

Interesting Image

Lymphomatous Involvement of the Kidneys in Mantle Cell Lymphoma

 Carina Mari Aparici¹, Tianye Liu^{1*} and Gerald Hsu¹
¹University of California San Francisco, USA

*Corresponding author: Tianye Liu, University of California San Francisco, Tel: 415-680-4593; Email: tianyeliu@gmail.com

Received: 03-22-2016

Accepted: 04-03-2016

Published: 05-22-2016

Copyright: © 2016 Tianye Liu

Abstract

Mantle cell lymphoma rarely shows kidney involvement. We report the case of a 41 year-old man diagnosed with stage IV mantle cell lymphoma. Staging FDG PET/CT showed mild FDG activity in enlarged lymph nodes on both sides of the diaphragm as well as remarkably enlarged bilateral kidneys, with mild diffuse FDG activity in the renal cortex. After chemotherapy, the sizes of the kidneys and lymphadenopathy dramatically decreased. We recommend careful assessment of kidney involvement in patients with lymphoma during staging/surveillance with FDG-PET/CT. Although patchy or high diffuse FDG activity in the cortex can be more clear patterns of possible renal involvement, mild cortical FDG activity, such as seen in this case, is also a plausible pattern. The sizes of the kidneys can become a very important clue for accurate diagnoses of involvement.

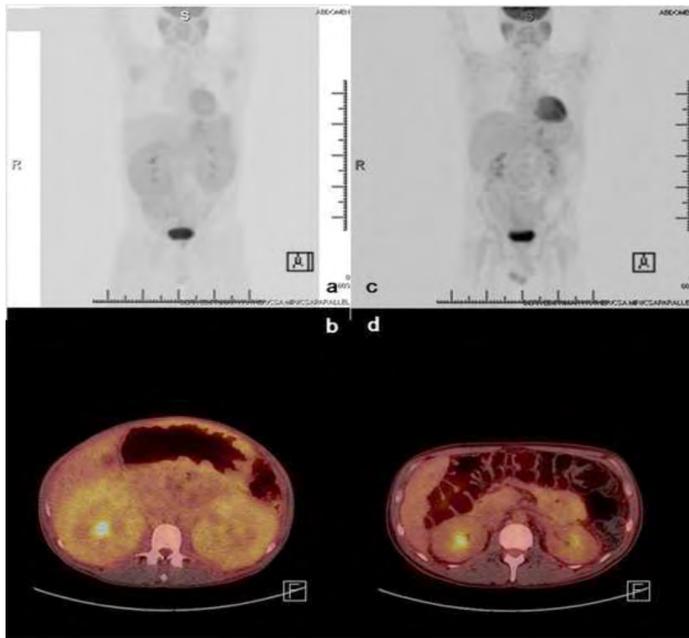


Figure 1. A 41 year-old man with mantle cell lymphoma underwent FDG PET/CT before and after chemotherapy. Before chemotherapy, the MIP image (a) and the hybrid FDG-PET/CT images (b) showed diffused mildly hypermetabolic enlarged lymphadenopathy on both sides of the diaphragm as well as mild diffuse FDG cortical activity in remarkably enlarged

kidneys. The patient was considered stage IV and received chemotherapy treatment. After chemotherapy, the MIP image (c) and the hybrid FDG-PET/CT images (d) demonstrated marked decreased in sizes of the kidneys and lymphadenopathy. Renal lymphoma occurs commonly with non-Hodgkin lymphoma. The majority of these cases happen in intermediate or high-grade lymphomas including Burkitt and histiocytic varieties [1]. Mantle cell lymphoma (MCL), a rare type of non-Hodgkin's lymphoma comprising only 6% of NHL cases [2, 3], is very rare to show kidney involvement with very few reported cases [4-6]. There are few papers describing primary renal lymphoma involvement [7] and even fewer papers describing the imaging characteristics of lymphomatous renal involvement with FDG PET/CT. To the best of our knowledge, our case is the first case of MCL with kidney enlargement characterized with FDG-PET/CT. One prior case of lymphoma with renal involvement characterized by FDG-PET/CT was published by Navalkisoor et al in 2010 [8]. The pattern of renal involvement in both cases was very different, which could be hypothesized to be related to different types of non-Hodgkin's lymphomas. Navalkisoor et al's case showed a patient with high grade diffuse large B-cell lymphoma (DLBCL), mildly enlarged kidneys and intense diffuse FDG activity in the renal cortex. Our case on the other hand presents a patient with mantle cell lymphoma, very enlarged kidneys, and mild diffuse FDG activity in the renal cortex. We hypothesize that the imaging pattern of lymphomatous renal involvement by FDG-PET/CT imaging may vary depending on the type of lymphoma. Although intense patchy or diffuse

renal cortical FDG activity could raise suspicion for involvement, mild FDG cortical activity can also be seen and in these cases (like in our case) and increase in size can be an important clue. More information is needed about the different patterns of renal involvement in lymphoma for proper staging/surveillance with FDG-PET/CT imaging.

References

1. Hartman DS, David CJ, Goldman SM. Renal lymphoma: radiologic-pathologic correlation of 21 cases. *Radiology*. 1982, 144(4): 759-766.
2. Skarbnik AP, Goy AH. "Mantle cell lymphoma: state of the art". *Clin Adv Hematol Oncol*. 2015, 13 (1): 44-55.
3. Abbasi MR. Mantle cell lymphoma. *Medscape*. Updated November 25, 2013.f.
4. Lubas A, Mróz A, Smoszna J, Niemczyk S. Membranoproliferative glomerulonephritis, mantle cell lymphoma infiltration, and acute kidney injury. *Int Urol Nephrol*. 2013, 45(5):1489-1494.
5. Lee HJ, Seo JW, Cho HS, Kang Y, Bae EJ et al. Renal involvement of mantle cell lymphoma leading to end stage renal disease. *Hemodial Int*. 2012, 16(1): 104-108.
6. Davies J, Healey DA, Wood KM, Jones K, Kanagasundaram NS. Acute renal failure due to mantle cell lymphoma--a case report and discussion of the literature. *Clin Nephrol*. 2007, 67(6): 394-396.
7. Dash SC, Purohit K, Mohanty SK, Dinda AK. An unusual case of bilateral renal enlargement due to primary renal lymphoma. *Indian J Nephrol*. 2011, 21(1): 56-58.
8. Navalkissoor S, Szyszko T, Gnanasegaran G, Nunan T. Diffuse FDG renal uptake in lymphoma. *Clin Nucl Med*. 2010, 35(10): 813-815.