Case report

Backache could be an indication of multiple myeloma: An unusual case report

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Abstract

Unusual presentation of multiple myeloma (MM) poses a diagnostic dilemma. The objective of this case report is to document the unique presentation of MM and to highlight the importance of backache which could be the only indicator for the diagnosis of MM. Although a history of trauma in the past is present in this case, but there is no molecular basis/evidence to declare trauma as a risk factor for MM. It can be concluded that the patients with backache should be thoroughly investigated to rule out any possibility of malignant disease process.

Keywords: Multiple myeloma; Backache; Monoclonal gammopathy; MRI

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Introduction

Multiple myeloma (MM) is a plasma cell disorder characterized by clonal proliferation of malignant plasma cells in bone marrow. Multiple myeloma is a neoplasm of plasma cells in the bone marrow. It is characterized by lytic lesions in the bones, marrow plasmacytosis and presence of M protein in serum and/or urine.MM accounts for 1 % of human cancers, almost 2 % of cancer deaths and 12–15% of all hematological cancers[1,2]. This can be detected by monoclonal protein in the blood or urine, and dysfunction of associated organs. It is classified as asymptomatic or symptomatic depending on the presence of a lesion or dysfunction of the affected organ. Its presentation may vary, which makes the diagnosis harder; especially in early stages where the patient has a better prognosis[3,4,5]. We report a case of a 49-year-old man who presented with the complaint of backache only as the initial clinical manifestation of MM.

Case Report

A 49 years old male patient reported to a private hospital,Lahore with a chief complaint of backache. About 17 years ago, he was hit by a motorcycle and he fell on his back.At that time all the investigations such as X-ray, MRI were normal. Since that time, he had acute on chronic,lower backache (mild to moderate,well controlled with analgesics and physiotherapy).Two years ago,after frequent long traveling, he started developing severe backache.

Past and family medical history

For the last 8 years,the patient had generalized myalgias and hypertension which iswell controlled with medications. Both of these complaints are present in almost all other family members.There is no history of weight loss, jaundice, renal, GIT or prostate related problem.

Radiographic and laboratory findings:

On 12th May 2015,MRI was performed that pointed out surprising, shocking and incidental findings of

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multiple low density shadows on a number of lower vertebrae. Multiple variable soft tissue lesions were observed in lumber, sacral and thoracic vertebral bodies and their pedicles. The lesions were returning hypo intense signals on both T1 and T2 weighted images. These findings were absent on the previous MRI that was performed 4years ago. Bone (May 13th 2015) and PET (May 21st 2015) scans were suggestive of metastatic lesions (Figure 1a& 1b) Radiologists raised strong suspicion of metastasis and advised further laboratory investigations.

On serum electrophoresis (May 16th 2015) a sharp, discrete band was observed in the gamma region that is consistent with a monoclonal gammopathy and later bone marrow biopsy (May 28th 2015) confirmed MM (Table 1, Figure 2). Interestingly in urine, Bence Jones protein was absent and total serum proteins were slightly raised.

Table 1: Serum Protein Electrophoresis findings of patient and the reference

Lab parameter	Result (gm/dl)	Normal ranges
Total protein	11.9	6.4-8.3
Albumin	4.02	3.2-5.5
Alpha 1	0.23	0.1-04
Alpha 2	0.96	0.4-1.2
Beta	1.05	0.5-1.1
Gamma	5.64	0.5-1.6
A/G ratio	0.51	1.2-1.7

Figure 1a: PET Scan (Transverse section)

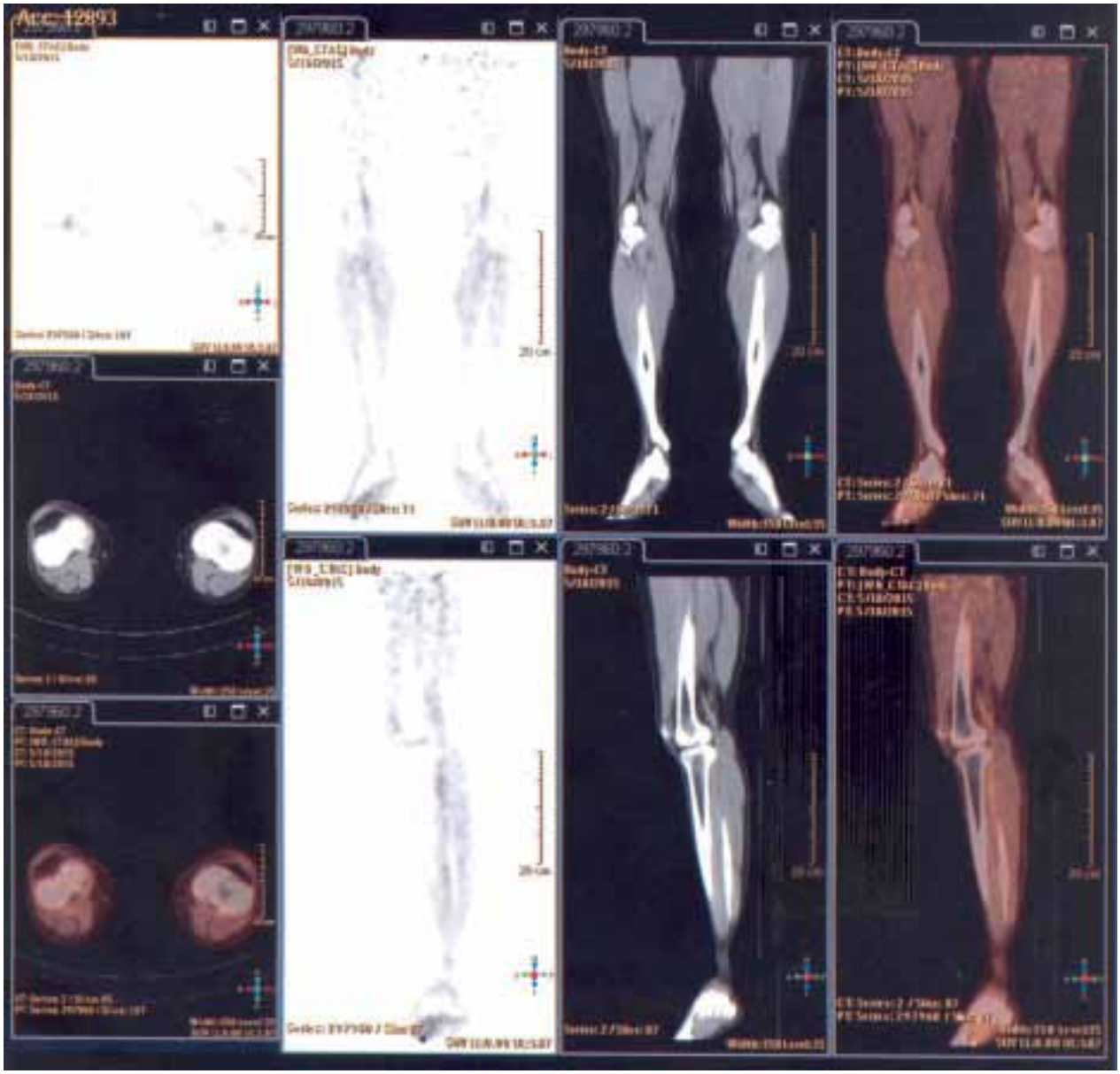

Figure 1b: PET Scan (Transverse section)

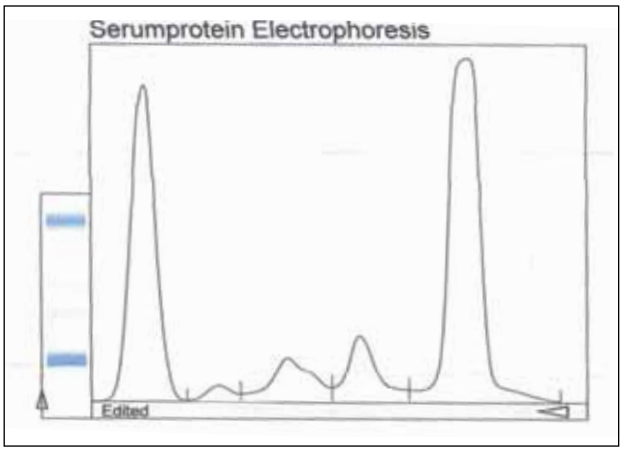

Figure 2: Monoclonal pattern serum protein electrophoresis. Serum Protein Fractions Associated with an Increased Level of Gamma Protein

Discussion

We have described an initial presentation of MM with an acute onset. In the literature, many case reports and research articles have described the diagnostic signs and symptoms of MM i.e. nausea, constipation, loss of appetite, fatigue, weight loss, arthralgia, lytic bone lesions, myalgia, renal problems, hypercalcemia, liver and spleen related symptoms, etc[1]. The interesting finding in the current case report is that the patient presented with the complaint of chronic backache only which was mild to moderate in intensity. Therefore, this case presented as a challenge for clinicians to its diagnosis because backache is a vague and general symptom of various muscular and bone pathologies. Although the literature is quite vocal about backache as a symptom

of MM in addition to other important and common symptoms, but this case report is the first of its type for declaring the backache as the only clue for MM[6-8]. Again the past history of road side accident in the current case report is not a usual finding because the development of MM after the history of trauma has not been documented. Researchers and clinician has suggested that with the progression of MM the patient suffers multiple fractures due to lytic bone lesions[9,10]. In this case, the suspicion of MM was raised by MRI findings. The International Myeloma Working Group developed practical recommendations for the use of magnetic resonance imaging (MRI) in MM i.e. MRI has high sensitivity for the early detection of marrow infiltration by myeloma cells compared with other radiographic methods. Thus, MRI detects bone involvement in patients with myeloma much earlier. It is the gold standard for the imaging of axial skeleton, for the evaluation of painful lesions, and for distinguishing benign versus malignant osteoporotic vertebral fractures. They also suggested that in cases of small lesions visible on MRI, a second MRI should be performed after 3 to 6 months, and if there is progression on MRI, the patient should be treated as having symptomatic myeloma[11]. However, the problem faced by the clinician in the current case was that an MRI performed four years ago was completely silent and had not pointed out even a small clue for a malignant disease process. This finding is very interesting and leading us towards an unusual conclusion that MM in this patient could be of an acute onset which might develop over a short period or may be in a few years.

Conclusion

It can be concluded that the patients with backache should be thoroughly investigated to rule out any possibility of malignant disease process, e.g. MM and sometimes it can serve as the only clue for the diagnosis of MM. Although a history of trauma in the past is present in this case, but there is no molecular basis/evidence to declare trauma as a risk factor for MM.

Conflict of interest: None to declare

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