median follow up of 18 (6-54) months. Eighteen pts have died; 9 from non-relapse causes (8/9 died of infections ± GVHD) and 9 from relapse/PD a median of 7 (range 1-38) months post transplant. Day 100 and 1 year NRM was 7% and 35% respectively. One year overall survival, progression free survival and relapse/PD incidence were 51%, 18% and 47% respectively. A detailed description of the MRD and URD pts is shown in Table 1. In summary, salvage nonmyeloablative conditioning and allogeneic HCT provides anti-tumor activity in pts with relapsed or refractory HD who are ineligible for conventional allogeneic transplant. Future efforts incorporating tumor-specific antibody therapy after nonmyeloablative conditioning HCT are being developed in an effort to improve disease free survival, anti-tumor activity and overall survival in pts with relapsed or refractory HD.

Table. *Results of Nonmyeloablative Conditioning Followed by Allogeneic HCT for HD Using MRD or URD*

	MRD (n = 18)	URD (n = 9)
Median follow up of living patients (range)	36 (12-54) months	11 (6-24) months
Disease status at HCT	4 CR, 7 PR, 4 Rel, 3 Ref	1 CR, 4 PR, 4 Ref
Overall response rate	57% (7 CR, 1 PR)	50% (3 CR, 1 PR)
Living patients/status	3 CR, 2 PD	3 CR, 1 Rel
Acute GVHD grade II, III, IV	33%, 11%, 6%	33%, 22%, 0%
1 year chronic extensive GVHD	50%	60%
Day 100 NRM	11%	0%
One year NRM	39%	26%
One year overall survival	39%	75%
One year progression free survival	11%	35%
One year Rel/PD incidence	50%	40%

Rel, relapse; Ref, refractory.

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RISK-FACTORS OF MELPHALAN/FLUDARABINE DOSE-REDUCED ALLOGENEIC STEM CELL TRANSPLANTATION IN PATIENTS WITH MULTIPLE MYELOMA

Kroger, N.[1], Perez-Simon, J.A.[2], Myint, H.[3], Klingemann, H.[3], Shimoni, A.[4], Nagler, A.[4], Martino, R.[5], Allegre, A.[6], Tomas, J.[7], Schwerdtfeger, R.[8], Kiehl, M.[9], Fauser, A.[9], Sayer, H.G.[10], Leon, A.[11], Beyer, J.[12], Zabelina, T.[1], Ayuk, F.[1], San Miguel, J.[2], Brand, R.[13], Zander, A.[1] 1. Bone Marrow Transplantation-University Hamburg, Hamburg, Germany; 2. Hospital Clinico Universitario, Salamanca, Spain; 3. Dept of BMT, Rush-University Medical Center, Chicago, IL; 4. Bone Marrow Transplantation, Tel Hasbomer, Israel; 5. Hosital de la Santa Creu I Sant Pau, Barcelona, Spain; 6. Hospital de la Princesa, Madrid, Spain; 7. Fundacion Jimenez Diaz, Madrid, Spain; 8. Bone Marrow Transplantation, Wiesbaden, Germany; 9. Bone Marrow Transplantation, Idar-Oberstein, Germany; 10. Dept of Oncology and Hematology, Jena, Germany; 11. Hospital de la Seguridad Social, Jerez, Spain; 12. Dept of Hematology and Oncology, Marburg, Germany; 13. Dept of Medical Statistics, Leiden, Netherlands

To evaluate the impact of timing of dose-reduced allograft in patients with multiple myeloma, we analyzed 120 patients in a retrospective study, who were treated with melphalan/fludarabine as conditioning regimen. The cumulative risk at one year for treatment-related mortality (TRM) was 18% (95% CI: 12-28%). In a multivariate analysis, relapse after prior high-dose chemotherapy was the most significant factor for TRM (HR 2.80; 95% CI: 1.16-6.74; p = 0.02), relapse (HR 4.14; 95% CI: 2.04-8.38, p < 0.001), event-free (HR 3.11; 95% CI: 1.77-5.46; p < 0.001), and overall survival (HR 2.69; 95% CI: 1.35-5.35; p = 0.005). In addition, relapse was also significantly diminished by chronic GvHD in a time-dependent Cox model (HR 0.37; 95% CI: 0.16-0.87; p = 0.02), while trans-plantation with peripheral blood stem cells (PBSC) resulted in better overall survival (HR 0.35; 95% CI: 0.14-0.88; p = 0.002). In a subgroup of patients with chemosensitivity at time of transplantation and no relapse after a prior high-dose chemotherapy who were transplanted with PBSC (n = 46), the cumulative risk of TRM at one year was only 8% (95% CI: 1-54%), and the two-year estimated event-free and overall survival was 60% (95% CI: 42-78%) and 75% (95% CI: 59-91%) for related (n = 34), and 81% (95% CI: 59-100%) and 92% (95% CI: 76-100%) for unrelated donors (n = 12). We conclude that dose-reduced allograft with related and unrelated donors should be performed at an earlier stage of the disease in patients who are chemosensitive and without relapse after a prior autograft, resulting in a lower TRM and better event-free and overall survival.

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TRANSPLANTATION OF BOYS WITH X-LINKED ADRENOLEUKODYSTROPHY WITH UNRELATED-DONOR, PARTIALLY HLA-MISMATCHED BANKED UMBILICAL CORD BLOOD

Allison, J., Martin, P.L., Szabolcs, P., Driscoll, T., Parikh, S., Wood, S., Kurtzberg, J. Duke University Medical Center, Durham, NC

Introduction: X-linked adrenoleukodystrophy causes dysmyelination and fatal neurodegenerative disease in 30%-50% of affected patients. Bone marrow transplantation has been shown to prevent progression of neurologic disease if performed early in the course of the disease. As some children lack suitably matched bone marrow donors, we explored the efficacy of using partially mismatched unrelated donor umbilical cord blood transplantation to treat this disease. **Methods:** Between 11/1996 and 7/03, 10 boys with a median age of 7 years (range 2-26 years) were prepared for transplantation with busulfan, cyclophosphamide, and ATG and transplanted with 4/6 HLA-matched (n = 6) or 5/6 (n = 4) unrelated umbilical cord blood. The median cell dose administered by the graft was 6.84 × 10e7cells/kg (range 2.83-14.19) and median CD34 dose was 2.42 × 10e5/kg (range 0.48-5.46). GvHD prophylaxis was given with cyclosporine and steroids. All boys received stress dose steroids as coverage for adrenal insufficiency. Supportive care consisted of IVIG, empiric antifungals and antivirals, TPN without intralipids, and G-CSF. **Results:** All boys engrafted with donor neutrophils in a median of 22 days (range 13-48) days. Platelets reached 50K/uL without transfusion support in a median of 75 days (range 25-227 days). Two patients (20%) had grade II-IV acute GvHD (both grade IV) and recovered. All patients are surviving with durable grafts with median EFS of 330 days (range 94-2523 days). All patients had progressive changes on MRI at the time of transplant. Those transplanted before the onset of significant clinical symptoms have all done well (n = 6) and have not experienced progression of neurologic disease. These patients have also demonstrated normalization of nerve conduction studies post transplant. Four patient had progressive clinical symptoms in the 2 months before transplant. Three of the four progressed post transplant before stabilizing at a lower level of functioning. One patient, the oldest at transplant, had progressive visual losses but improvement in neuromotor function and peripheral neuropathy. **Conclusions:** We conclude that unrelated donor, partially mismatched cord blood is a viable and readily available alternative donor for patients with X-linked ALD requiring transplantation therapy.

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DIMINISHED SICKLE CELL ADHESION MOLECULES FOLLOWING BONE MARROW TRANSPLANTATION (BMT)

Baothman, A.A.[1], Kuvibidila, S.R.[2], Yu, L.C.[2] 1. King Faisal Specialist Hospital & RC, Riyadh, Centeral Province, Saudi Arabia; 2. Louisiana State University, NewOrleans, LA

To determine whether stem cell allograft affects the expression and interaction of adhesion molecules on both sickle red cell and endothelial cells, we examined baseline and follow-up of vascular