An Indiction of Treating Multiple Myeloma in a Developing Country: A Retrospective Analysis of a Single-Center Experience, "Part I Descriptive Epidemiology

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Abstract

In the last decade, the treatment of multiple myeloma (MM) has had a great improvement by the addition of multiple drugs with different mechanisms of action to the already present armamentarium of conventional chemotherapy and stem cell transplant, including proteasome inhibitors, immunomodulatory drugs, monoclonal antibodies, CAR-T cell therapy, and bispecifics, which impact the disease course and progression. However, the question remains about the ideal use of the treatment modalities, especially in low-budget settings.

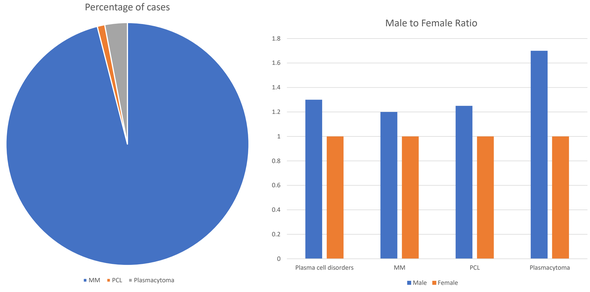
Background

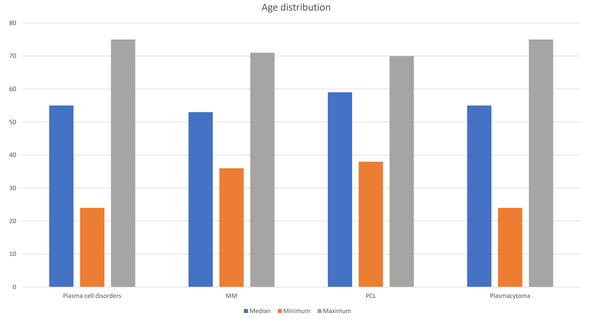
Malignant plasma cells disorders include a myriad of disease which vary in their prognosis and aggressiveness but they all share the huge effect on patient's quality of life and being diseases of the elderly. The most common disorders are MM , plasma cell leukemia (PCL) , and plasmacytoma beside the other disorders as Waldenström macroglobulinemia, POEMS (polyneuropathy, organomegaly, endocrinopathy, monoclonal gammopathy, and skin changes) syndrome, and AL amyloidosis (immunoglobulin light chain amyloidosis)[1].

MM is most frequently diagnosed among people aged 65 to 74 years, with the median age being 69 years [2]. Thus the symptoms of MM are mainly attributed to the aging process not the disease itself.

Objective

To assess the demographic data of patients with MM, PCL, and plasmacytoma on follow-up at Oncology Center Mansoura University (OCMU) Outpatient clinic either on follow up or on chemotherapy in the period between 1-1-2006 and 31-12-2020 .





Materials & Methods

DESIGN: This is a retrospective study about the demographic data of patients with MM, PCL, and plasmacytoma treated in OCMU in the period between 1-1-2006 and 31-12-2020 (15 years).

SETTING: OCMU is an academic institutional practice acting as a referral center and providing multidisciplinary tertiary care for hematology and oncology patients in the delta region in Egypt.

PATIENTS OR OTHER PARTICIPANTS: Patients with MM, PCL, and plasmacytoma treated in OCMU in the period between 1-1-2006 and 31-12-2020 (15 years) who were in follow-up in our outpatient clinic or internal ward and are registered in our electronic database. We had 771 cases (745 MM, 9 PCL, and 27 plasmacytoma) registered in our database during this period.

INTERVENTIONS: Patients underwent history taking, clinical examination, and myeloma workup to reach the diagnosis as per the International Myeloma Working Group consensus criteria.

Main Outcomes Measures: Report the demographic data of our patients regarding age, sex, and disease type.

Summary

RESULTS: The cases were divided as 96% MM, 1% PCL, and 3% plasmacytoma with a male to female ratio of 1.3:1 (1.2:1 MM, 1.25:1 PCL, and 1.7:1 plasmacytoma). As for the age at diagnosis, the median was 55.8 years (53 [35.9–71.3] MM, 59.2 [38–69.7] PCL, and 55.2 [24.1–75.3] plasmacytoma).

Discussion

CONCLUSIONS: MM accounts for 1.8% of all cancers and 18% of hematologic malignancies in the USA, The American Cancer Society has estimated 32,270 new MM cases in the United States in 2020, with an estimated 12,830 deaths[3], but in the middle east few limited studies are present showing the median age to be less than the developed countries with slight male predominance over female. In view of the newly approved drugs modulating the microenvironment of the disease more data are required about the incidence and prevalence in the Middle East and developing countries and its ethnic association among these populations in order to properly select the ideal patient for the appropriate regimen keeping in mind the financial burden and patient's comorbidities.

References

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Keywords: MM, epidemiology, demography, PCL, plasmacytoma