

SUPPLEMENTAL MATERIAL

2 SUPPLEMENTAL TABLES

Supplemental Table 1. Univariate regression model for relapse/mortality (Failure of RFS)

Variable	Group	HR	95% CI	p-value	Global p-value
Marrow myeloblasts*		1.02	1.01 - 1.02	<.0001	
Hemoglobin*		0.94	0.89 - 0.99	.03	
Platelet count*		0.94	0.90 - 0.97	.0008	
Patient age*		1.07	1.03 - 1.13	.002	
Disease category	MDS	1			
	tAML	1.59	1.35 - 1.87	<.0001	
IPSS cytogenetic risk	Good	1			<.0001
	Intermediate	1.15	0.92 - 1.43	.22	
	Poor	1.88	1.58 - 2.25	<.0001	
5-group cytogenetic risk	Good	1			<.0001
	Very good	1.23	0.63 - 2.39	.55	
	Intermediate	1.15	0.92 - 1.44	.22	
	Poor	1.34	1.06 - 1.68	.01	
	Very poor	3.61	2.83 - 4.61	<.0001	
	Data incomplete	1.83	1.46 - 2.28	<.0001	
Donor type	Matched sibling	1			.02
	Non-sibling relative	1.30	0.99 - 1.71	.06	
	URD matched	0.86	0.71 - 1.04	.12	
	URD mismatched	1.18	0.95 - 1.46	.14	
	URD unknown [†]	0.80	0.51 - 1.25	.32	
Year of HCT*		0.98	0.97 - 0.99	.002	

Monosomal karyotype	No	1				
	Yes	2.64	2.18	-	3.19	<.0001
Secondary MDS	No	1				
	Yes	1.31	1.10	-	1.55	.002
Conditioning regimen [‡]	BU+CY	1				<.0001
	FLU+LDTBI	1.48	1.13	-	1.93	.004
	BU+TBI	1.99	1.49	-	2.65	<.0001
	FLU+BU	1.55	1.09	-	2.19	.01
	BU+CY+TBI	1.69	1.18	-	2.42	.004
	¹³¹ I+FLU+TBI	1.68	1.04	-	2.71	.03
	FLU+TREG	0.45	0.20	-	1.01	.05
	CY+TBI (≥ 12 Gy) (± ATG)	1.54	1.27	-	1.88	<.0001
	Other	1.54	1.01	-	2.34	.04
FAB/WHO classification	RA/RARS/RCMD.	1				<.0001
	MDS	0.75	0.37	-	1.51	.41
	RAEB.	1.73	1.45	-	2.07	<.0001
	RAEB-T	2.04	1.57	-	2.64	<.0001
	tAML	2.34	1.85	-	2.98	<.0001
Etiology [§]	de novo	1				<.0001
	MPN	2.22	1.10	-	4.47	.03
	Lymphoma	1.44	1.06	-	1.94	.02
	Multiple myeloma	2.80	1.16	-	6.77	.02
	Solid tumor	1.39	1.01	-	1.91	.04
	Autoimmune disorders	1.54	0.95	-	2.50	.08
	Accidental radiation exposure	10.2	2.52	-	41.1	.001
Treatment pre-HCT	No	1				.008
	IC	1.31	1.12	-	1.54	.001

IC+Hypomethylation	0.43	0.06	-	3.08	.40
Hypomethylation	1.09	0.72	-	1.63	.69

*Modeled as continuous linear variables (as specified in Table 5);

†HLA allele level typing not performed.

‡Other regimens (CY+TMI; CY+BU; FLU+TBI+CY) had no significant impact.

§Other antecedent conditions (aplastic anemia; constitutional marrow failure syndromes; other leukemias; organ transplantation) had no significant impact.

Abbreviations: ATG=antithymocyte globulin; BU= busulfan;CI=confidence interval; CY = cyclophosphamide;

FAB = French-American-British classification; FLU= fludarabine; ¹³¹I = Iodine-131

radioimmunotherapy; HR=hazard ratio; IC=induction chemotherapy; IPSS = International Prognostic Scoring System; RA = refractory anemia; RARS = RA with ring sideroblasts; RAEB = refractory anemia with excess blasts; RAEB-T = RAEB in transformation; RCMD = refractory cytopenia with multilineage dysplasia; RFS = relapse-free survival; tAML = acute myeloid leukemia transformed from MDS; URD= unrelated donor; TBI=total body irradiation (LD= low dose); TREO= treosulfan; URD = unrelated donor; WHO = World Health Organization.

Supplemental Table 2. Multivariable regression model for relapse/mortality (Failure of RFS)

Variable	Group	HR	95% CI	p-value	Global p-value
5-group cytogenetic risk	Good	1			<.0001
	Very Good	1.25	0.61 - 2.56	.54	
	Intermediate	1.04	0.83 - 1.32	.72	
	Poor	1.26	0.98 - 1.62	.07	
	Very poor	3.02	2.31 - 3.94	<.0001	
	Data incomplete	1.76	1.36 - 2.29	<.0001	
FAB/WHO classification	RA/RARS/RCMD	1			.001
	RAEB.	1.48	1.21 - 1.81	.0002	
	RAEB-T	1.53	1.15 - 2.05	.004	
	tAML	1.44	1.04 - 1.99	.03	
Disease category	MDS	1			
	tAML	1.43	1.15 - 1.78	.002	
Platelet count*		1.00	1.00 - 1.00	.0006	
Patient age*		1.01	1.01 - 1.02	<.0001	
Year of HCT*		0.97	0.95 - 0.99	.01	
Donor type	Matched sibling	1			.03
	Non-sibling relative	1.23	0.91 - 1.68	.18	
	URD matched	1.06	0.85 - 1.32	.60	
	URD mismatched	1.42	1.12 - 1.80	.003	
	URD unknown [†]	0.85	0.52 - 1.40	.53	
Conditioning regimen [‡]	BU+CY	1			.02

	FLU+LDTBI	1.46	1.07 - 1.99	.02
	BU+TBI	1.63	1.18 - 2.24	.003
	FLU+TREO	0.48	0.21 - 1.12	.09
	Other	1.82	1.05 - 3.16	.03
Etiology [§]	de novo	1		<.0001
	Multiple myeloma	7.88	2.84 - 21.8	.0001
	Solid tumor	1.85	1.30 - 2.63	.0007
	Organ transplantation	17.2	4.87 - 60.8	<.0001
	Accidental radiation exposure	10.3	1.39 - 77.2	.02

* Modeled as continuous linear variables (as specified in Table 5).

†HLA allele typing was not carried out.

‡Other regimens (CY+TMI; FLU+BU; BU+CY+TBI; ¹³¹I+FLU+TBI; FLU+LDTBI+CY; CY+TBI[≥12 Gy]) had no significant impact.

§Other antecedent conditions (aplastic anemia; myeloproliferative neoplasms; constitutional marrow failure syndromes; other leukemias; Hodgkin/Non-Hodgkin lymphoma; autoimmune disorders) had no significant impact.

Abbreviations: ATG=antithymocyte globulin; BU= busulfan; CI= confidence interval; CY = cyclophosphamide; FAB = French-American-British classification; FLU= fludarabine; HR= hazard ratio; ¹³¹I = Iodine-131 radioimmunotherapy; IC=induction chemotherapy; IPSS = International Prognostic Scoring System; RA = refractory anemia; RARS = RA with ring sideroblasts; RAEB = refractory anemia with excess blasts; RAEB-T = RAEB in transformation; RCMD = refractory cytopenia with multilineage dysplasia; RFS = relapse-free survival; tAML = acute myeloid leukemia transformed from MDS; TBI=total body irradiation (LD= low dose); TREO= treosulfan; URD = unrelated donor; WHO = World Health Organization.