

An Unusual Case of Multiple and Diffuse Muscle Involvement of Multiple Myeloma in FDG PET/CT

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Abstract

In Extramedullary multiple myeloma, muscular involvement not adjacent to bone lesions (Especially multiple and diffuse) is rare. We report a case of multiple myeloma with multiple-diffuse muscle involvement confirmed by biopsy.

Clinical Image

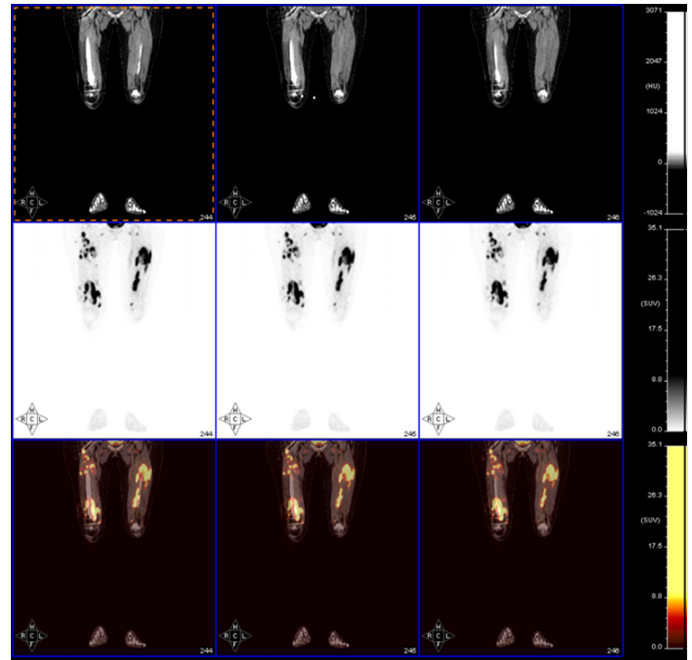


Figure 1: A 55-year-old female patient presented with pain and mass in the right femur on March 2018.

Taken biopsy from bone lesion reported as MM. FDG PET/CT, to control treatment response, 3 months after chemotherapy showed diffuse hypermetabolic activity in multiple muscle groups. Coronal sections of the images taken from the lower extremity, pelvic, femoral and tibial multiple muscle groups of both lower extremities, axial section of the right iliac wing posterior (more pronounced) and lateral hypermetabolic lesions are noteworthy. Another biopsy was taken from thigh to histopathologically verify the findings described in PET/CT. The identified intramuscular masses were reported as malignant infiltration of plasma cells. Intramuscular involvement has no specific clinical signs aside from the local pain and swelling. This complication, a serious condition, is usually incidentally seen during examination for tumor staging. The radiologic view of muscular involvement of MM is intramuscular masses and diffuse muscle infiltration [1]. Imaging with FDG PET/CT is preferably recommended compared to MRI because of revealing more focus to detect extramedullary MM [2].

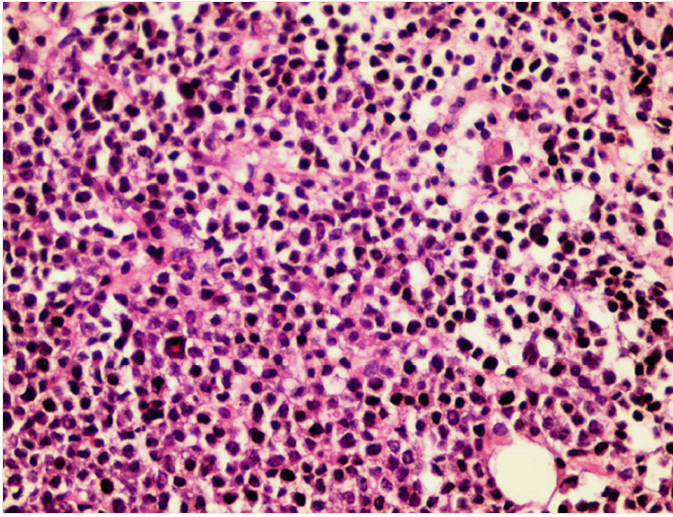


Figure 2: In this case histological study (hematoxyline - eosin stain, x 400) after biopsy revealed that tumor cells diffuse diffuse muscle fibers.

Multiple Myeloma (MM), leading to extensive lytic lesions by infiltrating bone, is the most common primary skeletal malignancy derived from clonal proliferation of plasma cells [3]. Extramedullary MM is the proliferation of malignant plasma cells outside the bone marrow. Extramedullary MM was reported at a rate of 6%–20% and was shown to be associated with poor prognosis [4]. Extramedullary infiltration occurs in various organs such as liver, skin, central nervous system, kidneys, lymph nodes and pancreas [5]. Although MM infiltration to the muscle tissue, which is adjacent to the bone lesion, is common, but intramuscular involvement is very rare (2.2%) [6]. In the literature, focal activity involvement on the muscle tissue is mainly defined as inflammation, granulomatous disease or muscle metastases of different tumors [7,8].

Competing Interests

The authors have nothing to declare.

References

1. Tirumani SH, Sakellis C, Jacene H. Role of FDG-PET/CT in extramedullary multiple myeloma correlation of FDG-PET/CT findings with clinical outcome. *Clin Nucl Med*. 2016;41:e7–e13.
2. Dimopoulos M, Terpos E, Comenzo RL. International myeloma working group consensus statement and guidelines regarding the current role of imaging techniques in the diagnosis and monitoring of multiple myeloma. *Leukemia*. 2009;23:1545–1556.
3. NCCN clinical practice guidelines version 1.2015. Available at: [http://www.nccn.org/professionals/physician_gls/f_guidelines.asp]. 2014. Accessed August 27, 2014.
4. Bladé J, de Larrea CF, Rosiñol L. Extramedullary involvement in multiple myeloma. *Haematologica*. 2012;97:1618–1619.
5. Bladé J, Fernández de Larrea C, Rosiñol L. Soft-tissue plasmacytomas in multiple myeloma: incidence, mechanisms of extramedullary spread, and treatment approach. *J Clin Oncol*. 2011;29:3805–3812.
6. Surov A, Holzhausen HJ, Arnold D. Intramuscular manifestation of non-Hodgkin lymphoma and myeloma: prevalence, clinical signs, and computed tomography features. *Acta Radiol*. 2010;51:47–51.
7. Du X, Zhao L, Chen W. Multiple myeloma-associated iliopsoas muscular amyloidoma first presenting with bilateral femoral nerve entrapment. *Int J Hematol*. 2012;95:716–720.
8. Surov A, Tcherkes A, Meier F. Intramuscular Plasmacytoma. *Skeletal Radiol*. 2014;43:1561–1565.