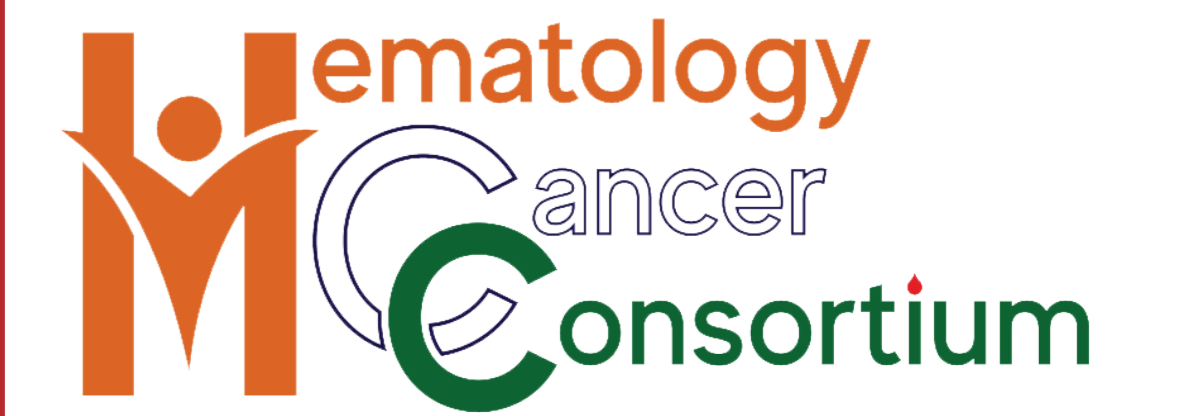




Impact of Consolidation Radiotherapy in Bulky Diffuse Large B Cell Lymphoma by PET based Response Assessment

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Introduction

- The prognostic significance of bulky disease at baseline and the role of routine consolidation RT in DLBCL in PET era is not very clear
- BC Cancer Agency study reported that pts with initial bulky disease, if able to achieve EOT PET negativity, outcomes similar to those without bulk, despite RT omission
- To date there is no published data comparing role of RT versus no RT if bulky disease achieves EOT PET CR
- This study aims to assess if there is survival difference between groups with and without consolidation RT in bulky disease with EOT PET-CR

Results

- 1455 pts received curative intent Rx
- Median age 52 years (IQR 41-61), 888 (61 %) were males (Table 1)
- CR was attained in 786 (77%)
- 534 (40 %) had bulky disease. (Table 2)
- Among bulky cases 192 attained EOT PET CR, of which 94 received RT and 98 didn't (Table 3)
- Median follow up was 22 months
- PFS and OS for entire cohort at 2-yr: 77 % and 84 % respectively (figure 1)
- 2-year PFS was inferior in patients with bulky disease versus non-bulky (73 % Vs 79 %, $p=0.02$), OS was similar (82 % Vs 85 %, $p=0.16$) (Figure 2)
- Bulky with EOT PET CR, consolidation RT did not result in any improvement in PFS (93 % Vs 91 %, $p=0.84$) or OS (96 % Vs 95%, $p=0.75$) compared to non-RT group (Figure 3)

Methods

- A retrospective multicentric study was conducted by collecting data from eleven-member centers of Hematology Cancer Consortium (www.hemecancer.org) using an electronic database
- Patients with DLBCL ≥ 18 years treated with curative intent between 2019-2022 were included
- Bulk was defined as ≥ 7.5 cm nodal/extranodal lesions

Table 1

Variable	Median	Range
Age	52	18-89
Sex	Male 888 (61%) Female 567 (39.0)	
Dx	DLBCL NOS 1209 (83.1) HGBCL NOS 221 (15.2) TCRBCL 25 (1.7)	
co-morbidities	600 (41%)	
	Diabetes 270 (18.5)	
	Hypertension 276 (18.9)	
	IHD 24 (1.6)	
	Others 159 (10.9)	
ECOG PS	< 2	89%
Stage	III/IV	85 (62 %)
LDH	High	804 (68%)
Extranodal		777 (53%)
B symptoms		621 (43%)
Bulky		534 (40%)
Regimen	CHOP 1200 (82.5) EPOCH-DA 84 (5.8) CHOP E 22 (1.5) Other 149 (10.2)	
	Ritux	1424 (97.9)

Table 2

Variable	Bulky (≥ 7.5 cm) (n=534)	Non bulky (<7.5 cm) (n=792)	p-value
Age	Median(IQR) 52.00 (40.00, 61.00)	Median(IQR) 52.00 (41.50, 62.00)	0.3085
Gender			
Male	322 (60.30)	483 (60.98)	0.802
Female	212 (39.70)	309 (39.02)	
ECOG PS (n=1176)			
<2	320 (65.57)	504 (73.26)	0.005
≥ 2	168 (34.43)	184 (26.74)	
Co-morbidity			
Nil	355 (66.48)	493 (62.25)	0.115
Yes	179 (33.52)	299 (37.75)	
Extra nodal			
Yes	319 (59.74)	412 (52.02)	0.006
No	215 (40.26)	380 (47.98)	
LDH (n=1101)			
Normal	83 (18.32)	249 (38.43)	<0.001
High	370 (81.68)	399 (61.57)	
B symptoms (n=1324)			
Yes	283 (47.47)	322 (40.71)	0.015
No	280 (52.53)	469 (59.29)	
Stage (n=1268)			
III/IV	143 (28.09)	326 (42.95)	<0.001
III/IV	366 (71.91)	433 (57.05)	
Double expressor (n=1296)			
Yes	109 (20.84)	188 (24.32)	0.144
No	414 (79.16)	585 (75.68)	
Double hit/triple hit (n=280)			
Yes	8 (6.45)	15 (9.62)	0.338
No	116 (93.55)	141 (90.38)	
COO subtype (n=650)			
GCB	125 (52.30)	208 (50.61)	0.677
Non GCB	114 (47.70)	203 (49.39)	
CR(n=927)			
Yes	221 (72.07)	442 (80.22)	0.004
No	105 (27.93)	109 (19.78)	
RT (n=1109)			
Yes	234 (52.23)	196 (29.65)	<0.001
No	214 (47.77)	465 (70.35)	

Table 3

Variable	RT (n=94)	No RT (n=98)	p value
Age	Median(IQR) 48.50 (35.00, 59.00)	Median(IQR) 53.00 (43.00, 61.00)	0.1047
Gender			
Male	49 (52.13)	58 (59.18)	0.325
Female	45 (47.87)	40 (40.82)	
ECOG PS (n=178)			
<2	56 (65.12)	60 (65.22)	0.989
≥ 2	30 (34.88)	32 (34.78)	
Co-morbidity			
Nil	67 (71.28)	62 (63.27)	0.237
Yes	27 (28.72)	36 (36.73)	
Extra nodal			
Yes	49 (52.13)	50 (51.02)	0.878
No	45 (47.87)	48 (48.98)	
LDH (n=159)			
Normal	12 (15.00)	25 (31.65)	0.013
High	68 (85.00)	54 (68.35)	
B symptoms			
Yes	42 (44.68)	43 (43.88)	0.911
No	52 (55.32)	55 (56.12)	
Stage (n=181)			
III/IV	25 (27.47)	22 (24.44)	0.642
III/IV	66 (72.53)	68 (75.56)	
Double expressor (n=187)			
Yes	25 (27.17)	19 (20.00)	0.248
No	67 (72.83)	76 (80.00)	
Double hit/triple hit (n=61)			
Yes	2 (7.14)	2 (7.14)	1.00
No	31 (93.94)	26 (92.86)	
COO subtype (n=95)			
GCB	25 (54.35)	28 (57.14)	0.784
Non GCB	21 (45.65)	21 (42.86)	

ECOG PS: Eastern Co-operative Oncology Group Performance status, LDH: Lactate dehydrogenase, COO: centre of origin, CR: complete response, RT: Radiotherapy

Figure 1

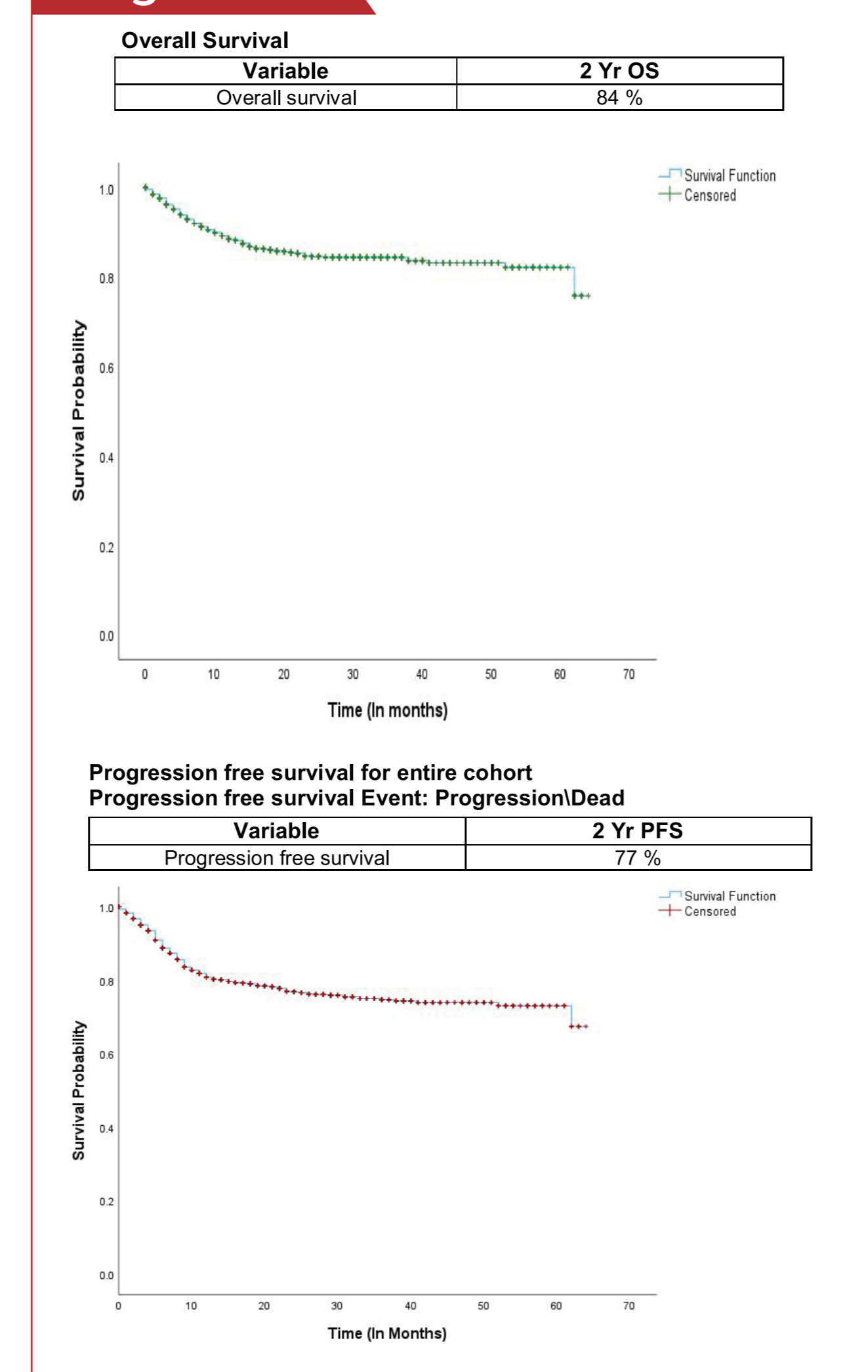


Figure 2

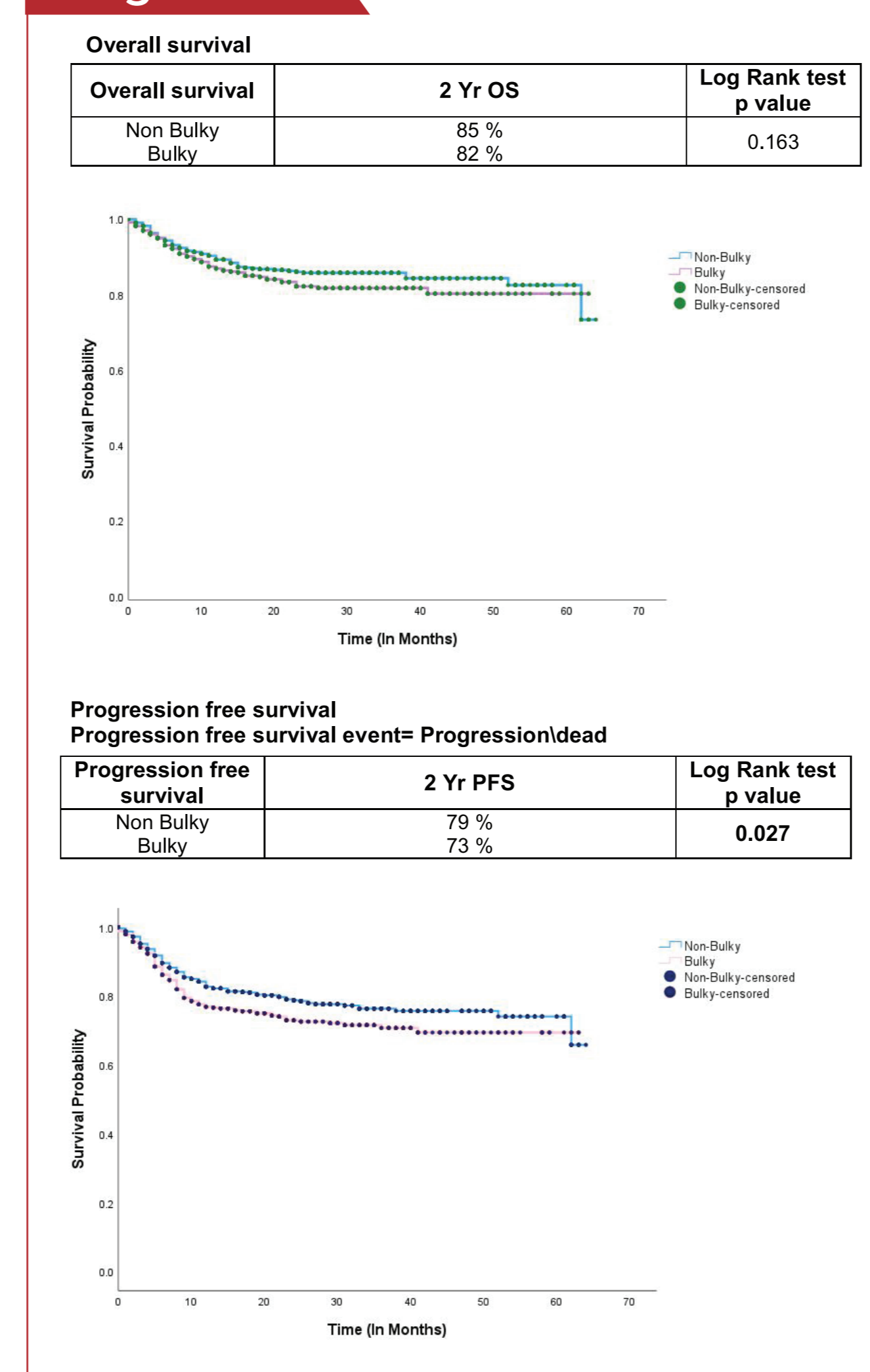
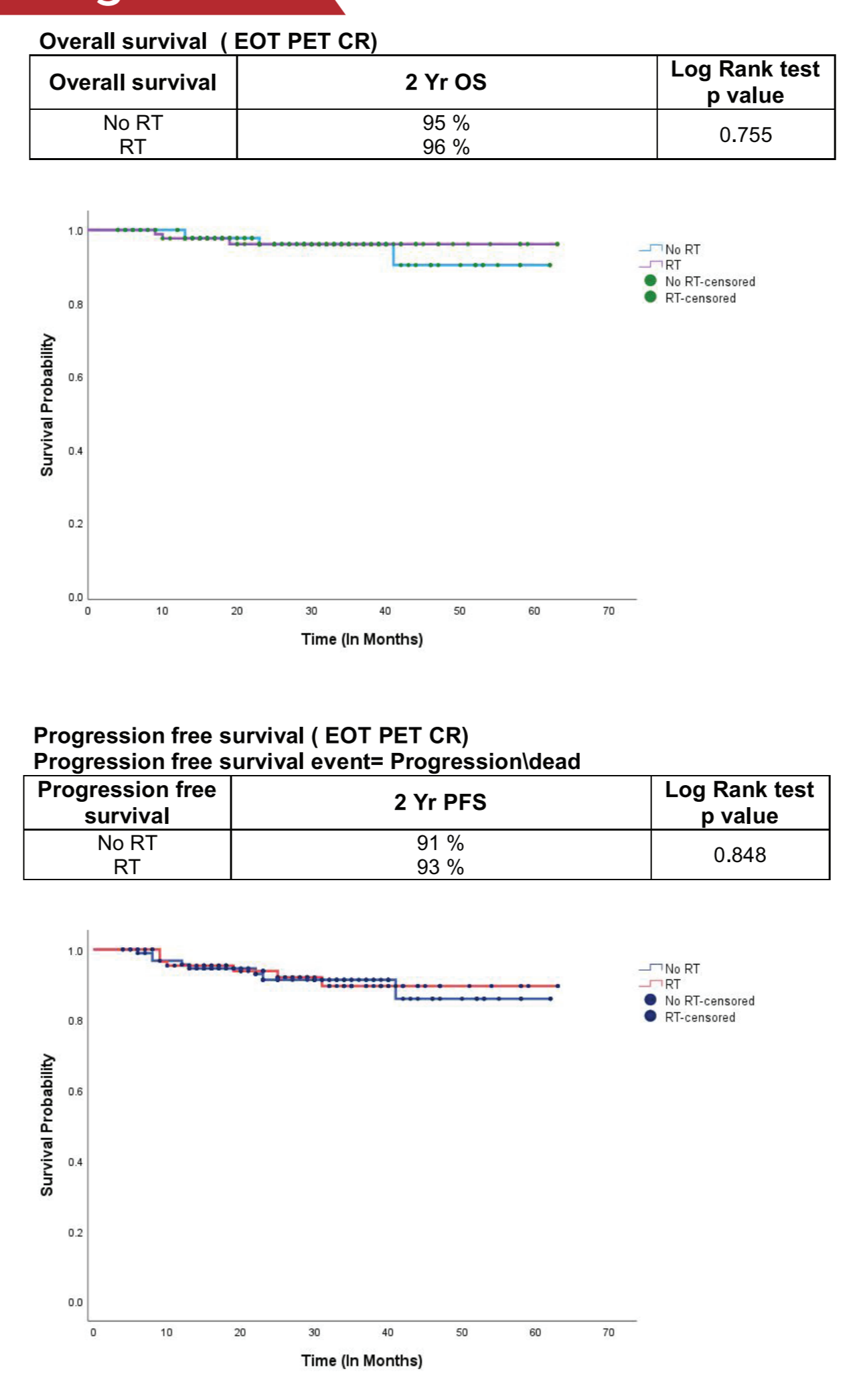


Figure 3



Conclusion

- Presence of bulky disease at baseline is associated with inferior PFS
- If bulky disease patients are able to attain CR assessed by EOT PET CT, omission of RT did not result in inferior PFS
- These findings have to be confirmed by large prospective trials

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