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CLINICAL IMAGE

Primary bone lymphoma presenting as fever of unknown origin

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1 | CASE PRESENTATION

A 79-year-old man was admitted to our department for the examination of new-onset back pain, prolonged fever, night sweats, and weight loss for the previous 3 months. His serum C-reactive protein, soluble interleukin-2 receptor, and lactate dehydrogenase levels were high at 10.97 mg/dL (reference range <0.15), 674 U/mL (122–496), and 1,110 U/L (124–222), respectively. Malignant lymphoma was suspected based on his clinical presentation and laboratory results; however, contrast-enhanced computed tomography (CT) revealed no enlarged lymph nodes, and random skin biopsy showed no evidence of malignancy to suggest intravascular lymphoma. Meanwhile, lumbar CT performed for the back pain revealed an occult vertebral fracture, but it was not definitive. Additional magnetic resonance imaging revealed multiple pathological fractures and surrounding soft tissue swelling in the lower thoracic and lumbar vertebrae. Positron emission tomography (PET)-CT was performed to identify the primary lesion, and multiple fluorodeoxyglucose accumulation was observed in the vertebrae, sternum, ribs, ilium, and femurs (Figure 1). Multiple bone metastases were also considered as a differential diagnosis. Biopsy of the first lumbar vertebra was performed and CD10- and CD20-positive large lymphoid cells with higher Ki-67 expression were proliferated, which was consistent with the diagnosis of diffuse large B-cell lymphoma (DLBCL). The patient was transferred to the hematology department for further investigation of primary bone DLBCL.

Primary bone lymphoma (PBL) is more common in males, and most cases are diffuse large B-cell lymphomas, as seen in our case.[1] Usually, anthracycline-based combination chemotherapy is performed for PBL. The prognosis of PBL is correlated to the stage of disease, and the 5-year overall survival of PBL ranges from 38% to 82%.[2] It is a very rare disease that accounts for less than 2% of all adult lymphomas[2]; however, up to 11% of patients who had previously undergone bone marrow examination with fever of unknown origin were later diagnosed with PBL,[3] which suggests that there may be many cases of misdiagnosis.

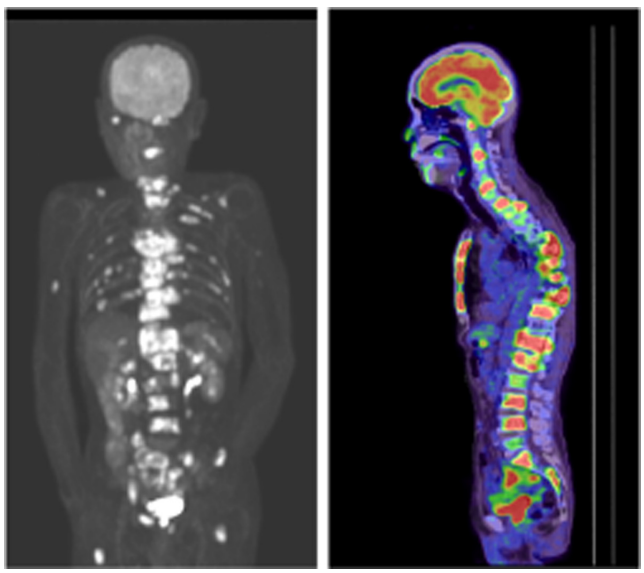

FIGURE 1 PET-CT showing fluorodeoxyglucose accumulation in the vertebrae, sternum, ribs, ilium, and femurs. No extraskeletal accumulation is observed

"B" symptoms, which were our patient's presenting complaint, are not always observed; the most common symptom in PBL is local bone pain. The femur is most commonly affected in the Western population, while the pelvis is most commonly affected in Asians.[4] Although the diagnosis of PBL is difficult because enlarged lymph nodes are absent, PET-CT has good sensitivity and is useful for diagnosis and staging.[5] Physicians should carefully diagnose patients with fever of unknown origin so as not to miss this rare lymphoma, especially when the patient has bone pain, even in the absence of a nodule.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest in association with this study.

PATIENT CONSENT

Written consent to publish this report was obtained from the patient.

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