Supplementary table 1: Baseline characterisitics of the patients with PPs and EMPs

	PPs N= 230	EMPs N=26	P value
Gender (male), n (%)	133 (57.8%)	15 (57.6%)	
Age (years), median(range)			
ISS , n(%)*			
• I	84 (50%)	8 (47%)	NS
• II	47 (27.9%)	3 (17.6%)	NS
• III	37 (22%)	6 (35%9	NS
Heavy chain type, n(%)			
• IgG	110 (47.8%)	14 (53.8%)	NS
• IgA	58 (25.2%)	7 (26.9%)	NS
• Ligh chain	47 (20.4%)	3 (11.5%)	NS
• IgD	4 (1.7%)	-	NS
• IgM	2 (0.8%)	-	
• Non- secretory	7 (3%)	1 (3.8%)	NS
• Biclonal	2 (0.8%)	-	
• Unknown		1 (3.8%)	
Ligh chain type, n (%)			
• Kappa	129 (56%)	11 (42.3%9	NS
• Lambda	91 (39.5%)	12 (46.1%)	NS
• Non-secretory	7 (3%)	1 (3.8%)	NS
• Biclonal	2 (0.08%)	-	
• Unknown	1 (0.04%)	2 (7.6%)	
Serum M-protein s (g/L)(mean±SD)	24.05±21.3	29.07±18.2	NS
Bone marrow plasma cells (%)(mean±SD)	31±28	31±35	NS

*Available in 185 patients

Supplementary table S2: Initial therapy in the overall series according to the presence or absence of Ps

	Patients without Ps N=1048	Patients with Ps N=256	P value
QT	728 (69.4%)	145 (56.6%)	<0.001
PI	134 (12.7%)	46 (17.9%)	0.03
IMiD	55 (5.2%)	15 (5.8%)	NS
PI+IMiD	106 (10.1%)	44 (17.1%)	0.001
MAb	13 (1.2%)	3 (1.1%)	NS

Supplementary table 3: detailled therapy at initial diagnosis in the overall series according to the presence or absence of Ps
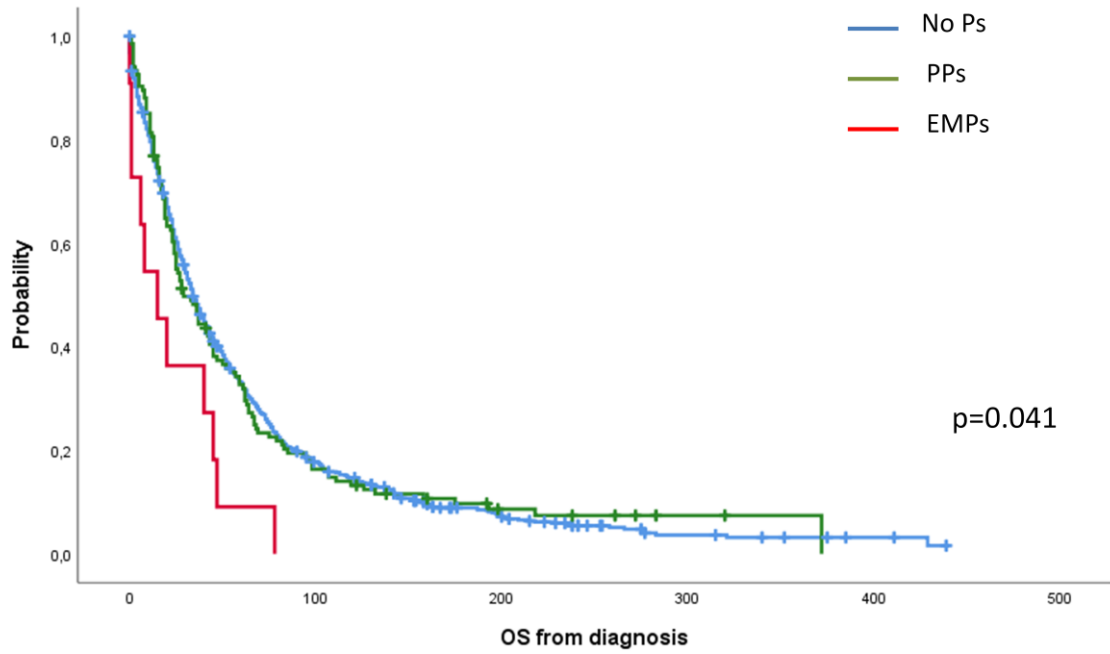
	Patients without Ps N=1048	Patients with Ps N=256	P value
QT	728 (69.4%)	145 (56.6%)	<0.001
• **Melphalan/prednisone**	285 (27.1%)	45 (17.5%)	
• **Cyclophosphamide/dexa or prednisone**	120 (11.4%)	19 (7.4%)	
• **VCMP/VBAP**	106 (10.1%)	22 (8.5%)	
• **VBMCP/VBAD**	103 (9.8%)	28 (10.9%)	
• **VAD**	26 (2.4%)	7 (2.7%)	
• **Others**	88 (8.3%)	24 (9.3%)	
PI	134 (12.7%)	46 (17.9%)	0.03
• **Bortezomib/dexamethasone**	67 (6.3%)	19 (7.4%)	
• **MPV**	36 (3.4%)	19 (7.4%)	
• **Others**	31 (2.9%)	8 (3.1%)	
IMiD	55 (5.2%)	15 (5.8%)	NS
• **Thal/dex**	20 (1.9%)	10 (3.9%)	
• **Len/dex**	16 (1.5%)	5 (1.9%)	
• **LEn/dex/clarithromicyn**	12 (1.1%)	-	
• **Others**	5 (0.4%)		
PI+IMiD	106 (10.1%)	44 (17.1%)	0.001
• **VTD**	71 (6.7%)	30 (11.7%)	
• **VRD**	18 (1.7%)	8 (3.1%)	
• **MPV/Rd**	10 (0.9%)	3 (1.1%)	
• **Others**	7 (0.6%)	3 (1.1%)	
MAb	13 (1.2%)	3 (1.1%)	NS
• **MPV-daratumumab**	7 (0.6%)	2 (0.7%)	
• **Lena/dexa/elotuzumab**	5 (0.4%)	1 (0.3%)	

Supplementary table 4: detailled therapy at first relapse in the overall series according to the presence or absence of Ps
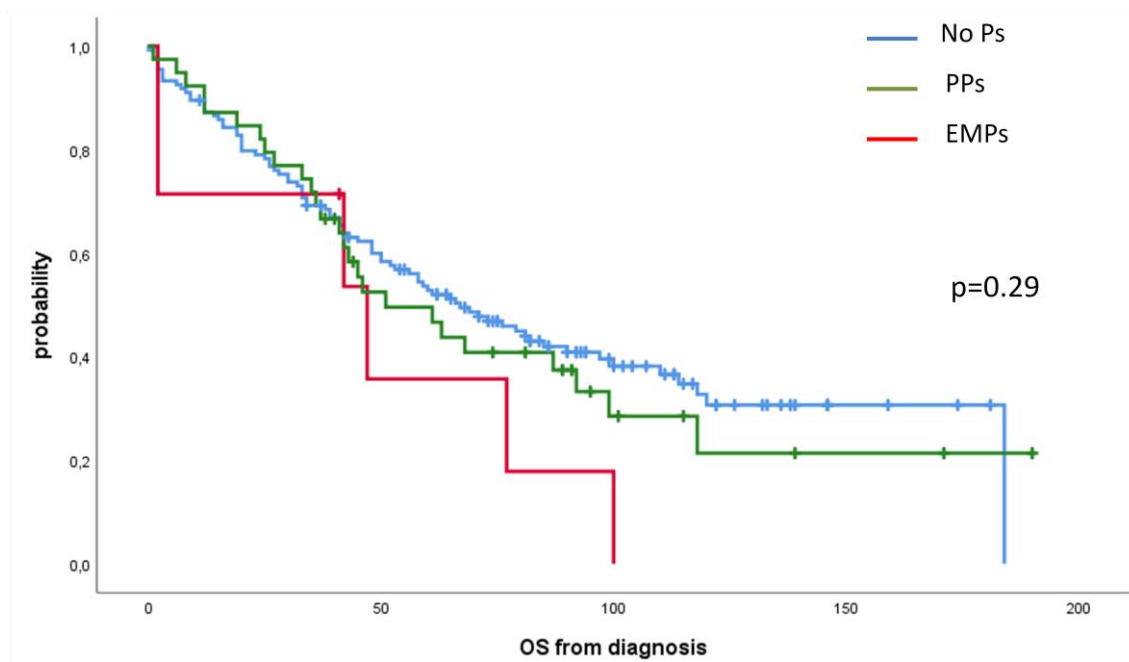
	Patients without Ps N=775	Patients with Ps N=192	P value
Received salvage therapy	N= 576	N= 178	
QT	298	88	NS
• **Melphalan/prednisone**	66	9	
• **Cyclophosphamide/dexa or prednisone**	87	22	
• **VCMP/VBAP**	21		
• **VBAD or VBAP**	54	20	
• **Others**	70	30	
PI	118	40	NS
• **Bortezomib/dexamethasone**	45	15	
• **bortezomib**	23	7	
• **Carfilzomib/dexamethasone**	12	2	
• **MPV**	10	2	
• **Others**	28	14	
IMiD	94	16	0.01
• **Len/dex**	66	9	
• **Thalidomide**	23	5	
• **Others**	5	2	
PI+IMiD	38	17	NS
• **KRd**	29	14	
• **Others**	9	3	
MAb	25	-	
• **DRd**	10		
• **DVd**	7		
• **DKd**	6		
• **Others**	2		

Supplementary figure 1: overall survival from diagnosis according to the initial therapy a) conventional chemotherapy, b) PI-based, c) IMiD-based, d) PI+IMiD-based
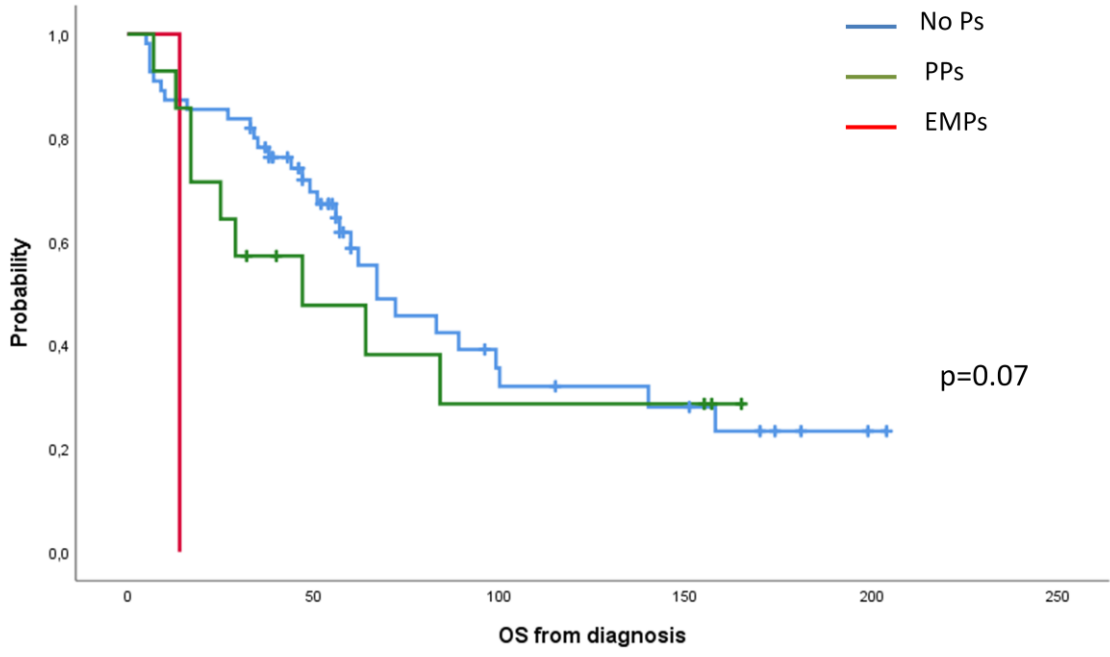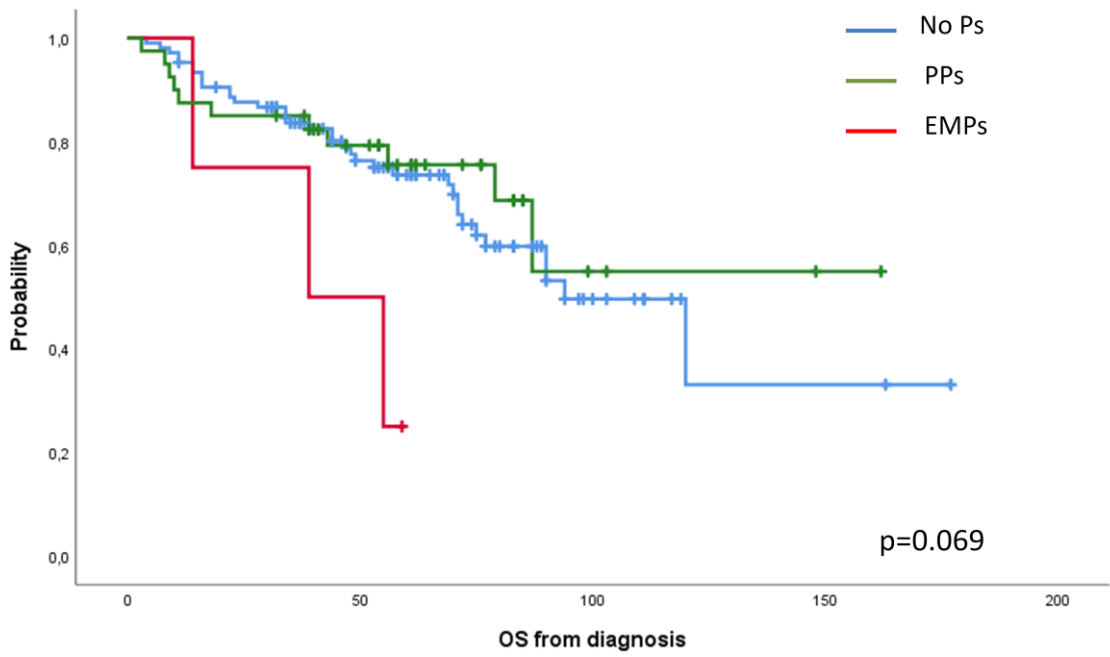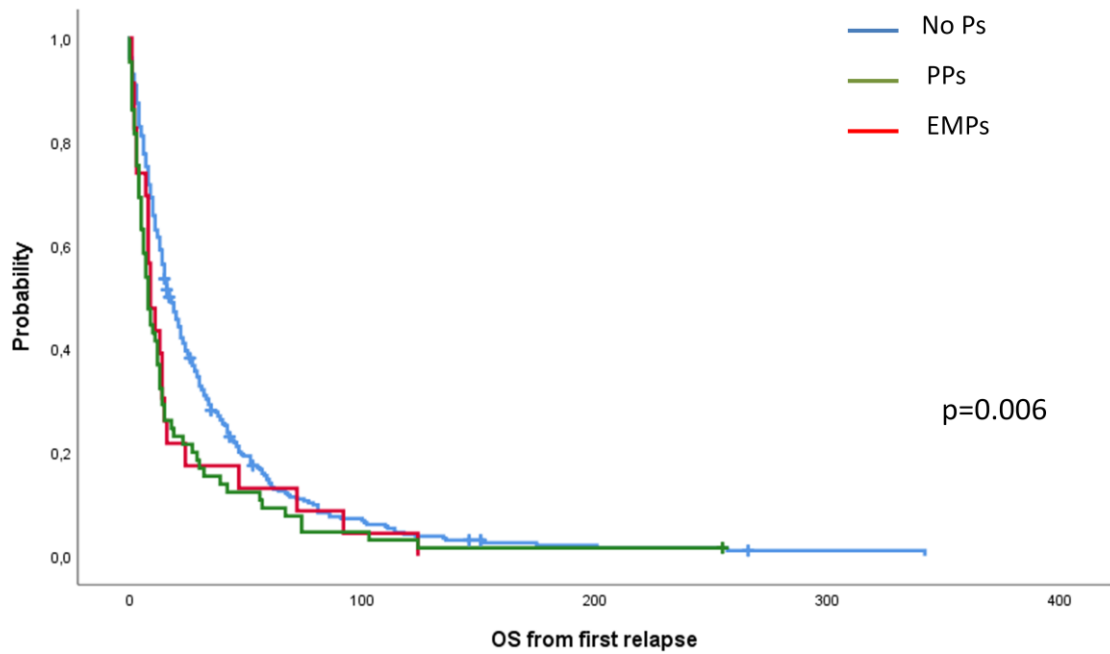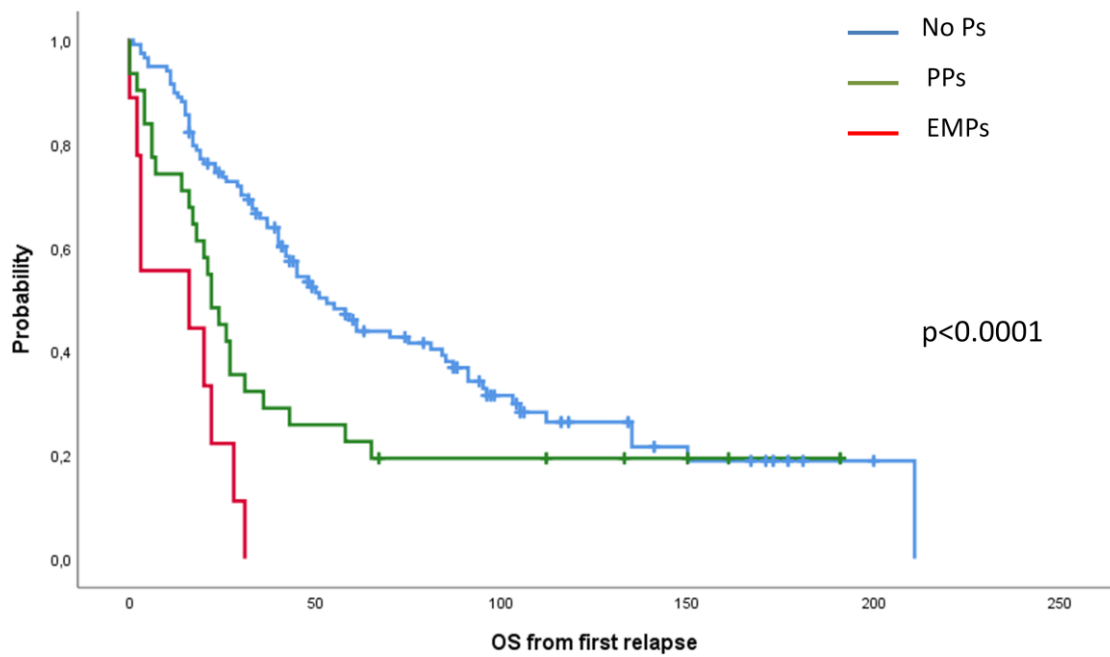
A

B

C

D

Supplementary figure 2: overall survival from first relapse according to salvage therapy a) conventional chemotherapy, b) PI-based, c) IMiD-based, d) PI+IMiD-based
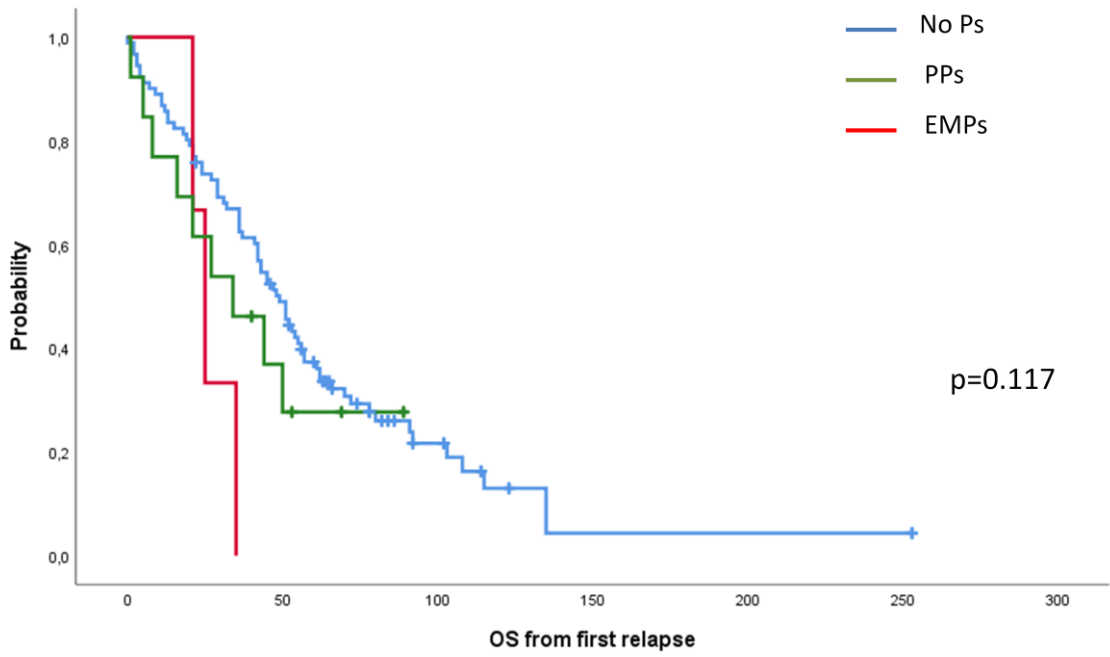
A

B

C

p=0.117

D

p=0.414