matching pairs. The primary clinical outcomes were time to progression (TTP), progression-free survival (PFS), and overall survival (OS), all defined from the time of auto-HCT. Stratified Log-rank test and Cox proportional hazards model stratified on matched pairs were conducted on TTP, PFS and OS.

Results: Patient characteristics are summarized in the attached Table. NSM and SM groups were not different by age at auto-HCT, time from diagnosis to auto-HCT, race, sex, and serum creatinine at auto-HCT (Table). Patients with SM had higher percentage of bone marrow plasma cells at auto-HCT. Median follow-up time was 37 months. Median TTP was 29 months and 31 months for the NSM and SM groups, respectively. Median PFS was 16 months and 29 months for the NSM and SM groups, respectively. Median OS was 45 and 67 months in the NSM and SM groups, respectively. There was no difference in TTP, PFS and OS between NSM and SM after adjusting for conditioning regimen or time from diagnosis to transplant in the multivariate models (p-Value >0.69).

Conclusion: In this large single center study the outcome of patients with NSM was comparable to patients with SM after an auto-HCT.

Table. Association between patients characteristics and histology

Covariate	Levels	NSM	SM	p-Value
Age at diagnosis	age< = 54.25 (median)	17 (54.8%)	45 (47.9%)	0.478
	age>54.25	14 (45.2%)	49 (52.1%)	
Age at transplant	age < = 55.17(median)	17 (54.8%)	45 (47.9%)	0.4625
	age >55.17	14 (45.2%)	49 (52.1%)	
Age at transplant	<40	1 (3.2%)	2 (2.1%)	0.8072
	40-49	7 (22.6%)	24 (25.5%)	
	50-59	16 (51.6%)	48 (51.1%)	
	> = 60	7 (22.6%)	20 (21.3%)	
Time from diagnosis to transplant	>8months	12 (38.7%)	43 (45.7%)	0.2863
	< = 8 months	19 (61.3%)	51 (54.3%)	
Racial Group	Black	3 (9.7%)	11 (12%)	0.2849
	Mixed	4 (12.9%)	25 (27.2%)	
	White	24 (77.4%)	56 (60.9%)	
Sex	F	14 (45.2%)	34 (36.2%)	0.3010
	M	17 (54.8%)	60 (63.8%)	
Plasmacytoma	No	24 (77.4%)	70 (75.3%)	0.7646
	Yes	7 (22.6%)	23 (24.7%)	
Creatinine	< = 1	13 (52%)	36 (48%)	0.3242
	>1	12 (48%)	39 (52%)	
Plasma cell% pre-transplant	< = 10%	9 (34.6%)	14 (17.5%)	0.0561
	>10%	17 (65.4%)	66 (82.5%)	

122

PEGFILGRASTIM VS FILGRASTIM-BASED STEADY STATE AUTOLOGOUS HSC MOBILIZATION IN THE SETTING OF PATIENT ADAPTED ("JUST IN TIME") PLERIXAFOR: EFFICACY AND ECONOMIC OUTCOMES

Costa, L.J., Kramer, C., Hogan, K.R., Butcher, C.D., Littleton, A., Shoptaw, K.B., Kang, Y., Stuart, R.K. Medical University of South Carolina, Charleston, SC

Plerixafor enhances the ability of filgrastim to mobilize CD34+ cells for AHSCT in patients with lymphoma (LY) or multiple myeloma (MM). Single dose of pegfilgrastim has, in some series, been utilized for autologous mobilization for its convenience and possibly greater efficacy. We retrospectively compared two consecutive mobilization cohorts utilizing filgrastim (FIL) 10 mcg/kg/day or pegfilgrastim (PEG) 12 mg (single dose) for steady state mobilization and the same algorithm for "just in time" use of plerixafor. In both cohorts peripheral blood CD34+ cells (PB-CD34+) enumeration was performed on the 4th day after initiation of growth factor to determine the immediate initiation of apheresis or administration of plerixafor with apheresis starting in the next day. Decision to use plerixafor was determined by the same previously validated algorithm in both cohorts. Apheresis and growth factor +/- plerixafor were continued until the mobilization target was met. Analysis of estimated total cost of mobilization utilized average wholesale price (AWP) for drugs and average charges for apheresis, cryopreservation and laboratory tests from a representative sample of subjects. Seventy-four consecutive subjects were included in FIL and 57 in PEG. The two cohorts were comparable in terms of age (57.5 vs. 53.7), proportion of patients with diagnosis of MM (63.5% vs.66.7%), proportion of MM patients previously exposed to lenalidomide (63.8% vs. 50%), average body weight (82.9 vs.84 kg) and average mobilization target (4.5 vs. 5 x 10^6 CD34+/kg). Overall 68/74 in FIL and 52/57 patients in PEG met the mobilization target. Median PB-CD34+ on day 4 was significantly higher in PEG.

Table. Mobilization outcomes

	FIL	PEG	
	N = 74	N = 57	P
Day 4 PB-CD34+	18.1 (+/-19.5)	28.7 (+/-27)	0.01
Patients requiring plerixafor	50 (67.5%)	26 (45.6%)	0.01
Number of days of apheresis	1.62 (+/-0.72)	1.68 (+/-0.65)	0.6
Number of injections	13.1 (+/-3.8)	2.7 (+/-0.9)	0.001
Number of CD34+ cells collected (x10e6/kg)	7.26 (+/-3.99)	7.54 (+/-3.52)	0.6
Patients meeting mobilization target	68 (91.9%)	52 (91.2%)	1
Mobilization failures (<2 x 10e6 CD34+/kg)	1 (1.3%)	1 (1.7%)	1

Patients in PEG received fewer subcutaneous injections and were less likely to require administration of plerixafor. Cohorts had near identical average number of apheresis sessions and comparable CD34+ yield. The estimated cost associated with growth factor was on average US$3,069 higher in PEG, but it was counterbalanced by an estimated $3,546 saving in plerixafor, resulting in no significant difference in the estimated overall cost of mobilization. Single administration of pegfilgrastim is associated with better CD34+ mobilization than daily filgrastim in patients with MM and LY allowing for effective mobilization with less frequent use of plerixafor. Pegfilgrastin with patient adapted used of plerixafor is a reliable, convenient and cost-neutral strategy for AHSC mobilization.

123

HIGH DOSE CHEMOTHERAPY (HDT) WITH BUSULFAN, MELPHALAN AND TOPOTECAN FOLLOWED BY AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION (ASCT) IN PEDIATRIC PATIENTS (pts) WITH HIGH RISK SOLID TUMORS

Pawlowska, A.B.[1], Wolfson, J.A.[1], Cheng, J.[2], Sorrell, A.[1], Sato, J.[1], Anderson, C.[1], Hitt, D.[1], Suarez, M.[1], Forman, S.J.[3], Rosenthal, J.[1]
[1] City of Hope, Duarte, CA; [2] Southern California Kaiser Permanente Medical Group, Los Angeles, CA; [3] City of Hope, Duarte, CA

The prognosis of pts with high risk solid tumors remains poor despite advances in multimodal and high dose radiation and chemotherapy.

HDT followed by ASCT appears to provide survival benefit to a select group of pts. We hypothesize that patients with chemo-sensitive solid tumors with poor risk features at diagnosis or with recurrent metastatic disease will have lower morbidity and improved survival with a conditioning regimen using a novel combination of busulfan, melphalan and topotecan (B-M-T) followed by ASCT. In this pilot study pts received topotecan continuous infusion in combination with busulfan (pharmacokinetics (PK) based dose adjustment) and melphalan. The primary outcome of interest was the toxicity of combined HDT with B-M-T. Secondary objectives were to evaluate engraftment, survival and PK of busulfan and topotecan. Twenty-two patients aged 2.2-27 years (median 8.8 yrs) were treated on the B-M-T protocol at City of Hope from 5/2007 to 4/2011. Diagnoses included Ewing sarcoma (n = 8), neuroblastoma (n = 7), Wilms (n = 3), rhadbomyosarcoma (n = 3) and medulloblastoma (n = 1). Seven pts were in complete remission, while 15