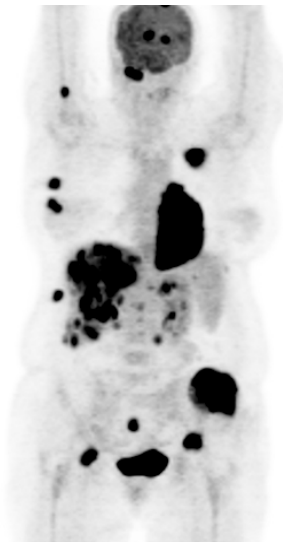


PETIMAGING

INTEGRATED PET/CT SCANNING CASE STUDY N^o 106

Characterization of a Lung Mass After Two Negative Biopsies

A 64 year old female with a history of COPD and hemoptysis presents following a cholecystectomy with complaints of abdominal and flank pain. **CT** scans of the abdomen and pelvis identify a 6.2 x 5.7 cm left lower lobe lung mass. **The liver, adrenal glands, pancreas, kidneys, and spleen are normal.** There is a simple lipoma in the left iliacus muscle. Follow-up chest CT reveals the mass to measure 7.5 x 8 cm. Transbronchial biopsy of the LLL was “negative for tumor”. A fine needle core biopsy performed a month later describes “mostly necrotic tissue. Definitive diagnosis cannot be made.” A **bone scan** reveals an **area of focal increase in the left iliac crest likely representing a metastatic focus with no additional sites worrisome for metastasis.** A PET/CT ordered to characterize the patient’s likely lung malignancy reveals a 9.0 x 7.1 x 13.7 cm left lower lobe mass with central necrosis and a maxSUV of 21.2 which abuts the left hilum where an additional suspicious site of likely nodal uptake measures 2.2 cm with an SUV of 17.8.



In addition, PET/CT identifies widespread hypermetabolic foci throughout the body including at least four sites in the brain with SUVs peaking at 14.1 relative to normal brain uptake of 5.1. Other sites include the masseter muscle with bony destruction of the mandibular condyle, right breast consistent with either a primary or secondary tumor, innumerable sites scattered throughout the liver, mesenteric nodes, and multiple bony metastases including the right femoral head, left acetabulum, left anterior iliac bone, proximal right humerus, and left scapula.