and a Patient Generated Subjective Global Assessment (PG-SGA) is used to assess overall nutritional risk. The RD assesses the macro- and micronutrient adequacy and tolerance of each patient's diet. Nutrition standards of care include counseling by the RD on individual calorie, protein, and vitamin/mineral requirements and how best to achieve these goals. At our institution three RD's provide care in the GVHD clinic. In order to standardize care across the RD's and to facilitate communication with the interdisciplinary team, nutrition algorithms were developed. The RD's reviewed each of the most common types of GVHD with nutritional implications. They were divided into five main focuses: 1) Upper GI (oral/esophageal) GVHD; 2) Lower GI and Liver GVHD (large volume diarrhea); 3) Anorexia/Failure to Thrive; 4) Skin GVHD; 5) High Dose Steroid Use. The algorithms are a series of interventions organized based on such factors as patient's ability to eat, adequacy of diet, weight loss, and GI symptoms. Initial interventions include diet education along with nutritional and vitamin/mineral supplementation. If these are unsuccessful, pharmacological interventions and nutrition support via either an enteral or parenteral route are instituted. Current plans include a research protocol to evaluate preservation of lean body mass and improvement in quality of life when nutrition algorithms are followed in chronic GVHD patients.

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A MULTI-INSTITUTIONAL STUDY OF EXTRACORPOREAL PHOTOPHORESIS (ECP) WITH UVADEX® FOR THE PREVENTION OF ACUTE GRAFT VS. HOST DISEASE (AGVHD) IN PATIENTS (PTS) UNDERGOING ALLOGENEIC HEMATOPOIETIC PROGENITOR CELL TRANSPLANTS (ALLO-HPCT) WITH MYELOABLATIVE CONDITIONING

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GvHD remains a major cause of morbidity and mortality after an allo-HPCT, and ECP has been shown in numerous studies to be effective in its treatment. ECP has also been used in the prevention of GvHD in a novel non-myeloablative preparative regimen for allo-HPCT (Foss, BBMT 9:96, 2003). The incidence of aGvHD was substantially reduced in this study, possibly due to the effect of ECP on host dendritic cells, causing alteration in allo-antigen presentation and reduced donor T-cell activation. We report here the preliminary results of a multi-institutional phase II study utilizing ECP with Uvadex® in a myeloablative regimen of allo-HPCT. Treatment with ECP was given on any two days from Day –10 to –6, followed by cyclophosphamide 60mg/kg for 2 days and TBI 1200 cGy over three days. Pts. received cyclosporine (CSA) 3-5mg/kg iv from Day –1 (and switched later to PO), to keep levels between 200-600 ng/ml, and methotrexate 10mg/m2 on Days 1,3,6 and 11 for matched unrelated donors (MUD) and one antigen mismatched related donors, and 10mg/m2 on Day 1 and 5mg/m2 on Days 3,6 and 11 in matched related donors (MRD), as GvHD prophylaxis. CSA was continued until Day 100 and then tapered. Data is available on 34 of 50 enrolled pts. Nineteen pts. are male and the median age is 37 (range 20 –58). Diagnosis leading to HPCT includes acute leukemia and myelodysplasia (n = 21), chronic leukemia (n = 9), lymphoma (n = 3) and other (n = 1). Eighteen pts. received bone marrow (BM) and 16 peripheral blood (PB) HSCT. Nineteen pts. received matched unrelated or mismatched related grafts and 15 matched related. Median time to engraftment was 20 days for BM and 15 days for PB. ECP was well tolerated in 33 pts. with one pt. having mild reversible hypotension. ECP was not discontinued on any pt. At a median follow up of 85 days (range 5 to 295), acute GvHD Grade II–IV developed in 11 (35.5%) pts. (6 with BM and 5 with PB; 4 with MRD HPCT and 7 with MUD HPCT). Three pts.died (all MUD HPCT) at a median of 47 days from HPCT, two from aGvHD (Grades III and IV), and one from multi-organ failure. 31 pts. are alive while 3 have relapsed (2 with ALL and 1 NHL). This preliminary analysis shows that ECP can safely be administered to pts. undergoing myeloablative allo-HPCT. Further follow up is ongoing to assess acute and chronic GvHD rates, relapse and transplant related mortality. Pre and post–ECP lab data on T cell subsets, dendritic cells and NK cells will also be evaluated.

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RISK FACTORS FOR SYNGENEIC GRAFT-VERSUS-HOST DISEASE IN ADULT HEMATOPOIETIC STEM CELL TRANSPLANTS

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Cutaneous, hepatic and gastrointestinal graft-versus-host disease (GVHD) has been described after both syngeneic and autologous stem cell transplants. The recent finding of male DNA in female donor apheresis products and associations between parous donors and allogeneic GVHD raise the question of whether persistent pregnancy-derived fetal microchimerism in donors or recipients could contribute to the development of sGVHD. Our objective was to identify the incidence, morbidity, and risk factors for syngeneic GVHD (sGVHD) following hematopoietic stem cell transplantation (HSCT) with analysis focused on pregnancy history of the donor/recipient as potential risk factors. We retrospectively reviewed the transplant outcomes of 119 adults undergoing syngeneic HSCT at our center between 1980 and 2002. We required diagnostic histological findings on a biopsy of the skin, intestinal tract, or liver for the diagnosis of sGVHD. Among 119 syngeneic transplants, 21 patients had biopsy-proven sGVHD for a prevalence of 18%. The median time to developing sGVHD was 39 days (range 20-79). In 6 cases, biopsies confirmed multi-organ involvement; sGVHD was the official cause of death in one case. sGVHD developed in 24% of the women and 13% of the men. A significantly higher frequency of sGVHD occurred in the context of a parous donor ($p = 0.03$, parous donor 11/34, 32%; nulliparous donor 1/11, 9%; male donor 9/70, 13%) or parous recipient ($p = 0.02$, parous recipient 11/35, 31%; nulliparous recipient 1/14, 7%; male recipient 9/70, 13%). Of 26 twin pairs with a parous donor and parous recipient, 10 (38%) women developed sGVHD versus no cases in 5 women with a nulliparous donor and recipient ($p = 0.10$). Other factors significantly associated with sGVHD on univariable analysis include older age ($p = 0.004$), Busulfan/Melphalan/Thiotepa conditioning ($p = 0.002$), interleukin-2 therapy ($p = 0.017$), HLA-A26 type ($p = 0.02$), and more recent transplant year ($p = 0.004$). In a Cox regression model based on suggestive univariable predictors, only recipient parity and more recent transplant year remained significantly associated with sGVHD. The finding of recipient parity as a risk factor for sGVHD may support a role for fetal microchimerism in sGVHD.

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IMMUNOLOGICAL EFFECTS OF DONOR LYMPHOCYTE INFUSION IN PATIENTS WITH CHRONIC MYELOGENOUS LEUKEMIA RELAPSING AFTER ALLOGENEIC BONE MARROW TRANSPLANTATION

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Donor lymphocyte infusion (DLI) is a very efficient therapy for relapse of chronic myelogenous leukemia in chronic phase (CP-CML) after allogeneic bone marrow transplantation (BMT). Infusion of allogeneic lymphocytes induces a graft-versus-leukemia (GVL) effect which produces long term remission in most patients. However, immunological mechanisms involved in this reaction are poorly understood. We studied several immunological markers and