PET/CT Case: Breast Cancer

This 55-year-old postmenopausal woman presented with an enlarging right breast mass that she had first noticed 6 weeks earlier. On physical exam she had a 3-cm, right-sided, periareolar mass with a 2-cm, palpable lymph node in the right axilla. A PET/CT scan was ordered for additional staging information.

The PET/CT showed increased FDG uptake in the primary tumor (Fig. 1, arrowhead) and in a clump of right axillary lymph nodes (Figs. 1 and 3, gray arrows), as well as in a retropectoral lymph node (Figs. 1 and 2, white arrows). There was also a large area of increased tracer uptake in the left iliac bone (Figs. 1 and 4, black arrows). This lesion was biopsied, revealing metastatic poorly differentiated carcinoma compatible with the previous right breast biopsy.

How Did PET/CT Imaging Help?

PET/CT demonstrated the distant bone metastasis, upstaging the patient to Stage IV. There was a substantial difference in the treatment options recommended for the patient, with the goal of therapy changed from an attempt to cure to a palliative approach.

Recent studies have shown the utility of PET for staging women with breast carcinoma, especially in high-risk settings (1, 2).


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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.