AL MUTHANNA INTERNATIONAL TRAUMA CONFERENCE
MAY 9 – 11, 2020
SAMAWA, IRAQ

Under the patronage of His Excellency
Professor Dr. President of the University, Prof. Dr. Amer Ali Al-Atwi

Prof. Dr. Basim Herez Ali Asudani, Dean of Al Muthanna Medical College

Prof. Dr. Nasser Ghaly Yousif, Conference Coordinator

Prof. Dr. S. G. Ahmed, Conference Scientific and Technical Coordinator, Egypt

Publisher Website
www.scholarsliterature.com

Al-Muthanna University is focused from the first day on making the world and our community a better place through education, innovation and research. Our (658) faculty members are actively engaged in research, participating in the international conferences, editing and reviewing research in the international journals, supervising graduate students ,authoring books, and making patents

Scholars LITERATURE

La Prensa Medica Argentina

Research Article

DOI: https://doi.org/10.47275/0032-745X-S1-011
S1-011

Multiple Myeloma: A Review in Single Center Experience

Amer Shareef Mohammed*

Chief Head, Department of Hematology, University of Thiqar Medical College, Iraq

Abstract

Background: Multiple myeloma (MM) is a clonal plasma cell neoplasm associated with monoclonal para proteinemia, bone marrow plasmacytosis, bone lesion, hypercalcemia, and anemia. Chemo-immune regimens are commonly used for treatment of multiple myeloma. The present study aimed at determining the characteristics and outcomes of patients with multiple myeloma treated at our center.

Methods: During March 2016 and December 2019, all patients with confirm diagnosis of MM were included in this study. Data were collected from hospital information system. The characteristics and outcomes of all patients were analyzed.

Results: A retrospective review of 75 patients. Median age was 65 years, with 50% ≤ 65 years. Most of the patients (n=42; 56%) were male and 33 (44%) were female. More than two-third (88% (presented musculoskeletal symptom: bone pain (88%), anaemia 50%. Myeloma-related organ impairment included hypercalcaemia (16%), renal impairment (8%), 84% of patients were diagnosed in advanced stage (II/III) according to durie Salmon classification.

Conclusion: Based on our results, the onset of multiple myeloma occurs in relatively younger age groups but with more advanced stage

Keywords: Multiple Myeloma; Symptomatic Multiple Myeloma

Correspondence to: Amer Shareef Mohammed, Chief Head, Department of Hematology, University of Thiqar Medical College, Iraq, E-mail: Aamer.shreef.78@gmail.com

Citation: Mohammed AS (2020) Multiple Myeloma: A Review in Single Center Experience. Prensa Med Argent, S1-011. DOI: https://doi.org/10.47275/0032-745X-S1-011.

Received: May 09, 2020; **Accepted:** May 19, 2020; **Published:** May 21, 2020

Introduction

Multiple myeloma (MM) is a clonal plasma cell disease characterized by malignant bone marrow plasmacytosis, which secrete monoclonal protein, and the presence of target organ damage including bone lytic lesion, anemia, hypercalcemia, and renal derangement [1]. Males are predominantly affected by a median age of 70 years in Western countries, however, in some countries, onset is recorded in younger age groups [2,3]. Multiple myeloma is reported to be the second most common hematological malignancies after non-Hodgkin lymphoma. It accounts for approximately 1.8% of all new cancers and 10% of all hematological malignancies [4]. Multiple myeloma is known to be a treatable but unfortunately not curable disease, and thus prolong observation and follow- up are highly recommended recommended [5]. International staging system is commonly used, has recently been updated [6]. Skeletal survey in form of whole body MRI, low dose CT, and PET/CT is a nowadays practiced as the initial workup of myeloma patients [7] unfortunately a plain X-rays, can only showed lesion when at least 20% to 30% bone is lost. So, with advanced imaging modalities, even subtle bone marrow infiltration can be checked without any bone loss. Full workup should include complete blood count, biochemistry panel LDH, calcium, protein electrophoresis, bone marrow study and cytogenetics. Anemia, high calcium, Azotemia, and bony lesions are known to be a myeloma defining events. The appearance of any of these events is an indication to start treatment. The type of treatment depends on age, stage o transplant eligibility, performance status [8]. Still high dose chemotherapy and autologous stem cells transplant (HDT/ASCT) and novel agents, such as immune modulatory drugs (thalidomide, lenalidomide, and pomalidomide), and proteasome inhibitors (bortezomib, carfilzomib) are the standard of care for transplant eligible; patients [9]. The present study aimed at determining the characteristics and outcomes of multiple myeloma patients treated in our center. We analyzed demographic features, progression- free survival, and overall survival of patients with MM treated with different available chemotherapeutic regimens.

Methods

In total, 77 MM patients were enrolled from March 2016 to December 2019 in Thiqar hematology center among patients enrolled 75 patients had symptomatic MM based on International Myeloma Working Group (IMWG) diagnostic criteria were selected. Thus, two patients were excluded because they were diagnosed with smouldeing myeloma. VGPR was defined as serum para protein reduction of >90% and/or a 24-h urine M-protein excretion lower than 100 mg. PR was defined as a reduction of M protein by at least 50% in serum and 90% in urine and/or to <200 mg/24 hr, as well as a reduction in 50% or more of the cross-sectional areas of extraosseous plasmacytomas.

Results

The median patient age was 65 years (range, 37–88years) and 56% of patients were male (Table 1). Fourty five patients (60 %) had lytic bone lesions. Four patients (5.3%) had extramedullary plasmacytoma and 10 (13%) ad >60% of plasma cells in bone marrow. Eighty-three

Table 1: Patient characteristics and laboratory findings.

Variable	Level	Number	Percent
Total number of cancer patients	All cancers MM	4762 75	1.5%
Gender	Male Female	42 33	56% 44%
Myeloma type	Secretory Non secretory Medullary Extramedulary	69 6 71 4	92% 8% 94.6% 5.3%
Age	>65 <65	37 38	49.3% 50.6%
Hb	<= 10 >10	38 37	50.6% 49.3%
Wbc	>4000 <4000	60 15	80% 20%
Platelet	>100 <100	61 15	81.3% 19.7%
LDH	Normal High	47 28	62.6% 37.3%
Ca	>11 <11	12 63	16% 84%
Creatinine	>2 <2	6 69	8% 92%
Albumin	Albumin < 3.6 >3.6	46 29	61.3% 38.6%
ESR	>100 <100	36 49	48% 65.3%
Marrow plasmacytosis	>60 < 60	10 65	13 % 86.6%
Presenting symptoms	Skeletal Non skeletal	66 9	88% 12%
Durie salmon staging	I II III	12 43 20	16% 57.3% 26.6%
Bone lesion	Yes No	45 30	60% 40%
Treatment regimen	VCD VRD	61 14	81.3% 18.6%
Transplant	Yes No	15 60	20% 80%
Response to first line	Yes No	14 61	18.6% 81.3%
Relapse	Yes No	28 47	37.3% 62.7%
Survival	Survivors Deaths	53 22	70% 30%

patients (50.6%) had hemoglobin concentrations <10 g/dl and 15 (19.7%) had platelet counts <100 000/mm3. Hypercalcemia (serum calcium concentration >11 mg/dl) and renal function impairment (serum creatinine concentration >2 mg/dl) were present in 12 (16%) and 6(8%) patients, respectively (Table 1). The main presenting features were bone pain (88%). Median serum creatinine concentration was 0.8 mg/dl (range, 0.5-10 mg/dl). Median serum M-protein concentration was 6.6 g/dl (range 0.0-17g/dl). Urine M-protein concentration was not done. Sixty one patients (81.5%) were treated with VCD (Velcade, Endoxan, and dexamethasone); while the other 14 patients (18.5%) were treated with VRD (Velcade, Revlimid, Dexamethasone) as a chemo free regimen chosen by patients who refused chemotherapy based. The response had an assessed by SPE/IF. Both group did not showed any statistically significant survival differences with P value of 0.170, of these 75 patients, 28 (37.3%) relapsed, 15 (20%) transplanted and 22(30 %) died , of these 61 patients, 47(75%) achieved VGPR while 14(33%) attained less than PR. In compare to 14 patients were treated by VRD,13(92%) patients achieved VGPR and one patient only failed to attained PR again with failed to achieved any statically difference between two protocols, the median duration of survival was 25 months (Tables 2 and 3).

Table 2: Response comparison between two chemotherapy protocols.

Response	VCD	VRD	Total	P value
VGPR	47	13		0.2763.
<PR	14	1	15	
	61	14	75	

Table 3: Chemo survival cross tabulation.

			Survival		Total	Pearson Chi-Square
			0	1		P
Chemo	**VCD**	Count	20	41	61	1.880[a]
		% within chemo	32.80%	67.20%	100.00%	0.17
		% within survival	90.90%	77.40%	81.30%	-
	VRD	Count	2	12	14	-
		% within chemo	14.30%	85.70%	100.00%	-
		% within survival	9.10%	22.60%	18.70%	-
Total		Count	22	53	75	-
		% within chemo	29.30%	70.70%	100.00%	-

Discussion

This study evaluated characteristics and outcomes of 75 MM patients, globally, quite 114,000 new MM cases were diagnosed worldwide in 2012 (0.8% of total cancer cases [10]. According to this study, MM accounts for 1.66% of total cancer cases, with an age-standardized incidence of 1% in males and 0.7% in females which is above global figures highlighted a neighborhood of high incidence might be explained due to war pollutions [11]. Our study showed that the median age at the onset of the disease was 65 years, with 50.6% of patients being younger than 65 years of age) which is far younger compared to the Western data. Similar age of onset has been noticed in Saudi Arabia [12]. Prevalence of MM was more in males needless to say which is in line with other studies. The bulk of the patients during this study were within the advanced stage of the disease (Durie salmon, II/III). One reason might be due to lack of awareness among other medical specialties (orthopedist and rheumatologist), which is in comparable a study conducted in Abu Dhabi/UAE [13-15]. In this study, nearly 60% of patients suffered from skeletal complications. Till date, conventional bone survey remains the quality modality for the assessing of myeloma skeletal disease in our center and this correlates with published evidence. This number may go up if whole body MRI or PET/CT are used at initial workup [7-16], which isn't available in our center at time of the study. Unavailability of whole body MRI in many centers, many patients will be undertreated. The goal of induction treatment before autologous stem cell transplant (ASCT) is to achieve the very best possible response rate while avoiding significant toxicity in transplant eligible VCD and VRD are the 2 most ordinarily used induction therapy for newly diagnosed, transplant eligible MM patients. Our results indicate that both VCD and VRD are efficacious and well tolerated induction regimens with comparable statistical figures. Although our patients consisted of mostly transplant eligible patients, only 15 (20%) patients underwent HDT/ASCT. there have been different reasons for delaying transplant including the shortage of transplant services in Iraq, cost of the procedure for those patients who were paying for his or her treatment. some patients refuse transplant due to complications including deaths which will occur during HDT/ASCT. Limitations of the study there have been some

limitations during this study. This was a retrospective analysis, single center experience). Iraq is that the large country within the area, with a population of quite 38 million [14]. Despite healthcare being liberal to Iraqi citizens, still variety of massive barriers controlling healthcare access, While MM may be a relatively uncommon cancer in Iraq, it's been recorded that the characteristics of Iraqi patients with MM differ from those of western MM patients, highlighting the necessity for a national study of the trends and outcomes of MM in Iraq. However, published literature on MM patient characteristics, treatment patterns, and outcomes in Iraq is scant.

Conclusion

Based on our results, onset of myeloma occurs during a relatively younger age bracket and the majority present with advanced stage.

Outcomes

Cost and availability of novel agents and transplant access are major challenges in providing high standard care to patients with myeloma in Iraq.

References

1. Bataille R, Harousseau JL (1997) Multiple myeloma. New Engl J Med 23: 1657-1664.
2. Sultan S, Irfan SM, Parveen S, Ali H, Basharat M (2016) Multiple myeloma: a retrospective analysis of 61 patients from a tertiary care center. Asian Pac J Cancer Prev 4: 1833-1635.
3. Lu J, Chen W, Huo Y, Huang X, Hou J (2014) Clinical features and treatment outcome in newly diagnosed Chinese patients with multiple myeloma: results of a multicenter analysis. Blood Cancer J 8: e239.
4. Paul-Yang C, Ladd HB, Eguchi C, Jouneau F, Zhang J (2014) New era in staging/treatment of multiple myeloma. Am J Biomed 7: 745-759.
5. Dimopoulos MA, Terpos E (2010) Multiple myeloma. Annal Oncol 7: 143-150.
6. National Comprehensive Cancer Network (NCCN) (2016) Clinical practice guidelines in oncology (NCCN guidelines): multiple myeloma.
7. Palumbo A, Avet-Loiseau H, Oliva S, Lokhorst HM, Goldschmidt H, et al. (2015) Revised international staging system for multiple myeloma: a report from international myeloma working group. J Clin Oncol 26: 2863-2869.
8. Terpos E, Dimopoulos MA, Moulopoulos LA (2016) The role of imaging in the treatment of patients with multiple myeloma in 2016. Am Soc Clin Oncol Educ Book 35: e407-417.
9. Tan D, Chng WJ, Chou T, Nawarawong W, Hwang SY, et al. (2013) Management of multiple myeloma in Asia: resource-stratified guidelines. Lancet Oncol 12: e571-581.
10. Lonial S, Boise LH, Kaufman J (2015) How i treat high-risk myeloma. Blood 13: 1536-1543.
11. Ferlay J, Soerjomataram I, Dikshit R, Eser D, Mathers C, et al. (2015) Cancer incidence and mortality worldwide: Sources, methods and major patterns in globocan 2012. Int J Cancer 136: E359-386.
12. Kyle RA, Gertz MA, Witzig TE, Greipp PR, Therneau TM, et al. (2003) Review of 1027 patients with newly diagnosed multiple myeloma. Mayo Clin Proc 78: 21-33.
13. Ahmed Al, Fahad Z, Alhashmi H, Alghamdi M (2019) Multiple myeloma in Saudi Arabia: Consensus of the Saudi lymphoma/myeloma group. 10: 37-44.
14. Abu M, Fatima Al, Raneem J, Raidullah E (2019) First review of multiple myeloma patients in sheikh khalifa medical city, abu dhabi, United Arab Emirates. blood journal. 134: .
15. Ahmed MA, Al-Hayali AM (2018) Radiographic manifestations of inoperable primary bronchogenic carcinoma. Am J Biomed Sci 9: 507-516
16. World Population Prospects-Population Division (2019) united nations department of economic and social affairs, population division.