The purpose of this article was to critically review the diagnostic value of positron emission tomography (PET) in urological oncology. Urinary tract tumor assessment is hampered by the renal elimination of 18F–fluorodeoxyglucose (FDG), the most commonly used PET radiopharmaceutical. PET imaging offers no significant benefits over conventional imaging modalities for renal cell and bladder carcinomas. As a result of the low metabolic activity of prostate cancer, PET does not differentiate adequately between adenoma and carcinoma, nor detect local recurrence after radical prostatectomy with sufficient sensitivity. However, lymph node staging with FDG–PET, specifically in bladder cancer, has been shown to have a potential clinical benefit. Further studies are required to determine the clinical value of retroperitoneal lymph node staging and recurrent disease detection in germ cell tumors. Finally, encouraging early results exist for the use of serial PET measurements to predict and assess therapy response to chemotherapy which may also be valuable in urological oncology.

Stichworte: PET; Renal cell carcinoma; Bladder cancer; Prostate cancer; Testicular tumor

Zeitschriftentitel: European Urology

Jahr: 2001