

# Mesenteric metastases of purely myxoid liposarcoma: An unusual behavior of primary tumor depicted on fludeoxyglucose positron emission tomography/computerized tomography

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**ABSTRACT** A 48-year-old male patient with purely myxoid liposarcoma was referred to fludeoxyglucose positron emission tomography/computerized tomography (FDG PET/CT) for restaging. FDG PET/CT images showed a hypodense well-defined intermuscular mass with mild FDG uptake in the right gluteal region. In addition, multiple mild hypermetabolic masses that had similar characteristics with the aforementioned lesion were also revealed in the mesenteric region of abdomen and pelvis.

**Keywords:** Fludeoxyglucose, mesenteric metastases, myxoid liposarcoma, positron emission tomography/computerized tomography

A 48-year-old male patient with purely myxoid liposarcoma was referred to fludeoxyglucose positron emission tomography/computerized tomography (FDG PET/CT) for restaging. In 2011, the primary tumor on his left thigh had been treated with a wide resection with clear margins. One year later, pelvic and paravertebral metastatic lesions appeared, and both were completely resected. Histopathological confirmation of myxoid liposarcoma was obtained, and combined chemoradiotherapy were given after every resection. Three years after the initial presentation, a new lesion appeared in his right gluteal region, and tru-cut biopsy confirmed histological diagnosis of purely myxoid liposarcoma. On FDG PET/CT images, a hypodense well-defined intermuscular mass (44 mm × 66 mm) with mild FDG uptake was seen (maximum standardized uptake value [SUV<sub>max</sub>], 2.7) in the right gluteal region. In addition, multiple mild hypermetabolic (SUV<sub>max</sub>, 4.1) masses that had a similar characteristics with the aforementioned lesion, which interpreted as metastases of purely myxoid liposarcoma

were also revealed in the mesenteric region of abdomen and pelvis [Figure 1]. After FDG PET/CT therapeutic management of the patient was changed, and systemic chemotherapy was added to wide surgical excision of gluteal mass. Liposarcoma is a malignancy of mesenchymal origin that arises from the adipocytes. It is mostly seen in the fourth to sixth decades of life. Although there were reports for the usage of FDG PET/CT in staging, restaging or determining response to therapy and predicting prognosis in patients with liposarcoma; NCCN 2014 guideline recommended PET scan in prognostication, grading and determined histopathological response to chemotherapy only for firm and deep lesions larger than 3 cm in patients with high grade extremity soft tissue sarcoma.<sup>[1,2]</sup> According to WHO criteria, liposarcomas are classified into four subgroups as well-differentiated, dedifferentiated, myxoid/round cell, and pleomorphic.<sup>[3]</sup> Myxoid liposarcoma is primarily seen in the deep seated adipose tissue of the extremities.<sup>[4]</sup> Unlike other subtypes, myxoid lesions have a tendency to metastasize to extrapulmonary sites such as subcutaneous tissue, retroperitoneum, bone marrow and epidural space possibly due to the abundance of fat cells in these locations.<sup>[5]</sup> Purely myxoid liposarcoma without round cell component is a relatively low-grade tumor that carries a low risk of local recurrence and distant metastasis.<sup>[6]</sup> Mesenteric myxoid liposarcoma is a rare occurrence and to our knowledge this case is the first report of mesenteric myxoid liposarcoma on FDG PET/CT.<sup>[7]</sup> Fat bearing soft tissue locations should be meticulously evaluated in liposarcoma patients, with the

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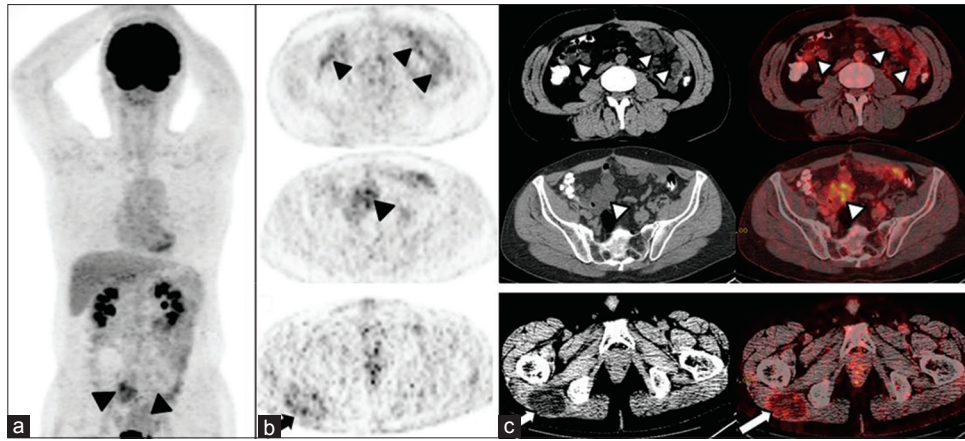


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**Figure 1:** Fludeoxyglucose positron emission tomography/computerized tomography (FDG PET/CT) revealed multiple mild hypermetabolic (maximum standardized uptake value [SUVmax], 4.1) masses in the mesenteric region of abdomen and pelvis (arrowheads in a, maximum intensity projection image; (b) axial PET, CT and fusion PET/CT images). In addition, well-defined hypodense intermuscular mass (44 mm × 66 mm) with mild FDG uptake (SUVmax, 2.7) was also seen in the right gluteal region (arrows in c, axial PET, CT and fusion PET/CT images)

awareness that low FDG-avid, hypodense metastasis may occur in these locations.

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