

# Minimal residual disease assessment in transplant-eligible patients with multiple myeloma: real-world applications of multiparametric flow cytometry-DURAClone (CAREMM-2104)

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<https://doi.org/10.3324/haematol.2024.285278>

Received: February 21, 2024.

Accepted: July 10, 2024.

Early view: July 18, 2024.

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## Supplementary Tables

**Supplementary Table 1.** Response status trajectory in patients with very good partial response (VGPR) and minimal residual disease (MRD) status at 3 months after autologous stem cell transplantation.

No.	Response at 3m	MRD at 3m	CR achievement	Time to achievement of CR <sup>1)</sup>	Achievement of sustained MRD <sup>2)</sup>	Event of PFS	Follow-up time <sup>3)</sup>
4	VGPR	(-)	Yes	28	Yes	No	34.3
12	VGPR	(-)	Yes	31	Yes	No	26.8
23	VGPR	(-)	Yes	189	Yes	No	17.3
29	VGPR	(-)	Yes	428	Yes	No	29.0
48	VGPR	(-)	Yes	7	Yes	No	22.9
61	VGPR	(-)	Yes	201	No	Yes	14.4
137	VGPR	(-)	Yes	35	No	No	34.6
140	VGPR	(-)	Yes	85	No	Yes	23.7
162	VGPR	(-)	Yes	84	No	Yes	33.5

Abbreviations: 3m, 3 months post-ASCT; MRD, minimal residual disease; CR, complete response; PFS, progression-free survival

<sup>1)</sup> Days from 1<sup>st</sup> MRD assessment; <sup>2)</sup> Evaluated after 1 year from 1<sup>st</sup> MRD assessment; <sup>3)</sup> Months

**Supplementary Table 2.** Univariate analysis to identify factors associated with survival outcomes

Variables	Number	Progression-free survival rate			Cumulative incidences of progression		
		% at 24 months	95% CI	<i>p</i> -value	% at 24 months	95% CI	<i>p</i> -value
MRD status at 3 months				<0.001			0.001
MRD+	52	50.1	34.6-63.8		47.3	31.8-61.2	
MRD-	114	72.4	61.4-80.8		26.7	17.6-36.6	
Response status at 3 months				0.038			0.028
CR	138	69.2	59.3-77.1		29.0	20.6-38.0	
VGPR	28	48.3	27.6-66.3		51.7	29.8-69.8	
Age at transplant, years				0.771			0.998
≥ 60	75	62.9	48.6-74.3		37.1	20.0-41.1	
< 60	91	67.1	55.0-76.7		30.2	24.2-49.9	
Sex				0.266			0.429
Male	86	60.6	47.7-71.3		36.5	24.9-48.1	
Female	80	70.8	57.9-80.4		29.2	18.5-40.7	
Type of multiple myeloma				<0.001			0.001
IgD type	8	33.3	5.6-65.8		66.7	20.5-35.9	
Other type	158	68.2	59.1-75.7		30.2	22.3-38.5	
Light chain type (unclassified, n=1)				0.209			0.364
Kappa	86	72.1	59.7-81.3		25.9	16.1-36.6	
Lambda	79	57.5	43.9-68.9		34.7	23.3-46.3	
Presence of plasmacytoma at diagnosis (missing n=1)				0.093			0.134
None	119	68.2	57.5-76.7		30.9	21.7-40.7	
Present	46	60.7	43.1-74.3		36.1	21.1-51.3	
International staging system (missing n=3)				0.034			0.01
I	54	77.3	61.3-87.3		18.4	8.3-31.6	
II	59	67.5	51.1-79.5		32.5	18.8-46.9	
III	50	50.0	34.5-63.7		50.0	34.2-63.9	
Cytogenetic risk (missing n=34)				0.015			0.009
Standard	77	80.0	68.3-87.8		18.7	10.4-28.8	
High	55	52.7	37.0-66.2		47.3	31.7-61.3	
Time to ASCT from diagnosis, months				0.874			0.894
< median (6.8 months)	81	61.6	44.6-74.7		30.2	18.6-42.6	
≥ median (6.8 months)	85	66.2	54.6-75.5		29.8	20.1-40.0	
Induction treatment				0.671			0.766
Bortezomib-thalidomide-dexamethasone	140	64.5	54.8-72.7		33.8	25.0-42.7	
Others <sup>1)</sup>	26	70.8	44.8-86.2		26	10.8-50.7	
Lactate dehydrogenase at diagnosis, (missing n=1)				0.106			0.078
Normal	140	69.2	59.6-77.0		29.0	20.8-37.7	
High	25	43.9	21.5-64.3		56.1	30.1-75.8	
Infused CD34+ cell, x10 <sup>6</sup> /kg				0.374			0.381
≥ median (5.55)	81	62.3	48.4-73.5		35.8	23.5-48.2	
< median (5.55)	84	68.1	56.0-77.6		30.7	20.3-41.6	
Further treatment following ASCT				0.401			0.372
No	66	66.1	50.8-77.7		25.7	15.0-37.7	
Yes	100	65.1	53.5-74.4		32.2	22.3-42.5	

Abbreviations: CI, confidence interval; MRD, minimal residual disease; CR, complete response; VGPR, very good partial response; ASCT, autologous stem cell transplantation

<sup>1)</sup> Others include 14 of bortezomib-lenalidomide-dexamethasone, eight of daratumumab-bortezomib-thalidomide-dexamethasone, and four of bortezomib-melphalan-prednisolone

## Supplementary Figures

### Supplementary Figure 1. Workflow for (A) DURAClone RE PC and (B) EuroFlow method

