

An Uncommon Presentation of Multiple Myeloma

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Abstract

Multiple myeloma can sometimes manifest only with fracture. We report the case of an individual who presented with a progressive right sided localized hip pain that made him difficulty in walking and also significant weight loss. Investigations revealed anaemia with markedly raised ESR, fracture in the right neck of the femur, monoclonal gammopathy on protein electrophoresis and 70% atypical plasma cells in the bone marrow. Subsequently he was managed in haematology and radiotherapy department accordingly.

Key Words: Multiple myeloma, fracture neck of the femur.

Introduction:

Multiple myeloma is a malignant proliferation of plasma cells producing monoclonal paraprotein. It accounts for 10-15% of all haematological malignancies and 1-2% of all cancers.¹ Approximately 10-40% of patients are asymptomatic at diagnosis.¹ However it can present in a range of ways, for example features of hyperviscosity, hypercalcemia, renal failure, and bone pain/fractures. We report an unusual presentation of multiple myeloma in the form of spontaneous pain in the right hip with difficulty in walking and significant weight loss without any other organ specific signs or symptoms.

Case report:

A 63- years- old man presented with complaints of pain in the right hip which was spontaneous in onset, progressive, increased on movement and at night and relieved to some extent by taking rest and analgesic. His pain was so severe that he could not move his right leg with comfort and could not move without support. He also mentioned anorexia and significant weight loss without having any other organ specific symptoms. He noticed hypertension for last 7 years with good control on losartan 50 mg daily. On examination he was mildly anaemic, BP-130/80 mm of Hg, shortening of the right lower limb with abducted and little bit externally rotated, grade 3 tenderness was present over the right hip joint with painful restriction of movement in all direction. Investigations showed Hb-11.7gm/dl, Tc-8000/mm³, ESR-120 mm in 1st hr, PBF- only dimorphic anaemia, s.albumin-29g/l. s.calcium-8.5mg/dl, X-ray lumbosacral spine including pelvis showed fracture neck of right femur. USG of W/A- enlarged prostate with prominent median lobe. PSA-5.56ng/ml. S.Creatinine-1.0mg/dl. S.Protein electrophoresis-monoclonal gammopathy.

Bone marrow study- showed hyper-cellularity, increased M/E ratio and bone marrow was occupied by typical and atypical plasma cells with few plasma blasts (70%). Beta-2 microglobulin and immuno-electrophoresis not done due to financial constrain. Thus multiple myeloma was diagnosed and patient was treated with appropriate chemotherapy and radiotherapy for fracture neck of femur and patient condition improved significantly.



Fig-1: X-ray pelvis including hip joint - fracture in the right neck of the femur.

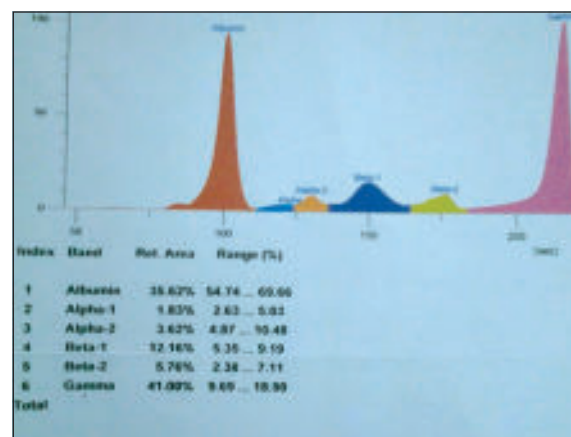


Fig-2: Protein electrophoresis - monoclonal gammopathy (raised gamma globulin).

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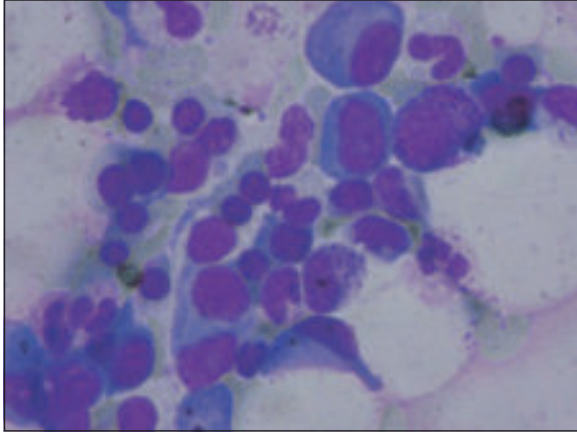


Fig.-3: Bone marrow showing atypical plasma cell and plasma blast.

Discussion:

We have described the initial presentation of a case of multiple myeloma with isolated fracture neck of the femur without any other organ specific signs or symptoms. On review of the literature, a few case reports have described presenting as isolated fracture neck of the femur without other organ specific symptoms.¹

Multiple myeloma is the most common malignant primary bone tumour, characterized by uncontrolled proliferation of a clone of plasma cells within the bone marrow that leads to osseous destruction.² It is usually found in persons older than 55 years of age and men are more commonly affected. The principal clinical manifestation of multiple myeloma is back pain that is seen about 60% of cases and radiologically characterized by osteolytic destruction and diffuse osteopenia.³ Fractures are also sometimes present as an initial manifestation. In our case also presents only with fracture involving right neck of the femur. At diagnosis, pathologic fractures are the presenting feature in 30% of cases.⁴ Fractures can cause severe bone pain, limit mobility, and necessitate surgery and hospitalization for treatment.⁵ Therefore, fractures can interfere with functional independence and shorten survival.⁶ The substantially increased risk of fracture among patients with multiple myeloma can be decreased with use of bisphosphonate medications. Fractures can cause severe bone pain, limit mobility, and necessitate surgery and hospitalization for treatment.⁶ Therefore, fractures can interfere with functional independence and shorten survival. Approximately 45% of patients with multiple myeloma experience a fracture in the first year after diagnosis, and 65% experience a fracture during the course

of the disease.^{7,8} Bisphosphonates are potent inhibitors of bone resorption that contribute to long-term control of bone disease in multiple myeloma. Myeloma lesions are sharply defined, small, lytic areas of bone destruction with no reactive bone formation. The most common sites include the vertebrae, ribs, skull, pelvis and proximal long bones.⁹ In our case fracture was seen in the right neck of the femur. Among special investigations urinalysis shows the presence of Bence Jones proteins in about 49% of cases.⁵ In 83% of multiple myeloma cases, serum electrophoresis produce a single band called a monoclonal spike or M band. Urinary electrophoresis shows a spike in 75% of cases. Bone marrow shows abundant plasma cells in contrast to normal marrow, which contains less than 4% plasma cells. In the present case, bone marrow examination demonstrated 70% plasma cells.

Chemotherapy is indicated for the management of symptomatic myeloma. The regimens generally used are melphalan and prednisone or vincristine, doxorubicin and dexamethasone. Our patient received Cyclophosphamide, thalidomide, and dexamethasone and bisphosphonate. Autologous stem cell therapy achieves higher remission in young patients with low β_2 -microglobulin levels.³ Thalidomide and bortezomib have an important role in cases of relapse and drug resistance.¹⁰ Survival with conventional therapy ranges from 1 to 10 years.² High levels of β_2 -microglobulin and C-reactive protein and low levels of albumin have been associated with a poorer outcome.³

We published this case as in this case we had seen that multiple myeloma present only with fracture neck of femur in the absence of other symptoms and normal serum calcium despite presence of a significant number of plasma cells and raised gamma globulin.

Conclusion:

This case stress the importance of thinking, that an elderly patient presenting with pathologic fracture in the hip or other site in a background of significantly raised ESR multiple myeloma must be considered.

Conflict of Interest : None

References:

1. Dmoszynska A: Diagnosis and the current trends in multiple myeloma therapy. *Pol Arch Med Wewn* 2008; 118(10): 563-566.
2. Durie BG. Staging and kinetics of multiple myeloma. *Clin Haematol* 1986; 11: 3 –18

3. Boccadoro M, Pileri A. Diagnosis, prognosis, and standard treatment of multiple myeloma. *Hematol Oncol Clin North Am* 1997; 11:111-31.s
4. Riccardi A, Gobbi P, Ucci G, et al. Changing clinical presentation of multiple myeloma. *Eur J Cancer* 1991; 27:1401–1405
5. Saad F, Olsson C, Schulman C, et al. Skeletal morbidity in men with prostate cancer: quality-of-life considerations throughout the continuum of care. *Eur Urol* 2004; 46:731–740.
6. Saad F, Lipton A, Cook R, Chen YM, Smith M, Coleman R. Pathologic fractures correlate with reduced survival in patients with malignant bone disease. *Cancer* 2007; 110:1860–1867
7. Mahnken AH, Wildberger JE, Gehbauer G, et al. Multidetector CT of the spine in multiple myeloma: comparison with MR imaging and radiography. *AJR* 2002; 178:1429–1436
8. Roodman GD. Treatment strategies for bone disease. *Bone Marrow Transplant* 2007; 40:1139–1146
9. Percin S, Candan F, Yilmaz A, et al. Simultaneous bilateral trochanteric fractures during squatting in a patient with multiple myeloma. *Eur J Cancer Care (Engl)* 2005; 14:185-7.
10. Stoopler ET, Vogl DT, Stadtmauer EA. Medical management update: multiple myeloma. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2007; 103:599-609