

Poster Sessions

Nonmyeloablative Stem Cell Transplantation with CD8-Depleted or Unmanipulated Peripheral Blood Stem Cells: A Prospective Randomized Trial.

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Abstract

Background: In a previous pilot study, we demonstrated that CD8-depletion of the graft apparently reduced the severity of AGvHD without impairing the GvL effect after peripheral blood stem cell (PBSC) transplantation with a nonmyeloablative conditioning (NMSCT).

Aim of the study: To evaluate the effect of CD8-depletion on graft rejection, AGvHD and CGvHD, and relapse.

Patients: 53 patients were randomised between CD8-depletion (group 1) (n=25) and no manipulation (group 2) (n=28). Two patients in the CD8 group were excluded for poor CD34+ cell count collected. Diagnoses were: AML (n=3), CML-AP (n=2), MDS (n=14), MPD (n=3), CLL (n=5), NHL (n=14), MM (n=8) and RCC (n=2). Median age was 57 (range 36–69) yrs. After conditioning with 2 Gy TBI with (n=39) or without (n=12) fludarabine, patients received PBSC from family (n=21) or unrelated (n=30) HLA-matched donors. CD8-depletion was carried out using the Eligix system and GvHD prophylaxis consisted in CyA and MMF.

Results: CD8 depletion removed 96% of CD8+ cells so that the number of CD8+ cells infused was 6.8 vs 136.8 x10⁸ cells/Kg in group 2 (p<0.0001). AGvHD of any grade was observed in 13 (56%) patients in group 1 and 17 (61%) in group 2 (NS); it was grade 3–4 in 1 (4%) and 5 (18%) patients in groups 1 and 2, respectively (NS). Limited and extensive CGvHD developed in 3 and 1 patients in group 1 and in 7 and 2 patients in group 2, respectively (NS). Nine patients in group 1 and 12 in group 2 received unmanipulated DLI for poor chimerism or disease progression. Eight (3 initial and 5 late) graft failures were observed in group 1 and one (late) in group 2. Full donor chimerism was achieved in 57% (group 1) and 50% (group 2) at day 100, and in 73% (group 1) and 59% (group 2) (NS) at 1 yr. The 2-yr OS and PFS rates are 55% and 43 % in group 1 vs 59% and 46% in group 2, respectively (NS). Four (17%) patients died of their disease in group 1 vs 3 (11%) in group 2 (NS). Two patients died of severe AGvHD in group 2 vs none in group 1.

Conclusion: In vitro CD8-depletion results in higher rates of graft failure after NMSCT. The incidence of acute and chronic GvHD is not reduced but there is a trend towards reduced severity of AGvHD. Relapse and survival rates are not changed by this strategy.