Allogeneic hematopoietic cell transplantation with non-myeloablative conditioning for patients with hematologic malignancies: improved outcomes over two decades

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SUPPLEMENTARY DATA FOR

Allogeneic hematopoietic cell transplantation with non-myeloablative conditioning for patients with hematologic malignancies: Improved outcomes over two decades

Running title: Improved outcomes for non-myeloablative allo-HCT

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SUPPLEMENTAL ITEMS

Table S1. Transplant conditioning regimen and GVHD prophylaxis protocol numbers and the corresponding ClinicalTrials.gov registry identifiers.

Table S2. Comparison of major endpoints in two most recent transplant eras.

Table S3. Comparison of incidences of organ complications and infections in two most recent transplant eras.

Table S1. Transplant conditioning regimen and GVHD prophylaxis protocol numbers and the corresponding ClinicalTrials.gov registry identifiers.

Protocol Number	ClinicalTrials.gov Identifier
1209.00	NCT00003145
1225.00	NCT00003196
1383.00	NCT00003954
1406.00	NCT00005801
1409.00	NCT00005803
1463.00	NCT00005799
1533.00	NCT00006251
1581.00	NCT00036738
1596.00	NCT00014235
1623.00	NCT00031655
1641.00	NCT00027820
1654.00	NCT00045435
1668.00	NCT00078858
1711.00	NCT00060424
1732.00	NCT00052546
1813.00	NCT00075478
1840.00	NCT00104858
1898.00	NCT00089011
1938.00	NCT00105001
1954.00	NCT00110058
2056.00	NCT00397813
2070.00	NCT00793572
2430,00	NCT01252667
2448.00	NCT01231412
2546.00	NCT01527045

Abbreviations: GVHD, graft-versus-host disease.

Table S2. Comparison of major endpoints in two most recent transplant eras.

	Adjusted[a] HR (95% CI)	*P*
Overall survival		
2004 – 2009	1.0	
2010 – 2017	0.83 (0.7 – 1.0)	.03
Progression-free survival		
2004 – 2009	1.0	
2010 – 2017	0.81 (0.7 – 0.9)	.007
Relapse/progression		
2004 – 2009	1.0	
2010 – 2017	0.76 (0.6 – 0.9)	.01
Non-relapse mortality		
2004 – 2009	1.0	
2010 – 2017	0.89 (0.7 – 1.1)	.32
Relapse-related mortality[b]		
2004 – 2009	1.0	
2010 – 2017	0.94 (0.7 – 1.2)	.61
Acute GVHD grade 2 – 4		
2004 – 2009	1.0	
2010 – 2017	0.79 (0.7 – 0.9)	.005
Acute GVHD grade 3 – 4		
2004 – 2009	1.0	
2010 – 2017	0.80 (0.5 –1.2)	.26
Chronic GVHD		
2004 – 2009	1.0	
2010 – 2017	0.97 (0.8 – 1.1)	.72

Abbreviations: HR, hazard ratio; CI, confidence interval; GVHD, graft-versus-host disease; MM, multiple myeloma; AML, acute myeloid leukemia; CMV, cytomegalovirus; R, recipient; D, donor; HCT, hematopoietic cell transplantation; HCT-CI, hematopoietic cell transplantation comorbidity index.

[a]Adjusted for transplant center (stratification); treatment type (on-protocol, off-protocol), age (≤ 49, 50 – 59, ≥ 60 years); disease risk group (low, standard, high); MM diagnosis; AML diagnosis; CMV (R– and D–, R+ or D+); donor relation (related, unrelated); sex mismatch (female to male, others); prior HCT (no, yes); allele mismatch (no, yes); HCT-CI (0, 1 – 2, 3, ≥ 4, missing).

[b]Relapse-related mortality refers to survival after relapse among patients that relapsed.

Table S3. Comparison of incidences of organ complications and infections in two most recent transplant eras.

	Adjusted[a]	
Organ Toxicity	**OR (95% CI)**	***P***
Bilirubin > 4 mg/dL		
2004 – 2009	1.0	
2010 – 2017	0.84 (0.5 – 1.2)	.34
Bilirubin > 10 mg/dL		
2004 – 2009	1.0	
2010 – 2017	1.16 (0.5 – 3.0)	.76
Creatinine > 2x baseline		
2004 – 2009	1.0	
2010 – 2017	1.13 (0.9 – 1.5)	.36
Infections	**HR (95% CI)**	***P***
Gram-negative bacteremia		
2004 – 2009	1.0	
2010 – 2017	0.83 (0.7 – 1.0)	.03
Invasive fungal infection		
2004 – 2009	1.0	
2010 – 2017	0.84 (0.7 – 1.0)	.05
CMV antigenemia[b]		
2004 – 2009	1.0	
2010 – 2017	0.75 (0.6 – 0.9)	.004
CMV disease[b]		
2004 – 2009	1.0	
2010 – 2017	0.77 (0.6 – 1.0)	.02

Abbreviations: OR, odds ratio; HR, hazard ratio; CI, confidence interval; MM, multiple myeloma; AML, acute myeloid leukemia; R, recipient; D, donor; HCT, hematopoietic cell transplantation; HCT-CI hematopoietic cell transplantation comorbidity index.

[a]Adjusted for transplantation center; treatment type (protocol, treatment plan); age (≤ 49, 50 – 59, ≥ 60 years); disease risk group (low, standard, high); MM diagnosis; AML diagnosis; CMV (R– and D–, R+ or D+); donor relation (related, unrelated); sex mismatch (female to male, others); prior HCT (no, yes); allele mismatch (no, yes); and HCT-CI (0, 1 – 2, 3, ≥ 4, missing).

[b]CMV endpoints evaluated only among seropositive recipients at HCT.