

Isolated Solitary Asymptomatic Skeletal Muscle Relapse of High-Grade Lymphoma Detected on Surveillance ¹⁸F-Fluorodeoxyglucose Positron Emission Tomography-Computed Tomography

Abstract

While extranodal involvement of diffuse large B-cell lymphoma (DLBCL) is common, skeletal muscle involvement is extremely rare. Isolated skeletal muscle involvement in lymphoma is even rarer. We present here the case of a 26-year-old woman, who was diagnosed to have a solitary isolated skeletal muscle relapse of DLBCL on surveillance ¹⁸F-fluorodeoxyglucose positron emission tomography-computed tomography, after completing first-line treatment, that was subsequently confirmed with biopsy.

Keywords: ¹⁸F-fluorodeoxyglucose, lymphoma, positron emission tomography-computed tomography, relapse, skeletal muscle

A 26-year-old woman was diagnosed with Stage IB diffuse large B-cell lymphoma (DLBCL) involving neck nodes. She underwent four cycles of R-CHOP chemotherapy followed by involved field radiotherapy. End of the treatment ¹⁸F-fluorodeoxyglucose (¹⁸F-FDG) positron emission tomography-computed tomography (PET-CT) showed complete metabolic response (CMR). Surveillance contrast-enhanced ¹⁸F-FDG PET CT was done after 6 months. [Figure 1, a-e] Maximum intensity projection PET image (a) showed a focal area of increased ¹⁸F-FDG uptake in the right abdominal region (*arrow*). Transaxial CT (b) and PET-CT (c) and coronal CT (d) and PET-CT (e) images showed an iso-enhancing intensely ¹⁸F-FDG-avid nodular space-occupying lesion (*arrow*) in mid-part of the right erector spinae muscle, measuring 3.1 cm × 2.6 cm × 4.1 cm in size (SUV max 13.5). No other lesions were seen in the rest of the body. PET-CT-directed ultrasound-guided biopsy from the lesion showed DLBCL. The patient received three cycles of next line chemotherapy with gemcitabine and carboplatin. PET-CT was done for interim response assessment [Figure 1, f-j], which showed the complete resolution of the erector spinae lesion, suggesting CMR. She then underwent autologous stem cell

transplantation. Post-transplant, she is doing fine at 1-year follow-up.

DLBCL is a high-grade B-cell lymphoma and is the most common variant of non-Hodgkin's lymphoma.^[1] While extranodal involvement in DLBCL is relatively common, skeletal muscle involvement is quite rare with the reported incidence of 0.1%–1.4%.^[2] In most cases, skeletal muscle involvement is associated with other sites of involvement as well.^[3] While 30%–40% of patients with DLBCL will relapse, isolated skeletal muscle relapse is extremely rare,^[4] as was seen in the present case. ¹⁸F-FDG PET-CT is now an integral part of the management of patients with lymphoma, especially DLBCL.^[5] Interestingly, at times, it can uncover rare sites of disease involvement or relapse,^[6] as in the present case. However, there are other differentials of the PET-CT findings in this case such as malignant fibrous histiocytoma or high-grade sarcoma.^[7] Therefore, biopsy confirmation is always warranted.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and

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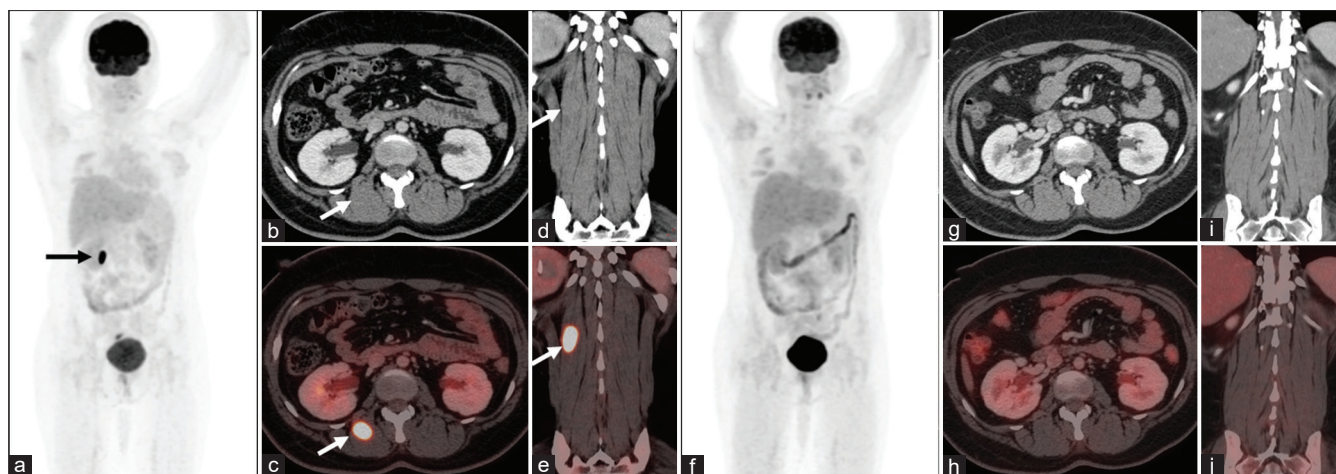


Figure 1: Surveillance PET maximum intensity projection image (a) showed a focal area of increased ^{18}F -FDG uptake in the right abdominal region (arrow). Transaxial CT (b) and PET-CT (c) and coronal CT (d) and PET-CT (e) images showed an iso-enhancing intensely ^{18}F -FDG-avid nodular space-occupying lesion (arrow) in mid-part of the right erector spinae muscle, measuring $3.1\text{cm}\times 2.6\text{cm}\times 4.1\text{cm}$ in size (SUV max 13.5). No other lesions were seen in the rest of the body. PET-CT done for interim response assessment (f-j), showed complete resolution of the erector spinae lesion, suggesting CMR

other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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