

Outcomes Associated with BEAM Conditioning Followed by Autologous Stem Cell Transplant in High-Risk Geriatric Patients

Anne Wofford, MD; Elizabeth Rogers, PharmD; Brandi Anders, PharmD, BCOPS, CPP; Scott Isom, PhD; LeAnne Kennedy, PharmD, BCOP, CPP, FHOPA; Dianna Howard, MD; Mary Beth Seegars, MD
Wake Forest Baptist Comprehensive Cancer Center; Stem Cell Transplant and Cellular Therapy Program, Winston-Salem, NC

INTRODUCTION

- Over half of the cases of Non-Hodgkin Lymphoma (NHL) are in adults over 65, and the incidence in this age group is increasing.
- For aggressive and relapsed/refractory NHL, high dose chemotherapy followed by autologous stem cell transplant (ASCT) remains standard of care.
- CIMBTR data have demonstrated that performance status (PS) and comorbidities are better predictors than age of transplant-related mortality and overall survival.
- Few studies have reported on safety and outcomes for elderly patients with significant comorbidities who undergo BEAM conditioning followed ASCT.

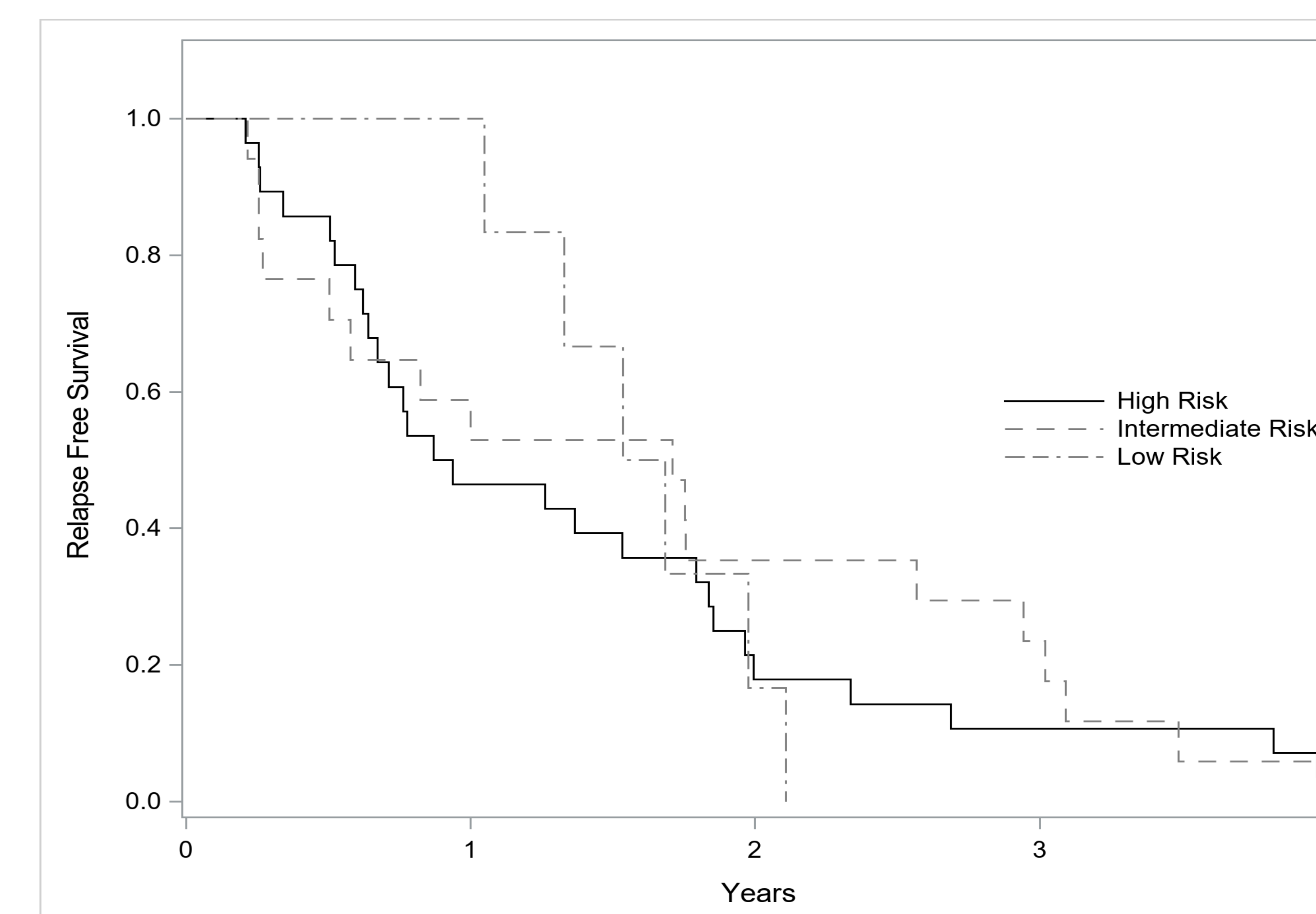
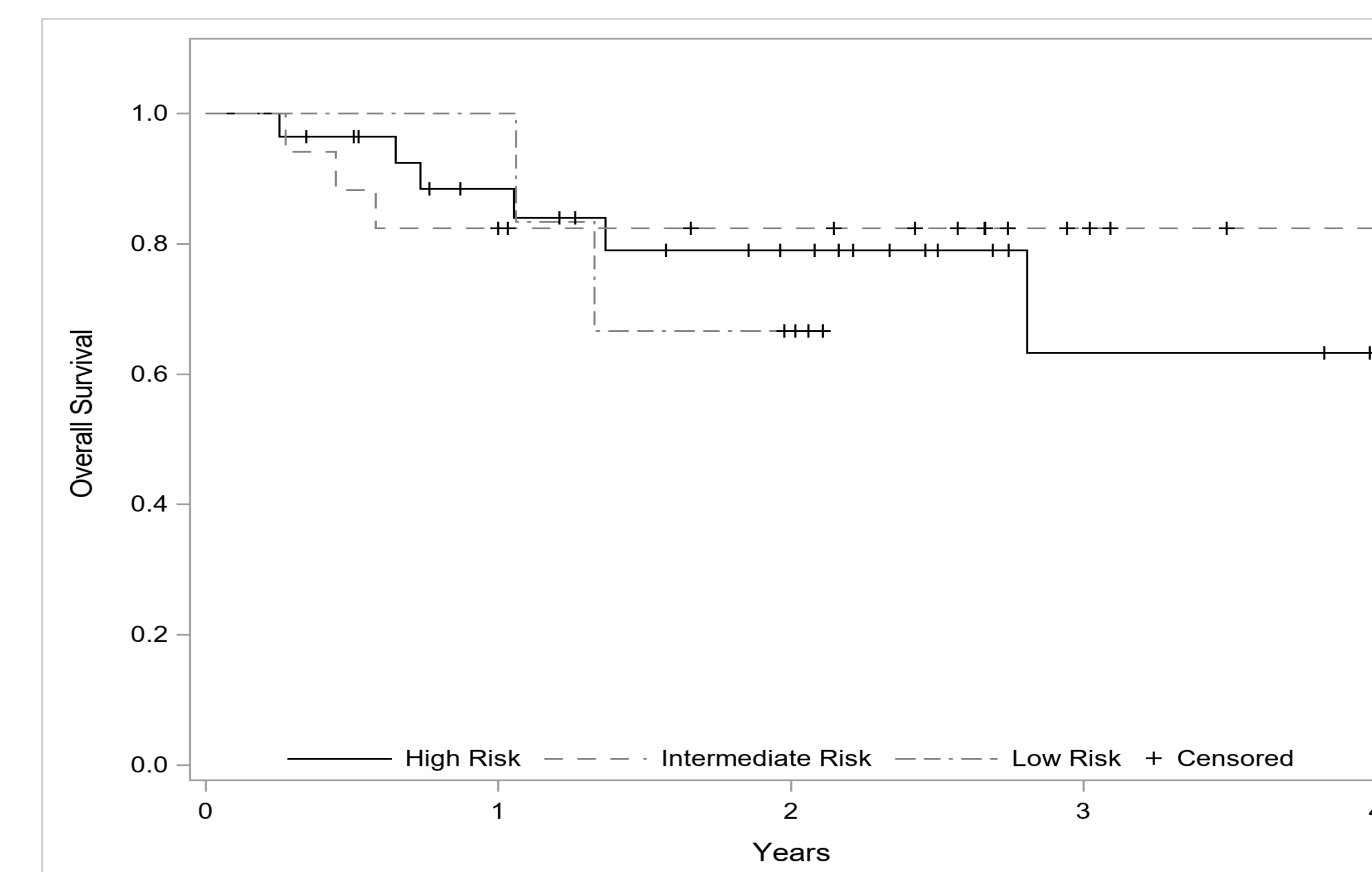
METHODS

- We performed a single-center retrospective chart review of 51 patients >60 years old with NHL undergoing ASCT with BEAM conditioning.
- Our emphasis was on toxicities as well as relapse-free and overall survival related to HSCT-CI risk category with low 0, intermediate 1-2 and high 3+.

RESULTS

- In our cohort, 54.9% of patients were categorized as high risk based on HSCT-CI with 33.3% intermediate and 11.8% low risk.
- There was no statistically significant difference in number of toxicities between low, intermediate and high risk patients nor in the percentage of patients who developed grade 3-4 toxicities (83.3%, 88.2% and 78.6% respectively) or febrile neutropenia (p=0.72).
- For all patients, OS was 100% at 60 days, 87.8% at 1 year, 78.3% at 2 years. There was no statistically significant difference in OS between low, intermediate, and high-risk patients (100%, 82.4% and 88.4% at 1 year; 66.6%, 82.4%, and 79.0% at 2 years).
- RFS was 100% at 60 days, overall RFS at 1 year was 54.9% and 23.5% at 2 years with no statistically significant difference between low, intermediate and high risk patients (100%, 52.9% and 46.4% at 1 year; 16.7%, 35.3% and 17.9% at 2 years).
- Length of hospital stay, time to neutrophil and platelet engraftment was not significantly different among the three groups.

Demographics/Outcomes by HSCT-CI Risk Category					
	All	high	im	low	p-value
N	51	28 (54.9%)	17 (33.3%)	6 (11.8%)	
Age, mean(sd)	67.2 (4.1)	67.1 (4.4)	67.3 (3.8)	67.7 (4.6)	0.944
Gender					0.1694
Female	18 (35.3%)	11 (39.3%)	7 (41.2%)	0 (0.0%)	
Male	33 (64.7%)	17 (60.7%)	10 (58.8%)	6 (100.0%)	
Race					0.8641
Caucasian	43 (84.3%)	24 (85.7%)	13 (76.5%)	6 (100.0%)	
African American	4 (7.8%)	2 (7.1%)	2 (11.8%)	0 (0.0%)	
Unknown	4 (7.8%)	2 (7.1%)	2 (11.8%)	0 (0.0%)	
Type of Lymphoma					0.9136
DLBCL	35 (68.6%)	18 (64.3%)	12 (70.6%)	5 (83.3%)	
FL	2 (3.9%)	1 (3.6%)	1 (5.9%)	0 (0.0%)	
MCL	8 (15.7%)	4 (14.3%)	3 (17.6%)	1 (16.7%)	
T-cell	6 (11.8%)	5 (17.9%)	1 (5.9%)	0 (0.0%)	
Number of previous regimens, median (25th perc; 75th perc)	2.0 (1.0; 2.0)	2.0 (1.0; 2.0)	2.0 (1.0; 2.0)	2.0 (1.0; 2.0)	0.9819
WBC, median (25th perc; 75th perc)	5.5 (4.6; 7.5)	6.7 (4.4; 8.6)	5.3 (4.3; 6.0)	6.8 (5.2; 8.5)	0.2802
plts, median (25th perc; 75th perc)	139.0 (105.0; 182.0)	125.0 (101.0; 182.0)	136.0 (105.0; 164.0)	172.5 (140.0; 191.0)	0.3979
ANC, mean(sd)	7.2 (9.4)	9.0 (12.7)	4.6 (1.8)	7.9 (7.1)	0.3388
SCr, mean(sd)	0.9 (0.3)	1.0 (0.4)	0.8 (0.2)	0.9 (0.3)	0.2337
ECOG					0.407
0	8 (15.7%)	4 (14.3%)	3 (17.6%)	1 (16.7%)	
1	41 (80.4%)	24 (85.7%)	12 (70.6%)	5 (83.3%)	
2	2 (3.9%)	0 (0.0%)	2 (11.8%)	0 (0.0%)	
Disease Status prior SCT					0.2583
CR	40 (78.4%)	24 (85.7%)	11 (64.7%)	5 (83.3%)	
PR	11 (21.6%)	4 (14.3%)	6 (35.3%)	1 (16.7%)	



CONCLUSION

- BEAM is an effective conditioning regimen for older, high-risk patients as determined by HSCT-CI with comparable rates of grade 3-4 toxicities as well as OS and RFS to low and intermediate risk patients from the same age group.
- These data indicate that with good supportive care patients with multiple comorbidities can still have comparable outcomes to lower risk patients.