

신경섬유종증 환자의 F-18 FDG PET/CT에서 육종전환으로 오인된 신경섬유종

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A Neurofibroma Confused with Sarcomatous Transformation on F-18 FDG PET/CT in Neurofibromatosis-1

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We present a patient with high ¹⁸F-fluorodeoxyglucose (FDG) uptake detected in a neurofibroma that was confused with sarcomatous transformation on a positron emission tomography/computed tomography (PET/CT) scan. A 39-year-old male patient with a 20-year history of neurofibromatosis-1 (NF-1) performed FDG PET/CT scan for the evaluation of lesions with sarcomatous transformation. The FDG PET/CT images demonstrated varying degrees of increased FDG uptake in the multiple nodules throughout whole body. The left pelvic mass with the highest FDG uptake had a maximum standardized uptake values (maxSUV) 5.0 and surgical resection was performed. Histological analysis confirmed the presence of a benign neurofibroma infiltrated with inflammatory cells. (Nucl Med Mol Imaging 2009;43(4):361-362)

Key Words: PET/CT, F-18 fluorodeoxyglucose, neurofibromatosis.

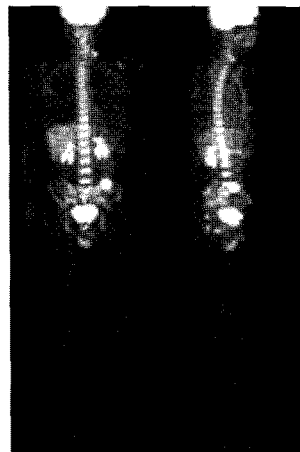


Figure 1. Maximum intensity projection image of FDG PET/CT showed multiple nodular uptakes with varying degrees of FDG uptake (arrow) throughout whole body.

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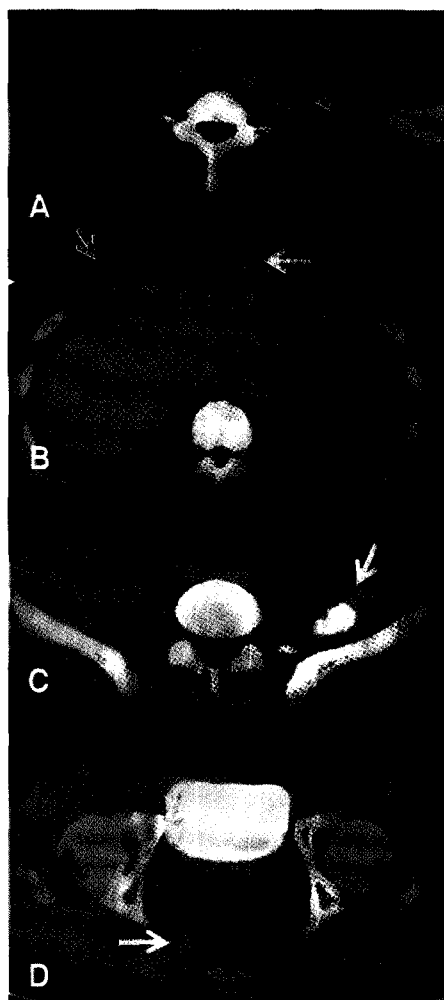


Figure 2. Axial fusion image of FDG PET/CT showed various findings. Moderate FDG uptake (arrow) were observed in deep seated lesions of the left lower neck with maxSUV of 2.7 (A) and right pelvic cavity with maxSUV of 2.9 (D). Mildly increased FDG uptake with maxSUV of less than 2.0 (arrow) was observed in multiple cutaneous nodules (B). A focus of intense FDG uptake with a maxSUV of 5.0 (arrow) was observed in the mass between left iliac bone and thoracic muscle (C). Bony destruction of adjacent left iliac bone or extension into neural foramen or spinal canal was not observed. Neurofibrosarcoma is the major cause of death of NF-1 patients less than 40 years ago.¹⁾ The differential diagnosis is difficult because considerable overlap exist in the clinical and radiological characteristics between sarcomatous transformation and benign neurofibroma. A broad overlap in SUV between benign and malignant lesions was observed on FDG PET/CT,²⁾ however, FDG PET/CT may be useful screening tool in patients with NF-1 as this help to detect deep-seated lesions and to avoid multiple surgical procedures for benign lesions due to diagnostic uncertainty.^{3,4)} Neurologic examination and close follow-up of hypermetabolic mass on FDG PET/CT might be necessary to avoid deep surgical resection to rule out malignant transformation of benign neurofibroma.

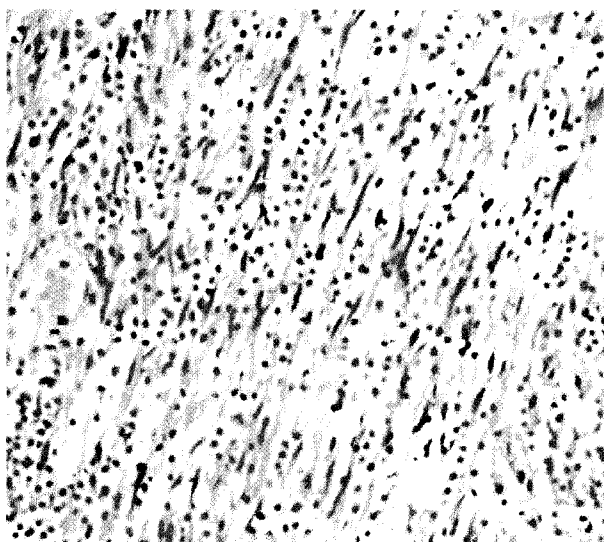


Figure 3. Surgical resection was performed in the left pelvic mass with the highest FDG uptake. It was confirmed to benign neurofibroma infiltrated with inflammatory cells on histological analysis

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