in 2000 and later, 6 used reduced intensity conditioning. Two patients had persistent disease, four died prior to 30 days post transplant and it was assumed that all others achieved remission. Four allogeneic and one autologous recipient relapsed, all within 3 years post transplant. For allogeneic transplants, the 5-year overall survival probability was 48% with lower and upper bounds of 31% and 65%, which is comparable to the finding of 47% in a recent EBMT study [1]. Transplant related mortality at 100 days was 19.6%. There were 16 deaths in the first year post transplant among allogeneic and syngeneic recipients, from infection (7), GVHD (4), organ failure (3) and persistent disease (2). Both autologous recipients died, from septicaemia at 6 months and relapse at 2.3 years post transplant. The ABMTRR is an important national data resource which enables accurate and timely analysis of transplant activity and outcome, particularly for rare indications that have relatively small numbers.

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LOW INCIDENCE OF ACUTE GRAFT VERSUS HOST DISEASE AND REDUCED EARLY MORTALITY IN CP-CML PATIENTS TRANSPLANTED USING CSA, MTX AND MP AS IMMUNOPROPHYLAXIS

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Significant early transplant related mortality is one of the factors that have impacted the reduction of transplants for CML, especially in the imatinib era. However, curative potential of bone marrow transplantation has to be taken into consideration, especially for young high risk patients. **Patients and Methods:** We report here long-term results from a single center experience of 166 patients submitted to bone marrow transplantation for chronic phase CML from 1990 to 2004. All patients received marrow from sibling HLA identical donors, and used BU + CY as the conditioning regimen and cyclosporine, methotrexate and a short course of MP (1 mg/kg/day from day +14 to day +28, then tapered 20% per week) as immunoprophylaxis. Male: 92; female 74. Median age was 33 years (range 6-51). Median duration of disease was 20 months (4-87). Univariate and multivariate analysis of risk factors for survival were performed. Age, disease duration before transplant, female donor × male patient, time of engraftment, acute GVHD and chronic GVHD were analyzed risk factors. **Results:** Mortality before day +100 was 8%. Grade III-IV acute GVHD occurred in only 7% of the patients. From 153 patients who survived more than 100 days, 63 (38%) developed extensive chronic graft-versus-host disease. Median survival was 2498 days (58-5391). Overall survival and estimated disease free survival in 14 years was 71%. Only the presence of grade III-IV of acute and extensive chronic graft-versus-host disease were identified as independent risk factors for survival. Causes of death included: c-GVHD (13%), infections (9%) and progressive disease (7%). **Conclusions:** The addition of MP to the immunoprophylaxis regimen has effectively reduced the incidence of grade III-IV acute GVHD and early transplant related mortality. No influence was seen on chronic GVHD incidence, overall survival or disease free survival.

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PREDICTIVE FACTORS AND IMPACT OF FULL DONOR T-CELL CHIMERISM AFTER REDUCED INTENSITY CONDITIONING (RIC) ALLOGENEIC STEM CELL TRANSPLANTATION (ALLO-SCT)

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The kinetics of lineage-specific chimerism proved to be an important issue after RIC allo-SCT. Here, we investigated the impact of different factors on the establishment of full donor CD3+ T cell chimerism (TCC) in a series of 102 patients receiving RIC allo-SCT from an HLA-identical sibling. 65 patients received an ATG-based RIC regimen (fludarabine, busulfan and ATG), 14 patients received a low dose TBI-based RIC (2 Gy), while the remaining 23 patients received an association of fludarabine, busulfan and total lymphoid irradiation (TLI; 1.7 Gy). At day 30, 30% (95% CI, 21-39%) of patients achieved a full TCC in the peripheral blood. At day 90, 77% (95% CI, 69-85%) had a full donor TCC. In univariate analysis, none of the patient, graft, RIC type, or disease characteristics could be predictive of establishment of an early full donor TCC at day 30. However, the group of 31 patients who achieved a full donor TCC by day 30, experienced a significantly higher incidence of grade 2-4 acute GVHD, in comparison to the group of 71 patients who were still in mixed TCC at day 30 (cumulative incidence, 61% vs. 35%; $P = .01$). When looking for predictive factors for full donor TCC at day 90, univariate analysis showed that diagnosis category, the RIC type (ATG, TBI or TLI-based RIC), a female donor, CD34+ cell dose, and CD4+ T cell dose, were significant or had a trend towards significant association with establishment of full donor TCC by day 90. In multivariate analysis, a diagnosis other than a myeloid malignancy, was the strongest parameter significantly predictive of establishment of full TCC at day 90 ($P = .007$; OR = 3.82; 95% CI, 1.4-10.1). Most importantly, the delayed establishment of full donor TCC in patients with myeloid malignancies translated towards a worsened PFS ($P = .06$) in the group of 15 patients who did not achieve full donor TCC at day 90 as compared to the group of 26 patients who achieved a full donor TCC. This worsened PFS was due to a significantly higher incidence of leukemia relapse among these 15 patients (6 relapses; 40%) as compared to none in the other group of 26 patients ($P = .002$). Overall, we conclude that cautious monitoring of the levels of donor TCC is mandatory after RIC allo-SCT, because this can improve patient outcomes through identification of patients at risk for acute GVHD, and disease progression, and guidance of early interventions with immunosuppressive drugs or DLI aimed at obviating these complications.

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PENTOSTATIN, TBI AND EXTRACORPOREAL PHOTOPHERESIS FOR REDUCED-INTENSITY PREPARATION: SINGLE CENTER ADAPTATION OF THE TUFTS EXPERIENCE

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Conditioning regimens used in reduced intensity transplants are designed to optimize immune suppression to allowing for prompt engraftment and robust graft versus tumor effect. The Tufts regimen (Miller KB, et al. *Bone Marrow Transplant* 2004;34:881) has a reduced incidence of GVHD while demonstrating disease response using extracorporeal photopheresis (ECP), pentostatin 4 mg/m^2/day × 2 and a reduced dose of total body irradiation (TBI: 600 cGy given in 3 fractions). We treated 45 patients with a minimum of 6 months follow up, median age of 55 years (27-67); 33 patients were 50 years or older; 25 received sibling and 20 an unrelated donor (UD) transplant. All but one sibling transplant was a 6/6 match, whereas 8/20 UD transplants involved mismatched loci. GVHD prophylaxis consisted of tacrolimus and short course methotrexate in 43, tacrolimus/MMF in 1 and tacrolimus/sirolimus in 1. Seventeen patients had AML, 3 MDS, 2 ALL, 2 CML, 11 CLL, 8 NHL, 1 HD and 1 lymphoplasmacytic lymphoma. Eight of the 45 had prior stem cell transplantation. The median number of CD34+ cells infused was 4.54 million/kg. Nine patients were transplanted in CR or early disease phase. Five patients died before anticipated neutrophil recovery, 2 had no neutrophil nadir and median time to neutrophil engraftment was 14.5 days, and platelets recovered in 18.7 days. Donor chimerism at 30 days by VNTRs was 94% (range 34%-100%). The overall day 100 survival was 69% (31/45), with 80% (20/25) of sibling graft recipients alive and 55% (11/20) of UD recipients still living. Twelve patients developed regimen related toxicity. In five this manifested as ARDS or multiorgan