^{18}F-FDG PET/CT image of NK/T cell lymphoma in the sacroiliac joint

Abstract

NK/T cell lymphoma in the sacroiliac joint is very rare. We report fluorine-18-fluorodeoxyglucose (^{18}F-FDG) positron emission tomography/computed tomography (PET/CT) findings of NK/T cell lymphoma in the sacroiliac joint in a 48-year-old man. On ^{18}F-FDG PET/CT image, it manifested a soft tissue mass with adjacent bone destruction in the sacroiliac joint, which had intense ^{18}F-FDG uptake. The final pathology supported a diagnosis of NK/T cell lymphoma. Our case added the knowledge of another rare site of NK/T cell lymphoma, which should be regarded as a differential diagnosis for sacroiliac joint mass with intense ^{18}F-FDG uptake.

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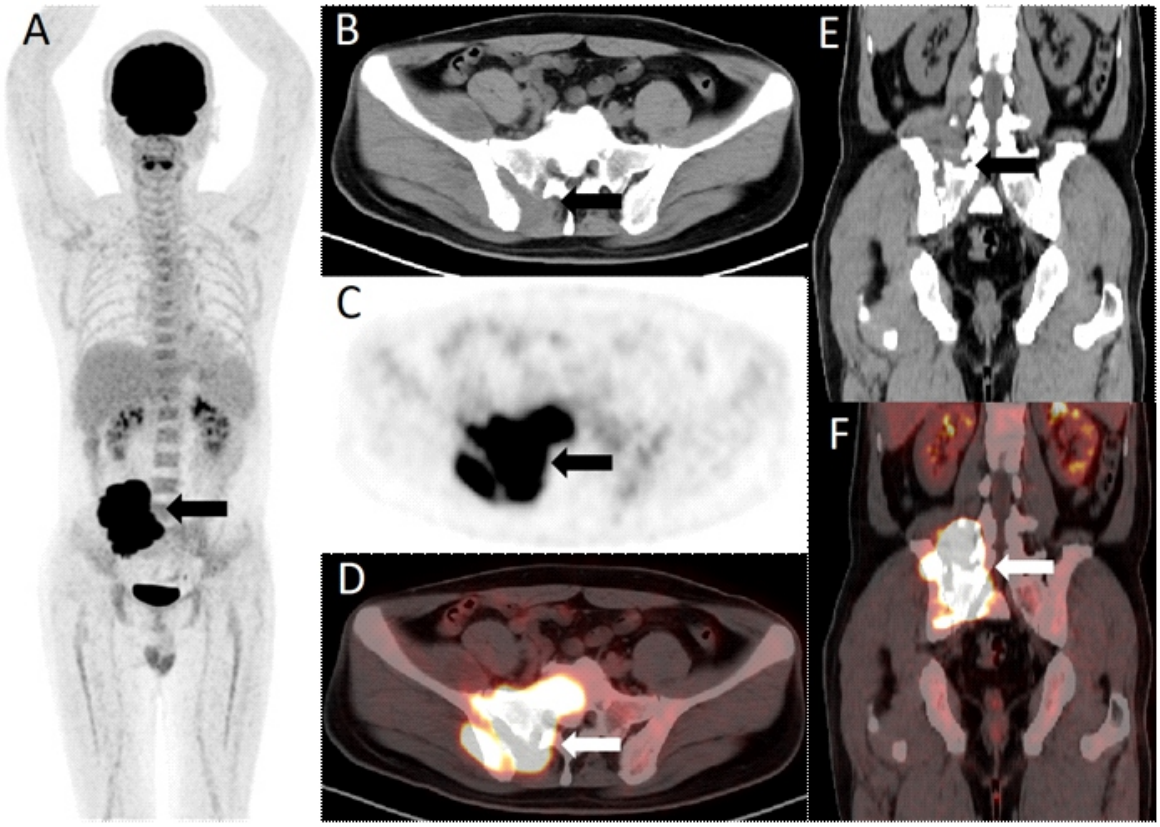

Figure 1. A 48-year-old man came to our hospital for the complaint of right lumbosacral pain for three months. The blood examination had no obvious abnormalities. Pelvic CT showed a mass in the sacroiliac joint with adjacent bone destruction. A malignancy was suspected. Thus, ^{18}F-FDG PET/CT was performed for staging. Maximum intensity projection (MIP) image indicated an ^{18}F-FDG-avid lesion in the sacroiliac joint area. The axial CT (B), PET (C), and fused images (D) and coronal CT (E), and fused images (F) showed a soft tissue mass with adjacent bone destruction in the sacroiliac joint, which had intense ^{18}F-FDG uptake with an maximum standardized uptake value (SUVmax) of 29.77. Then, this patient underwent biopsy. The final pathology supported a diagnosis of NK/T cell lymphoma. NK/T cell lymphoma mainly occurs in nasal cavity and adjacent areas. Rare sites include vagina [1], vocal cord [2], skin [3],breast [4], adrenal [5]. However, NK/T cell lymphoma in the sacroiliac joint is very rare. Li et al. (2020) [6] and Xu et al. (2020) [7] reported a case of diffuse large B-cell lymphoma in the sacrum presenting as osteolytic bone destruction with intense ^{18}F-FDG uptake. Similar image appearance should be differentiated from of plasmacytoma [8], Kaposi form hemangioendothelioma [9], chordoma [10],giant cell tumor [11]. Our case added the knowledge of another rare site of NK/T cell lymphoma, which should be regarded as a differential diagnosis for sacroiliac joint mass with intense ^{18}F-FDG uptake.

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Bibliography
1. Tang P, Wang R, Su M et al. ^{18}F-FDG PET/CT Showing a Primary Vaginal NK/T Cell Lymphoma. *Clin Nucl Med* 2022; 47: 273-4.
2. Huang M, Wang R, Shen G et al. Nasal-Type NK/T-Cell Lymphoma Involvement of the Vocal Cord on ^{18}F-FDG PET/CT. *Clin Nucl Med* 2022; 47(10): 914-5.
3. Filizoglu N, Ozguven S, Ones T et al. Extranodal NK/T-Cell Lymphoma With Widespread Cutaneous and Subcutaneous Involvement on ^{18}F-FDG PET/CT. *Clin Nucl Med* 2022; 47(10): e630-e631.
4. Zhang Y, Wang K, Tan Q et al. Primary breast CD20-positive extranodal NK/T cell lymphoma with stomach involvement: a case report and literature review. *Diagn Pathol* 2021;16:103.
5. Dong P, Wang L, Shen G et al. Primary adrenal extranasal NK/T cell lymphoma with subcutaneous involvement demonstrated on ^{18}F-FDG PET/CT: A clinical case report. *Medicine (Baltimore)* 2019; 98: e14818.
6. Li GN, Xiao L, Li L. ^{18}F-FDG PET/CT imaging in a patient with solitary primary sacral lymphoma. *Hell J Nucl Med* 2020; 23: 356-7.
7. Xu T, Fu W, Zhang X et al. A Case of Primary Sacral Lymphoma Evaluated by ^{18}F-FDG PET/CT. *Clin Nucl Med* 2020; 45: 888-9.
8. Wong CL, Mansberg R. Solitary plasmacytoma of bone: an unusual cause of severe sacral pain in a young man. *Clin Nucl Med* 2005; 30: 612-4.
9. Xu H, Song L, Duan J. ^{18}F-FDG PET/CT Findings in a Woman With Kaposiform Hemangioendothelioma in the Sacrum. *Clin Nucl Med* 2022; 47: e353-e354.
10. Ochoa-Figueroa MA, Martinez-Gimeno E, Allende-Riera A et al. Role of ^{18}F-FDG PET/CT in the study of sacrococcygeal chordoma. *Rev Esp Med Nucl Imagen Mol* 2012; 31: 359-61.
11. Zhang Y, Reeve IP, Lewis DH. A case of giant cell tumor of sacrum with unusual pulmonary metastases: CT and ^{18}F-FDG PET findings. *Clin Nucl Med* 2012; 37: 920-1.

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