



Sarcoma

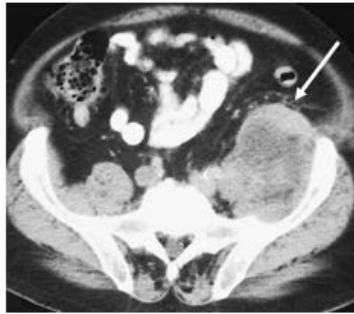


Fig. 1 Pelvic mass

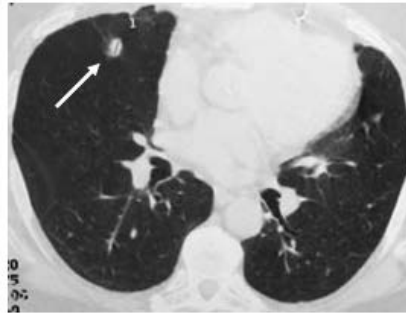


Fig. 3 Right lung nodule

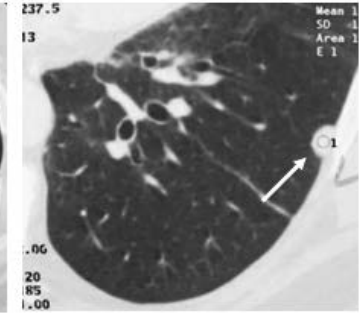


Fig. 4 Left lung nodule

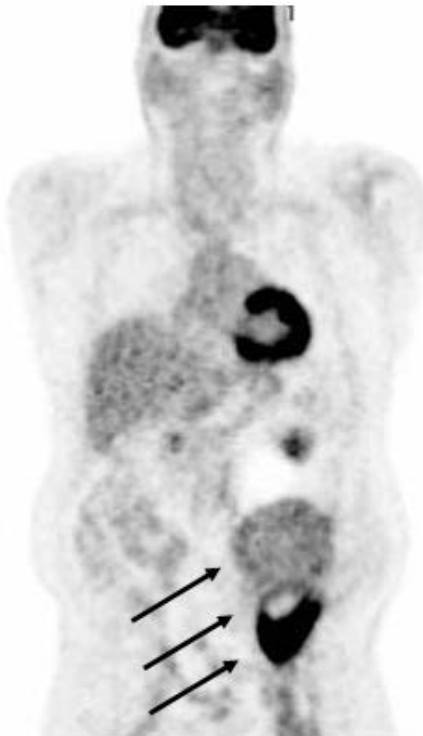


Fig. 2 PET scan

This 69-year-old man presented with left sided low back pain. A chest/abdomen/pelvis CT was obtained which showed a large retroperitoneal mass below the left kidney (Fig. 1) and multiple pulmonary nodules in both lungs suspicious for metastatic disease (Fig. 3 and 4). A biopsy of the retroperitoneal mass came back as atypical spindle cell **sarcoma**. A PET scan was obtained for staging, which showed:

- Heterogeneous uptake in the retroperitoneal mass suggestive of a combination of necrosis, hemorrhage and active tumor (Fig. 2)
- No appreciable FDG uptake in the lung nodules seen on CT arguing against lung metastasis

The patient underwent resection of the retroperitoneal mass. The pathology showed a necrotic hemorrhagic mass with upper pole of the tumor representing a well-differentiated low-grade liposarcoma and the lower pole representing a high-grade malignant fibrous histiocytoma.

The patient subsequently underwent CT guided biopsy of 3 lung nodules. Cytology was negative for malignant cells and only showed an anthracotic lymph node and granuloma. Proton beam irradiation of the tumor bed was subsequently initiated.

How did the PET-CT help?

The PET downstaged the patient by showing the absence of lung metastases, thereby influencing the therapeutic plan.

In a recent meta-analysis including 441 soft tissue lesions (227 malignant, 214 benign), FDG PET was found to have a very good discriminating ability in the evaluation of intermediate/high grade malignant tumors versus benign lesions but offered inadequate discrimination between low grade tumors and benign lesions (1).

(1) J Nucl Med 2003;44:717-724