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Real-World Characteristics and Outcomes of Newly Diagnosed Multiple Myeloma Patients Receiving Autologous Stem Cell Transplantation (2018–2024) From the HONEUR Network

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Key Takeaway

Approximately one-third of patients with NDMM undergoing ASCT are ≥65 years of age, indicating real-world practice exceeds traditional trial eligibility. These high-risk profiles associated with reduced survival underscore the importance of prognostic assessments and personalized treatment strategies

Conclusions

Patients received either triplet (52%) or quadruplet (48%) induction therapy followed by ASCT at frontline, over one-quarter of them were ≥65 years, indicating that the real-world transplanted population often exceeds age-based clinical trial criteria

Median TTNT from the start of induction therapy was 60.6 months; while median OS was not reached, 90.7% of the patients were alive at 4 years

Multivariable analysis results indicated that cytogenetics and ISS score were the primary factors influencing TTNT and OS in the transplanted patients independent of age

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Poster

https://www.congresshub.com/ASH2025/Oncology/Daratumumab/Otero

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Disclosures
BGO is an employee of Johnson & Johnson Madrid, Spain.

Introduction

- Eligibility for autologous stem cell transplantation (ASCT) in multiple myeloma clinical trials is primarily determined by age and comorbidities[1-3]
- Notably, 2025 EHA-EMN guidelines recommend ASCT up to 70 years of age[4]
- Conversely, clinical practice often employs less stringent standards, leading to limited insight into real-world baseline characteristics and outcomes for those with newly diagnosed multiple myeloma (NDMM) receiving ASCT[2,3,5]
- As new treatment options emerge, real-world data can uncover remaining unmet needs and foster ongoing improvements in the survival of these patients[2,4,5]
- This study outlines the baseline characteristics, treatment patterns, and outcomes of a cohort of patients with NDMM who underwent ASCT in clinical practice

Methods

- Data were selected from patients starting frontline treatment followed by ASCT from 2018 to 2024 within MyelomaToul - Institut Universitaire du Cancer de Toulouse (IUCT, France)
- Locally collected, patient-level data were analyzed within the HONEUR network
- Statistical analyses
  - Baseline characteristics (age, sex, International Staging System [ISS] stage, and cytogenetic profiles) and frontline treatment regimens were descriptively analyzed
  - Time to next treatment (TTNT), used as a proxy for progression-free survival, and overall survival (OS) were analyzed using the Kaplan-Meier method
  - A survival subgroup analysis was conducted based on age (<65 and ≥65 years)
  - A multivariable analysis was performed to identify the primary drivers of both TTNT and OS

Table 1: Baseline demographics (HONEUR)

		NDMM (n=2945)	Aged <65 years (n=2124)	Aged ≥65 years (n=821)
Median age (range), years		60 (18–79)	57 (18–64)	67 (65–79)
Male, n (%)		1731 (58.8)	1272 (59.9)	459 (55.9)
Age at line of therapy, years, n (%)	<50	371 (12.6)	371 (17.5)	-
	50–64	1753 (59.5)	1753 (82.5)	-
	≥65	821 (27.9)	-	821 (100)
M protein type, n (%)	IgA	469 (15.9)	326 (15.3)	143 (17.4)
	IgG	1246 (42.3)	877 (41.3)	369 (44.9)
	Others	55 (1.9)	45 (2.1)	10 (1.2)
	Unavailable	1175 (39.9)	876 (41.2)	299 (36.4)
ISS stage,[a] n (%)	I	789 (26.8)	603 (28.4)	186 (22.7)
	II	760 (25.8)	534 (25.1)	226 (27.5)
	III	418 (14.2)	299 (14.1)	119 (14.5)
	Unavailable	978 (33.2)	688 (32.4)	290 (35.3)
Cytogenetic profile,[a] n (%)	Standard risk	2014 (68.4)	1427 (67.2)	587 (71.5)
	High risk*	369 (12.5)	276 (13)	93 (11.3)
	Indeterminate	562 (19.1)	421 (19.8)	141 (17.2)

*High-risk cytogenetics: presence of del(17p), and/or t(4;14), and/or t(14;16). [a]LOCF, last observation carried forward.
Ig, immunoglobulin.

Results

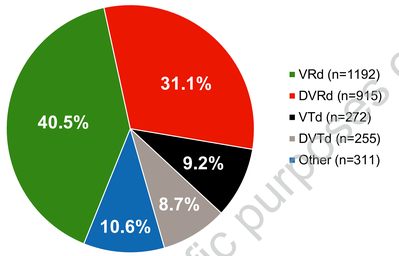
Study population

- 2945 patients underwent ASCT, representing one-third of the patients with NDMM starting treatment between 2018 and 2024
- 72.1% of patients were <65 years (n=2124), 27.9% were ≥65 years (n=821) (**Table 1**)
- Overall, 40% of patients were classified as ISS stage II or III; in the age-stratified analysis, patients aged ≥65 years showed a slightly higher proportion of ISS stage II or III (42%) compared with those aged <65 years (39.2%)
- 12.5% were identified as having high-risk cytogenetics

Treatment regimens at induction (Figure 1)

- The most common induction therapy transplanted patients received was VRd (n=1192; 40.5%); the second most frequent was DVRd (n=915; 31.1%)
- Other induction treatment options included VTd (n=272; 9.2%), DVTd (n=255; 8.7%), and other regimens (n=311; 10.6%)

Figure 1: Induction therapy distribution (n=2945)



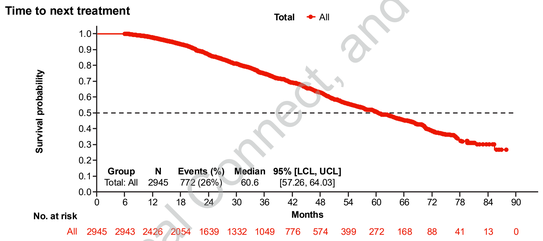
D, daratumumab; d, dexamethasone; R, lenalidomide; T, thalidomide; V, bortezomib.

Efficacy outcomes

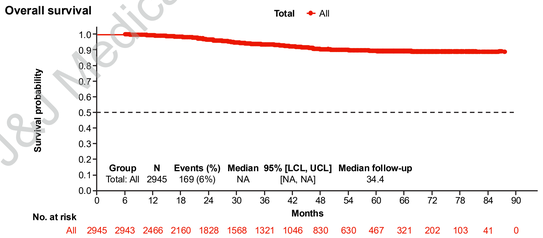
- Median follow-up duration from the start of induction therapy was 34.4 months
- Median TTNT from the start of induction was 60.6 months (95% CI, 57.3–64.0) (**Figure 2**)
- While the median OS was not reached, 90.7% (95% CI, 89.1–92.0) of patients were alive at 4 years
- Outcomes stratified by age (**Figure 3**)
  - Median TTNT was similar in both age subgroups
  - Median OS was not reached for either patient group
  - The observed relative mortality risk was 26% higher in patients aged ≥65 years; after adjusting for other prognostic factors, the observed risk increased to 33% but remained nonsignificant (hazard ratio [HR], 1.33; 95% CI, 0.96–1.85)
- This study precedes the widespread uptake and approval of quadruplet anti-CD38 induction, consolidation, and maintenance, which is now considered standard of care (SOC). Therefore, it will be pertinent to repeat these analyses with SOC treatments in the future

Figure 2: Efficacy outcomes (all)

Time to next treatment



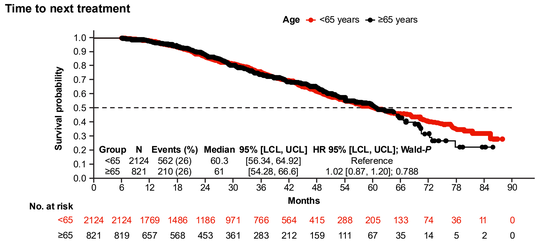
Overall survival



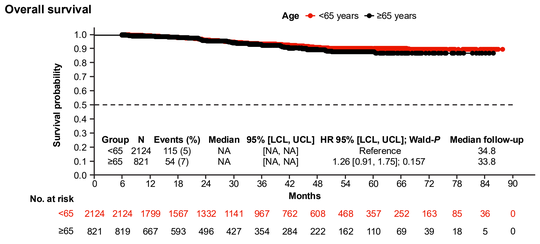
LCL, lower confidence limit; NA, not applicable; UCL, upper confidence limit.

Figure 3: Efficacy outcomes by age group

Time to next treatment



Overall survival



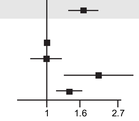
Multivariable analysis

- Compared with ISS stage I, TTNT was shorter for patients with stage II (HR, 1.5 [95% CI, 1.2–1.9]; *P*<0.001) and stage III disease (HR, 1.9 [95% CI, 1.5–2.5]; *P*<0.001) (**Figure 4**)
- Patients with standard-risk cytogenetics had longer TTNT and OS vs high-risk cytogenetics (TTNT: HR, 1.9 [95% CI, 1.6–2.3]; *P*<0.001; OS: HR, 3.5 [95% CI, 2.4–5.0]; *P*<0.001) (**Figure 4**)
- Multivariable analysis results indicated that cytogenetics and ISS score were the primary factors influencing TTNT and OS; with these 2 characteristics also driving survival results in the multivariate analysis per age subgroup

Figure 4: Multivariable regression (L1 patients received SCT)

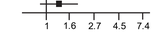
Hazard ratio (multivariable): Time to next treatment

Covariates	Hazard ratio (95% CI)	*P* value	No. of observations (%)	No. of events (%)
Age, years				
<65	Reference		2124 (72.1)	562 (26.5)
≥65	1.06 (0.91, 1.25)	0.456	821 (27.9)	210 25.6)
Sex				
Female	Reference		1214 (41.2)	312 (25.7)
Male	1.16 (1.00, 1.34)	0.044	1731 (58.8)	460 (26.6)
ISS				
Stage I	Reference		789 (26.8)	136 (17.2)
Stage II	1.48 (1.18, 1.86)	<0.001	760 (25.8)	178 (23.4)
Stage III	1.99 (1.55, 2.54)	<0.001	418 (14.2)	125 (29.9)
Unavailable	1.33 (1.07, 1.66)	0.01	978 (33.2)	333 (34)
Cytogenetic risk				
Standard risk	Reference		2014 (68.4)	424 (21.1)
High risk[a]	1.91 (1.58, 2.33)	<0.001	369 (12.5)	140 (37.9)
Unavailable	1.68 (1.36, 2.07)	<0.001	562 (19.1)	208 (37)
M protein				
IgG	Reference		1246 (42.3)	266 (21.3)
IgA	0.99 (0.80, 1.24)	0.947	469 (15.9)	117 (24.9)
Others	2.08 (1.28, 3.38)	0.003	55 (1.9)	18 (32.7)
Unavailable	1.37 (1.15, 1.64)	<0.001	1175 (39.9)	371 (31.6)



Hazard ratio (multivariable): Overall survival

Covariates	Hazard ratio (95% CI)	*P* value	No. of observations (%)	No. of events (%)
Age, years				
<65	Reference		2124 (72.1)	115 (5.4)
≥65	1.33 (0.96, 1.85)	0.084	821 (27.9)	54 (6.6)
Sex				
Female	Reference		1214 (41.2)	66 (5.4)
Male	1.21 (0.88, 1.65)	0.239	1731 (58.8)	103 (6)
ISS				
Stage I	Referenc		789 (26.8)	22 (2.8)
Stage II	1.69 (0.99, 2.86)	0.053	760 (25.8)	38 (5)
Stage III	3.23 (1.92, 5.43)	<0.001	418 (14.2)	43 (10.3)
Unavailable	1.61 (0.96, 2.71)	0.073	978 (33.2)	66 (6.7)
Cytogenetic risk				
Standard risk	Reference		2014 (68.4)	79 (3.9)
High risk[a]	3.51 (2.45, 5.03)	<0.001	369 (12.5)	52 (14.1)
Unavailable	1.62 (1.00 2.61)	0.049	562 (19.1)	38 (6.8)
M protein				
IgG	Reference		1246 (42.3)	56 (4.5)
IgA	1.10 (0.70, 1.71)	0.686	469 (15.9)	31 (6.6)
Others	2.49 (0.98, 6.34)	0.056	55 (1.9)	5 (9.1)
Unavailable	1.37 (0.89, 1.92)	0.171	1175 (39.9)	77 (6.6)



[a]High-risk cytogenetics: presence of del(17p), and/or t(4;14), and/or t(14;16).

References
1. National Comprehensive Cancer Network (NCCN). Multiple Myeloma. (Version 2.2026). 2. Belotti A, et al. *Am J Hematol* 2020;95:759-65. 3. Seehaus CM, et al. *Hematol Transfus Cell Ther* 2024;46 Suppl 6(Suppl 6):S13-S20. 4. Dimopoulos MA, et al. *Nat Rev Clin Oncol* 2025;22:680-700. 5. Blackburn L, et al. *Hemato* 2024;5:407-19.

HONEUR Haematological Outcomes Network in Europe

Multiple Myeloma

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