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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Introduction

- Multiple myeloma (MM) is the second most common hematologic cancer in the USA.
- 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.
- 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 could help identify opportunities for optimizing patient care.

AIMS:

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

- 1000 adult patients with NDMM who initiated 1L treatment with NCCN recommended MM drugs between January 2018 and October 2022 were randomly selected. This was defined as the EMR cohort.

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 took place ≥1 year after first MM diagnosis,
- MM diagnosis or treatment outside of FCS,
- SCT on or prior to index date,
- Incomplete patient record,
- Enrollment in clinical trial prior to index date.

Abbreviations

MM: multiple myeloma
NDMM: newly diagnosed multiple myeloma
EMR: electronic medical record
FCS: Florida Cancer Specialists and Research Institute
SCT: Stem cell transplant

Methods

Chart review subgroup

- 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 VRd were included.

Data Analysis

- Baseline characteristics were captured at index date.
- DOT and TTNT were calculated using Kaplan Meier analyses for the chart review subgroup.

Abbreviations and definitions

Rd: lenalidomide + dexamethasone
VRd: bortezomib + Rd
DRd: daratumumab + Rd
DVRd: daratumumab + VRd
CyBord: cyclophosphamide + Rd

DOT: Duration of treatment (the time from the start date of a LOT to the end date of that LOT including maintenance therapies)
TTNT: Time to next treatment (defined as time interval between the index date and initiation date of the next LOT or death)

EMR cohort: patient characteristics

EMR cohort (N = 881[+])	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 (%)	10 (6.4)	43 (6.9)	4 (4.0)
White, n (%)	84 (53.5)	330 (53.0)	54 (54.0)
High cytogenetic risk*, n (%)	18 (11.5)	86 (13.8)	28 (28.0)
Frail[a], 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)

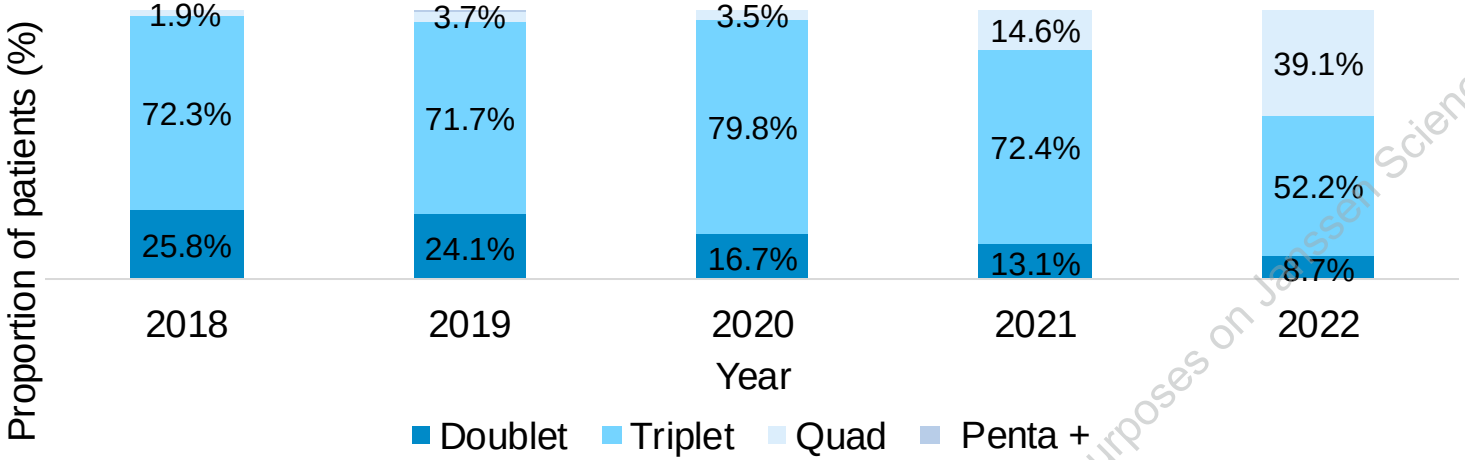
- Patients receiving doublets had a higher median age compared with patients receiving triplets and quadruplets
- The proportion of frail patients was slightly higher among doublet recipients compared to triplets, and substantially higher than quadruplets

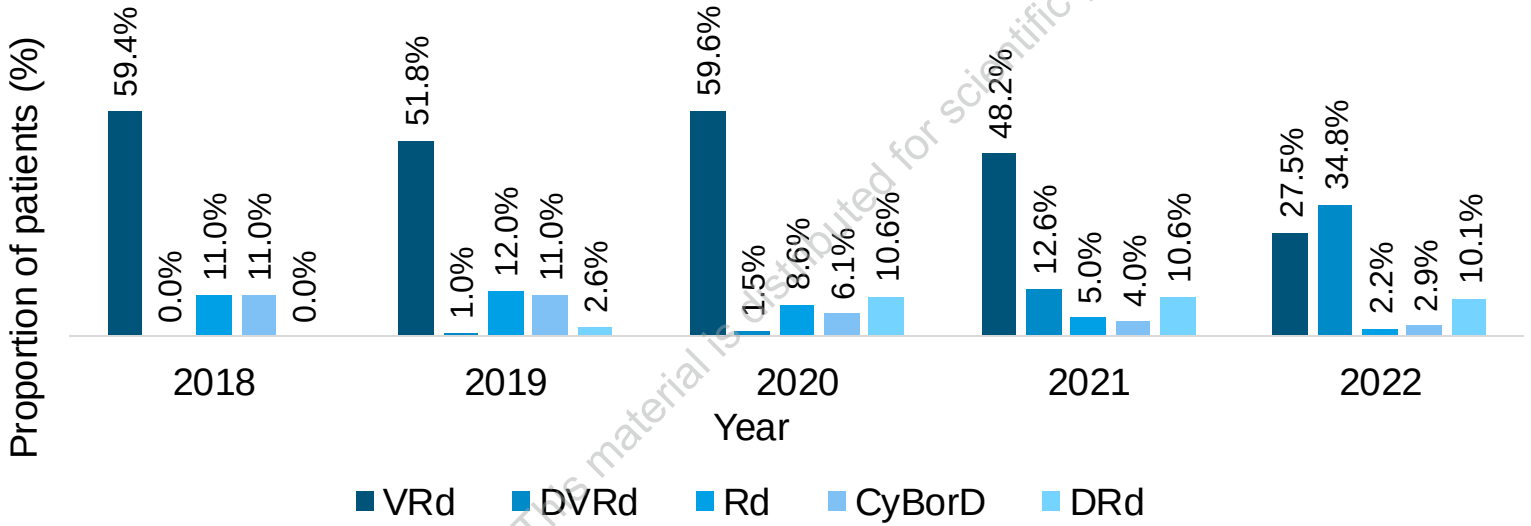
[+]1 patient received more than 4 drug regimens and is not described here. *High cytogenetic risk was based on provider assessment or as presence of del17p, t[14;16], t[4;14], t(14;20), gain or amp 1q21; [a]Frailty was calculated using a simplified IMWG frailty score (based on age, ECOG, and Charlson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

1. Facon T, et al. Leukemia. 2020;34:224-233.

EMR cohort: treatment patterns

Trends in prescribing pattern from 2018 to 2022 by regimen type (left) and for the top 5 regimens in the EMR cohort (right)

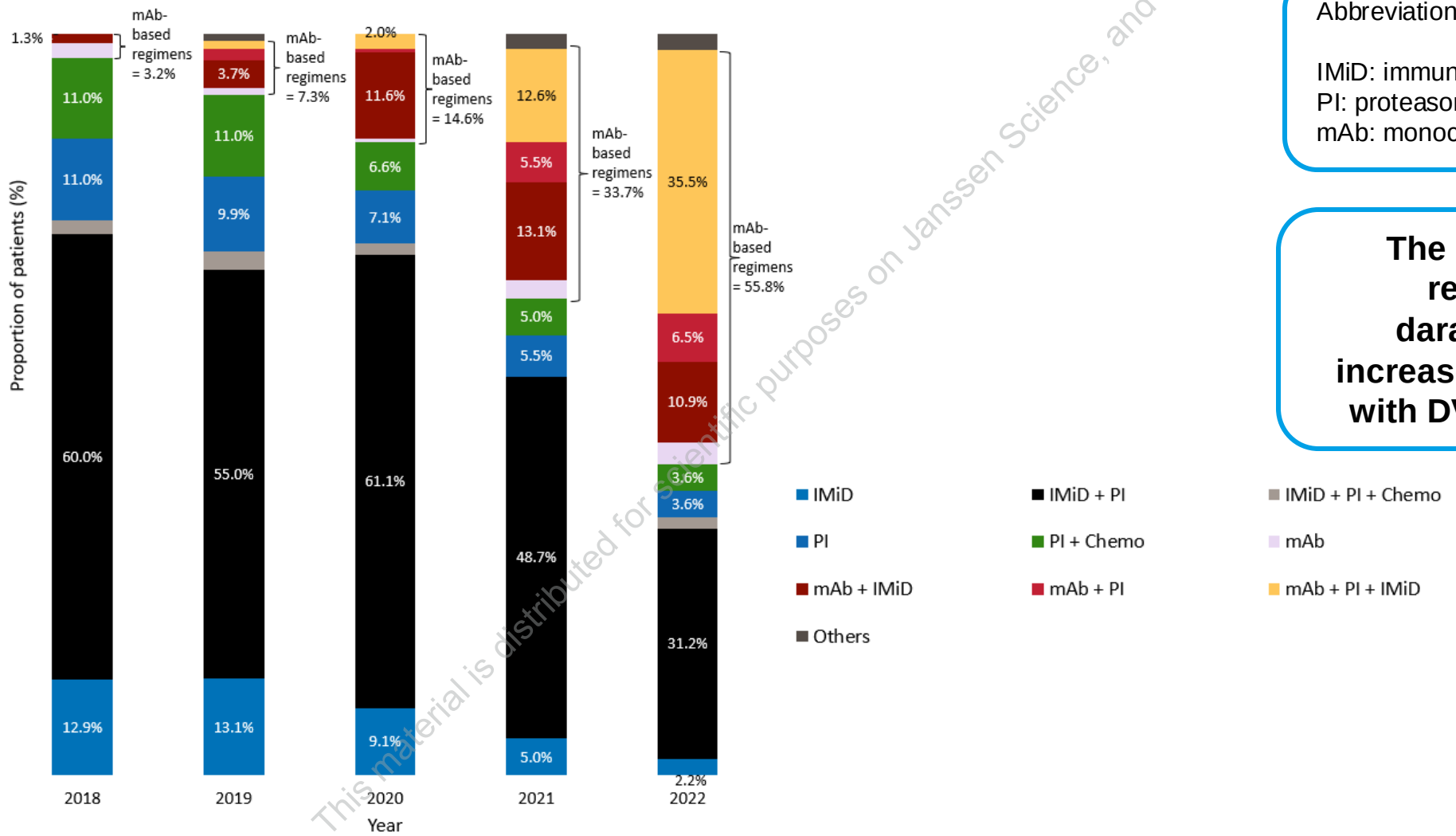




Use of quadruplet regimens increased between 2018 and 2022, with a concomitant decrease of VRd

EMR cohort: treatment patterns

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



Abbreviations

IMiD: immunomodulatory agents
PI: proteasome inhibitors
mAb: monoclonal antibodies

The use of mAb-based regimens (mostly daratumumab-based) increased from 2018 to 2022, with DVRd surpassing VRd

Chart review: patient characteristics

	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 (%)	3 (6.5)	4 (8.9)	25 (14.0)
White, n (%)	40 (87.0 %)	36 (80.0)	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)

- Patients treated with DRd were older than patients treated with DVRd or VRd
- DVRd was used more often in patients with high cytogenetic risk than DRd or VRd
- Fewer black or female patients were treated with DVRd and DRd compared to VRd, which may indicate the need for improvement in treatment of these patient populations

*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; +Frailty was calculated using a simplified IMWG frailty score (based on age, ECOG, and Charlson Comorbidity Index).[1]
Abbreviations: ECOG, Eastern Oncology Cooperative Group; ISS, international staging system.

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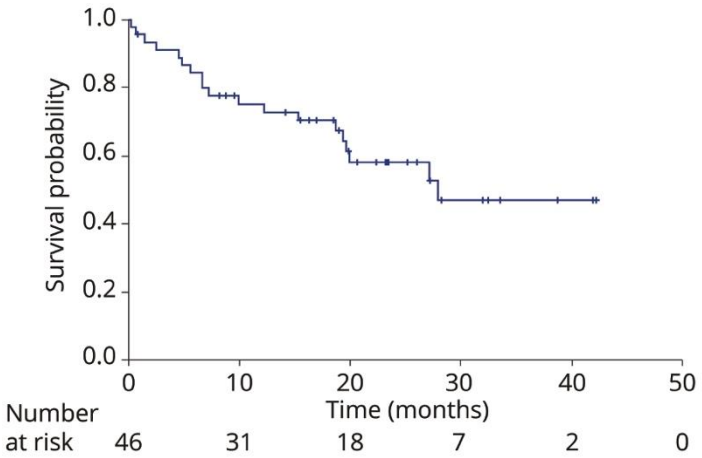
Chart review: outcomes

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

A



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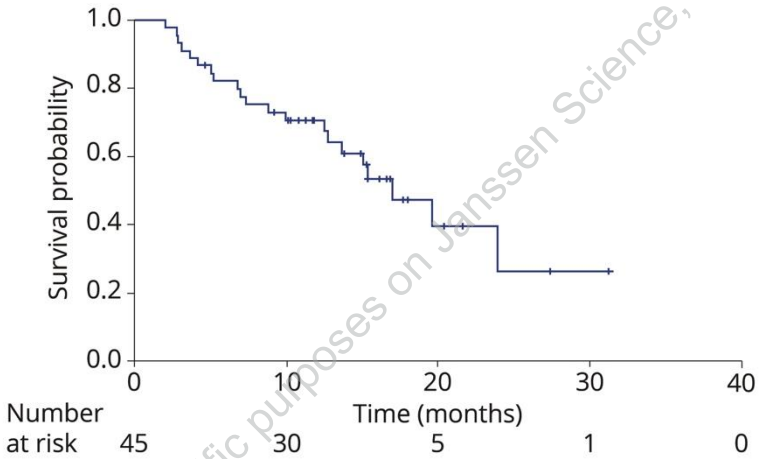

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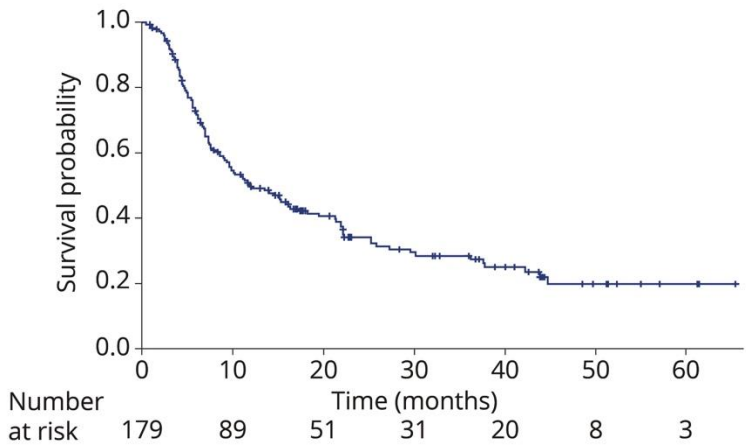

	Median follow-up	Median DOT (95% CI)	Median TTNT (95% CI)
DRd	23.3 months	19.9 months (6.1-Not reached)	28.0 months (12.2-Not reached)
DVRd	15.3 months	15.0 months (4.2-23.2)	17.0 months (8.8-Not reached)
VRd	25.9 months	6.5 months (3.9-25.1)	12.0 months (5.6-37.8)

Despite longer follow-up time for VRd, both median DOT as TTNT for DVRd and DRd were longer than that of VRd

Conclusion

- 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.

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.

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

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