**Supplemental Table 1. Multivariate analysis (patients without CNS involvement)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **LFS****HR (95%CI)****(P-value)** | **OS****HR (95%CI)****(P-value)** | **RI****HR (95%CI)****(P-value)** | **NRM****HR (95%CI)****(P-value)** | **GRFS****HR (95%CI)****(P-value)** | **Grade 2-4 acute GVHD** **HR (95%CI)****(P-value)** | **Grade 3-4 acute GVHD** **HR (95%CI)****(P-value)** | **Chronic GVHD** **(all grades)****HR (95%CI)****(P-value)** | **Chronic GVHD** **(extensive)****HR (95%CI)****(P-value)** |
| **Age (per 10 year)** | **1.15 (1.01-1.31)****(p=0.03)** | **1.23 (1.07-1.42)****(p=0.004)** | 1.04 (0.88-1.22)(p=0.68) | **1.46 (1.17-1.82)****(p=0.0008)** | 1.11 (0.99-1.24)(p=0.07) | 0.96 (0.83-1.12)(p=0.61) | 1.06 (0.83-1.37)(p=0.64) | 1.08 (0.94-1.25)(p=0.27) | 1.21 (0.99-1.48)(p=0.058) |
| **Year of allo-HCT** **(recent vs. distant)** | **0.88 (0.82-0.95)****(p=0.0007)** | **0.89 (0.82-0.96)****(p=0.003)** | **0.89 (0.81-0.98)****(p=0.01)** | 0.89 (0.78-1.01)(p=0.08) | 0.97 (0.91-1.02)(p=0.22) | 1.00 (0.92-1.10)(p=0.93) | 0.90 (0.78-1.03)(p=0.13) | 1.01 (0.95-1.08)(p=0.71) | 1.02 (0.93-1.12)(p=0.63) |
| **Ph+ phenotype**  | 1.05 (0.78-1.42)(p=0.75) | 0.74 (0.53-1.04)(p=0.08) | 1.37 (0.93-2.03)(p=0.12) | 0.67 (0.40-1.13)(p=0.13) | 1.03 (0.79-1.34)(p=0.82) | 0.92 (0.64-1.34)(p=0.68) | 0.91 (0.50-1.67)(p=0.76) | 1.19 (0.86-1.66)(p=0.29) | 0.94 (0.59-1.50)(p=0.81) |
| **URD vs. MSD**  | 0.74 (0.53-1.02)(p=0.06) | 0.92 (0.65-1.31)(p=0.64) | **0.48 (0.31-0.72)****(p=0.0004)** | 1.55 (0.86-2.79)(p=0.14) | 0.98 (0.74-1.3)(p=0.87) | **1.78 (1.18-2.70)****(p=0.006)** | **2.23 (1.17-4.26)****(p=0.02)** | 1.05 (0.73-1.51)(p=0.78) | 1.33 (0.81-2.18)(p=0.27) |
| **PBSC vs. BM** | 1.11 (0.79-1.56)(p=0.55) | 1.29 (0.88-1.89)(p=0.19) | 0.76 (0.5-1.15)(p=0.19) | **2.44 (1.23-4.85)****(p=0.01)** | 1.61 (1.19-2.18)**(p=0.002)** | 1.30 (0.86-1.99)(p=0.22) | **2.19 (1.05-4.56)****(p=0.04)** | **2.39 (1.59-3.59)****(p<0.0001)** | **2.43 (1.35-4.38)****(p=0.003)** |
| **MAC-TBI vs. others** | 0.76 (0.54-1.07)(p=0.12) | 0.92 (0.63-1.34)(p=0.67) | **0.49 (0.32-0.74)****(p=0.0007)** | **1.94 (1.01-3.73)****(p=0.047)** | 0.97 (0.72-1.31)(p=0.83) | 1.20 (0.76-1.92)(p=0.43) | 1.68 (0.77-3.68)(p=0.19) | 1.39 (0.94-2.07)(p=0.10) | 1.63 (0.91-2.89)(p=0.10) |
| **T-cell depletion**  | **1.47 (1.05-2.05)****(p=0.02)** | 1.34 (0.93-1.92)(p=0.12) | **1.85 (1.21-2.82)****(p=.005)** | 1.01 (0.56-1.83)(p=0.96) | 0.86 (0.65-1.15)(p=0.32) | 0.69 (0.45-1.07)(p=0.10) | **0.33 (0.17-0.65)****(p=0.001)** | **0.58 (0.40-0.84)****(p=0.004)** | **0.36 (0.21-0.63)****(p=0.0003)** |
| **Female donor to male recipient (yes vs. no)** | 1.09 (0.76-1.57)(p=0.64) | 1.05 (0.70-1.57)(p=0.83) | 1.15 (0.72-1.84)(p=0.55) | 0.98 (0.53-1.81)(p=0.95) | 1.19 (0.87-1.62)(p=0.28) | 1.09 (0.70-1.69)(p=0.71) | 1.30 (0.67-2.53)(p=0.44) | 1.35 (0.92-1.96)(p=0.12) | 1.10 (0.65-1.85)(p=0.73) |
| **KPS** **(≥90 vs. <90)** | 1.09 (0.76-1.58)(p=0.63) | 0.95 (0.64-1.42)(p=0.82) | 1.16 (0.72-1.89)(p=0.54) | 1.10 (0.60-2.02)(p=0.76) | 1.26 (0.91-1.74)(p=0.16) | 1.21 (0.77-1.90)(p=0.41) | 2.23 (0.92-5.41)(p=0.08) | 1.17 (0.78-1.77)(p=0.45) | 1.31 (0.72-2.36)(p=0.37) |

**Abbreviations:** HR: hazard ratio, CI: confidence interval,LFS: leukemia-free survival, OS: overall survival, RI: cumulative incidence of relapse, NRM: cumulative incidence of non-relapse mortality, GRFS: composite end point of GVHD-free, relapse-free survival, GVHD: graft-versus-host disease; CNS: central nervous system, allo-HCT: allogeneic hematopoietic cell transplantation, Ph+: Philadelphia positive, URD: unrelated donor, MSD: matched sibling donor, KPS: Karnofsky performance score, PBSC: peripheral blood stem cells, BM: bone marrow cells, MAC: myeloablative conditioning, TBI: total body irradiation.

***Bold denotes statistical significance***