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Images in hematology-oncology

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81-year old male presenting with proximal tibial mass

CLINICAL HISTORY

A 81-year old male patient presented with left knee pain refractory to non-steroidal anti-inflammatory agents for 6 months. He did not describe night sweats, fever or weight loss. Family history and the rest of medical history were unremarkable. In physical examination, swelling and tenderness was prominent on proximal part of left tibia. Arthralgic gait was observed. The laboratory evaluation was remarkable for WBC: 14.200/mm3 with 95% neutrophils, erythrocyte sedimentation rate 98 mm/hr, and CRP 3.02 were found. In conventional knee X-Ray irregularity in cortex of left proximal tibia and decrease in bone density was seen (Figure 1A). Magnetic resonance imaging showed a large, heterogeneous contrast enhancing lesion involving the medullary and cortical bone of the proximal tibia with cortical disruption and extension into the adjacent soft tissue (Figure 1B). No evidence of lymphadenopathy, organomegaly, or other mass lesions can be found on physical examination and radiologic studies. Trucut biopsy was performed. Pathological examination revealed pleomorphic cells with large nuclei in fibrous background composed of small lymphoid cells among bone trabecules (Figure 2). These cells showed strong positivity with CD20 (Figure 3) while small lymphoid cells were CD3 positive. ALK and CD30 were negative. Bone marrow biopsy was normal.

What is your diagnosis?

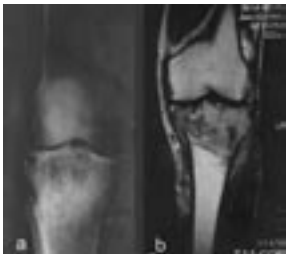

Fig 1(A,B). Malignant lymphoma of the proximal tibia. (A): Anteroposterior radiograph shows a radiolucent osteolytic lesion. (B): Coronal T1-weighted image indicates involvement of bone marrow with low-intensity signal as well as involvement of surrounding tissues

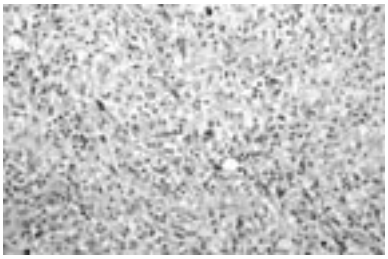

Fig 2. Large pleomorphic cells on the fibrous background admixed with lymphoid cells (H&E, x200)

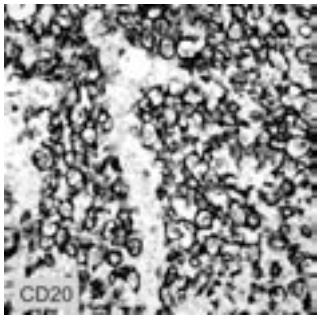

Fig 3. Diffuse CD20 expression of large cells (x400)

PATHOLOGIC DIAGNOSIS

Primary diffuse large B cell lymphoma of bone

DISCUSSION

Primary lymphoma of bone is a rare entity and non-Hodgkin lymphomas are most frequently encountered constituting 5% of all extranodal non-Hodgkin lymphomas and 7% of primary bone tumors (1,2). Bone pain and swelling in long bones or vertebrae are two major presenting features. The presence of a solitary, permeative, metadiaphyseal lesion with a layered periosteal reaction on plain radiographs and a soft-tissue mass on MR images, especially in a patient older than 30 years, is highly suggestive of lymphoma, but open biopsy is required for a definitive diagnosis (3). Large cell lymphoma, Hodgkin's lymphoma, anaplastic large cell lymphoma, Burkitt's lymphoma, and lymphoblastic lymphoma are described as the most common types of primary bone lymphomas (4). Chronic osteomyelitis, Ewing sarcoma, osteosarcoma and metastatic tumor should be considered in differential diagnosis (2). Treatment is composed of both chemo- and radiotherapy yielding a 38-88% 5-year survival, which depends on the stage of disease, amount of bone involvement and visceral involvement, mainly (1).

References

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