

Rare Presentation of Metastatic Endometrioid Adenocarcinoma of Uterus Mimicking as Second Primary in Urinary Bladder on ¹⁸F-Fluorodeoxyglucose Positron-Emission Tomography/Computed Tomography

Abstract

We present a case of endometrioid carcinoma metastasis in the bladder mimicking as the second primary of urinary bladder on ¹⁸F-fluorodeoxyglucose positron-emission tomography/computed tomography (¹⁸F-FDG PET/CT). The presentations of bladder lesions on ¹⁸F-FDG PET/CT are varied, and rare presentations of common malignancies can pose a significant diagnostic challenge as in the index case and highlight the importance of histopathological examination to confirm any unusual FDG uptake confounding the diagnosis.

Keywords: ¹⁸F-fluorodeoxyglucose positron-emission tomography/computed tomography, endometrioid carcinoma, second primary, urinary bladder

Case Report

A 69-year-old female presented with a 3-month history of painless vaginal bleeding. Initial pelvic ultrasonography revealed hypoechoic lesions (likely fibroids) in the anterior and posterior walls of the body of the uterus and additional lobulated hypoechoic lesions in the left lateral wall of the urinary bladder. A whole-body ¹⁸F-fluorodeoxyglucose positron-emission tomography/computed tomography (¹⁸F-FDG PET/CT) done for characterization and staging revealed intense tracer uptake in the heterogeneously enhancing soft-tissue lesion in the body and fundus of the uterus [Figure 1a-c]. In addition, there were intensely FDG-avid heterogeneously enhancing soft-tissue lesions in the left posterolateral and posterior wall of the urinary bladder with one of them showing loss of fat planes with the uterine cervix giving the impression of second primary malignancy of urinary bladder with cervical infiltration [Figure 1d and e]. Intense tracer uptake was also noted in few enlarged peripancreatic, mesenteric, precaval, aortocaval, retrocaval, and bilateral external iliac lymph nodes. With a provisional diagnosis of second malignancy in the urinary bladder, the

patient underwent transurethral resection of bladder tumor (TURBT). However, histopathology revealed the presence of metastatic endometrioid adenocarcinoma [Figure 2a and b].

Discussion

Endometrial carcinoma is a common malignancy of female genital tract with an increasing incidence in the postmenopausal women.^[1,2] Local recurrence and distant metastases from advanced endometrial carcinoma, even after surgical resection, are known to occur in the pelvis, pelvic and paraaortic lymph nodes, peritoneum, and lungs. Supradiaphragmatic lymph nodes, liver, adrenals, brain, and soft tissues are the uncommon sites for metastases.^[3] In advanced cases, it may rarely involve the bladder and bowel mucosa also.^[4] Urinary bladder involvement in endometrioid carcinoma is a rare entity resulting from direct extension, metastasis, or malignant transformation of endometriosis.^[3,4] This case showcased a diagnostic conundrum of an endometrial neoplasm metastatic to the bladder giving an initial impression of a second primary urothelial malignancy on imaging. ¹⁸F-FDG PET/CT is a very sensitive oncological imaging modality

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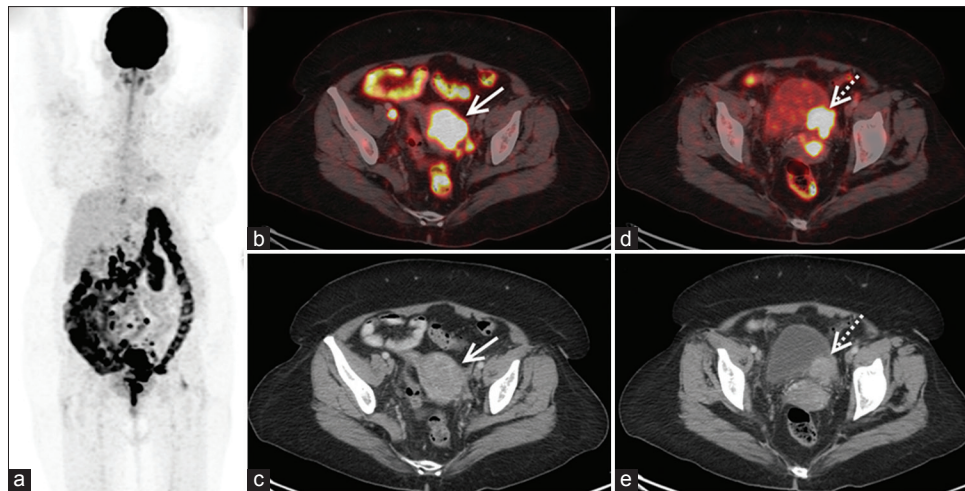


Figure 1: ¹⁸F-fluorodeoxyglucose positron-emission tomography/computed tomography showing intense fluorodeoxyglucose uptake in the heterogeneously enhancing soft-tissue lesion in the body and fundus of the uterus highlighted with arrow (Maximum intensity projection (MIP); a, axial fused positron-emission tomography computed tomography; b and axial computed tomography; c). fluorodeoxyglucose avid wall thickening in the left posterolateral wall of the urinary bladder (broken arrow in axial fused positron-emission tomography computed tomography; d and axial contrast-enhanced computed tomography; e)

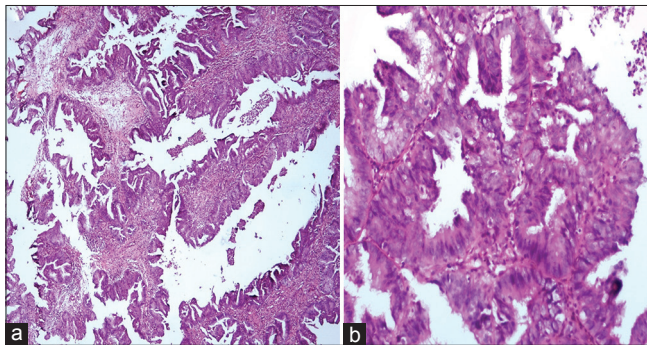


Figure 2: Low- (a) and high-power (b) photomicrographs from the transurethral resection of bladder tumor chips shows a complex glandular pattern lined by columnar cells with elongated vesicular nuclei with prominent nucleoli, consistent with a diagnosis of metastatic endometrioid carcinoma

with ever-increasing role in genitourinary malignancies. The unusual presentations have been recognized with improved imaging. Few of imaging limitations and pitfalls are encountered, and some of them had been addressed.^[5-7] However, in the index case, subsequent TURBT and histopathological examination revealed the features of nonurological endometrioid adenocarcinoma. Thus, this case emphasizes the diagnostic challenges posed by rare presentations of certain malignancies on ¹⁸F-FDG PET/CT and the importance of histopathological examination to ascertain the accurate diagnosis and management in such cases.

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

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.

References

1. Morice P, Leary A, Creutzberg C, Abu-Rustum N, Darai E. Endometrial cancer. *Lancet* 2016;387:1094-108.
2. Saso S, Chatterjee J, Georgiou E, Ditri AM, Smith JR, Ghaem-Maghani S, *et al.* Endometrial cancer. *BMJ* 2011;343:d3954.
3. Kurra V, Krajewski KM, Jagannathan J, Giardino A, Berlin S, Ramaiya N, *et al.* Typical and atypical metastatic sites of recurrent endometrial carcinoma. *Cancer Imaging* 2013;13:113-22.
4. Tarumi Y, Mori T, Kusuki I, Ito F, Kitawaki J. Endometrioid adenocarcinoma arising from deep infiltrating endometriosis involving the bladder: A case report and review of the literature. *Gynecol Oncol Rep* 2015;13:68-70.
5. Sharma A, Mete UK, Sood A, Kakkar N, Gorla AK, Mittal BR, *et al.* Utility of early dynamic and delayed post-diuretic ¹⁸F-FDG PET/CT SUVmax in predicting tumour grade and T-stage of urinary bladder carcinoma: Results from a prospective single centre study. *Br J Radiol* 2017;90:20160787.
6. Beyer T, Townsend DW, Blodgett TM. Dual-modality PET/CT tomography for clinical oncology. *Q J Nucl Med* 2002;46:24-34.
7. Lakhani A, Khan SR, Bharwani N, Stewart V, Rockall AG, Khan S, *et al.* FDG PET/CT pitfalls in gynecologic and genitourinary oncologic imaging. *Radiographics* 2017;37:577-94.