Supplementary Methods

Definition

Acute graft-versus-host disease (GVHD) was diagnosed and graded clinically according to the Glucksberg's criteria [1], and chronic GVHD according to the National Institutes of Health Consensus criteria [2]. Relapse was defined by any evidence of the disease after the hematopoietic cell transplantation (HCT), and non-relapse mortality (NRM) was defined as death from any cause except for relapse. The HCT comorbidity index (HCT-CI) was applied according to a previous study by Sorror *et al.* [3] The disease risk index (DRI) consisted of the disease and stage risk, each of which was derived from a diagnosis with the cytogenetics data and remission status at the time of the HCT, respectively, and has been shown to successfully risk stratify heterogenous allogeneic transplant recipients [4]. For the current study, the DRI was collapsed into a 2-group system of low/intermediate and high/very high risk, as proposed by the original study [4].

Statistical endpoints included GVHD-free, relapse-free survival (GRFS), disease-free survival (DFS), and overall survival (OS). GRFS is a composite endpoint encompassing ongoing morbidity from GVHD in addition to relapse and death [5, 6]. GRFS events were defined as grade III-IV acute GVHD, chronic GVHD requiring systemic immunosuppressive treatment, relapse, or death. DFS was calculated as the time from the HCT to relapse or death, and OS was defined as the time from the HCT to death.

Statistical methods

Patient and treatment characteristics were compared with Chi-square test for categorical variables and t-test for continuous variables. Survival curves were plotted using the

Supplementary Table 1. Patients and treatment characteristics.

Variables	Overall (N=130)	By ATG doses		P[a]
		6 mg/kg (N=43)	9 mg/kg (N=87)	
Patient age, median (range)	52 (16–68)	55 (18–67)	52 (16–68)	0.219
Patient sex, N (%)				0.264
Male	68 (52.3%)	19 (44.2%)	49 (56.3%)	
Female	62 (47.7%)	24 (55.8%)	38 (43.7%)	
HCT-CI total scores, median (range)	0 (0–5)	0 (0–4)	0 (0–5)	0.411
Disease, N (%)				0.073
AML	78 (60.0%)	28 (65.1%)	50 (57.5%)	
MDS	19 (14.6%)	2 (4.7%)	17 (19.5%)	
ALL	33 (25.4%)	13 (30.2%)	20 (23.0%)	
Disease risk index				1.000
Low/intermediate	99 (76.2%)	33 (76.7%)	66 (75.9%)	
High/very high	31 (23.8%)	10 (23.3%)	21 (24.1%)	
Time from diagnosis to HCT in mo, median (range)	5.92 (2.07–197.43)	5.46 (2.07–31.50)	6.07 (2.57–197.43)	0.450
Female donor-to-male patient, N (%)	21 (16.2%)	5 (11.6%)	16 (18.4%)	0.464
Donor type				0.008
HID	55 (42.3%)	25 (58.1%)	30 (34.5%)	
PUD	31 (23.8%)	4 (9.3%)	27 (31.0%)	
MUD	44 (33.8%)	14 (32.6%)	30 (34.5%)	
ABO incompatibility				0.592
Matched	48 (36.9%)	16 (37.2%)	32 (36.8%)	
Major mismatch	36 (27.7%)	9 (20.9%)	27 (31.0%)	
Minor mismatch	27 (20.8%)	10 (23.3%)	17 (19.5%)	
Bidirectional	18 (13.8%)	8 (18.6%)	10 (11.5%)	
Infused $CD34^+$ cells in $\times 10^6$/kg, median (range)	5.14 (0.97–12.68)	5.59 (1.80–12.68)	4.97 (0.97–12.09)	0.093
CNI use				<0.001
Cyclosporin A	68 (52.3%)	12 (27.9%)	56 (64.4%)	
Tacrolimus	52 (40.0%)	30 (69.8%)	22 (25.3%)	
Switch	10 (7.7%)	1 (2.3%)	9 (10.3%)	
Methotrexate use				0.005
Yes	79 (60.8%)	34 (79.1%)	45 (51.7%)	
No	51 (39.2%)	9 (20.9%)	42 (48.3%)	

[a] P-value by χ^2 test for categorical variables and t-test for continuous variables.
Abbreviations: ALL, acute lymphoblastic leukemia; AML, acute myeloid leukemia; ATG, antithymocyte globulin; CNI, calcineurin inhibitor; HCT, hematopoietic cell transplantation; HCT-CI, hematopoietic cell transplantation comorbidity index; HID, haploidentical familial donors; MDS, myelodysplastic syndrome; MUD, matched unrelated donors; PUD, partially-matched unrelated donors.