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IMAGE OF THE MONTH

Advantage of ^{18}F-PSMA-1007 over ^{68}Ga-PSMA-11 PET imaging for differentiation of local recurrence vs. urinary tracer excretion

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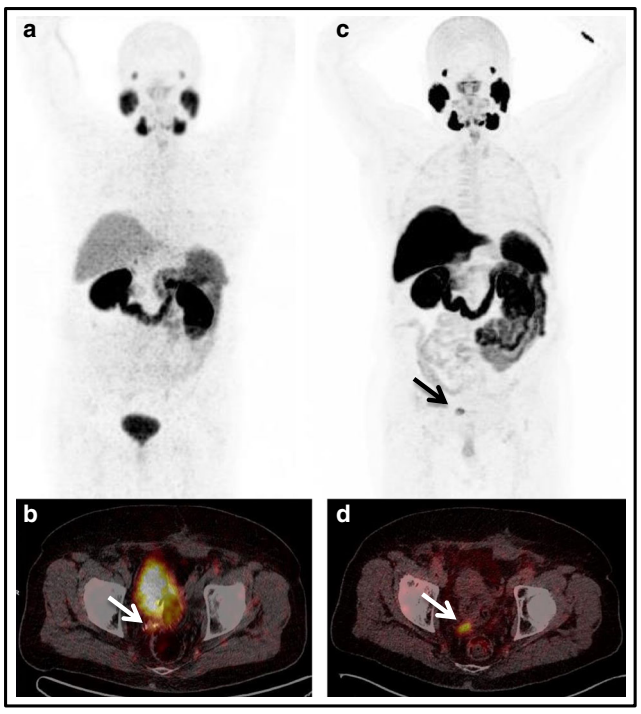
Local recurrence of prostate cancer after primary local therapy presents challenges for urologists and imaging procedures, especially in patients with low prostate-specific antigen (PSA) values. Recently, ^{68}Ga prostate-specific membrane antigen (PSMA)-11 has shown promising detection rates, and is gaining adoption worldwide in clinical routine [1]. However, there are a significant number of patients in whom local recurrence cannot be differentiated from activity by urinary tracer excretion. The use of ^{18}F–PSMA-1007 was recently presented, and showed a delayed renal excretion [2], which may aid clinicians in making meaningful decisions regarding therapy management in these patients. Here we present images of a 74-year-old prostate cancer patient after radical prostatectomy (Gleason score 9) with biochemical recurrence (PSA: 2.1 ng/dl). Images A and B show ^{68}Ga-PSMA-11 PET-CT (A: maximum-intensity projection, MIP; B: fused axial PET-CT image). Arrows show minimal pararectal uptake close to the bladder and the ureter, for which clinical decision making is problematic. Images C and D show ^{18}F–PSMA-1007 PET-CT of the same patient (C: MIP, D: fused axial PET-CT image). Arrows show unequivocal focal uptake representing a local recurrence, with high contrast (maximum standard uptake value: 9.9), with no distracting ureteral or vesical excretion activity. ^{18}F–PSMA-1007 seems to be superior to ^{68}Ga-PSMA-11 in cases of biochemical recurrence and unclear lesions close to the ureter or urinary bladder.



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Compliance with ethical standards

Conflict of interest The authors declare that they have no financial or non-financial competing interests.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

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