FDG PET/CT Appearance of Multi-Regional Elastofibroma: Original Image

Çok Bölgeli Elastofibromanın FDG PET/BT Görüntüsü

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A 70-year-old woman with a biopsy-proven intracranial large B cell lymphoma was sent to whole body F18-flourodeoxyglucose positron emission tomography/computerized tomography (FDG PET/CT) imaging for the initial staging. Mild to moderate hypermetabolic multiple soft tissue masses were observed between the inferior tips of the scapulae and the chest wall and between the gluteal muscles (medius and maximus) and greater trochanters of femur bilaterally in FDG PET-CT (Figure 1,2). For the differential diagnosis of these findings, CT images were consulted to a radiologist and elastofibroma was considered according to characteristic appearance of multiple soft tissue masses. Because of its diagnostic CT pattern, neither invasive procedures nor further imaging was planned for this asymptomatic patient.

Elastofibroma was first described by Järvi and Saxén in 1959.[1] It is not a true neoplasm, and is generally considered as a slowly growing, fibroblastic pseudotumor. It probably arises from periosteal fibroblasts with deranged elastic fibrillogenesis.[2] It is not uncommon and was predominantly found in elderly patients (24% of women and, 11% of men).[3] The pathogenesis of this lesion is unclear and thought to be related to repeated mechanical friction.[4] Some patients may also have a genetic predisposition. Although in the majority of the cases (more than 80%), elastofibroma is located in the subscapular region as a mass, it can rarely present itself as multiple foci in the various parts of the body, as in our case.[5] Fortunately more than half of the patients are asymptomatic and complete surgical excision is generally indicated in symptomatic cases.[6,7]

Conventional imaging methods such as plain radiography, CT and magnetic resonance imaging (MRI) have been used to diagnose elastofibroma. Plain chest radiographs may show a mass in the soft tissue density

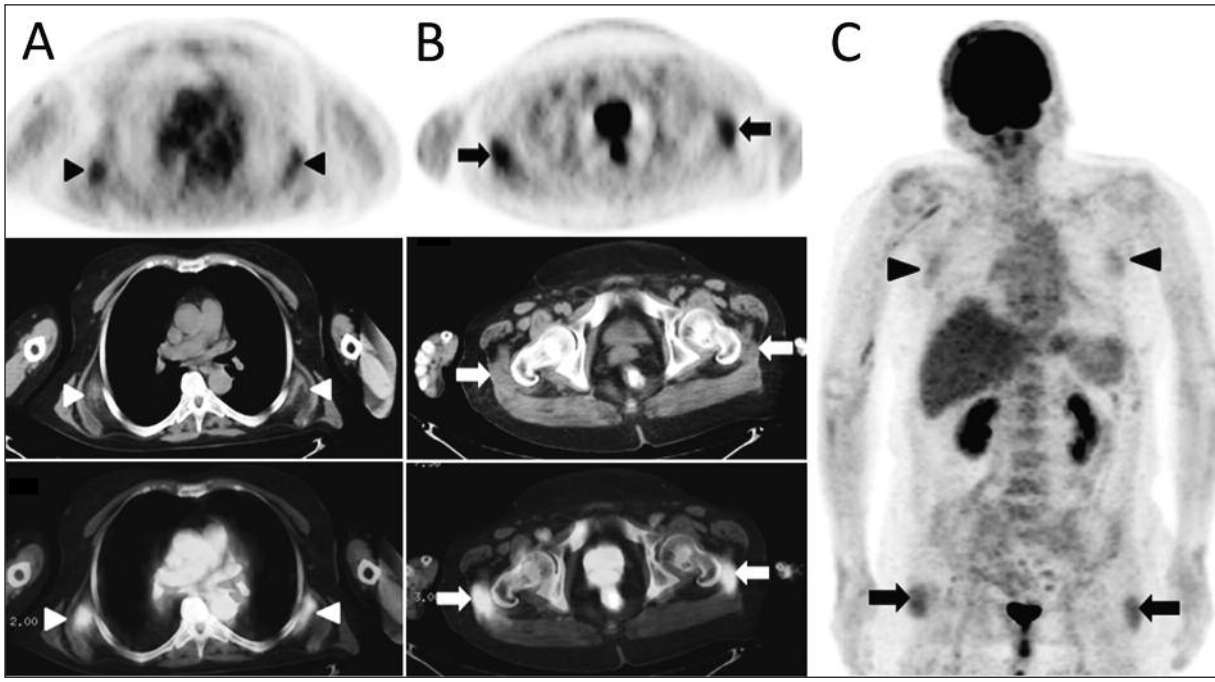

FIGURE 1: FDG PET/CT showed postoperative changes in the cranium, and no other abnormalities related to primary disease were detected. However, on transaxial PET, CT and fusion images (**A** and **B**), poorly circumscribed, mild to moderate hypermetabolic [maximum standardized uptake values (SUVmax): 3.5] multiple soft tissue masses were observed between the inferior tips of the scapulae and chest wall (**A**, arrow heads), and between the gluteal muscles (medius and maximus) and greater trochanters of femur (**B**, arrows) bilaterally. Lesions were also clearly depicted on maximum intensity projection (MIP) image **(C)**.

in the subscapular region.[8,9] On MRI, the lesions show relatively low signal intensity (similar to muscle) on T1- and T2- weighted images. Interlaced fat is seen as strands of high signal intensity within these hypointense lesions.[10,11] Enhancement after the administration of gadopentetate dimeglumine has been reported.[12] Thoracic CT has a main role in the diagnosis, and the classical pattern is poorly defined inhomogeneous soft-tissue density with an attenuation approximately the same as that of skeletal muscle in the subscapular region.[13]

Normal structures can also mimic elastofibroma, like the fibers of the muscles, which have a globular appearance especially on CT images. Lesions with signal intensity similar to skeletal muscle such as extraabdominal desmoid, neurofibroma, cicatricial fibroma and malignant fibrous histiocytoma should be considered in the differential diagnosis.[14] Another helpful characteristic for differential diagnosis is the bilaterality of the lesion. Presence of a similar periscapular lesion on the contralateral side strongly eliminates malignancy from the differential diagnosis.[11]

A thoracic mass presenting as an elastofibroma dorsi is very well-known, however multi-regional bilateral elastofibromas are rare even for the radiologists. Although there are few FDG avid elastofibroma dorsi cases reported in the literature, to the best of our knowledge, PET/CT appearance of multi-regional involvement especially including bilateral greater trochanteric regions has not been reported yet. Another interesting finding of this report is that the greater trochanteric lesions are more FDG avid than the typical subscapular lesions. Unnecessary radiological or surgical interventions and anxiety in oncology patients will be avoided by recognition of the PET/CT findings of elastofibroma.

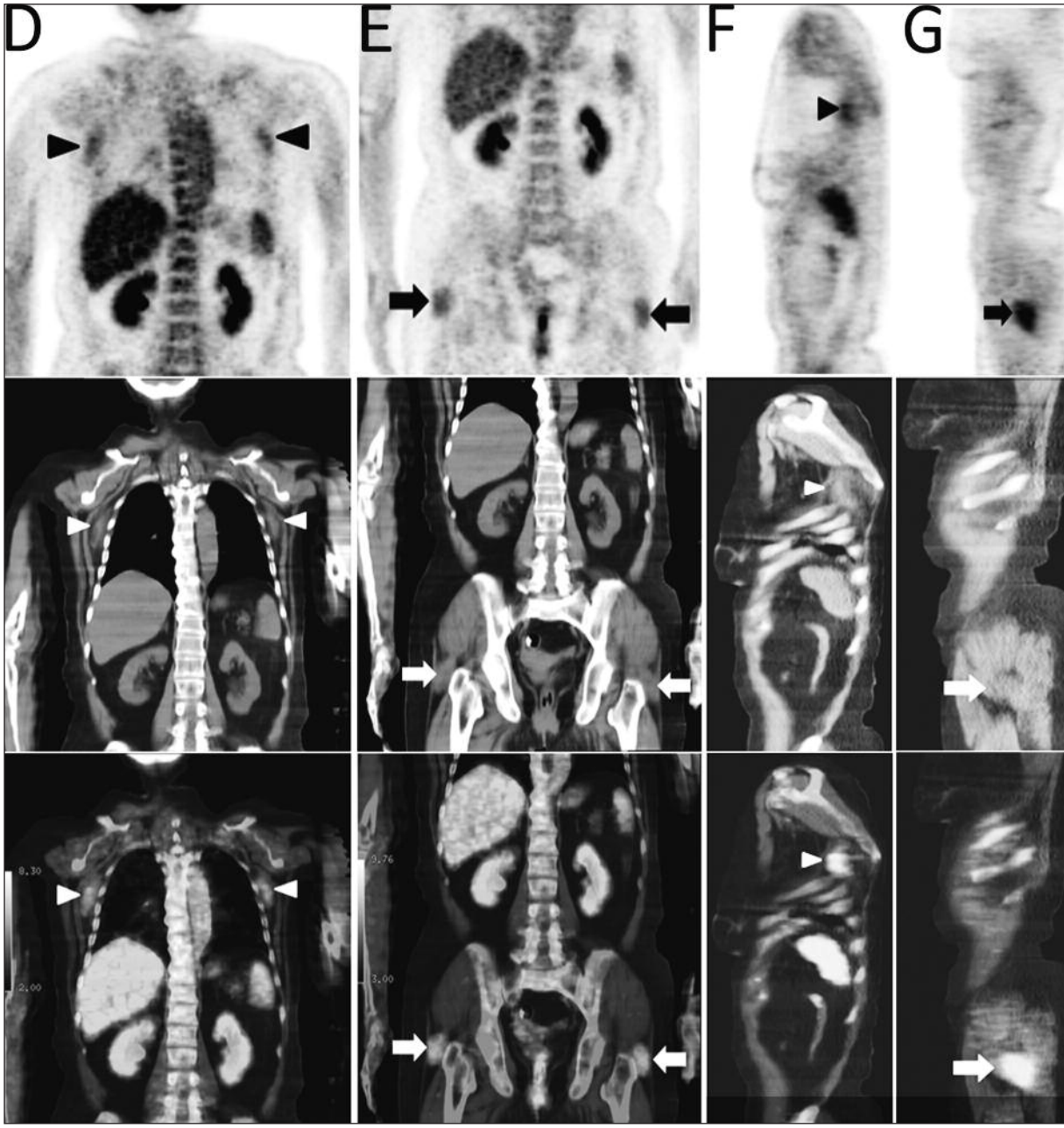

FIGURE 2: On coronal (**D** and **E**) and sagittal (**F** and **G**) images, FDG PET/CT showed poorly circumscribed, mild to moderate hypermetabolic multiple soft tissue masses between the inferior tips of the scapulae and chest wall (**D** and **F**, arrow heads), and between the gluteal muscles (medius and maximus) and greater trochanters of femur (**E** and **G**, arrows) bilaterally. Lesions were also clearly depicted on maximum intensity projection (MIP) image (Figure1 C).

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