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Case report

Scapular bone destruction: A case report of skeletal tuberculosis with a series of dynamic radiologic features

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Abstract

Tuberculosis (TB) is an extremely common opportunistic infection in human immunodeficiency virus (HIV)-positive patients. Pulmonary TB is the most common manifestation while skeletal TB, especially with an involvement of flat bone like scapula, is quite rare. We report the first case scapular TB in an advanced AIDS individual who was initially considered as lymphoma because of the faulty interpretation of the positivity of PET/CT scan. In this article, we present a series of dynamic radiologic data and emphasize the differential diagnostic of skeletal TB.

Keywords: Scapular tuberculosis; Lymphoma; PET/CT; HIV/AIDS

1. Introduction

Tuberculosis (TB) remains a major global health problem, as the second leading cause of death from an infectious disease worldwide [1]. It typically affects the lungs. Osteoarticular TB is far less frequent and constitutes around 1–3% of all tuberculous cases with a predominant involvement of spine followed by joint and long bone [2–4]. TB involving flat bones, like scapula, is rarely encountered. To the best of our knowledge, there are only 24 cases have been reported in literature and this is the first case of scapular tuberculosis in HIV-positive patient [2,3,5–20]. In this article, we present a series of dynamic radiologic data and emphasize the differential diagnostic of skeletal TB.

2. Presentation of case

A 38-year-old male patient had been well until approximately 2 months earlier, when fever and pain in the left shoulder developed. He also mentioned weight loss, fatigue and cough. There was a history of AIDS for several months and he was out of regular treatment. On examination, multiple discrete cervical lymph nodes were palpable at the right side with the largest being 2.5*2.5 cm, non-tender and bilateral inguinal lymph nodes were also noticed. Laboratory studies showed a mild decrease in serum level of Ca^{2+} and marked an elevation in serum level of CA125 and β_2-microglobulin (β_2-MG), erythrocyte sedimentation rate (ESR), and white blood cells (WBC), being $14.2*10^9$/L, in which neutrophils counted 97.7% while lymphocytes 1.8%. $CD4^+$ T lymphocytes counted 39 cells/μl. Mycobacterial lipoarabinomanan (LAM) detection test was positive. ^{18}F-FDG PET/CT revealed not only focal FDG uptake in the regions of bilateral supraclavicular, axillary, hilar, mediastinal and retroperitoneal lymph nodes but bony erosion and intense FDG activity in the left scapula with abnormally increased metabolism of adjacent soft tissue (Fig. 1A). Malignant lymphoma was raised to suspicion. The bone marrow biopsy specimen and lymph node biopsy which were recommended for further evaluation, indicated anemia and AIDS-related lymphadenopathy respectfully and excluded the diagnosis of lymphoma

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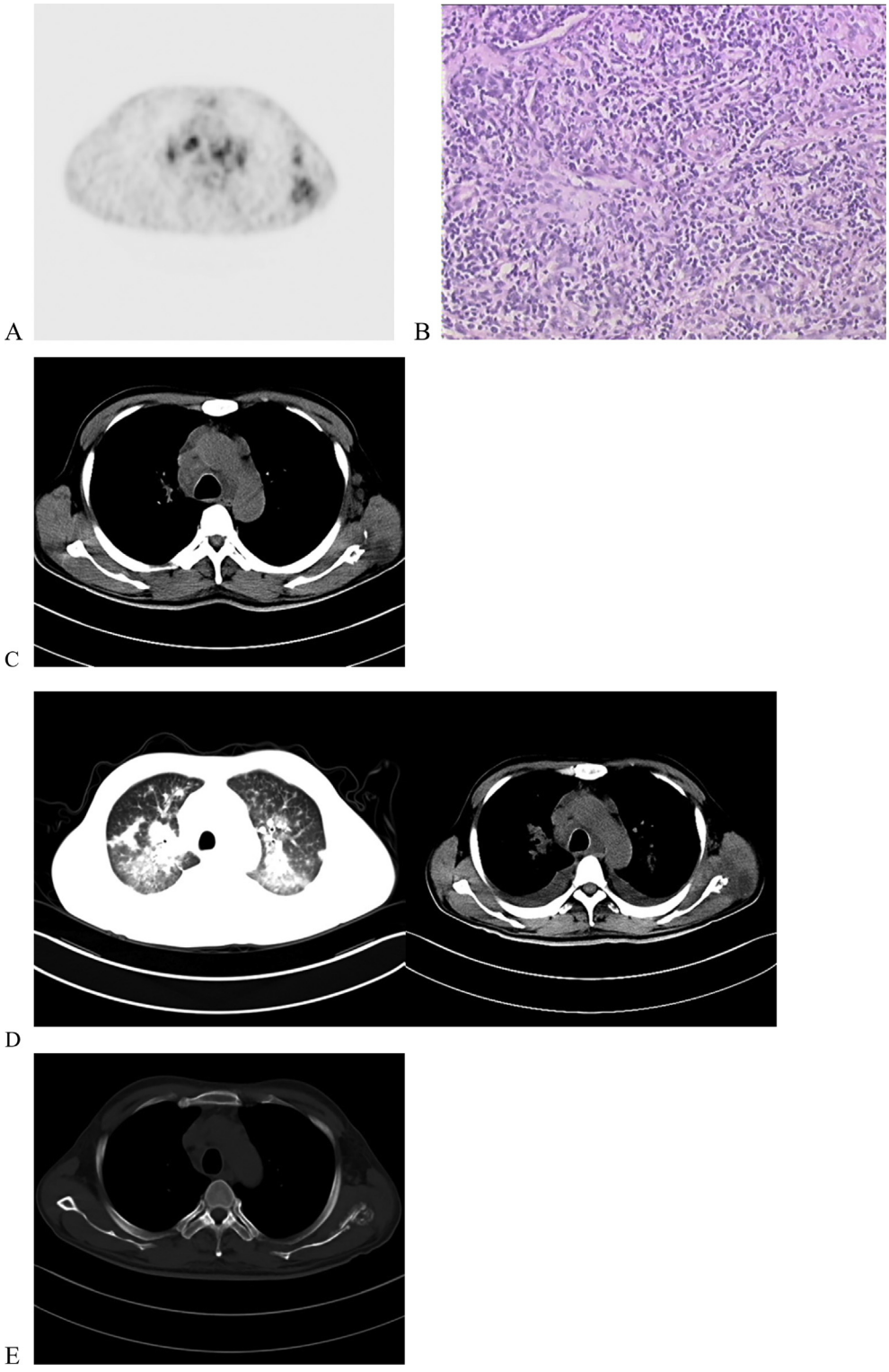

Fig. 1. A. PET/CT showed an FDG-avid in the regions of mediastinal lymph nodes and left scapular bony erosion as well as the adjacent soft tissue. B. Lymph node biopsy indicated AIDS-related lymphadenopathy (H&E, ×200). C. Bone window of chest CT scan revealed lytic destruction of the left scapula with discontinuous cortex and bony fragment. An adjacent soft-tissue swelling was noted as well. D. A follow-up CT scan of the 40th day demonstrated an exacerbation of the foci: bone window showed bone destruction aggravated and sequestra formed, ground glass opacities augmented and integrated and bilateral pleural effusion was observed. E. A follow-up CT scan of the 72nd day revealed that the absorption of scapular adjacent abscess and bilateral pleural effusion was noticed. Bone window showed periosteal reaction along the scapular cortex.