F-18 Fluorodeoxyglucose Positron-Emission Tomography/Computed Tomography Image of Rare Case of Phaeohyphomycosis Causing Osteomyelitis of Scapula in a Postrenal Transplant Recipient

Abstract

Phaeohyphomycosis belongs to a heterogeneous group of fungal infections, originally described by Ajello *et al*. as mycoses, whose etiologic agents develop in host tissue as dark-walled, septate mycelial elements. Disseminated infections occur in immunocompromised patients, involving the paranasal sinuses, eyes, central nervous system, lymph nodes, and bone. We present here an interesting image of ^{18}F fluorodeoxyglucose positron-emission tomography/computed tomography showing scapula osteomyelitis caused by phaeohyphomycosis.

Keywords: *Bone, fluorodeoxyglucose positron-emission tomography/computed tomography, immunocompromised, phaeohyphomycosis*

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A 36-year-old woman with postrenal transplant done 6 years before was on immunosuppression, on follow-up, presented with pain and difficulty in lifting left arm for 1 month. Magnetic resonance imaging of the left shoulder joint [Figure 1] showed a soft-tissue lesion in the spine of the scapula suggestive of primary bone neoplasm. She was referred for ^{18}F fluorodeoxyglucose positron-emission tomography/computed tomography (^{18}F-FDG PET/CT) which showed intensely hypermetabolic lytic areas with soft-tissue necrotic lesion involving spine of left scapula, with a maximum standardized uptake value of 19.8 [Figure 2]. Biopsy of the lesion showed many branching septate and pigmented hyphae in dense infiltrate of histiocytes suggestive of phaeohyphomycosis [Figure 3]. She underwent wide local excision and scapulectomy. Final pathology also confirmed phaeohyphomycosis. She was started on antifungal medications and was asymptomatic on follow-up.

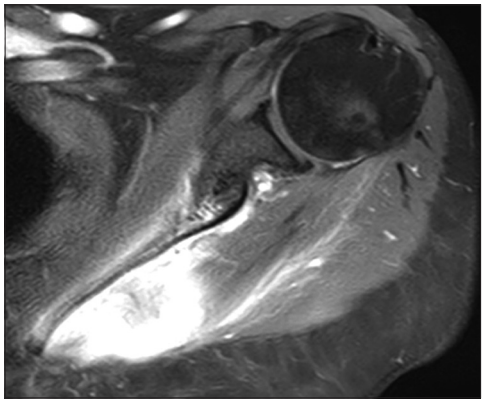

Figure 1: Magnetic resonance imaging of the left shoulder showing soft-tissue lesion involving spine of scapula

Phaeohyphomycosis is a group of fungal infections characterized by the presence of septate pigmented hyphae in the tissues and includes cutaneous, subcutaneous, and systemic infections. Phaeohyphomycosis is the term used for infections caused by dematiaceous fungi with the characteristic presence of melanin pigment in their cell walls. Branching septate and fungal hyphae were observed within and in between giant cells in hematoxylin and eosin-stained sections.[1] Invasive fungal infections are common in immunocompromised patients. Bone involvement of phaeohyphomycosis is very rare.[2] The major role of FDG PET/CT in fungal infection is to reveal the extent of disease, and it can also serve as a valuable tool in monitoring the treatment response to antifungal therapy. Fungal infection could be a cause of false-positive results on

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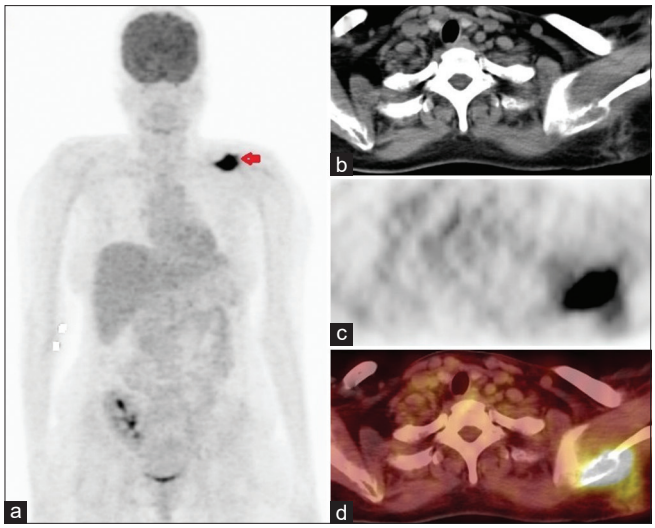

Figure 2: Maximum intensity projection (a), axial computed tomography (b), axial positron-emission tomography (c), coronal fused F-18 positron-emission tomography/computed tomography (d) showing intensely hypermetabolic lytic lesion with soft-tissue lesion in the left scapula (red arrow), standardized uptake value of 19.8. Also, transplant kidney noted in right iliac fossa

FDG PET/CT performed for malignancy.[3] Our case is the first case of ^{18}F-FDG PET/CT image of rare case of bone phaeohyphomycosis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed

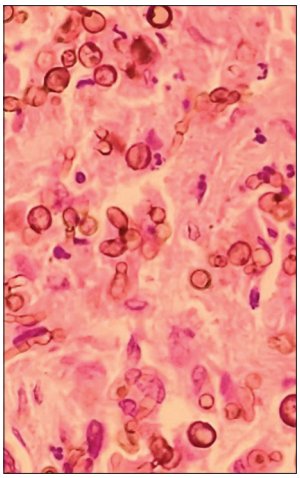

Figure 3: Photomicrograph of histopathological section shows pigmented branching short septate hyphae and spores in aggregates and within giant cells (H and E, ×40)

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Conflicts of interest

There are no conflicts of interest.

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