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Outcomes of Autologous Hematopoietic Stem Cell Transplant in High-Risk Multiple Myeloma: A single centre experience

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CONTEXT

- Bortezomib based triple induction with or without Autologous Stem Cell Transplant (ASCT) remains the most common offered treatment for Newly Diagnosed Multiple Myeloma (NDMM) in India.
- There is a paucity of data on outcomes of ASCT in NDMM with high-risk cytogenetics after bortezomib based initial therapy

AIM

- Aim: Evaluate the outcomes of ASCT in High-risk NDMM patients in terms of Progression Free survival (PFS) and Overall Survival (OS)

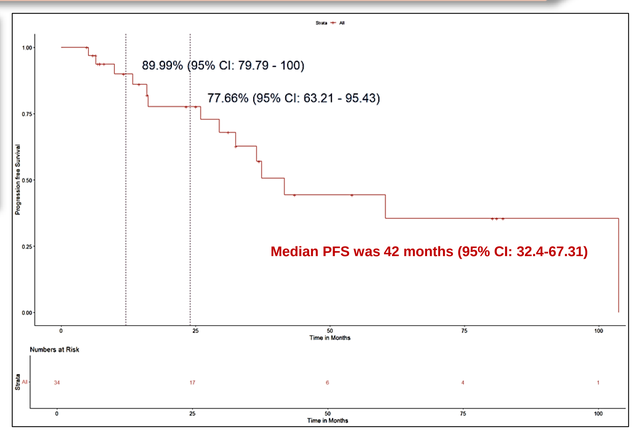
METHOD

- Retrospective audit of electronic medical records and transplant database
- Study Period: January 2012 and June 2024: 169 ASCT done
- 37 ASCT for High-Risk NDMM identified
- High risk cytogenetics were defined as per m-SMART 3.0 cytogenetic risk category[1]
- Continuous variables were measured in counts or means/medians with range
- Kaplan-Meier product-limit-estimate was used to calculate PFS and OS

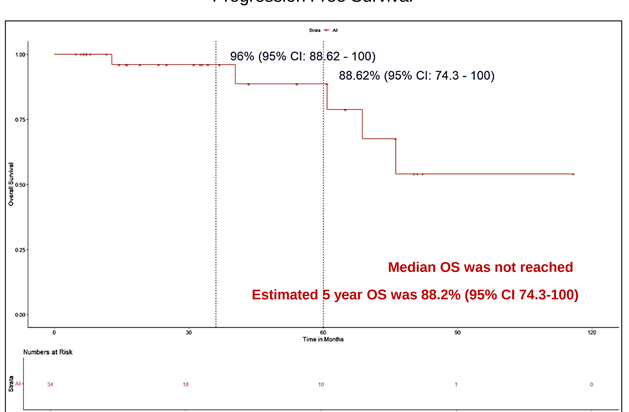
RESULTS

- Ten patients (27 %) had ultra high risk myeloma
- 1q gain/amplification was the most common cytogenetic abnormality (18/37, 48.6%)
- Bortezomib and IMIDs were the most common induction regimen
- 87% of the patients having VGPR or better response prior to SCT
- Median follow up of the entire cohort was 32.5 months (range: 19-120)

Patient Characteristics		
Median age in years (range)		52 (29-65)
Sex	Male	23 (62.1%)
	Female	14 (37.9%)
Cytogenetics	1q gain/amplification	18 (48.6%)
	17p	9 (24.3%)
	t(4:14)	7 18.9%)
	t(14:16)	2 (5.4%)
	≥ 2 high risk cytogenetics	10 (27%)
Prior Therapy	Bortezomib-Thalidomide-Dexamethasone	16 (43.2%)
	Bortezomib-Cyclophosphamide-Dexamethasone	5 (13.5%)
	Bortezomib-Lenalidomide-Dexamethasone	12 (32.4%)
	Bortezomib-Pomalidomide-Dexamethasone	4 (10.8%)
Pre-Transplant Response	sCR	10 (27%)
	CR	4 (10.8%)
	VGPR	18 (48.6%)
	PR	5 (13.5%)
Conditioning	Melphalan 140	12 (32.4%)
	Melphalan 200	25 (67.5%)
Mobilization	GCSF alone	16 (43.3%)
	GCSF + Plerixafor	21 (56.7%)
Median CD 34 stem cell dose/kg body weight (range)		5.96 x 10^6 cells/kg (2.4-13.4)
Median days to engraftment	Neutrophil	10 (8-11 days)
	Platelet	10 (9-12 days)
Median number of days of hospitalization (range)		16 (14-22)
Post transplant maintenance	Bortezomib	8 (21.6%)
	Lenalidomide	6 (16.2%)
	Bortezomib + Lenalidomide	19 (51.3%)
	Others	4 (10.8%)



Progression Free Survival



Overall Survival

CONCLUSIONS

- Our results describe the considerably favorable outcomes in a subset of patients with high-risk myeloma undergoing ASCT consolidation

REFERENCES

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