



Positron Emission Tomography

NORTH SHORE P.E.T. IMAGING CENTER

a service of North Shore Magnetic Imaging Center

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Case Files from North Shore P.E.T. Imaging Center

HISTORY:

57-year-old male with lung cancer.

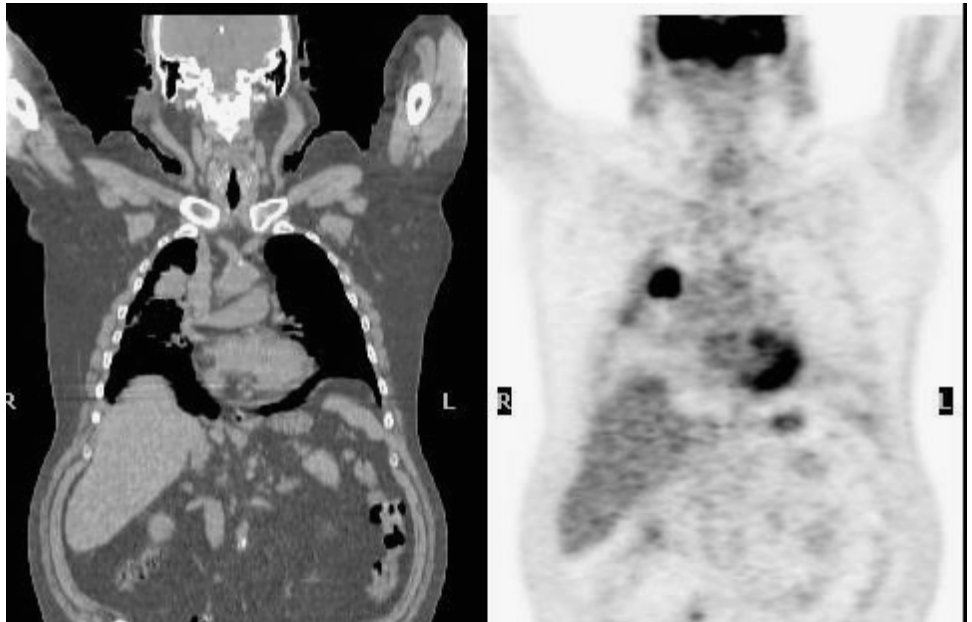
STAGING PET SCAN:

(Top Panel): There is a small focus of marked FDG uptake situated in the known right upper lobe mass.

(Bottom Panel): There is an additional unexpected moderate sized focus of marked FDG uptake in the skin behind the right ear.

CLINICAL COURSE:

The patient was subsequently questioned and examined. The patient described a non-healing ulceration behind the right ear of several months duration. A dermatology consult was obtained and the lesion was excised. The pathology report showed a basal cell carcinoma.



UNEXPECTED ADDITIONAL PRIMARY MALIGNANCIES DISCOVERED WITH PET/CT:

Detection of unanticipated malignant lesions has a significant clinical impact not only on healthy individuals but also on patients with known malignant disease. In patients with known cancer, work-ups often focus on the patient's primary disease, and incidental coexistence of another primary malignant lesion can be missed. The prevalence of additional primary neoplasms is substantial. One study reported that 8.5% of 633,964 patients with known cancers were subsequently proven to have other previously unrecognized types of primary cancer. A second study showed that 5.2% of 24,498 cancer patients had multiple cancers. In the interpretation of 18F-FDG PET images, correlation with anatomic imaging is important not only because it can clarify the precise location of an 18F-FDG avid focus but also because it can reduce the probability of a false-positive or false-negative result. It is clearly important to be alert to the presence of additional 18F-FDG avid lesions, as they not uncommonly represent cancer. Histopathologic assessment of 18F-FDG avid lesions is obviously warranted, and one of the major advantages of PET/CT is in providing a guide for tissue sampling.



REFERENCES:

Takayoshi I, Patel P, Wahl R. Detection of Unexpected Additional Primary Malignancies with PET/CT. J Nucl Med 2005;46:752-757

Agress H, Cooper BZ. Detection of clinically unexpected malignant and premalignant tumors with whole body FDG PET: histopathological comparison. Radiology.2004; 230:417-422.