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Multiple Myeloma Presenting As Functional Intestinal Obstruction – A Rare Clinical Presentation

[1]Bharatiya Siddharth, Resident Doctor, Pursuing post graduation, Department of Internal Medicine, Jawaharlal Nehru Medical College, Ajmer, Rajasthan, India.

[2]Singh VB, Senior Professor, Department of Internal Medicine, Jawaharlal Nehru Medical College, Ajmer, Rajasthan, India.

[3]Kumhar Maniram, Senior Professor, Department of Internal Medicine, Jawaharlal Nehru Medical College, Ajmer, Rajasthan, India.

[4]Srivastav Mayank, Associate Professor, Department of Internal Medicine, Jawaharlal Nehru Medical College, Ajmer, Rajasthan, India.

[5]Tak Harsh, Assistant Professor, Department of Internal Medicine, Jawaharlal Nehru Medical College, Ajmer, Rajasthan, India.

[6]Singh Saranshi, Intern, RUHS CMS

Corresponding Author: Bharatiya Siddharth, Resident Doctor, Pursuing post graduation, Department of Internal Medicine, Jawaharlal Nehru Medical College, Ajmer, Rajasthan, India.

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Abstract

Introduction: Multiple myeloma ie.a Hematological neoplasm is overall the 14th most common malignancy but is rarely seen in those younger than 35 years. Those in the younger age group have usually been shown to have more aggressive course but reportedly have had similar responses to treatment vis-à-vis older cohorts. **Case:** This case depicts a young male was diagnosed with Multiple myeloma presented predominantly with gastrointestinal symptoms. Conclusion: This is rare case of Multiple Myeloma in a young male which may present atypically in young patients. More research is needed on appropriate initial diagnosis and treatment of patients in this age group.

Introduction

Multiple Myeloma is a malignant B-cell disorder that leads to proliferation of plasma cells. It is 14th most common malignancy accounting for only 1.8% of all malignancies and 10% of all hematological malignancies. [1]. However, multiple myeloma very uncommonly occurs in those younger than 35 years. (0.5%) [2]. Prior studies have shown a more aggressive presentation in this age group with osteolytic lesions, acute kidney injury and Bence Jones proteinuria.

Here, we present a case of young male which was diagnosed as multiple myeloma at the age of 33 years. He initially presented predominantly with gastrointestinal

symptoms, usually atypical for this ailment and warrants attention of treating clinicians.

Case

A 33 years old young male patient who is domicile of central Rajasthan, used to work as laborer at some petrochemical factory in Sultanate of Oman since last 6 and half years. He presented with 4 months history of Nausea, recurrent vomiting ,generalized weakness and weight loss. The gastrointestinal symptoms persisted despite symptomatictreatment fromgeneral practitioners. The patient was admitted in medicine ward as case of recurrent vomiting and pain abdomen. On general physical examination – Patient was conscious, oriented but slightly restless with dehydration. His blood pressure was 90/70 mm Hg right arm in supine position, Pulse 97/ min regular, Respiratory rate was 22 cycles per minute, Temperature- afebrile on touch and SPO2 was 99 at room air. Along with this pallor was present but no icterus, no cyanosis , no clubbing and no lymphadenopathy of palpable lymph nodes. On systemic examination - Gastrointestinal system- Per abdomen was distended, diffusely tender, no organomegaly, no shifting dullness, no fluid thrill with absent bowel sounds. Other systems examinationie Respiratory, cardiovascular and central nervous system was normal. Initial Routine blood investigations revealed anemia (Hb 6.5 gm%) , hypercalcemia (serum calcium level 12.7 mg% ,normal range being 9-11mg%) , raised serum total protein (11.9 gm% normal range being 6 to 8.5 gm%) with low albumin (3gm %) and high globulin levels (8.9 gm%). On the basis of initial general physical examination and investigations performed certain differential diagnoses were considered like excessive PTH production, hypercalcemia of malignancy,excessive $1,25(OH)_2$ D production, primary increase in bone resorption, excessive calcium intake and other miscellaneous causes. Further exploration and investigations were done to zero in the underlying etiology. Amongst these there was no evidence of any granulomatous disease, no history of excessive calcium intake was found like milk alkali syndrome, total parenteral nutrition etc, no history of any medication precipitating hypercalcemia like thiazides,vitamin A and antiestrogens were found and neither was any history of prolonged immobilization etc. Further investigations included PTH which was 23.30 pg/ml (Normal range 14-72 pg/ml), TSH was 2.6 uU/ml (Normal).4 to 4.5 uU/ml, morning serum cortisol was 14.20 ug/dl (normal range 4.30 to 22.40 ug/dl) and x ray of skull which demonstrated punched out/lytic lesions in x-ray skull. So these special investigations led to zeroing in the cause of hypercalcemia which was hypercalcemia of the malignancy most likely the myeloma. To rule out any structural cause of intestinal obstruction Ultrasound abdomen, X-ray FPA and upper gastrointestinal endoscopy was performed which revealed no evidence of any suggestive of structural pathology of obstruction.

Meanwhile the investigations the patient was administered symptomatic treatment which included adequate Intravenous fluids, proton pump inhibitors, antiemetics ,loop diuretics and antibiotics which provided partial amelioration of the symptomatology and prompted the search to establish the underlying pathology and disease specific treatment.

To ascertain the diagnosis of myeloma further special and particularized investigations were performed like Bone marrow aspiration was conducted and slides depicted bilobed nucleus of plasma cells, atypical plasma cells with some normal plasma cells having eccentric nucleus. These results insinuated us to further explore and evaluate Multiple Myeloma by urine test for immunoglobins and blood for immunohistochemical examination.

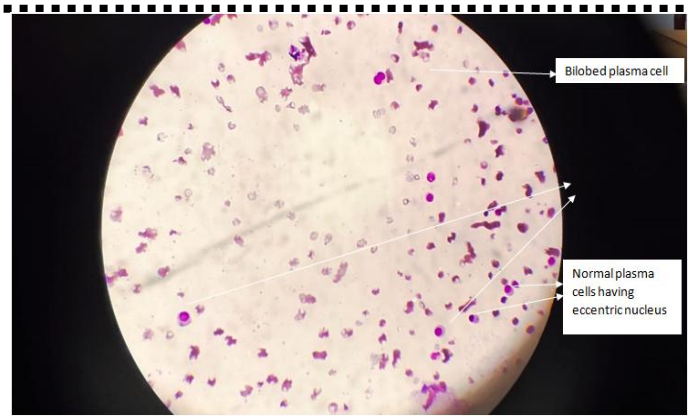

Figure 1: Bone marrow aspiration slide depicting bilobed nucleus of plasma cells and atypical plasma cells along with some normal plasma cells having eccentric nuclei.

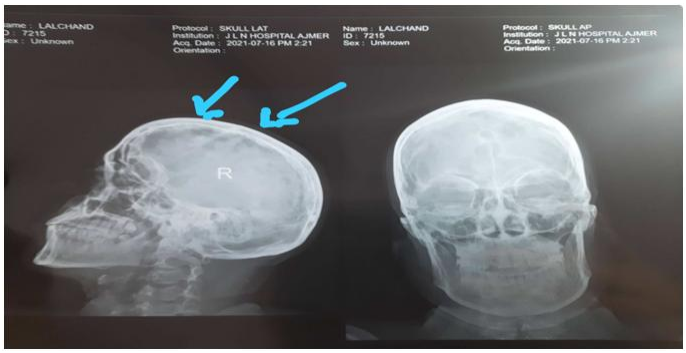

Figure 2: Xray skull lateral and AP view depicting punched out or lytic lesions.

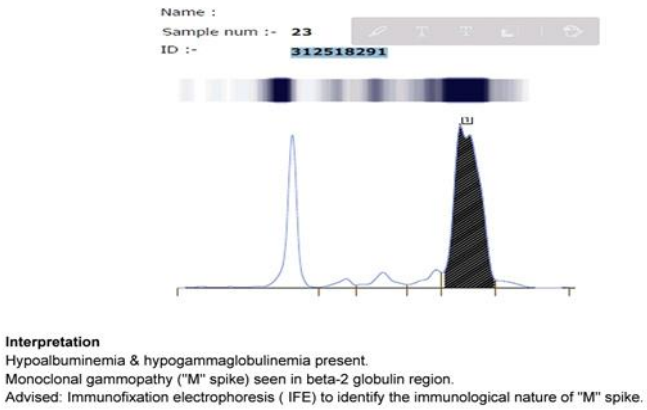

Figure 3: Serum Protein Electrophoresis Showing Monoclonal gammopathy in Beta 2 globulin region.

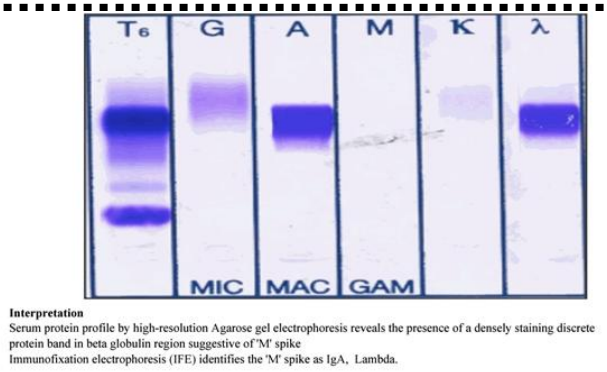

Figure 4: Immunofixation Electrophoresis Assay (IFE) identifies ‘M’ spike as IG A ,Lamdaie. Of light chain type

The urine test was positive for Bence Jones protein and The immunohistochemical examination studies - the Serum Protein Electrophoresis (SPE) demonstrated monoclonal gammopathy (‘M’ spike) seen in Beta 2 globulin region along with hypoalbuminemia and hypergammaglobulinemia. Serum Immunofixation Electrophoresis assay (IFE) identifies the ‘M’ spike as Ig A, Lambda (i.e. Light chain Type). Serum beta 2 microglobulin level was 17153 ng/ml (Normal 609-2366 ng/ml) which corresponds to the stage III as per International staging system for Multiple Myeloma.

Discussion

This is rare case of young patient presenting predominantly with gastrointestinal symptoms turn out to have multiple myeloma. Such cases have been reported earlier as well.(3) (4)(7),Like A study by Guo Y, He L, Liu Y, Cao X. A rare case report of multiple myeloma presenting with paralytic ileus and type II respiratory failure due to hypercalcemiccrisis(8), study by Alnimer L, Zakaria A, Alshare B, Samhouri Y, Raphael M. A Rare Case of Small Bowel Extramedullary Plasmacytomas Presenting With Intestinal Obstruction. Cureus. 2021 Medicine (Baltimore). 2017.(9) etc. This case has multiple atypical aspects including the patients age, presenting symptoms, and its association with

exposure to petrochemical factory work if any. The median age of diagnosis of multiple myeloma is 69 years with only 15 % cases occurring in those less than 55 years but rarely seen in those less than 35 years.[1](5) Multiple myeloma occurs slightly more in men with typical symptoms of fatigue, anemia, bone pains and/or hypercalcemia with renal insufficiency (CRAB features).Thispatient however presented predominantly with gastrointestinal symptoms ie persisted nausea and recurrent vomiting.Diagnosis of multiple myeloma in this young age with gastrointestinal symptoms indicates the necessity to evaluate such cases presented to internal medicine for ailments like multiple myeloma.(6)

Conclusion

This provides insight into how young patients may present not only atypically but also to make an early diagnosis so that it can be managed better and more importantly before any extramedullary extension which can render it beyond the scope of limited usual therapeutic regimen for this disease.The presenting clinical symptomatology and laboratory investigations are largely similar to those observed in patients of all ages who have Multiple Myeloma. Despite rarity of multiple myeloma in young patients,this diagnosis (MM) should be evoked when clinical, biological and radiological signs are in convergence of symptomatology of this disease. Therefore, Multiple myeloma should be evoked as differential diagnosis even in young patients with classic and atypical presentation. Since these cases are rare in the young cohorts, thus hampering the use of clinical trials in these patients. Therefore, case reports and registries are needed to help collect data for future analysis and studies.

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