

P.E.T. CASE OF THE MONTH

Gabriel Soudry, M.D. Franklin Square Hospital Center May 2003

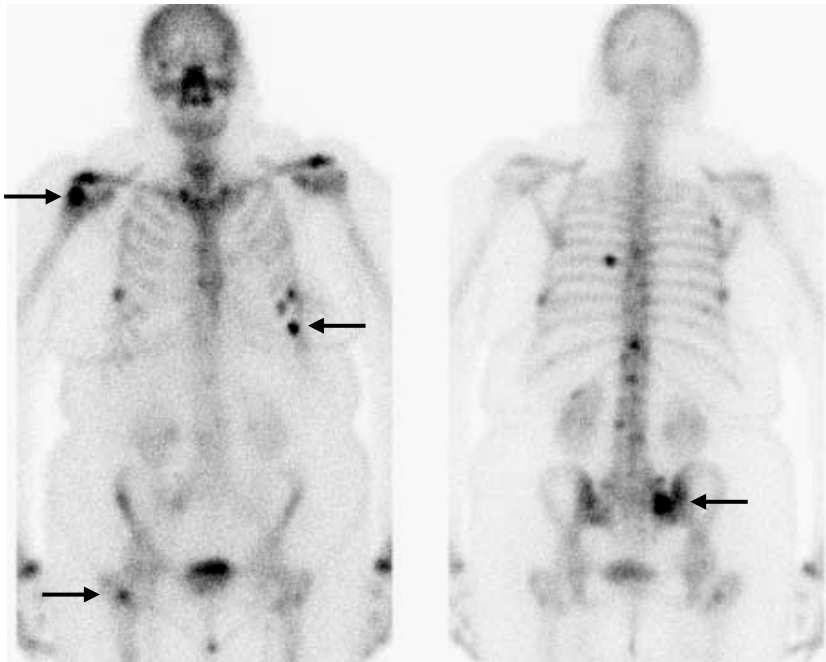


Figure 1. Bone scan

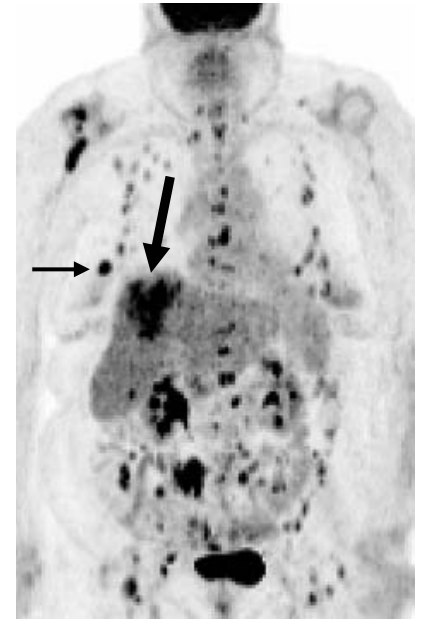


Figure 2. PET scan

This 68 year old lady was initially referred for a bone scan (Fig. 1) as part of a work up for diffuse bone pain and was found to have multiple lesions (see arrows) in the axial and appendicular skeleton highly suspicious for bone metastases. She then underwent a mammogram and a chest/abdomen/pelvic CT with contrast in search for an **unknown primary cancer**. Those studies were all interpreted as showing no significant abnormalities. A PET scan (Fig. 2) was obtained which showed the following:

- Numerous bone metastases throughout the skeleton
- A single focus of FDG uptake in the posterior aspect of the right breast highly suspicious for breast cancer (small arrow)
- A large abnormality in the liver highly suspicious for liver metastasis (large arrow)

Based on the PET findings, the patient underwent an ultrasound guided core biopsy of the right breast lesion. Pathology showed infiltrating ductal carcinoma with moderate differentiation.

How did the PET help: The PET scan outperformed conventional imaging and promptly identified the primary cancer. Tissue diagnosis was obtained at the first attempt with a minimally invasive procedure.

In a recent study involving 24 patients referred to a PET center for metastasis of unknown primary after a negative imaging workup, PET identified the primary tumor in 13/24 (53%) of the patients.¹

1. Lonneux M., Reffad A. Metastases from unknown primary tumor: PET-FDG as initial diagnostic procedure? Clin Pos Imag 2000;3:137-141