PROTOCOL SYNOPSIS - BMT CTN PROTOCOL #0501

Multi-center, Open Label, Randomized Trial Comparing Single Versus Double Umbilical Cord Blood (UCB) Transplantation in Pediatric Patients with Leukemia and Myelodysplasia

Study Chairperson:	John E. Wagner, M.D.
Study Co-Chair:	Joanne Kurtzberg, M.D.
Primary Objective:	The primary objective is to determine the efficacy of using two UCB units versus one UCB unit. The primary endpoint is one-year survival.
Secondary Objectives:	Patients randomized to the two study arms will be compared for the following endpoints: disease-free survival, incidences of neutrophil and platelet engraftment, chimerism, acute graft-versus-host disease (GVHD), chronic GVHD, transplant-related mortality, infections, immune reconstitution, and relapse.
Study Design:	This study is a Phase III, randomized, open-label, multi-center, prospective study of single UCB transplantation vs. double UCB transplantation in pediatric patients with hematologic malignancies.
Accrual Objective:	The target sample size is 110 patients per study arm (total of 220 patients).
Accrual Period:	The estimated accrual period is five years to enroll the targeted sample size.
Eligibility Criteria:	Patients 1-21 years of age with a diagnosis of hematological malignancy and with two partially HLA-matched UCB units. Units must be HLA-matched at 3 of 6 HLA-A and B (intermediate resolution molecular typing) and DRB1 (high resolution molecular typing) with each other and 4 of 6 with the recipient. Two appropriately HLA-matched units must be available such that one unit delivers a pre-cryopreserved, nucleated cell dose of at least 2.5×10^7 per kilogram and the second unit at least 1.5×10^7 per kilogram. Patients will be randomized no more than 14 days prior to initiation of conditioning. UCB units will be shipped prior to initiation of conditioning.
Treatment Description:	The preparative regimen will consist of: - Fludarabine: 25 mg/m^2/day IV on Day –10, –9 and –8. - Total Body Irradiation (TBI): 165 cGy twice daily on Day –7, –6, –5 and –4. - Cyclophosphamide: 60 mg/kg/day x 2 on Day –3 and –2. - Rest on Day –1. - Day 0 will be the day of the UCB transplant.

- The GVHD prophylaxis regimen will be mycophenolate mofetil (MMF) 15 mg/kg IV TID Day –3 to Day + 45 and cyclosporine A (CSA) to maintain level 200-400 ng/mL beginning on Day –3.

Study Duration: Patients will be followed for at least 24 months post-transplant.

TREATMENT SCHEMA