Supplemental Table 1. Accounting of Patients Included in Tables and Figures

Output	N	Criteria for Inclusion
Figure 1		
A-D	429	Must have complete baseline imaging data (MBS, MRI and PET)
E	308	Same as A-D, but must also have Day-7 PET Follow-up
F	332	Same as A-D, but must also have Transplant and Pre-Tx MRI Follow-up with no progressions prior to transplant
G	344	Same as A-D, but must also have Transplant and Pre-Tx PET Follow-up with no progressions prior to transplant
Table 1		
Without GEP	302	Must have complete baseline imaging data (MBS, MRI and PET), Day-7 PET Follow-up and complete data for standard prognostic factors †
With GEP	277	Same as above, but must also have GEP data

† Standard Prognostic Factors include:
Age >= 65 yr, Albumin < 3.5 g/dL, B2M >= 3.5 mg/L, B2M > 5.5 mg/L, Creatinine >= 2.0 mg/dL, CRP >= 8 mg/L, Hb < 10 g/dL, LDH >= 190 U/L, Cytogenetic abnormalities, CA13, Hypodiploid, CA 13/Hypodiploid, GEP70 High Risk, GEP Proliferation Index >= 10, GEP Centrosome Index >= 3, GEP Molecular Subgroup, Baseline MBS OL (> 0, > 2), Baseline MRI FL (> 0, > 7), Baseline PET FL (> 0, > 3), Baseline PET EMD

Supplemental Table 2. Univariate analysis of baseline and day-7 PET findings on clinical outcomes landmarked from day 14 of induction therapy

		Overall Survival		Progression-Free Survival		CR Duration		
Variable	**n/N (%)**	**HR (95% CI)**	**p-value**	**HR (95% CI)**	**p-value**	**n/N (%)**	**HR (95% CI)**	**p-value**
Age >= 65 yr	**110/429 (26%)**	**1.57 (1.08, 2.27)**	**0.017**	1.35 (0.97, 1.89)	0.076	65/273 (24%)	1.12 (0.66, 1.88)	0.675
Albumin < 3.5 g/dL	**143/428 (33%)**	**1.58 (1.10, 2.26)**	**0.012**	**1.54 (1.13, 2.11)**	**0.007**	82/272 (30%)	1.21 (0.74, 1.96)	0.450
B2M >= 3.5 mg/L	**210/426 (49%)**	**1.81 (1.26, 2.59)**	**0.001**	**1.70 (1.25, 2.32)**	**<.001**	122/270 (45%)	1.50 (0.95, 2.36)	0.080
B2M > 5.5 mg/L	**102/426 (24%)**	**2.77 (1.93, 3.96)**	**<.001**	**2.63 (1.91, 3.62)**	**<.001**	**50/270 (19%)**	**3.48 (2.16, 5.59)**	**<.001**
Calcium > 10.5 mg/dL	**18/424 (4%)**	**3.54 (1.99, 6.30)**	**<.001**	**3.13 (1.81, 5.42)**	**<.001**	**10/271 (4%)**	**3.81 (1.74, 8.31)**	**<.001**
Creatinine >= 2.0 mg/dL	**29/428 (7%)**	**2.07 (1.21, 3.56)**	**0.008**	**2.55 (1.61, 4.03)**	**<.001**	**11/272 (4%)**	**3.25 (1.49, 7.09)**	**0.003**
CRP >= 8 mg/L	**142/427 (33%)**	1.41 (0.99, 2.01)	0.060	**1.50 (1.09, 2.04)**	**0.011**	**90/272 (33%)**	**1.61 (1.02, 2.53)**	**0.042**
Hb < 10 g/dL	**135/428 (32%)**	**1.59 (1.11, 2.27)**	**0.011**	**1.68 (1.23, 2.30)**	**0.001**	72/272 (26%)	1.41 (0.87, 2.28)	0.166
LDH >= 190 U/L	**107/428 (25%)**	**2.15 (1.50, 3.08)**	**<.001**	**2.32 (1.69, 3.18)**	**<.001**	**64/272 (24%)**	**2.40 (1.51, 3.82)**	**<.001**
Platelet Count < 150 x 10^9/L	**53/428 (12%)**	**2.34 (1.53, 3.59)**	**<.001**	**2.27 (1.54, 3.35)**	**<.001**	**27/272 (10%)**	**2.80 (1.54, 5.10)**	**<.001**
BMPC (Biopsy) >= 33%	**262/414 (63%)**	1.33 (0.91, 1.95)	0.142	**1.58 (1.12, 2.22)**	**0.009**	**164/260 (63%)**	**2.07 (1.22, 3.54)**	**0.007**
BMPC (Aspirate) >= 33%	227/412 (55%)	1.22 (0.85, 1.75)	0.280	1.16 (0.85, 1.59)	0.345	153/262 (58%)	1.46 (0.91, 2.36)	0.117
Cytogenetic abnormalities	**155/427 (36%)**	**2.25 (1.58, 3.19)**	**<.001**	**1.83 (1.35, 2.50)**	**<.001**	99/271 (37%)	1.56 (0.99, 2.46)	0.054
CA13	**82/427 (19%)**	**2.33 (1.60, 3.39)**	**<.001**	**1.92 (1.36, 2.71)**	**<.001**	**53/271 (20%)**	**1.69 (1.01, 2.82)**	**0.045**
Hypodiploid	**62/427 (15%)**	**2.11 (1.40, 3.20)**	**<.001**	**1.92 (1.31, 2.80)**	**<.001**	36/271 (13%)	1.40 (0.77, 2.55)	0.267
CA 13/Hypodiploid	**103/427 (24%)**	**2.27 (1.58, 3.27)**	**<.001**	**1.95 (1.40, 2.70)**	**<.001**	66/271 (24%)	1.59 (0.98, 2.59)	0.059
GEP70 High Risk	**70/394 (18%)**	**4.42 (3.03, 6.44)**	**<.001**	**3.48 (2.47, 4.91)**	**<.001**	**39/252 (15%)**	**3.63 (2.21, 5.97)**	**<.001**
GEP80 High Risk	**32/394 (8%)**	**5.33 (3.34, 8.49)**	**<.001**	**5.33 (3.48, 8.14)**	**<.001**	**17/252 (7%)**	**4.50 (2.41, 8.40)**	**<.001**
TP53 deletion	**40/394 (10%)**	**1.99 (1.21, 3.25)**	**0.006**	**1.57 (0.99, 2.49)**	**0.053**	24/252 (10%)	1.20 (0.58, 2.51)	0.624
GEP Proliferation Index >= 10	**46/394 (12%)**	**3.80 (2.51, 5.75)**	**<.001**	**3.18 (2.16, 4.68)**	**<.001**	**28/252 (11%)**	**2.96 (1.70, 5.16)**	**<.001**
GEP Centrosome Index >= 3	**130/394 (33%)**	**2.60 (1.80, 3.76)**	**<.001**	**2.29 (1.66, 3.15)**	**<.001**	**83/252 (33%)**	**3.71 (2.31, 5.94)**	**<.001**
GEP CD-1 subgroup	26/394 (7%)	1.10 (0.53, 2.25)	0.804	1.01 (0.53, 1.91)	0.981	25/252 (10%)	1.66 (0.85, 3.24)	0.136
GEP CD-2 subgroup	52/394 (13%)	0.61 (0.32, 1.16)	0.129	0.69 (0.40, 1.17)	0.168	27/252 (11%)	0.76 (0.33, 1.76)	0.530
GEP HY subgroup	128/394 (32%)	0.72 (0.48, 1.08)	0.113	0.69 (0.48, 0.99)	0.041	79/252 (31%)	1.01 (0.61, 1.67)	0.967
GEP LB subgroup	55/394 (14%)	0.62 (0.34, 1.12)	0.114	0.82 (0.52, 1.31)	0.411	38/252 (15%)	0.49 (0.22, 1.06)	0.069
GEP PR subgroup	**52/394 (13%)**	**2.64 (1.71, 4.06)**	**<.001**	**2.31 (1.56, 3.43)**	**<.001**	29/252 (12%)	1.23 (0.63, 2.39)	0.550
GEP MF subgroup	**28/394 (7%)**	**2.05 (1.19, 3.52)**	**0.010**	1.54 (0.90, 2.63)	0.112	19/252 (8%)	1.68 (0.81, 3.51)	0.165
GEP MS subgroup	53/394 (13%)	0.81 (0.46, 1.42)	0.467	1.06 (0.67, 1.66)	0.814	35/252 (14%)	0.92 (0.47, 1.79)	0.808
Baseline MBS OL > 0	**197/429 (46%)**	**1.69 (1.19, 2.40)**	**0.004**	**1.42 (1.05, 1.93)**	**0.025**	128/273 (47%)	1.19 (0.76, 1.86)	0.456
Baseline MBS OL > 2	**133/429 (31%)**	**2.26 (1.59, 3.21)**	**<.001**	**1.81 (1.33, 2.47)**	**<.001**	81/273 (30%)	1.53 (0.96, 2.44)	0.071
Baseline MRI FL > 0	309/429 (72%)	1.50 (0.98, 2.30)	0.061	1.07 (0.76, 1.50)	0.708	206/273 (75%)	0.95 (0.57, 1.60)	0.850
Baseline MRI FL > 7	**147/429 (34%)**	**1.54 (1.08, 2.19)**	**0.017**	**1.43 (1.05, 1.96)**	**0.023**	100/273 (37%)	1.15 (0.73, 1.83)	0.544
Baseline PET FL > 0	**282/429 (66%)**	**1.84 (1.22, 2.77)**	**0.004**	**1.54 (1.09, 2.16)**	**0.014**	176/273 (64%)	1.32 (0.81, 2.15)	0.268
Baseline PET FL > 3	**165/429 (38%)**	**2.28 (1.60, 3.24)**	**<.001**	**1.87 (1.38, 2.54)**	**<.001**	**101/273 (37%)**	**1.95 (1.25, 3.06)**	**0.004**
Baseline PET EMD	**27/429 (6%)**	**1.95 (1.08, 3.54)**	**0.028**	**2.22 (1.32, 3.72)**	**0.003**	**11/273 (4%)**	**2.79 (1.21, 6.43)**	**0.016**
Baseline PET SUVmax > 3.9 *	**154/277 (56%)**	**1.60 (1.04, 2.47)**	**0.033**	**1.59 (1.09, 2.34)**	**0.017**	**86/173 (50%)**	**1.98 (1.13, 3.48)**	**0.018**
Day-7 PET FL > 0	**177/308 (57%)**	**2.07 (1.31, 3.26)**	**0.002**	**1.73 (1.17, 2.55)**	**0.006**	108/201 (54%)	1.30 (0.75, 2.26)	0.356
Day-7 PET FL > 3	**81/308 (26%)**	**2.47 (1.62, 3.76)**	**<.001**	**2.11 (1.44, 3.08)**	**<.001**	**45/201 (22%)**	**1.94 (1.09, 3.47)**	**0.025**

HR- Hazard Ratio, 95% CI- 95% Confidence Interval,
p-value from Wald Chi-Square Test in Cox Regression
* Comparison limited to subjects with 1 or more PET FL