

Renal Anomalies Detected on FDG and 68 Ga PSMA PET-CT Imaging in Cancer Patients

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Abstract

Renal anomalies may be seen and detected in all age groups, as an incidentally finding. We report the FDG PET/CT and 68 Ga PSMA findings in cancer patients with renal anomalies and situs inversus totalis in three patients.

Keywords: Renal anomalies, PET/CT, FDG, 68Ga-PSMA

Images

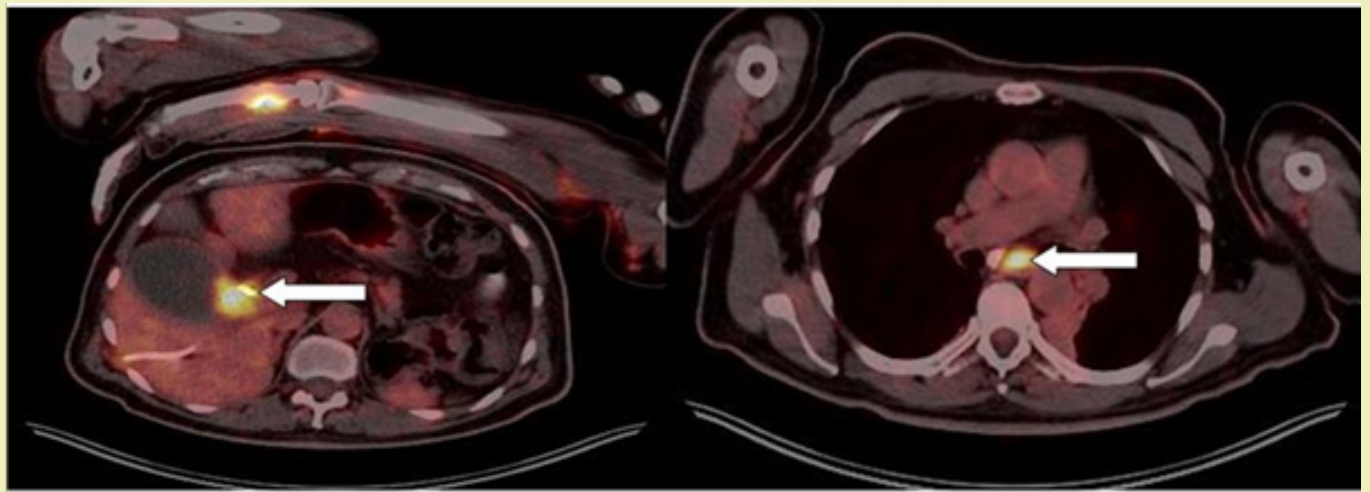


Figure 1: An 65-year-old man with suspicious gastrointestinal system malignancy, underwent PET-CT imaging for metabolic characterization and primary lesion. Following a 4 hour fasting, while the patient had a blood glucose level of 152mg/dL, 303MBq (8.2mCi) 18F-FDG was given i.v. after 60min, images were taken from the calvarium to the soles of the feet in 3D mode to be 1min per bed. PET-CT imaging demonstrated a subcarinal 1cm lymphadenopathy (SUVmax:10.42) and paraesophageal metastatic lymphadenopathy (12x22mm/SUVmax:20.68) at mediastinal region. In addition, an 32x26mm mass compatible with primary malignancy (32x26mm) was detected anteromedial section of gallbladder. An approximately 32x26mm hypermetabolic mass was detected at pelvic region located cranial and posterior of the bladder. CT component of the PET-CT imaging demonstrated that this mass belonging to a pelvic cake kidney. Both kidneys were not located at normal localisation site. The patient was diagnosed as Klatskin tumor finally.

Quick Response Code:



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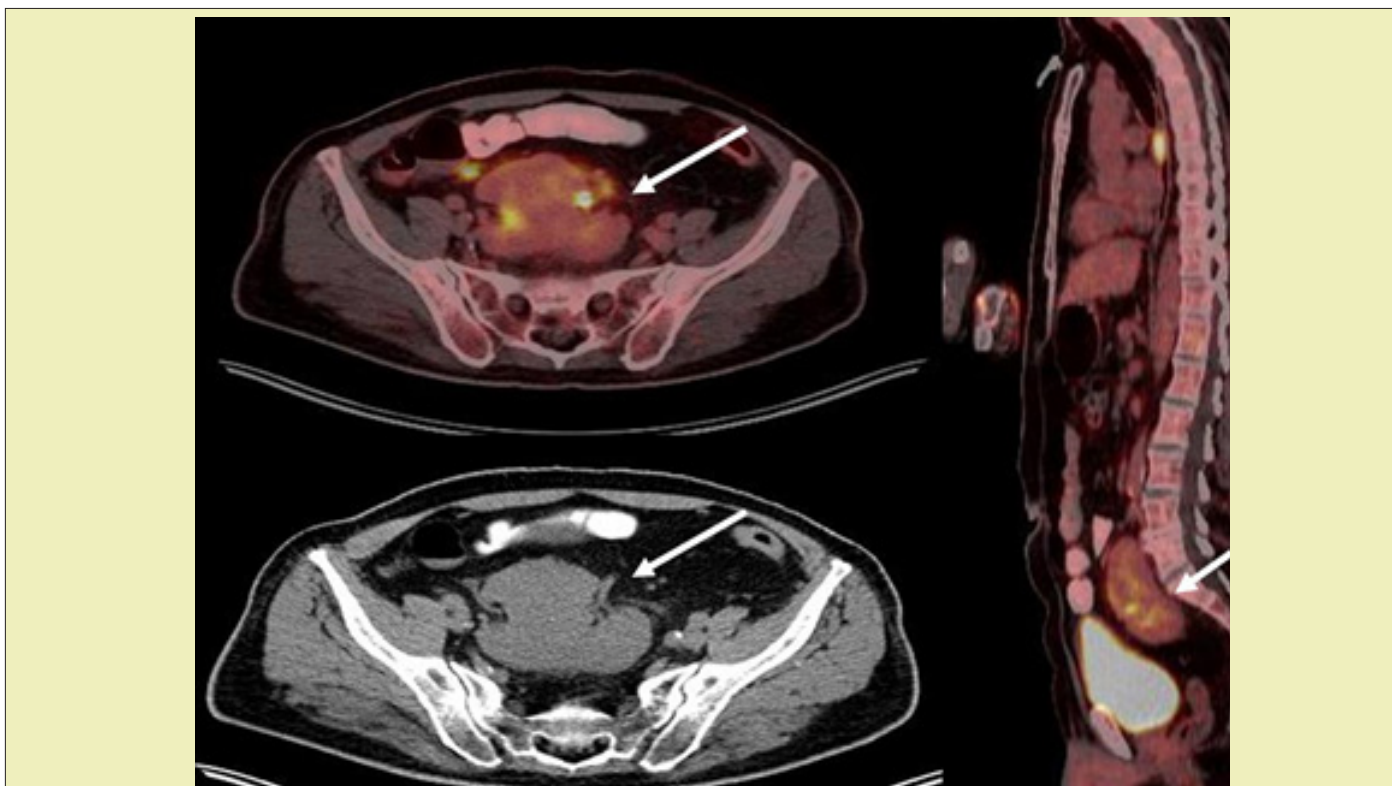


Figure 2: PET-CT imaging normal variants, benign conditions and renal anomalies was reported in literature.¹⁻⁵ In this report, it was noticed that pelvic cake kidney is a rare renal anomaly and may result confusion.

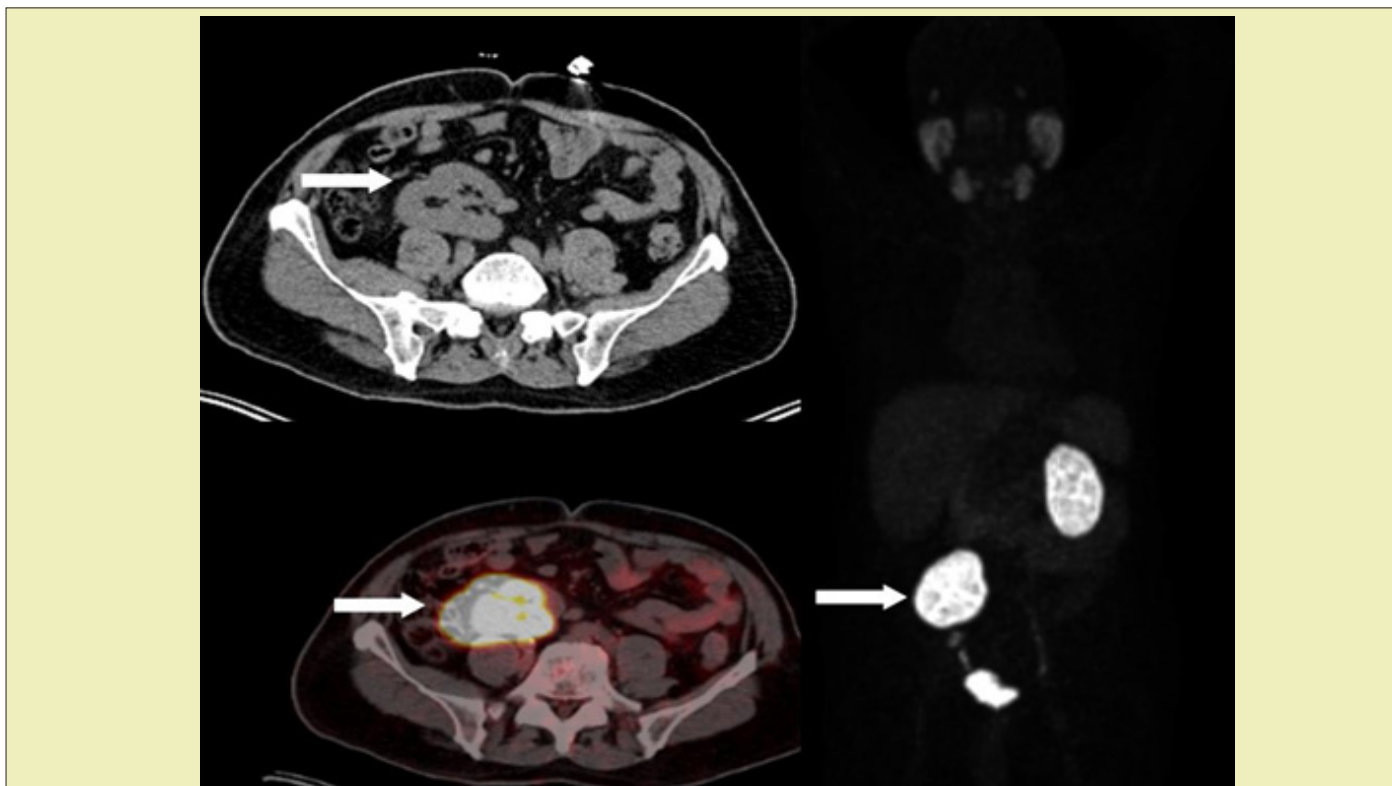


Figure 3: An 62-year-old man with prostate cancer (Gleason skor: 4+5) underwent 68 Ga PET-CT imaging for suspected recurrence. The patient had radical prostatectomy operation history, progressive total PSA level. Total PSA level was 1.2ng/ml (<4.1 reference level) during imaging. Following iv. injection of 148MBq (4mCi) 68 Ga- PSMA, images were taken from the calvarium to the upper leg in 3D mode to be 1min per bed 60min. later. PET-CT imaging demonstrated right internal iliak 1.5cm metastatic lymph node (SUVmax:26.95) In addition, an ectopic pelvic right kidney was detected with rotation anomaly. CT component of the PET-CT imaging demonstrated that this dense uptake was belonging to a kidney. Left kidney was located at normal localisation site.

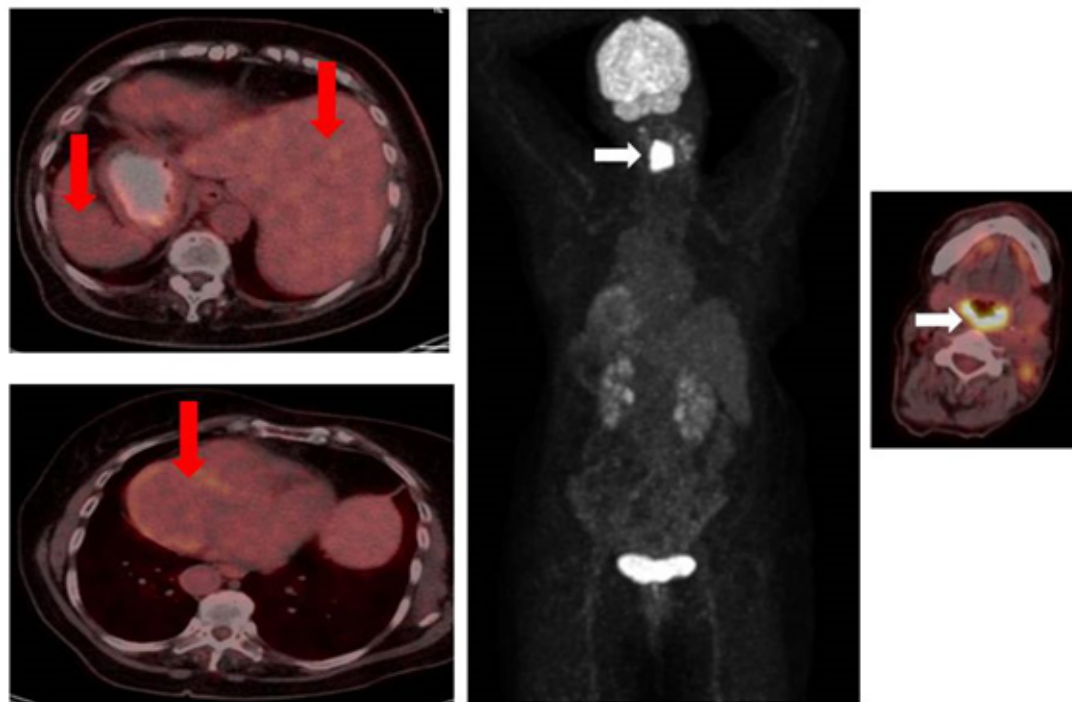


Figure 4: An 63 years of women patient with posterior pharyngeal tumor underwent FDG PET-CT imaging for staging. Primary tumor (SUVmax:23.59) and cervical metastatic lymph nodes (SUVmax:11.84) were demonstrates with white arrows. Additionally, the patient had situs inversus totalis anomaly detected incidentally. Myocardium, liver and spleen localisation sites were demonstrated with red arrows.

Acknowledgments

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Conflicts of Interest

Authors declare that there is no conflict of interest.

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