Post-Transplant Cyclophosphamide (PTCy) Based Graft Versus Host Disease (GVHD) Prophylaxis is Safe and Effective in Elderly Patients over Age 70 Years Undergoing Allogeneic (Allo) Stem Cell Transplantation (SCT)

CT -637

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BACKGROUND

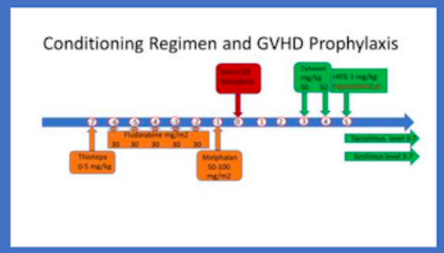
Allo-HSCT is a curative treatment modality for patients with hematological malignancies. There are several reports of Allo-HSCT in patients older than age 70 years using conventional calcineurin inhibitor based GVHD prophylaxis. PTCy initially developed for GVHD prophylaxis in haploidentical HSCT is being increasingly used for matched Allo-HSCT. The single report of PTCy GVHD prophylaxis in the over 70 age group is in the setting of haploidentical HSCT with non-myeloablative conditioning (Imus, Blood advances, 3 no.17 2608-16). CTN 1703 showed the superiority of PTCy based GVHD prophylaxis over Tac/Mtx in reduced intensity matched allo-HSCT. It is unclear if the results are also applicable to elderly patients over age 70 years.

METHODS

Outcomes were analyzed of patients over the age of 70 years who underwent Allo-SCT using PTCy based GVHD prophylaxis from HLA matched or haploidentical donor at Banner MD Anderson Cancer Center

Patient /Disease and Transplant Characteristics

Number of Patients	46
Age Median (years , range)	72(70-87)
Gender (%)	
Male	33(72)
Female	13(28)
HCT-CI (%)	
1-3	25(54)
> 3	21(46)
Diagnosis (%)	
AML	16 (35)
MDS/MPD/MF	24 (52)
Other (ALL; AA)	6 (13)
Modified DRI (%)	
Low/Intermediate	34 (72)
High	11 (24)
Donor Type (%)	
MUD	36 (78)
Haplo	8 (17)
MRD/MMRD	2 (5)

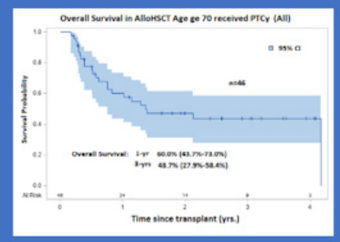


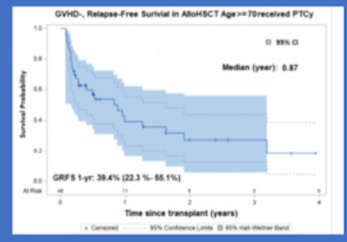
GVHD Prophylaxis in addition to PTCy days 3 & 4

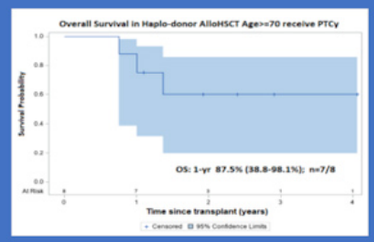
Immunosuppressive agent starting day 5	Number of Patients
Sirolimus	7
Tacrolimus/Sirolimus	26
Tacrolimus/Sirolimus/rATG	11
Tacrolimus/Sirolimus/Alemtuzumab	2

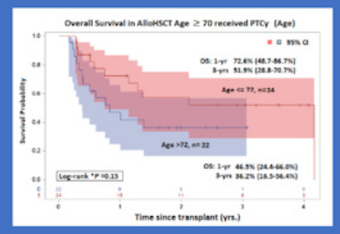
Results

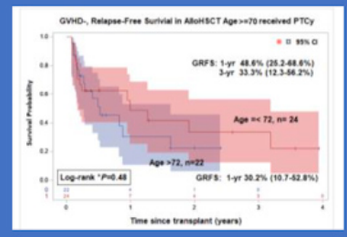
Engraftment days (range)	
Neutrophil	20 (12-34)
Platelet	32 (15-221)
Survival percent (95% CI)	
1 Year	60 (43.7-73.0)
3 Year	43.7(27.9-58.4)
GRFS percent (95% CI)	
1 Year	39.4 (23.3 -55.1)
3 Year	27.3 (12.8-44.0)
NRM percent (95% CI)	
100 Day	6.6 (1.-16.4)
1 Year	34.0 (19.8-48.7)
Acute GVHD percent	32.8 (19.7-46.6)
Chronic GVHD percent	20.3 (6.7-39.0)

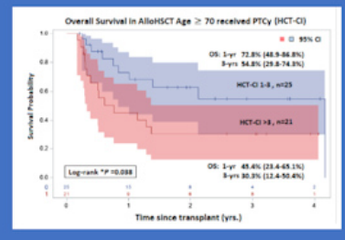


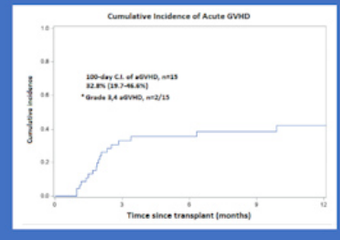


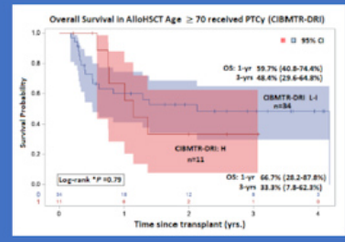


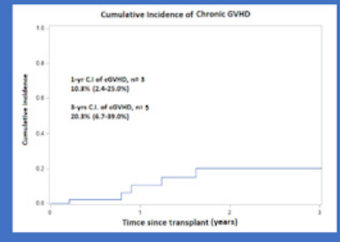












DISCUSSION

After the success of PTCy based GVHD prophylaxis in haploidentical stem cell transplant, this GVHD prophylaxis strategy has been successfully utilized in matched donor Allo-HSCT. The Johns Hopkin's group showed that PTCy based GVHD prophylaxis can also be used in septuagenarians undergoing haploidentical stem cell transplant with nonmyeloablative conditioning. Several studies have indicated that non myeloablative SCT is associated with a higher incidence of relapse. Our retrospective study suggests that PTCy based GVHD prophylaxis can be safely utilized in patients over age 70 undergoing Allo HSCT with reduced intensity Melphalan based conditioning.

CONCLUSION

Allo SCT can be safely performed in elderly patients over age 70 years with PTCy based GVHD prophylaxis and melphalan based RIC. This strategy results in low NRM, good control of GVHD and acceptable survival. Patients with low HCT-CI and L/I DRI have 3-year survival approaching 50%. These findings need to be confirmed in a larger data set.