been established. Additionally, the role of plerixafor in chemomobilization protocols has not been clearly described. We developed a chemomobilization algorithm using a 2-day infusion of etoposide at 300 mg/m^2 followed by GCSF. The algorithm included a predetermined decision point for the addition of plerixafor for poor mobilizers. The purpose of this study is to prospectively evaluate the safety and efficacy of this algorithm in patients undergoing chemomobilization ahead of autologous HSCT.

Methods: Patients underwent chemomobilization using etoposide at a dose of 300 mg/m^2 daily for 2 days, followed by filgrastim 10 mcg/kg starting on day 3. At day 12, patients began WBC screening, and once the WBC count rose to $>$ 2 x 10$^{9/L}$, CD34+ screening began. If the CD34+ count was $>$20/uL, patients proceeded to collection. If the CD34+ count was $<$20/uL, plerixafor was added. Patients who required plerixafor to reach a CD34+count $>$20/uL remained on plerixafor daily until their collection goal was met. The CD34+ stem cell collection goal was 4 x 10^6 cells/kg, with a minimum requirement of 2 x 10^6 cells/kg to proceed to HSCT.

Results: To date, 21 patients (14 lymphoma, 5 multiple myeloma, and 2 other) have been treated with our algorithm. Four of the five patients with multiple myeloma had received $>$ 6 cycles of lenalidomide. Of the 21 patients, 18 were successfully mobilized using etoposide plus filgrastim alone. The 3 patients who had inadequate CD34+ mobilization with etoposide plus filgrastim all responded to the addition of plerixafor. To date, 16 of the 21 patients have successfully been transplanted, with the remaining 5 expected to complete SCT within the next month. Patients collected with an average of 1.4 apheresis sessions and collected an average of 6.23 x 10^6 CD34+ cells/kg. Four patients (19%) were hospitalized due to febrile neutropenia during the course of mobilization.

Conclusion: We demonstrated a successful algorithm-based approach to chemomobilization that included a predetermined strategy to include plerixafor for poor mobilizers.

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Mycophenolate Mofetil (MMF) [900 MG/M^2 Q8H] in Combination with Tacrolimus Is Effective to Prevent Acute and Chronic Gvhd Pediatric Allogeneic Stem Cell Transplant (AlloSCT) Recipients

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Background: MMF is hepatically metabolized to mycophenolic acid (MPA) glucuronide and reconverted to an active MPA by colonic bacteria (Shaw et al, Clin Biochem 2001). MPA area under the curve and steady state concentration (Css) predict acute rejection in solid organ transplant. MMF at 900 mg/m^2 q6h results in (MPA) Css concentrations between 4.73 ($\pm$2.22) to 6.54 ($\pm$3.55) mcg/mL in pediatric recipients post-AlloSCT (Bhatia/Militano/Cairo, BBMT 2010).

Objective: To determine safety/efficacy of MMF at 900 mg/m^2/dose q8h in combination with tacrolimus in pediatric AlloSCT recipients.

Methods: GVHD prophylaxis included tacrolimus 0.03-0.04 mg/kg/day IVCI on Day -1 or 1st day of conditioning (target range 10-20 ng/mL) and MMF 900 mg/m^2 (max 1.5 g/dose) IV/PO q8h starting on Day +1. MPA trough concentrations were obtained if toxicity or acute GVHD (aGVHD) was suspected. AGVHD, chronic GVHD (cGVHD) and overall survival (OS) were determined by Kaplan-Meier method.

Results: 15 pts: mean age 9.1 yrs (range 0.8-17.2); M:F 13:2; 7 pts non-malignant & 8 with malignant disease; donor source: 4 related BM, 5 MUD, 5 UCB, 1 haploSCT; conditioning: 8 myeloablative and 7 reduced intensity. Median time to myeloid and platelet engraftment was 17 and 29 days, respectively. Probability of Grade II-IV aGVHD and limited + extensive cGVHD was 35.3% (CI$_{95}$:5.7-68.5) and 0%, respectively. Probability of 1-year OS was 78.7% (CI$_{95}$: 38.0-94.2). Four pts had MPA trough levels prior to day +30 (mean trough 1.22 mcg/mL; range $<$0.5–2). Eight pts had 15 MPA trough concentrations reported Day +30 to Day +100 (mean trough 4.2 mcg/mL; range $<$ 0.5–7.9). Four of 8 (50%) patients had MPA trough levels above the recommended maximum of 3.5 mcg/mL during Day +30 to +100 post-transplant period.

Conclusion: MMF at 900 mg/m^2 q8h in combination with tacrolimus appears effective for prevention of aGVHD and cGVHD in the pediatric AlloSCT recipients. MMF dosing and pharmacokinetics in the later post-SCT period (Day +30 to Day +100) deserve further attention due to increased potential for high MPA trough concentrations. The potential difference in MPA trough concentration between early ($<$Day +30) or late post-SCT period, could be due to improved mucosal healing following conditioning that leads to improved drug absorption and enterohepatic recirculation. Based on these results, we recommend MMF dose reduction and monitoring MPA trough concentrations in the late post-AlloSCT period to avoid potential toxicity.

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Impact of Pharmacogenetics and Therapeutic Drug Monitoring On Optimizing Voriconazole Dosing in Pediatric Patients Undergoing Hematopoietic Cell Transplantation

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Background: Invasive fungal infections are a significant cause of morbidity and mortality in recipients of hematopoietic cell transplantation (HCT), warranting antifungal prophylaxis as a standard of care. A number of options are available for prophylaxis, but none have been found to be ideal. Due to its broad spectrum of activity and multiple dosage forms, voriconazole remains one of the commonly used agents in this setting. It's well known that there is wide inter and intra-patient variability in voriconazole