x 2 and fludarabine 25 mg/m^2/d x 5 (FluCy) for NMAT. Methotrexate 5 mg/m^2 on days +1, +3 and +6, mycophenolate mofetil day -1 to +60 and tacrolimus day -1 to off by +180 was the GvHD prophylaxis regimen in 90%. Patient characteristics at NMAT included: male (n = 24), female (n = 16), median (range) age 52 (21-71) yrs, KPS 90-100 (n = 12), KPS 50-80 (n = 28), NHL (n = 12), AML (n = 10), HL (n = 8), MDS (n = 5), ALL (n = 2), MM (n = 2), PLL (n = 1), HLA-matched related donor (n = 14), 7/8 HLA-mismatched related donor (n = 1), HLA-matched unrelated donor (n = 15), HLA-mismatched unrelated donor (n = 9 at 9/10 and n = 1 at 8/10), complete remission (CR, n = 11), no prior CR (n = 12), and relapsed disease (n = 17). Prior transplants included autologous (N = 19) and allogeneic (N = 2). The TRM cumulative incidence at Day +100 and 1-yr post NMAT was 13% (CI 1-25%) and 34% (CI 17-51%) respectively. Overall, TRM deaths were due to infection (n = 8), GvHD (n = 2), regimen-related toxicity (n = 2), hemorrhage (n = 1). OS estimates at Day +100, 1-yr, and 3-yrs post NMAT were 80% (CI 68-92%), 43% (CI 27-58%), and 19% (CI 7-32%) respectively. OS was improved in patients with KPS 90-100 (1 yr OS 58% vs. 36%, p = 0.04) but worse in recipient/donor CMV +/- vs. other combinations (1 yr OS 8% vs. 59%, p = 0.001). PFS at Day +100, 1-yr, and 3-yrs was 65% (CI 50-80%), 25% (CI 12-38%), and 14% (CI 3-25%) respectively. Patients with advanced disease, defined by CIBMTR criteria http://www.cibmtr.org/ReferenceCenter/SlidesReports/SummarySlides/pages/index.aspx, had Day +100 PFS 54% (CI 24-74%) with PFS 21% (CI 6-40%) at both 1-and 2-yrs. FluCy has a low rate of TRM and is curative in about 1/5 of advanced disease patients. Identification of pre-NMAT factors, which predict for long term survival after FluCy may allow for appropriate patient selection for FluCy versus alternative NMAT regimens.

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BOOSTER INFUSION OF T-CELL DEPLETED, CD34+ ENRICHED, DONOR CELLS RESULTS IN SUSTAINED COUNT RECOVERY FOR PATIENTS WITH POOR GRAFT FUNCTION FOLLOWING ALLOGENEIC STEM CELL TRANSPLANTATION

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Poor graft function following allogeneic stem cell transplantation (ASCT) is defined by cytopenias in the presence of complete donor engraftment. Infusion of unselected donor hematopoietic stem cells (HSC) can improve cytopenias but may increase graft versus host disease (GVHD). Here we conducted a single institution prospective study to investigate the feasibility of using "booster" infusions of T-cell depleted, CD34+ enriched donor peripheral blood mononuclear cells mobilized using G-CSF +/- plerixafor to improve the blood counts and decrease transfusion requirements in patients with poor graft function following ASCT. Patients age >18 years who were at least 60 days post ASCT with persistent cytopenia (Platelets <20,000/mm^3 or ANC <500,000/mm^3, transfusion dependent or inadequate response to hematopoietic growth factors > 30 days) with no reversible etiology were included in the study. Only patients with donor chimerism of ≥90% were included in the study. To date we have enrolled a total of 6 patients (1 unrelated, 5 related), Age range 25-68 (mean 56.5), Male: Female ratio 1:1. One related donor withdrew consent after enrolling. All 5 patients had platelet counts below 20,000 /mm^3 and were platelet transfusion dependent with 1 patient also requiring RBC transfusions. Unrelated donor stem cell were mobilized using standard NMDP guidelines and related using GCSF+Plerixafor (GCSF 10 mcg/Kg SC x 5 days followed by plerixafor 320 mcg/Kg IV four hour prior to mobilization). CD34+ cells were selected from the leukapharesis product using CliniMACS (Miltenyi) and infused to the recipient without conditioning. All products contained >99% CD34+ cells with <0.01% T-cells. A median of 12.5x10^6 (range 3.1x10^6 - 23.9x10^6) CD34+ cells per patient were obtained. No donor or recipient toxicity related to the procedure or worsening of GVHD was observed. 4 patients achieved transfusion independence with sustained response in 3 (follow up 7-365 days). Median time to platelet recovery was 26 days (range 14-62). 2 patients died (1 disease relapse, 1 unexplained cause). This study shows the feasibility of administering 'booster' CD34+ selected cells from donor for poor graft function following ASCT, with minimal toxicity and durable response. A larger study to evaluate efficacy is warranted.

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ALLOGENEIC TRANSPLANTATION IN ADULT ALL: CLINICAL EQUIPOISE IN CANADA

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Introduction: Adults with acute lymphoblastic leukemia (ALL) in first complete remission (CR1) may be treated with chemotherapy or allogeneic hematopoietic stem cell transplantation (alloHCT). The MRC/ECOG trial1 demonstrated a survival benefit to standard risk patients with a matched sibling donor (MSD). However, pediatric inspired chemotherapy, reduced intensity conditioning (RIC), and alternative stem cell sources have renewed controversy about the role of alloHCT in CR1. We hypothesized that Canadian physicians who treat adult ALL would demonstrate wide practice variation.

Methods: Physician members of the Canadian Blood and Marrow Transplant Group (CBMTG) and hematologists at all university-based medical centres in Canada were contacted via email with a validated electronic survey in May 2011.

Results: 69 of 173 physicians surveyed responded(40%). The majority of respondents worked at centres that saw fewer than 20 adult ALL patients annually. While there was high agreement with alloBMT in CR1 high risk cytogenetics or induction failure after a single chemotherapy course (91.7% and 87.5%, respectively), only 45.9% and 19.3% felt that age >35 and T cell immunophenotype would be indications for alloHCT in CR1. High WBC (>30 for B-Cell, >100 for T-Cell) was felt to be an indication for alloHCT by 81.2% of respondents. Respondents felt that the presence of minimal residual disease (MRD) was a strong indication for alloHCT (63.8% agree), although most (66.7% agree) did not have access to MRD testing. Most (96%) felt that a well matched unrelated donor was an acceptable alternative to a MSD. There was uncertainty about the role of cord blood as an appropriate cell source (53.2% agree) and the utility of reduced intensity alloHCT (RIC alloHCT) (41% agree). The strongest agreement was on the role of AlloHCT in Philadelphia positive ALL (98% agree).

Conclusions: In Canada, there is substantial disagreement about indications for alloHCT in adult ALL in CR1. Respondents felt that alloHCT was particularly helpful in high-risk patients, contradicting the results of the MRC/ECOG study. The t(9;22) was felt to be a strong indication for transplant. Consensus was lacking on the use of cord blood or RIC alloHCT. Although MRD testing was thought to be a useful guide to planning therapy, it was not widely available. Equipoise exists on the role of alloHCT in CR1 in ALL, suggesting further trials in this area are needed.

1 – Goldstone et al, Blood, 2008.

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SELF COLLECTION OF NASAL SWABS FOR DIAGNOSIS OF RESPIRATORY VIRUSES IN IMMUNOCOMPETENT VOLUNTEERS AND HEMATOPOIETIC STEM CELL TRANSPLANT (HCT) RECIPIENTS

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Background: We previously developed a method for self collection of nasal swab samples and demonstrated that self-collected swabs were sensitive (sensitivity 96%) compared with staff-collected nasal washes (sensitivity 88%) for detection of respiratory viruses (RVs) by PCR in 152 collections from immunocompetent volunteers with new upper respiratory infections (URIs). Our self-collection method employed saline spray delivered by a metered spray bottle and a polyurethane foam swab, but many current protocols advocate use of dry respiratory swabs. In the present study, we compare collection of swabs with and without use of saline spray in both immunocompetent volunteers and HCT recipients.

Methods: Immunocompetent volunteers with new URI completed a symptom survey and performed self collection in one naris using saline spray and a polyurethane foam swab ("wet"), and in the opposite naris using a swab alone ("dry"). HCT recipients with a documented virologically-positive URI completed a symptom survey and collection procedure within 1 week of initial diagnosis; these subjects were followed weekly as feasible until negative. Swabs