Conclusions: Both autoHCT and alloHCT are feasible and provide durable PFS and OS in this high risk cohort. Transformation to DLBCL > 1 year after dx of FL is associated with improved 1 yr PFS in both autoHCT and alloHCT groups, and superior 2 yr OS in the alloHCT group compared to those cases with transformation< 1year from dx of FL. Patients with primary induction failure also benefit from consolidation with HCT.

PEDIATRIC DISORDERS ORAL

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Treosulfan Based Conditioning Followed by Allogeneic Hematopoietic Cell Transplantation for Treatment of Patients with Non-Malignant Diseases: Preliminary Results of a Phase II Study

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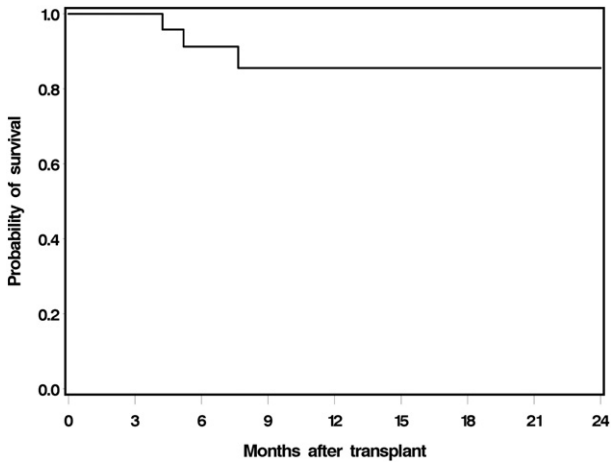
Treosulfan has several characteristics that make it appealing for use in conditioning, including bypass of hepatic enzyme activation, a highly predictable pharmacokinetic profile, and sufficient immunosuppressive activity to allow for engraftment of donor cells across histocompatibility barriers. Here we report the preliminary results of a phase II multi-center clinical trial for 25 patients with non-malignant diseases [primary immune deficiency diseases (PIDD, n=12), hemophagocytic lymphohistiocytosis (HLH; n=5), inherited bone marrow failure syndromes (n=4), and other non-malignant diseases (n=4)] who received allogeneic hematopoietic cell transplantation (HCT) from October 2009 to July 2012. Patients were given HLA-matched related (n=2) or unrelated (n=23) marrow (n=23) or G-CSF mobilized peripheral blood stem cell (n=2) grafts following conditioning with treosulfan (total dose: 42 grams/m^2), fludarabine (total dose: 150 mg/m^2), +/- thymoglobulin (rabbit ATG, n=16; total dose: 6 mg/kg). All patients received tacrolimus and methotrexate for GVHD prevention. Median age at HCT was 8.3 (range, 0.4-30.5) years. Three patients had received a previous allogeneic HCT. Median time to neutrophil engraftment was 22 days. Of the 25 evaluable patients, all had full (>95%; n=19) or mixed (50-94%, n=3; 6-49%, n=3) donor CD3+ T-cell chimerism. One patient with sickle cell disease who received a very low total nucleated cell dose required a stem cell boost due to poor graft function. With a median follow-up for survivors of 12 (range, 2-35) months, the 1-year survival was 86%. Three patients died; one died from GVHD 5 months after HCT, one died at 4 months from an unrelated surgical complication, and one died at 8 months from recurrent CNS HLH. None of the patients developed sinusoidal obstructive syndrome. One patient was intubated for airway protection in the setting of herpes stomatitis. The cumulative incidence of grades III-IV acute GVHD at 100 days and 1-year chronic GVHD were 12% and 25%, respectively. Patients who received ATG had a significantly lower incidence of grade III-IV acute GVHD (0% compared to 33%; $P = .02$). Our results to date indicate that the combination of treosulfan, fludarabine, and rabbit ATG is effective at establishing donor engraftment with a low toxicity profile. These results suggest that the reduction of regimen-related toxicities will translate into improved survival outcomes in patients with PIDD and other non-malignant diseases, and support the need for future disease-specific clinical trials.



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HLA Allele Matched Unrelated Donor Stem Cell Transplant As First Line Therapy for Children with Acquired Severe Aplastic Anemia

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From August 2000 to November 2011, 127 children under the age of 18 years with acquired severe aplastic anemia (SAA) received hematopoietic stem cell transplantation (HSCT) in one of the 10 Asia Pacific institutions of the VABMT Consortium, including 53 with matched sibling donor (MSD) and 74 with alternative donor (AD). Among these 74 AD, 22 were matched unrelated donor (MUD), 32 were mismatched unrelated donor (MMUD) and 20 were mismatched related donor (MMRD). Although the MSD group developed less grade II-IV acute GVHD compared to the AD group (14.3% vs 32.8%, $P = .029$), there was no significant difference in grade III-IV GVHD (10.2% vs 12.5%, $P = .774$) or chronic GVHD (19.6% vs 35.0%, $P = .088$). After a median follow-up of 33.5 months, the incidence of graft failure and 3-year overall survival were