noside 3g/m^2 x 6 and TBI 1200-1400 cGy. In addition, AD recipients received either ex vivo partial T-cell depletion or Campath to achieve in vivo T-cell depletion in an effort to reduce the risk of GVHD. Five AD patients died; 4 patients in chronic phase and 1 patient in accelerated phase prior to transplant. One patient died from recurrent disease and the other 4 from complications of therapy: 1 engraftment failure; 1 poor engraftment and fungal disease; 1 cryptosporidium parasitemia; and 1 pulmonary hemorrhage with viral infections. After transplantation, 30% in each group (MSD and AD) required additional Gleevec or donor leukocyte infusions for BCR/ABL positivity. The Kaplan-Meier estimate of disease-free survival at 2 years was 78% for the entire cohort: 100% for the MSD group and 56% for the AD group. Only 1 patient (AD recipient) developed grade 3-4 acute GVHD and only 1 patient (AD recipient) developed extensive, chronic GVHD. We conclude that stem cell transplantation provides effective leukemia control and potential cure even for patients with advanced disease who lack an MSD. Regimen-related mortality remains an impediment to improved outcome for pediatric CML patients receiving stem cells from unrelated or mismatched donors.

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ASSESSMENT OF ADENOVIRUS SUBGENERA PREVALENCE BY REAL-TIME PCR IN IMMUNOCOMPROMISED PATIENTS

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Background: Adenoviruses (Adv) are double-stranded DNA viruses that can be classified by serotypes (1-51), which are grouped into six subgenera (A-F). Within the different subgenera, viral characteristics vary in terms of host range, disease type, and genetic composition. Real-time PCR has proven to be a rapid, sensitive, and specific way to analyze the variable regions of the Adv genome for subgenera determination. Using this methodology, we determined the prevalence of Adv subgenera in a variety of Adv-positive clinical specimens collected from immunocompromised patients.

Methods: Initially we utilized real time PCR TaqMan® chemistry to quantify AdV DNA in clinical specimens using a single pair of primers and a minor groove-binding probe (MGB) designed to detect and quantitate all 51 Adv serotypes. From specimens that were determined to be Adv-positive with this assay, we randomly selected twenty-eight plasma, twenty-one urine, and three fecal/rectal samples for Adv subgenera classification. Each specimen was analyzed by six individual TaqMan® assays (Watzinger et al., J. Clin. Microbiol 42:5189), each designed to specifically detect all known serotypes within each of the six subgenera.

Results: Plasma specimens tested with the pan-AdV assay had viral loads ranging from $7.34 \times 10^1 - 5.73 \times 10^6$ copies/ml. Urine specimens had viral loads ranging from $1.24 \times 10^2 - 1.57 \times 10^7$ copies/ml, and fecal/rectal samples had viral loads ranging from $9.04 \times 10^3 - 1.02.\times 10^7$ 0×10^7 copies/ml. Subgenera determination for plasma demonstrated that 21% (6 samples) were Subgenus B, and 79% (22 samples) were Subgenus C. Results from urine demonstrated that 81% (17 samples) were Subgenus B, 14% (3 samples) were Subgenus C, and 5% (1 sample) was Subgenus D. Of the three fecal/rectal samples two were Subgenus D and one was Subgenus F. Using Fisher's Exact Test, the subgenera distribution among plasma and urine was determined to be significantly different (P<0.0001; odds ratio=20.78, 95% CI: 4.526 to 95.38).

Conclusion: Results of this study demonstrate that the prevalence of AdV subgenera differ significantly among specimen types collected from immunocompromised patients. The predominant subgenus identified in urine was B while the predominant subgenus identified in plasma was C. These results support previous findings for prevalence in plasma and urine. Real-time PCR technology provides an efficient means to accurately diagnose Adenovirus infections and identification of AdV subgenera.

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SUCCESSFUL HSCT AFTER MULTIVISCERAL TRANSPLANTATION

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Severe aplastic anemia following liver transplantation is a rare phenomenon. We report the case of an eight year old girl who developed SAA following multivisceral transplantation. The patient was diagnosed with intestinal pseudo obstruction and underwent modified multivisceral transplant (stomach, pancreas, spleen, small and large intestine) in December 2005. Post operative course was uncomplicated but the patient developed SAA six months later. There was no response to growth factors or increased immunosuppression. The patient was housed in the Pediatric ICU. Her brother was found to be HLA identical and the patient underwent conditioning with Fludaribine 25mg/m2×5, Cyclosphosphamide 50mg/kg x4, and ATG 30mg/kg x3. She received $1.33 \times 10e8$ mnc/kg bone marrow. The patient tolerated chemotherapy well. Post transplant course was complicated by VRE treated with parenteral antibiotics and granulocyte transfusion support. The patient engrafted on day16. FISH XY revealed 100% donor. We conclude that this reduced intensity regimen may be effective in SAA cases following solid organ transplantation.

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CORRELATION BETWEEN INFUSED MONONUCLEAR CELLS (MNC) AND TRANSPLANT OUTCOME IN PEDIATRIC CORD BLOOD TRANSPLANTATION (CBT). A STUDY OF 92 SINGLE CBT DONE AT CHILDREN'S MEMORIAL HOSPITAL, CHICAGO, IL

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Objective:

To evaluate if there is a correlation between infused MNC cell dose and transplant outcome in pediatric CBT.

Method:

Between January 1995 and February 2006, 125 CBT were carried out at Children's Memorial Hospital. 15 patients already had a previous transplant and 18 patients required a subsequent transplant after the initial CBT failed (primary or secondary graft failure or relapse). Remaining 92 patients (43 female, 49 male) who underwent a single CBT were evaluated in this study. 26 patients had non-malignant conditions (SCID 7, HPCS 5, Wiskott-Aldrich syndrome 3, 2 each of Aplastic anemia, Hurler's syndrome and Osteopetrosis, others 5) and 66 had malignancy (ALL 33, AML 21, MDS 5, 2 each of Non-Hodgkin's lymphoma and JMML, others 3). Disease status for malignancy at time of CBT was PR 7, CR1 24, CR2 28, CR 3/3+ 7. 69 patients received myeloablative conditioning regimen (fTBI, VP-Cy, or Thiotepa. 4 patients received Busulphan in place fTBI); 23 patients had reduced intensity conditioning (Busulphan, Fludarabine, ATG). The median age at transplant was 34.5 months (range 1 to 200), with median HLA match of 4:6; ratio of cord sex was 53 female to 39 male. The median MNC cell dose infused was 0.57×10^8/kg (range 0.08-2.83). See table.

Results/Outcome:

Overall, 63 (68.5%) patients showed ANC engraftment (>500 cells/μL), 58 (63.0%) showed PLT engraftment (>20,000 cells/μL) in a median of 24 (range 15- 60) and 44 (range 15- 105) days respectively. 22 patients (23.9%) died within day +100 of CBT from transplant related mortality. 13 patients (14.1%) had a relapse. Overall 57 patients (62%) are event free at the present time with an overall survival (OS) of 706 days.

Conclusions:

1. As the MNC cell dose increases, days required to achieve engraftment (both ANC and PLT) decrease, showing these outcome parameters are cell dose dependent.

2. Group 1 received the lowest cell dose (0.08- 0.29 × 10^8/kg)