TITLE OF THE MANUSCRIPT:

Autologous stem cell transplantation in POEMS syndrome: multicenter real-world treatment patterns and outcomes

Supplementary Material

Supplementary Table S1. Baseline VEGF levels according to clinical features

Characteristic	VEGF (pg/mL) (median; IQR)		P-value
	No	Yes	
Polyneuropathy	538 (398-819)	857 (598-1,220)	0.30
Castleman disease	871 (624-1330)	505 (261-934)	0.11
Sclerotic bone lesions	1,000 (273-1,613)	843 (624-1,105)	0.80
Multiple bone lesions	885 (273-1,606)	843 (664-1,115)	0.91
Organomegaly	1,200 (975-1,427)	706 (405-1,000)	0.05
Splenomegaly	1,000 (799-1,211)	603 (273-1,046)	0.09
Hepatomegaly	716 (622-1,140)	716 (341-1,530)	0.90
Lymphadenopathy	1,160 (787-1,646)	678 (339-878)	0.02
Extra-vascular volume overload	1,240 (1,000-1,613)	650 (273-857)	0.003
Edema	1,100 (868-1,606)	546 (273-871)	0.007
Pleural effusion	871 (540-1,180)	693 (556-988)	0.78
Ascites	1,000 (655-1,220)	538 (265-782)	0.08
Endocrinopathy	885 (736-1,200)	659 (538-1,100)	0.46
Skin changes	928.5 (505-1,140)	783 (566-1,474)	0.96
Papilledema	942.5 (652-1,230)	406 (271-618)	0.08
Thrombocytosis	1,100 (521-1,220)	829 (542-1,000)	0.74
Polycythemia	783 (499-1,135)	1,003 (631-1,180)	0.50
Pulmonary hypertension	943 (664-1,230)	273 (269-370)	0.02
Restrictive lung disease	929 (664-1,509)	546 (406-1,003)	0.28

VEGF levels are reported as median (interquartile range) in patients with available measurements.
P values are shown for exploratory purposes only.
Categories are not mutually exclusive.

Supplementary Table S2. Univariate predictors of progression-free survival and overall survival

Variable	Endpoint	HR	95% CI	p value
ECOG-PS 2–4 vs 0–1	PFS	2.40	0.95–6.03	0.056
	OS	3.52	1.15–10.78	0.019
Age >68 years	PFS	3.39	1.13–10.20	0.030
	OS	1.86	0.41–8.47	0.423
Year of diagnosis	PFS	NS	–	NS
	OS	NS	–	NS

CI: confidence interval; ECOG-PS: Eastern Cooperative Group Performance Status; HR: hazard ratio; OS: overall survival; PFS: progression-free survival;

Supplementary Table S3. Association between oligoclonal bands emergence after first-line ASCT and hematologic response

Characteristic	No OB (n=15)	Yes OB (n=9)	P
Response, n (%)			
Complete response	6 (40.0)	7 (77.8)	0.03
No complete response	9 (60.0)	2(22.8)	

Oligoclonal bands (OB) were defined as the emergence of new monoclonal or oligoclonal immunoglobulin bands different from the original diagnostic monoclonal component after ASCT. Immunoglobulin subtypes are not mutually exclusive, as individual patients may present more than one oligoclonal band. Comparisons were performed using Fisher's exact test. Only patients evaluable for both post-ASCT immunofixation and hematologic response were included (n = 24). Reported OB subtypes included IgG kappa (n = 7), IgG lambda (n = 3), and IgM kappa (n = 2).

Supplementary Table S4. Clinical characteristics and outcomes of patients undergoing a second autologous stem cell transplantation.

Patient	ASCT1 setting	ASCT1 conditioning	CD34⁺ collected (×10⁶/kg)	Neutrophil recovery ASCT1 (days)	Platelet recovery ASCT1 (days)	Best response after ASCT1	DOR after ASCT1 (months)	Interval ASCT1–ASCT2 (months)	Therapy prior to ASCT2	ASCT2 conditioning	CD34⁺ infused (×10⁶/kg)	Neutrophil recovery ASCT2 (days)	Platelet recovery ASCT2 (days)	Best response after ASCT2	Relapse after ASCT2	Follow-up from ASCT2 (months)
1	Upfront	Mel200	2.62	13	13	VGPR	102.6	117.5	CyBorD	Mel200	5.98	16	17	CR	No	74.1
2	Upfront	Mel200	3.20	18	29	VGPR	143.7	159.9	None	Mel200	2.63	16	24	VGPR	No	71.0
3	Upfront	Mel200	4.38	13	17	VGPR	58.9	60.3	None	Mel200	4.30	13	21	CR	No	102.5
4	RT + DXM	Mel200	9.72	14	9	CR	78.7	81.8	None	Mel200	5.69	11	9	PR	Yes	38.1
5	Upfront	Mel200	8.02	12	12	PR	63.2	69.5	Rd	Mel200	5.78	12	14	MR	No	43.8

Clinical characteristics, transplant-related variables, and outcomes of patients undergoing a second autologous stem cell transplantation (ASCT2) as part of second-line therapy. Time to neutrophil (>500/μL) and platelet (>20,000/μL) recovery is reported in days. DOR1 indicates duration of response after first ASCT. Follow-up is reported in months from ASCT2.

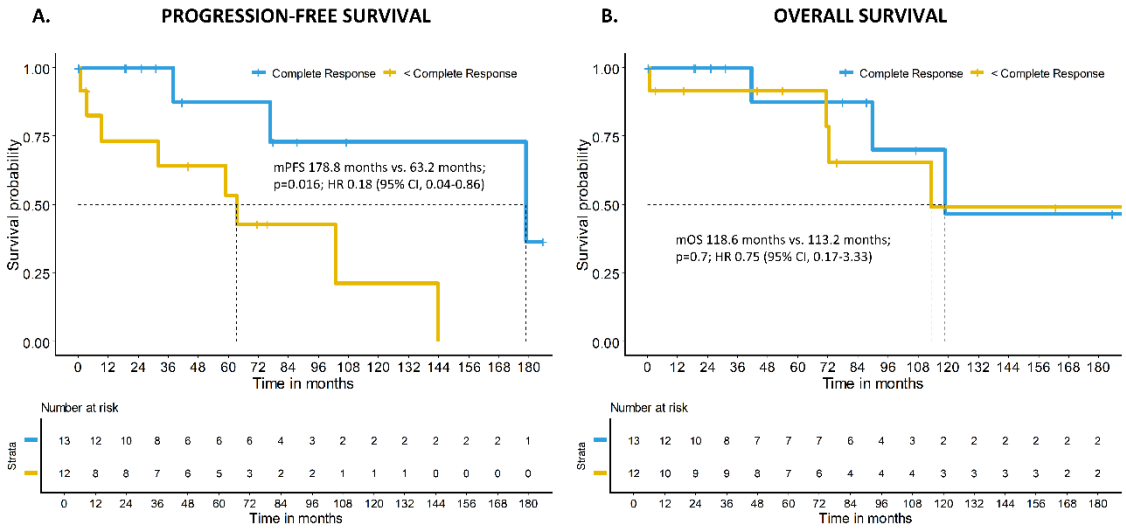
Abbreviations: ASCT, autologous stem cell transplantation; VGPR, very good partial response; CR, complete response; PR, partial response; MR, minor response; DOR, duration of response; RT, radiotherapy; DXM, dexamethasone.

Supplementary Table S5. Transplant-related complications after autologous stem cell transplantation

Complication	N (%)
Neutropenic fever	9 (30.0)
Engraftment syndrome	8 (26.6)
Bacterial infection	5 (16.6)
Hypervolemia	4 (13.3)
Cardiac failure	3 (10.0)
Acute renal failure	3 (10.0)
Mucositis (grade ≥3)	3 (10.0)
Hemorrhage	2 (6.7)
Thrombosis	1 (3.3)
Arrhythmia	1 (3.3)
Fungal infection	1 (3.3)
CMV reactivation	1 (3.3)
Poor graft function	1 (3.3)
Transplant-related mortality	**2 (6.7)**

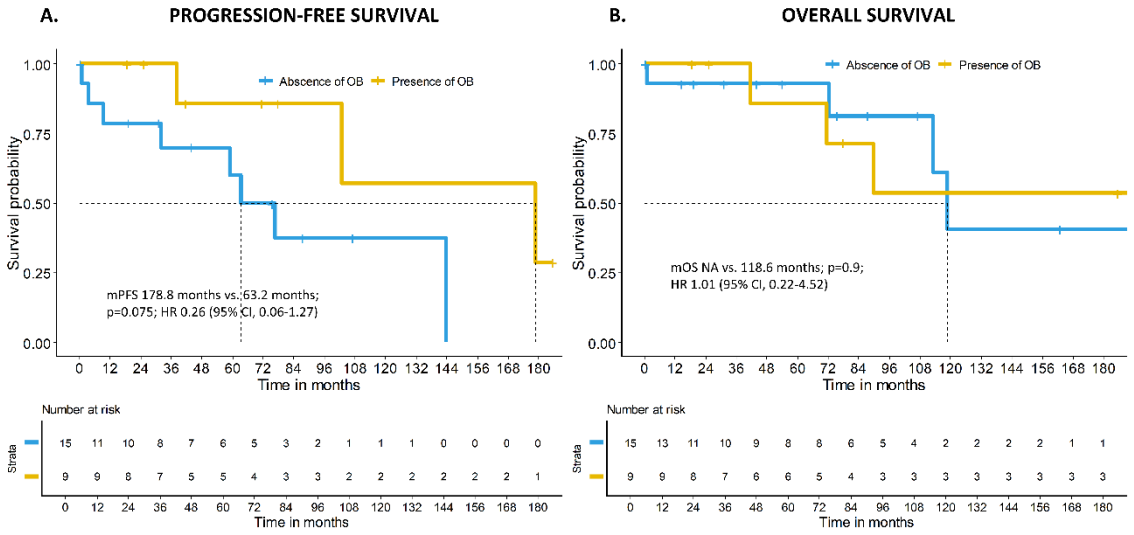
Complications were assessed in 30 patients undergoing autologous stem cell transplantation. Transplant-related mortality was defined as death occurring as a direct consequence of transplantation-related complications. CMV, cytomegalovirus.

Supplementary Figure S1. Survival after first-line ASCT according to hematologic response



Kaplan–Meier estimates of progression-free survival (A) and overall survival (B) in patients undergoing autologous stem cell transplantation as part of first-line therapy, stratified by hematologic response (complete response vs less than complete response). Tick marks indicate censored observations, and numbers at risk are shown below each panel.

Supplementary Figure S2. Progression-free and overall survival after first-line autologous stem cell transplantation according to oligoclonal band status



Kaplan–Meier estimates of progression-free survival (A) and overall survival (B) in patients undergoing autologous stem cell transplantation as part of first-line therapy, stratified by the presence or absence of oligoclonal bands. Tick marks indicate censored observations, and numbers at risk are shown below each panel.