 (44.4)	75 (41.9)
ISS Stage III, n (%)	9 (19.6)	5 (11.1)	52 (29.1)
ECOG Score 0 or 1, n (%)	36 (78.3)	31 (68.9)	126 (70.4)

*High cytogenetic risk was based on provider assessment or as presence of del17p, t[14;16], t[4;14], t(14;20), gain or amp 1q21; SCT, stem cell transplant; Frailty was calculated using a simplified IMWG frailty score (based on age, ECOG, and Charlson Comorbidity Index).[4]
Abbreviations: ECOG, Eastern Oncology Cooperative Group; ISS, international staging system.

Chart review subgroup: outcomes

- Among patients receiving DRd, DVRd, and VRd, the median follow-up was 23.3 months, 15.3 months, and 25.9 months.
- Although the median follow-up period was the longest for VRd group, the median DOT for 1L was longer in DRd group (19.9 months (6.1-Not reached)) and DVRd group (15.0 months (4.2-23.2)) as compared to the VRd group, (6.5 months (3.9-25.1)).
- The median TTNT was 28.0 months, 17.0 months, and 12.0 months, DRd, DVRd, and VRd respectively (**Figure 3**).

Figure 3: Kaplan Meier curves showing time to next treatment for (A) DRd, (B) DVRd, and (C) VRd in the chart review subgroup without SCT



	Median time to next treatment (95% CI)
DRd	28.0 months (12.2-Not reached)
DVRd	17.0 months (8.8-Not reached)
VRd	12.0 months (5.6-37.8)

References
1. Siegel RL, et al. CA Cancer J Clin. 2019;69:7-34; 2. Kaleta AK, et al. J Natl Compr Canc Netw. 2020;18:1087–1095; 3. Perrot A, et al. J Clin Oncol. 2020:39:227-237; 4. Facon T, et al. Leukemia 34, 224–233 (2020).

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