PS1738

Retrospective Real-World Treatment Patterns and Outcomes in European Patients With Newly Diagnosed Multiple Myeloma Not Receiving Stem Cell Transplantation

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Key Takeaway

This real-world study shows the diverse patient characteristics, age, and frailty status among non-transplanted patients with NDMM, emphasizing the need for personalized treatment approaches

Conclusions

The population recruited in this study reflects the heterogeneity of nontransplanted patients in the real world compared with clinical trials, with more than one-third ≥75 years old

These data highlight the positive impact of daratumumab-containing regimens on the survival of frontline nontransplanted patients with multiple myeloma compared with bortezomib-backbone and lenalidomide-backbone treatments

Frail patients showed worse TTNT and OS outcomes, highlighting the importance of developing tailored treatment options for these patients

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Poster

https://www.congresshub.com/EHA2025/Oncology/Daratumumab/Garg

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Disclosures

MG reports a consulting/advisory role for Amgen, BMS/Celgene, CTI, Johnson & Johnson, Sanofi, and Stemline; and has served on the speakers' bureau for Amgen, AOP Pharma, Johnson & Johnson, Novartis, and Pfizer.

Introduction

- Treatment options for newly diagnosed multiple myeloma (NDMM) have evolved significantly over the last decade
  - Phase 3 trials, such as ALCYONE, CASSIOPEIA, MAIA, PERSEUS, and CEPHEUS, have demonstrated the benefit of daratumumab-based triplets and quadruplets in frontline treatment[1-4]
- Real-world evidence complements clinical trial data as it provides evidence based on an unselected patient population, including those commonly excluded from studies due to factors such as age and functional status[5-7]
- Here, we present real-world treatment patterns and outcomes of nontransplanted patients with NDMM, as well as for fit and frail subpopulations, within the Haematology Outcomes Network in Europe (HONEUR) federated network

Data and Methods

- From 2019–2024, data were analyzed from 4 European multiple myeloma registries: Institut Universitaire du Cancer de Toulouse (IUCT; France); TriNetX Oncology (TNXO; Germany); the Registry of Monoclonal Gammopathies (RMG; Czech Republic); University Hospitals Leicester (UHL; UK)
- Patients with NDMM ≥18 years old were included if they started frontline treatment between January 2019 and November 2024 and did not receive frontline stem cell transplant
- Locally stored patient-level data were converted into Observational Medical Outcomes Partnership format and were analyzed using uniform coding run locally at each data source site
- Site-specific aggregate results were pooled at a central level using the HONEUR network
- Patient characteristics, treatment patterns, and survival outcomes were assessed
  - Patients from TNXO, RMG, and UHL were classified as:
    - Frail if they had Eastern Cooperative Oncology Group performance status (ECOG PS) ≥2 and were ≥80 years old
    - Fit if they had ECOG PS ≤1 and were <65 years old
  - Patients from IUCT, where ECOG PS was unavailable, were classified as frail if they were ≥80 years old and fit if they were <65 years old
  - Fitness was classified as undetermined for patients who did not fit criteria for either the fit or the frail categories, characterized as being between the defined age and ECOG PS thresholds
- Time to next treatment (TTNT) and overall survival (OS) were analyzed using the Kaplan-Meier method; hazard ratios (HRs) and 95% CIs were estimated using a proportional hazards regression

Results

Study population

- A total of 11,560 patients were included
  - TNXO, n=4715; RMG, n=1911; IUCT, n=4670; UHL, n=264
  - Median follow-up was 19.4 months
- Baseline characteristics for the overall NDMM population and the fit and frail subpopulations are shown in the **Table**
  - 1780 (15.4%) patients were classified as fit, 8361 (72.3%) as undetermined, and 1419 (12.3%) as frail
  - Distribution of available data on ECOG PS, cytogenetic risk, and International Staging System (ISS) stage varied by database; baseline characteristics for which data were more consistently available were overall similar across databases, except for age
    - A higher proportion of patients ≥80 years old was observed in Germany (n=1013 [21.5%]) and the UK (n=85 [32.2%])
  - For patients treated with daratumumab-backbone regimens, 793 (21.0%) patients were aged 75–79 years and 639 (16.9%) were aged ≥80 years

Table: Baseline demographics and disease characteristics

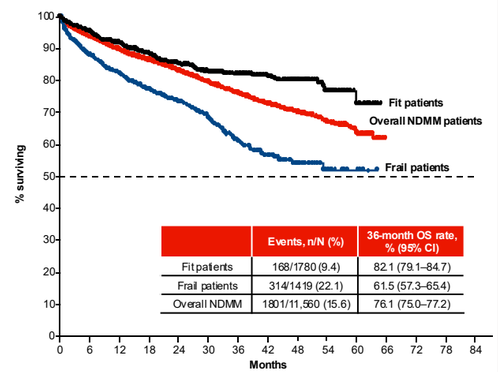
Characteristic, n (%)	Overall NDMM population (n=11,560)	Fit patients (n=1780)	Frail patients (n=1419)
Age, years			
<60	1207 (10.4)	995 (55.9)	0
60–64	983 (8.5)	785 (44.1)	0
65–69	1800 (15.6)	0	0
70–74	2893 (25.0)	0	0
75–79	2427 (21.0)	0	0
≥80	2250 (19.5)	0	1419 (100)
Male	6599 (57.1)	1081 (60.7)	737 (51.9)
Cytogenetic risk status			
High risk[a]	1150 (9.9)	189 (10.6)	134 (9.4)
Standard risk	4178 (36.1)	811 (45.6)	648 (45.7)
Unavailable	6232 (53.9)	780 (43.8)	637 (44.9)
ECOG PS[b]			
0	704 (6.1)	168 (9.4)	0
1	3308 (28.6)	576 (32.4)	0
2	2274 (19.7)	0	530 (37.4)
3	240 (2.1)	0	63 (4.4)
4	49 (0.4)	0	14 (1.0)
Unavailable	4985 (43.1)	1036 (58.2)	812 (57.2)
ISS stage			
I	1099 (9.5)	272 (15.3)	79 (5.6)
II	2383 (20.6)	407 (22.9)	272 (19.2)
III	3979 (34.4)	536 (30.1)	497 (35.0)
Unavailable	4099 (35.5)	565 (31.7)	571 (40.2)
M protein			
IgG	6279 (54.3)	837 (47.0)	737 (51.9)
Non-IgG[c]	2678 (23.2)	362 (20.3)	305 (21.5)
Unavailable	2603 (22.5)	581 (32.6)	377 (26.6)

[a]Defined as presence of any of del(17p), t(4;14), or t(14;16). [b]ECOG PS not available from IUCT.
[c]Includes IgA, biclonal, and other M protein types. Ig, immunoglobulin.

Frontline treatment patterns and survival outcomes

- The most frequently used regimens evolved from those with bortezomib as the backbone in 2019 (71.5%) to those with daratumumab as the backbone in 2023 (60.8%)
  - Treatment patterns were consistent across subpopulations
  - Higher adoption of daratumumab-backbone therapies in France (93%) and Germany (51%) in 2023 compared with the Czech Republic and the UK
  - Median follow-up varied across regimens, from 8.8 months with daratumumab-backbone regimens to 29.7 months with bortezomib-backbone treatments
- Estimated 36-month OS rate was 76.1% for the overall NDMM population, 82.1% for fit patients, and 61.5% for frail patients (**Figure 1**)
  - OS rates in the overall NDMM population improved over time
    - 24-month OS: from 83.1% in 2019 to 85.3% in 2022
    - 36-month OS: from 73.9% in 2019 to 80.3% in 2021
- Considerably longer OS is observed for daratumumab-backbone regimens vs bortezomib-backbone regimens, with estimated 48-month OS rate of 78.2% vs 68.0% (**Figure 2**); analysis adjusting for potential imbalances in baseline prognostic factors between treatment cohorts is required to further inform clinical decision making, given the increased use of daratumumab-containing regimens
- Estimated median TTNT was 24.8 months for the overall NDMM population, 28.2 months for fit patients, and 25.0 months for frail patients (**Figure 3**)
  - TTNT in the overall NDMM population improved from 19.7 months in 2019 to 26.4 months in 2022

Figure 1: OS in the overall nontransplanted NDMM population and in fit vs frail subpopulations

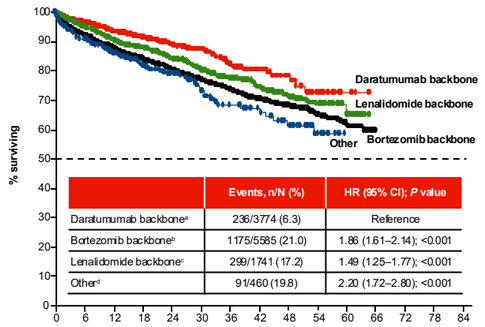


	Events, n/N (%)	36-month OS rate, % (95% CI)
Fit patients	168/1780 (9.4)	82.1 (79.1–84.7)
Frail patients	314/1419 (22.1)	61.5 (57.3–65.4)
Overall NDMM	1801/11,560 (15.6)	76.1 (75.0–77.2)

Number at risk

Overall NDMM patients	11560	8126	6526	5218	4189	3178	2320	1552	1003	487	166	0	0	0	0
Fit patients	1780	1042	793	598	469	353	258	180	126	56	16	0	0	0	0
Frail patients	1419	894	684	502	383	267	171	89	42	19	7	0	0	0	0

Figure 2: OS by frontline treatment backbone



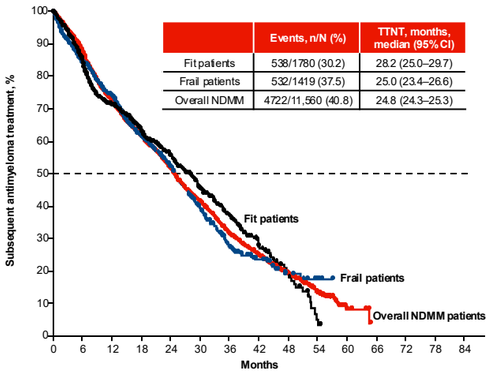
	Events, n/N (%)	HR (95% CI); *P* value
Daratumumab backbone[a]	236/3774 (6.3)	Reference
Bortezomib backbone[b]	1175/5585 (21.0)	1.86 (1.61–2.14); <0.001
Lenalidomide backbone[c]	299/1741 (17.2)	1.49 (1.25–1.77); <0.001
Other[d]	91/460 (19.8)	2.20 (1.72–2.80); <0.001

Number at risk

Daratumumab backbone	3774	2137	1462	950	591	332	164	96	51	23	5	0	0	0	0
Bortezomib backbone	5585	4250	3598	3072	2645	2129	1603	1077	710	349	124	0	0	0	0
Lenalidomide backbone	1741	1390	1187	1002	821	635	491	328	205	98	37	0	0	0	0
Other	460	349	279	194	132	82	62	51	37	17	0	0	0	0	0

[a]Regimens containing daratumumab. [b]Regimens containing bortezomib and without anti-CD38 antibodies.
[c]Regimens containing lenalidomide and without bortezomib or anti-CD38 antibodies. [d]Includes other regimens without daratumumab, bortezomib, or lenalidomide.

Figure 3: TTNT in the overall nontransplanted NDMM population and in fit vs frail subpopulations



	Events, n/N (%)	TTNT, months, median (95% CI)
Fit patients	538/1780 (30.2)	28.2 (25.0–29.7)
Frail patients	532/1419 (37.5)	25.0 (23.4–26.6)
Overall NDMM	4722/11,560 (40.8)	24.8 (24.3–25.3)

Number at risk

Overall NDMM patients	11560	7622	5223	3643	2517	1572	897	489	230	81	7	0	0	0	0
Fit patients	1780	932	595	401	279	166	98	47	22	3	0	0	0	0	0
Frail patients	1419	857	618	401	272	155	74	37	14	4	0	0	0	0	0

References

1. Dimopoulos MA, et al. *Hemasphere* 2021;5:e528. 2. Johnson & Johnson. European Commission approves Johnson & Johnson's subcutaneous DARZALEX® (daratumumab)-based quadruplet regimen for the treatment of patients with newly diagnosed multiple myeloma, regardless of transplant eligibility. Accessed April 10, 2025. https://www.jnj.com/media-center/press-releases/european-commission-approves-johnson-johnsons-subcutaneous-darzalex-daratumumab-based-quadruplet-regimen-for-the-treatment-of-patients-with-newly-diagnosed-multiple-myeloma-regardless-of-transplant-eligibility. 3. Usmani SZ, et al. *Nat Med* 2025;31:1195-202. 4. Sonneveld P, et al. *N Engl J Med* 2024;390:301-13. 5. Rodriguez-Lobato LG, et al. *Cancers (Basel)* 2023;15:5261. 6. Shah JJ, et al. *Clin Lymphoma Myeloma Leuk* 2017;17:575-83.e2. 7. Elnair R, Holstein S. *Oncology (Williston Park)* 2021;35:170-82.

HONEUR Haematological Outcomes Network in Europe

Multiple Myeloma

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