

Pigmented Villonodular Synovitis: A Close Mimic of Metastasis on ^{18}F -fluorodeoxyglucose Positron Emission Tomography/Computed Tomography

Sir,

A 52-year-old female, treated case of neuroendocrine carcinoma of cervix presented 1 year later with complains of pain in the right hip joint. The onset of the pain was insidious and of moderate severity. The patient underwent ^{18}F -fluorodeoxyglucose positron emission tomography computed tomography (FDG PET CT) for suspected recurrent disease. It revealed FDG avid soft tissue mass with SUVmax 16.40 in the right hip joint (maximum intensity projection image) [Figure 1a-c]. No bone erosion was noted. There was no other FDG avid lesion elsewhere in the study. Since it was a solitary focal intensely FDG avid soft tissue lesion at the index symptom site, possibility of the metastatic disease was raised. Being an unusual morphological characteristic for metastatic lesion and the only positive finding with an intense FDG uptake, a biopsy correlation for the same was suggested. Biopsy of the lesion showed collections of foamy and pigment-laden macrophages, along with fibroblasts with low power view revealing nodular spaces lined by giant cells on eosin stain which are characteristic findings of pigmented villonodular synovitis (PVNS) [Figure 1d].

FDG PET CT has very high sensitivity and specificity in detecting local recurrence as well as distant metastases in cervical cancers. For detecting distant metastases, sensitivity is almost 100% and specificity of 90%.^[1] Interpreting the FDG PET CT in clinical context is very important since FDG is very sensitive in detecting disease sites but can be sometimes nonspecific in the given clinical context. Hence, it is important to establish the correct diagnosis before proceeding with the treatment. PVNS presents as FDG avid mass and thus is a potential mimic for metastatic disease in a known case of cancer.^[2-5] As seen in our case, it detected intensely FDG avid soft tissue around the hip joint-an index symptom site however it turned out to be PVNS on HPR correlation rather than metastatic disease. Microscopically, these lesions are characterized by the pigment-laden foamy macrophages and giant cells. These cells have high rate of metabolism which could be the reason of high FDG avidity of PVNS.

In this era of FDG PET CT, one should be aware of metastatic mimics because metastatic lesion can upstage or change the management of the cancer patient whereas mimics may have different treatment or sometimes treatment is not even necessary for it! PVNS is one of the metastatic mimic which we have reported in this case.

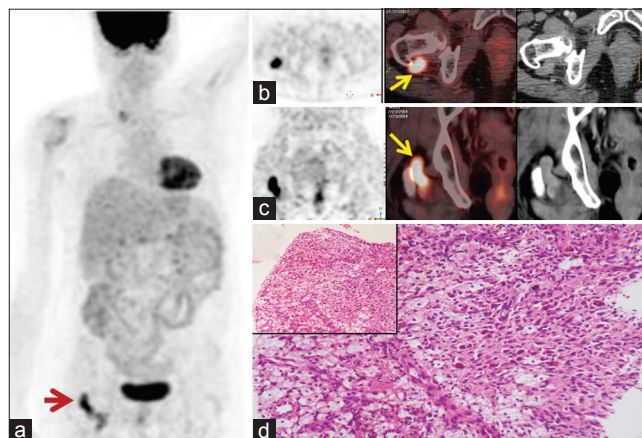


Figure 1: (a) Maximum intensity projection image showing hypermetabolic lesion in the right hip region (yellow arrow). (b and c) Axial and coronal positron emission tomography, fused and computed tomography images of the right hip joint region showing a pedunculated lesion with areas of cystic and soft tissue component in the soft tissue (yellow arrow), (d) Collections of foamy and pigment laden macrophages, along with fibroblasts (H and E, $\times 100$). Inset (top left corner, $\times 20$) shows low power view of nodular spaces lined by giant cells findings characteristic of pigmented villonodular synovitis

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Access this article online	
Quick Response Code:	Website: www.ijnm.in
	DOI: 10.4103/ijnm.IJNM_117_17

How to cite this article: Shaha K, Agrawal A, Mittal N, Purandare N, Mahantshetty U, Shah S, *et al.* Pigmented villonodular synovitis: A close mimic of metastasis on ¹⁸F-fluorodeoxyglucose positron emission tomography/computed tomography. Indian J Nucl Med 2018;33:82-3.

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