PET/CT Case: Bladder Cancer

This 76-year-old woman presented with hematuria and was found to have a low-grade bladder tumor, which was resected. She developed a high-grade bladder recurrence three months later that was treated with resection and intravesical chemotherapy. After three more months she complained of low back pain. An MRI of the lumbar spine followed by a CT of the pelvis showed a destructive lesion of the sacrum with surrounding soft tissue infiltration. A biopsy revealed metastatic, moderately differentiated carcinoma consistent with the patient’s bladder tumor. Approximately 10 weeks later, a PET/CT was ordered.

The PET/CT showed extensive FDG uptake in and around the sacrum—with multiple additional sites of skeletal involvement, including the right scapula, thoracic and lumbar vertebrae, the right acetabulum, and the left ischium (arrowheads). Abnormal FDG uptake was also present in pelvic and mediastinal lymph nodes (white arrows) and in a single hepatic focus (gray arrow).

How Did PET/CT Imaging Help?

PET/CT demonstrated extensive metastatic disease, rather than a localized metastasis in the sacral region. Inappropriate sacral radiotherapy was avoided and the patient was started on palliative treatment.

There are not extensive data in the literature regarding PET and bladder cancer; however, available reports suggest that the sensitivity for metastases is quite good (77–100%) \(^1,2\). Physiologic urine activity usually precludes assessment of the bladder itself.

References


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This case was provided by David Seldin, MD, Franklin Square Hospital Center, Baltimore, MD. It was also featured on the Web site of Gabriel Soudry, MD, at www.petcases.com. In addition to the Web site, Dr. Soudry also mails printed versions of his example cases to referring physicians in Franklin Square and the surrounding community. Working with Dr. Soudry and other PET specialists, the PCOE Web site (www.snm.org/PET) features “Views You Can Use,” single-sheet PDFs that include specific cases, images, and references. As a PCOE member, you can add your own contact information to these sheets and distribute them electronically or by printed hard copy to referring physicians for educational purposes.