Case Report

Primary lymphoma of bone in a 60-year-old diabetic patient: a case report

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ABSTRACT

In this report, we discuss an atypical case of bone pain caused by primary lymphoma of bone. A 60-year-old, diabetic, normotensive male presented with constant, unremitting pain in different bones. X-ray showed lytic lesion and fine needle aspiration cytology from the bone revealed non-Hodgkin lymphoma. Due low prevalence, primary bone lymphoma is often diagnosed late.

***Key words**: Primary bone lymphoma, lytic lesion in bone.*

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INTRODUCTION

Primary non Hodgkin lymphoma of the bone (PLB) is an extremely rare entity. It accounts for 7% of all malignant bone tumors and only 4 5% of all extranodal non Hodgkin lymphoma.[1,2] In addition, PLB accounts for ~2% of all lymphomas in adults and <1% of all malignant lymphomas.[2 4] The incidence of PLB reaches its peak at around 55 years of age and it exhibits a male-to-female ratio of 2:1.[2] In general, lymphoma presenting in bone is a sign of disseminated disease (stage 4) but rarely it may present as a solitary lesion involving a single extra-lymphatic organ or site as seen in our case.

CASE REPORT

A 60-year-old diabetic, normotensive male patient was admitted in a tertiary care hospital in Bangladesh with the complaints of bone pain in multiple sites for one and half months and loss of appetite and weight loss. He first developed pain in the right shoulder followed by pain in both knee joints. His shoulder and knee pain was improved by taking non-steroidal anti-inflammatory drugs and physiotherapy. However, the pain in the right hip persisted despite taking multiple oral and injectable analgesics. The pain was constant in nature, aggravated on movement and hampered his daily activities. He had no complaints of morning stiffness and joint swelling.

He has loss of appetite and lost around 50% of his original weight in one and half months. On query, he gave history of intermittent rise of temperature with the highest recorded temperature of 101° F. The patient also mentioned that he received 4 units of packed red cell transfusion for anemia in a local hospital two weeks prior to admission in this hospital.

On examination, patient was cachexic, vital parameters were within normal limit. There was no anemia, jaundice, palpable lymphadenopathy, skin rash or peripheral edema. On local examination, over right hip, tenderness was noted over right ischial tuberosity and pain on both active and passive movement of right hip joint. On examination of abdomen, there was no palpable

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organomegaly. Examination of respiratory, cardiovascular and nervous system revealed no significant abnormality.

The investigations showed normal hemoglobin and platelet count with leucocytosis. Erythrocyte sedimentation rate was raised. Peripheral blood film showed microcytic hypochromic picture with neutrophilic leucocytosis. Renal function was normal, electrolytes showed mild hyponatremia with normal calcium (Table I). X-ray of chest and skull was normal. Ultrasonogram of abdomen showed no organomegaly or intraabdominal lymphadenopathy. X-ray of pelvis showed a lytic lesion and irregularity of margin of right ischium (Figure 1).

Table I. Initial biochemical investigations and imaging

Investigation	Results
CBC with ESR	Hb % - 14 g/dl,WBC – 17,300/cmm ,Neutrophil-77.3%,Lymph- 10.9%, Mono-10.7%,Eosinophil- 1.1%,Platelet- 3,09,000/cmm, ESR- 65mm in 1st hour
Peripheral blood film	Mild microcytic hypochromic picture with neutrophilic leucocytosis
Iron profile	Ferritin - 9639 ng/ml,Transferrin saturation – 29%
Renal function test	S. Na - 130 mmol/l,K - 4.7 mmol/l,Cl - 90 mmol/l,HCO3 - 28 mmol/l,Ca - 8.4 mg/dl, Phosphate - 3.4 mg/dl, urea-41mg/dl, creatinine-0.7mg/dl
Urine for Bence Jones protein	negative
Protein electrophoresis	doubtful pattern of gammaglobulin fraction
Immunoglobulin electrophoresis	no band is seen on serum IFE gel, suggestive of no abnormal accumulation of Immunoglobulin molecule or free chain in the serum
USG abdomen	no organomegaly or abdominal lymphadenopathy.
Chest X-ray and X-ray skull	normal

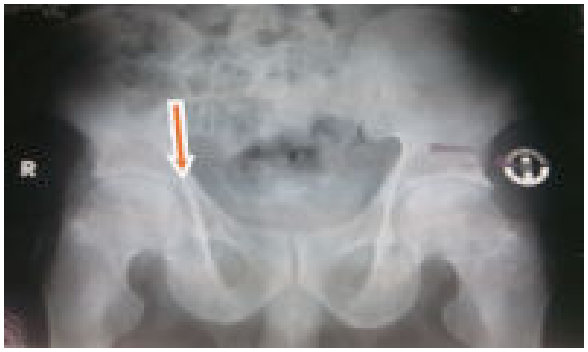

Figure 1. X-ray of right hip joint showed a lytic lesion (arrow) and irregularity of margin of right ischium.

Bone scan showed Increased tracer uptake in T5, T6, T7, T9 vertebra and right ischium which was suggestive on infiltrative bony lesion (Figure-2).A computed tomography (CT) scan of right hip joint including pelvis was done and fine needle aspiration cytology (FNAC) from the affected area was performed which showed presence of atypical lymphoid cells, histocytes,

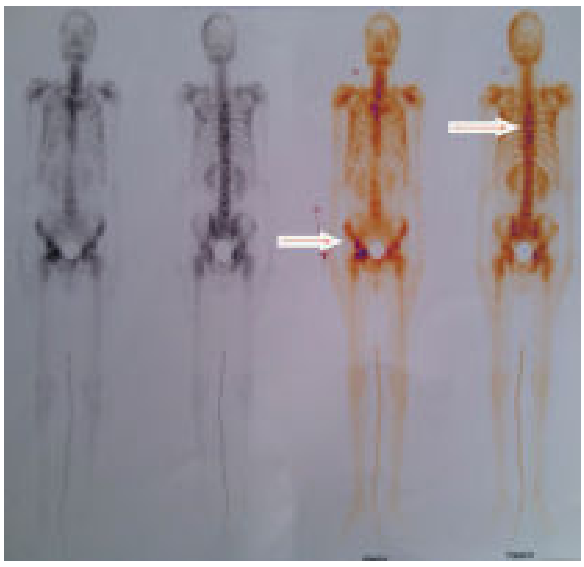

Figure 2. Bone scintigraphy showed Increased tracer uptake in T5, T6, T7, T9 vertebra and right ischium (arrow) including right hip joint – suggestive on infiltrative bony lesion.

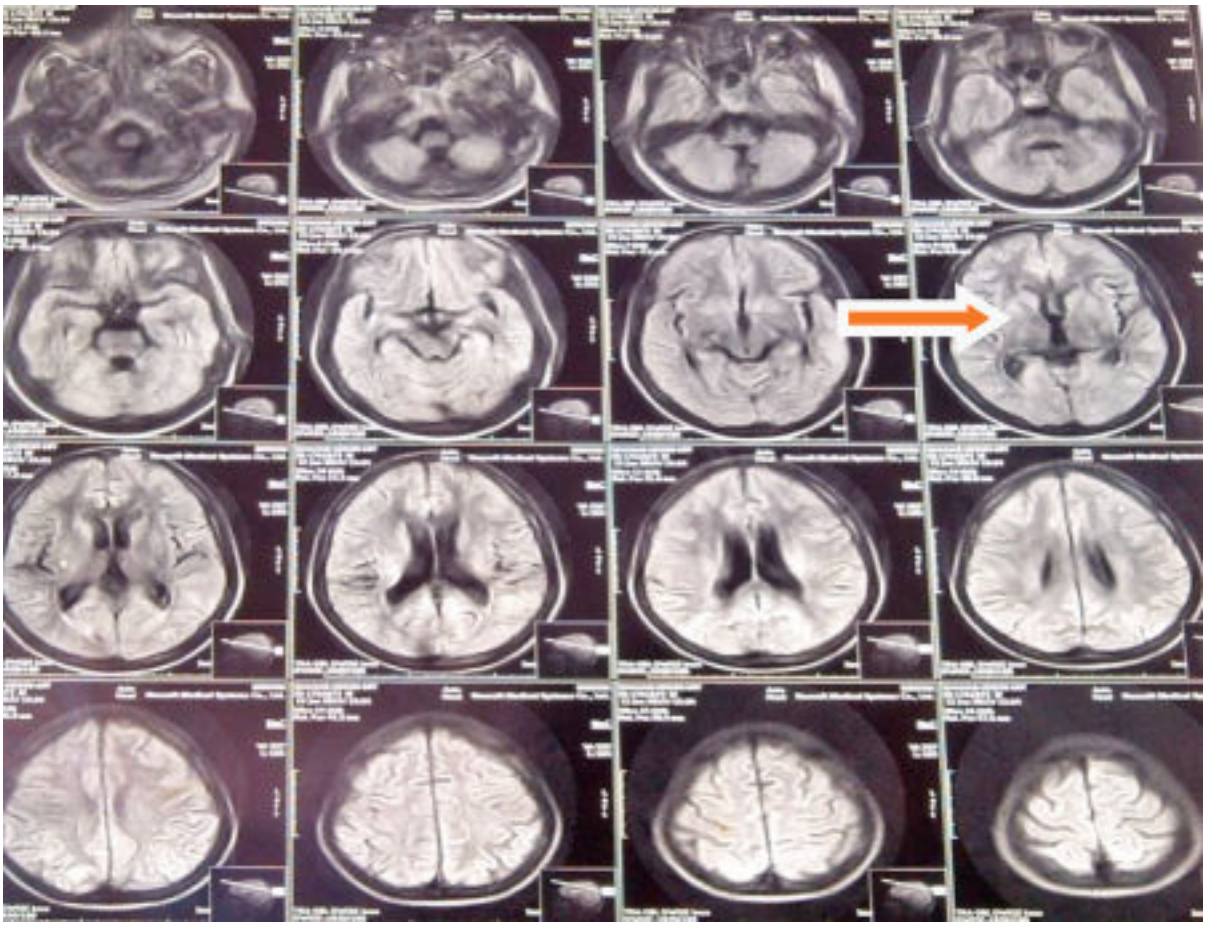

Figure 3. MRI brain (DWI) showing brainstem infarct (arrow)

polymorphs and a few giant cells in the background of blood which is suggestive of non-Hodgkins lymphoma. During the course of the hospital stay, the patient developed right sided lower motor type VII nerve palsy and left sided XII nerve palsy. Magnetic resonance imaging (MRI) of brain showed brain stem infarct (Figure 3).

After stabilization of general condition and management of co-morbidities patient was referred to oncology department, where trephine biopsy of bone marrow was done. The microscopic appearance showed focal viable areas with increased cellularity and monotonous population of lymphoid cells, which further went in favour of Non-Hodgkin lymphoma.

DISCUSSION

The principal areas of involvement in PLB are the tubular bones of the limbs and the axial skeleton. Destruction may be observed in the femur, tibia, humerus, vertebral bodies, and also the shoulder blades, pelvis, ribs and sternum.[2,5] In our patient, there was involvement of vertebral bodies and right ischium. Wu et al suggested that the femur was the most common site of unifocal PLB, whereas the spinal bones were more commonly involved in cases of multifocal PLB .[6] Patients with PLB usually present with mild clinical symptoms like localized bone pain and less commonly, systemic symptoms, such as fever, emaciation and night sweats as in our patient.[5] X ray examination typically shows osteolytic lesions located in the axial skeleton or the metaphysis of long bones.[7] PLB cannot be diagnosed specifically using radiography, and the final diagnosis usually depends on the histopathological assessment of biopsy specimens.[5]

Beal et al described a study including 82 patients with PBL. Approximately 80% cases presented with diffuse

large-cell lymphoma and 81% presented with Ann Arbor Stage I or II disease. Approximately 57% were treated with combined modality therapy (chemotherapy + radiotherapy), 14% were treated with radiation therapy alone and 30% were treated with chemotherapy alone. The 5-year overall survival for patients treated with combined modality versus single-modality therapy was 95% versus 78% indicating better outcome with combined therapy.[8]

Conclusion

PBL in itself is a rare tumour with a comparably favourable outcome and only few studies have been done about it. Therefore, its varied clinical and histopathological profile is still to be explored entirely. It should be kept in mind while dealing with bone lesions as treatment in initial stage improves outcome.

Authors' contribution: HFH, TM diagnosed and managed the case. TM, TN drafted manuscript. LF reviewed and contributed further to the article.

Consent: The case report is written with consent of patient only to be published in medical journals for purpose of research and advancement of scientific knowledge.

Conflicts of interest: Nothing to declare.

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