from 2000-2011. Patients included in the analysis all achieved CR1 or PR1 by CIBMTR definition prior to transplant. Patients who received tandem transplants, allogeneic transplants, or who were transplanted on clinical protocol were excluded. Disease status prior to transplant and disease status 100 days after transplant was recorded for both patients younger than 65 and 65 years of age and older.

Data from transplants of 117 patients were analyzed. 32 patients (27%) were age 65 and older, and 85 patients (73%) were younger than age 65. Prior to transplant, 20/32 patients (63%) age 65 and above were in CR or VGPR compared to 23/85 (27%) of patients younger than age 65. At 100-day restaging after transplant, 25/32 patients (78%) age 65 and above achieved a CR or VGPR compared to 44/85 patients (52%) younger than 65. There was one transplant-related death in each age group corresponding to a transplant-related mortality of 3% and 1% in the older and younger age groups, respectively. Two patients who were both younger than age 65 had evidence of progressive disease at 100-day restaging.

Based on our single-institution analysis, multiple myeloma patients age 65 and above have experienced similar outcomes compared to younger patients with respect to transplant-related mortality and disease status 100-days after transplant. Specifically both age groups experienced a consolidative benefit to high-dose therapy followed by autologous SCT. Prospective studies evaluating the impact of age on transplant outcome should be performed for further investigation.

Table 1. Characteristics of Myeloma Patients Transplanted at Temple from 2000-2011

Number of Patients	117
Median Age	58
Range of Ages	40-77
Age 65 and greater	32
Younger than Age 65	85
Number of Males	70
Number of Females	47
IgG Subtype	62
IgA Subtype	24
Free Kappa Light Chain	16
Free Lambda Light Chain	11
Other (IgD, Oligoclonal, Non-secretory)	4
Median Time from diagnosis to BMT	11.5 months
Median CD34 dose	5.56E + 06 cell dose/kg

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SUCCESSFUL STEM CELL MOBILIZATION AND ENGRAFTMENT IN HEAVILY PRETREATED MULTIPLE MYELOMA PATIENTS WITH PRIOR HIGH DOSE MELPHALAN AND AUTOLOGOUS STEM CELL TRANSPLANTATION

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Salvage second autologous transplantation for patients with relapsed multiple myeloma (MM) after prior autologous transplantation has shown to be beneficial in particular if the first remission is longer than 12-18 months. In addition second salvage autologous transplant may be used in the contest of progressive refractory myeloma for temporarily disease control or for hematopoietic reconstitution after prior extensive therapy. Customarily, patients with multiple myeloma who received prior alkylating agents or autologous transplantation with high dose Melphalan are considered non transplant candidate because of the deleterious effects on stem cell collection. Plerixafor is a chemokine receptor -4- antagonist which is approved by FDA for use in combination with G-CSF for mobilization of CD34+ stem cells in patients with NHL and multiple myeloma. We have explored the feasibility of Plerixafor and G-CSF in stem cell collection for second salvage autologous transplantation in 4 consecutive patients with multiple myeloma who underwent prior extensive therapy including prior autologous transplantation with Melphalan-200. Patient characteristics, chemotherapy used and interval between first and second salvage transplant are shown in Table 1. All Patients received GCSF at dose of 10 mcg/KG for 4 days in AM, Plerixafor on the evening of the 4th night and subsequent nights prior to apheresis at a dose of 0.24 mg/kg. The number of apheresis procedures were 2 in two patients and 3 in two patients. The number of CD34 + cells collected were 4.25, 3.06, 3.63, 3.78 million cells/Kg. All the patients engrafted successfully after the second transplant. Neutrophils engraftement were at day 10, 12, 12 and 11 while platelet engraftment were at day 10, 15, 32 and 19 respectivlely for the four patients.

Our Data shows the feasibility of stem cell collection in heavily pretreated MM patients including high dose Melphalan and autologous stem cell transplantation. Prospective studies are needed to confirm such feasibility. Such approach may have future clinical application in eliminating minimal residual disease after the first autologous transplant when used in MM patients with planned upfront tandem autologous transplant.

PEDIATRIC DISORDERS

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A TREOSULPHAN BASED REDUCED TOXICITY CONDITIONING PROTOCOL FOR THALASSAEMIA MAJOR

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We present data comparing two conditioning protocols for beta thalassaemia major in patients treated in our unit from 2005 to 2011. Twenty children aged between 2 and 9 years were treated using oral busulphan 16 mg/kg/day with cyclophosphamide 200 mg/kg/day were assigned to group one. Twenty children aged between 1 and 14 years were treated using thiotepa 8 mg/kg, treosulphan 42 gm/m2 and fludarabine 160 mg/m2 were assigned to group two. Data was analysed retrospectively for Lucarelli class, mucositis, blood product requirement, need for parenteral nutrition, engraftment and transplant related mortality. Group one had 4 class I, 10 class II and 6 class III patients between age groups 1 to 14 years. Mucositis was grade two and above in 11 children and they needed partial parenteral

Table 1.

Patient #	AGE	Induction pre 1st Transplant	Mobilization Regimen	First Transplant Type	Maintenance/Relapse treatment	Re-Induction	Interval between transplants (Years)
1	46	VAD X4 then Thalidomide for 1 year	Cytoxan/G-CSF	Single	Thalidomid then Lenalidomide maintenance	RVD × 3	8.57
2	66	VAD X4	Cytoxan/G-CSF	Planned Tandem	Dex/Thal followed by Bro/Doxil	MPV-Rituximab	4.77
3	56	Thal/Dex then Bro/Dex then MP	Cytoxan/G-CSF	Single	Dex/Thal then RVD×3 then VD-PACE	MPV-Rituximab ×2	4.43
4	67	Lenalidomide/Dex × 4	G-CSF	Single	Lenalidomide maintennace for 15 months	RVD × 4, VD-PACE ×2	1.75

X indicates number of cycles; RVD, lenalidomide, Bortezomib, Dex.; Thal, Thalidomide; MPV, Melphalan, Prednisone , Bortezomib; PACE, Cisplatin, Doxorubicin, Cytoxan, Etoposide; Bro, Brotezomib.