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CLINICAL PRESENTATION AND OUTCOME OF MULTIPLE MYELOMA IN YOUNG PATIENTS: A RETROSPECTIVE REVIEW

Sahar Fatima Rizvi[1], Tasneem Dawood[1], Salman Soomar[1], Munira Moosajee[1]

[1] **Department of Hematology Oncology, Aga Khan University Hospital, Karachi, Pakistan**

INTRODUCTION

Multiple Myeloma (MM) is plasma cell malignancy which accounts for 1 percent of all and 10% of all hematological malignancies. The median age of diagnosis is 65-74 years. Prevalence in younger than 50 is 10% and in younger than 40 years is 2%. MM is very rare in patients less than 30 years of age. Retrospectively charts were reviewed to see the incidence, clinical presentation and outcomes in young patients.

METHODS AND RESULTS

METHODS: This was a retrospective chart review between 2018 and 2020. 187 previously untreated patients aged 34-80 years with diagnosis of multiple myeloma were identified from the medical records at a single institute. Total of 68 patients were included in analysis. Clinical parameters were categorized, and young patients were divided in 3 age groups; 30- 40 years, 40-50 years and 50-55 years. The objectives were to determine the prevalence, patterns, and specific outcomes of multiple myeloma in young individuals.

RESULTS: 68 patients were included. The median follow up was 57 months. PFS was 37, 52, 45 months in each group (p <0.001). Velcade, thalidomide and dexamethasone (VTD) was commonly used first line regimen in the entire cohort in 38% of patients, closely followed by cyclophosphamide, bortezomib and dexamethasone (CyborD) in 29.4%. The incidence of renal failure was significantly higher in patients < 40 years when compared to > 40 years (p= 0.03) The median OS for the entire group was 50.6 months (4.2 years), with OS rates of 77.8%(CI: 95%), 90.0 %(CI: 95%) and 86.2%(CI: 95%), respectively (p<0.001) (Table 2). Median OS in months was 45, 55.5 and 52 months with p value of 0.08.

Table 1: Patient characteristics associated with multiple myeloma (n= 68)

Variables	MM patients			P-value
	30-40 years (n=9)	41-50 years (n=30)	51-55 years (n=29)	
Age, years Median	35	47.5	54	<0.001
Sex of the participant Male Female	8 (88.9) 1 (11.1)	16 (53.3) 14 (46.7)	15 (51.7) 14 (48.3)	0.13
Fracture No Yes	8 (88.9) 1 (11.1)	18 (60.0) 12 (40.0)	16 (55.2) 13 (44.8)	0.29
Anemia No Yes	4 (44.4) 5 (55.6)	13 (43.3) 17 (56.7)	14 (48.3) 15 (51.7)	0.80
Renal failure No Yes	4 (44.4) 5 (55.6)	18 (60.0) 12 (40.0)	19 (64.5) 10 (34.5)	0.97
Hypercalcemia No Yes	7 (77.8) 2 (22.2)	22 (73.3) 8 (26.7)	25 (86.2) 4 (13.8)	0.20
Serum Immunofixation IgG Kappa IgG Lambda IgA Kappa IgA Lambda Kappa Lambda Non-secretory	4 (44.5) 3 (33.3) 0 (0.0) 1 (11.1) 1 (11.1) 0 (0.0) 0 (0.0)	9 (30.0) 5 (16.7) 3 (10.0) 4 (13.3) 5 (16.7) 3 (10.0) 1 (3.3)	14 (48.3) 6 (20.7) 1 (3.5) 1 (3.5) 3 (10.2) 2 (6.9) 2 (6.9)	0.35
LDH (u/l) Median	447	307	368	<0.001
Albumin (g/dl) Median	3.6	3.5	3.4	0.77
ISS- staging Stage I Stage II Stage III	3 (33.3) 1 (11.1) 4 (44.5)	12 (40.0) 5 (16.7) 12 (40.0)	8 (27.6) 9 (31.0) 10 (34.5)	0.74
Initial treatment (IT) given VTD CYBORD RD MPV	3 (33.3) 4 (44.5) 1 (11.1) 0 (0.0)	9 (30.0) 12 (40.0) 8 (26.7) 0 (0.0)	14 (48.3) 4 (13.8) 10 (34.5) 1 (3.4)	0.18
Treatment response after IT PR VGPR CR sCR	7 (77.8) 0 (0.0) 0 (0.0) 0 (0.0)	16 (53.3) 3 (10.0) 2 (6.7) 2 (6.7)	16 (55.2) 5 (17.2) 5 (17.2) 1 (3.5)	0.02

Table: 2- RESULTS

	30-40 years	41-50 years	51-55 years	P-Value
PFS (in months) Median	37 months	52 months	45 months	<0.001
OS (in months) Median	45 months	55.5 months	52 months	0.08
Survival rate %	77.8	90.0	86.2	<0.001

Figure 1: Overall survival from Multiple Myeloma (in months) by Age groups

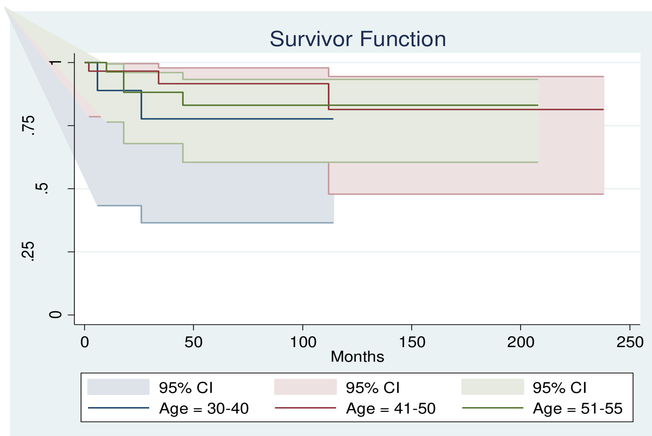


Figure 2: Overall survival from Multiple Myeloma (in months)

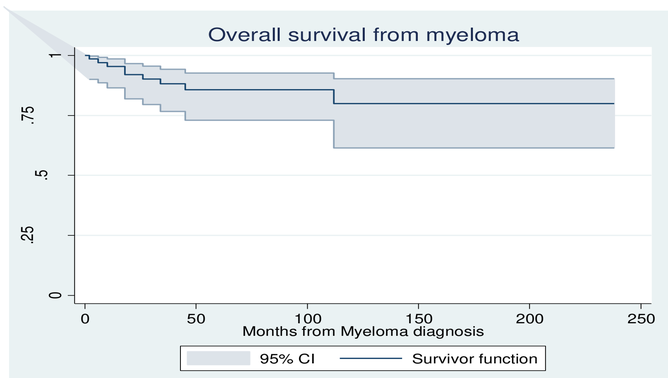
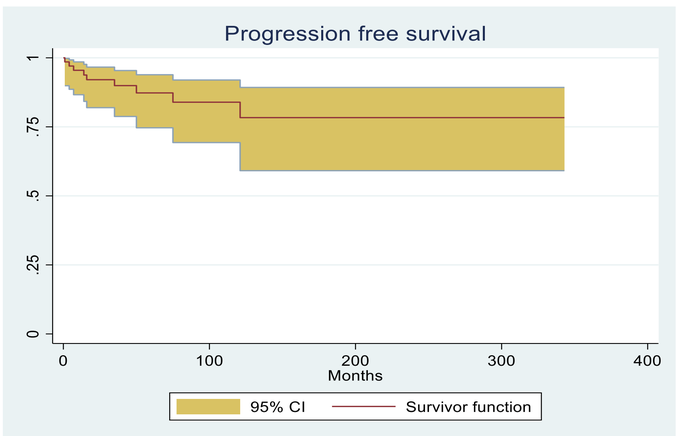


Figure 3: Progression free survival from Multiple Myeloma (in months)



CONCLUSION

In conclusion, data showed that young patients have higher incidence of renal failure and lower incidence of pathological fractures. Also showed that young age group between 30 -40 years of age has decreased OS and PFS when compared to patients between 40-55 years of age.

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CONTACT

Contact: saharfarimarizvi@gmail.com

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