Clinical summary

- Male 79 year-old with left renal cell carcinoma and pulmonary metastasis on CT for preoperative staging
PET/CT findings

Large left renal lesion - not FDG avid

Small left upper lobe lesion - FDG avid

PET/CT shows minimal uptake in the large primary left renal lesion, but moderate uptake in the left lower lobe lung lesion, highlighting the different underlying biology between primary and metastatic lesions.
Clinical summary

- Male 54 year-old with incidental detection of a renal mass on ultrasound for further pre-operative evaluation
Non FDG avid renal cell carcinoma in the left kidney (A & B) with metabolically active left para-aortic nodal metastasis (C, D, E).
Clinical summary

• Male 52 year-old with incidental detection of a large complex cyst in left kidney with sinister features on ultrasound

• PET/CT performed for pre-operative staging
Focal FDG uptake in the solid component and mural nodules of the left renal cyst (A & B). FDG uptake in right 4\textsuperscript{th} rib posteriorly (C) and right 9\textsuperscript{th} rib laterally (D). Further skeletal metastases are noted in the sacrum and right acetabulum (D).
Clinical summary

- Male 58 year-old with large right renal mass
- For pre-operative staging PET/CT
PET/CT findings

- Intense FDG uptake in the periphery of the large right renal mass (A & B).
- Bilateral FDG-avid adrenal metastases also noted (C).

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Clinical summary

- Male 68 year-old with transitional cell carcinoma of the left proximal ureter
- For staging PET/CT
PET/CT findings

- Intensely FDG avid primary tumour in the left proximal ureter (arrow – A & B).
- Multiple FDG avid retroperitoneal and pelvic nodal metastases are also seen on all images.

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Teaching points

• Although some studies suggest a potential role for FDG-PET in advanced kidney cancer, there is still insufficient data to support its use for routine staging.

• Renal cell carcinoma can have variable FDG avidity with potential false negative scans.

• The FDG PET findings suggest differing underlying biology in the primary and metastatic lesions.


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