

Multiple Skin Metastases Imaged with FDG PET/CT: The First Clinical Finding of Squamous Cell Lung Carcinoma: Original Image

FDG PET/BT ile Görüntülenen Multipl Deri Metastazları: Bir Skuamöz Hücreli Akciğer Kanserinin İlk Klinik Bulgusu

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ABSTRACT The skin is a rare metastatic site of internal malignancies. We present the FDG PET/CT images of multiple skin metastases of a squamous cell lung carcinoma where the first clinical finding was the presence of skin metastases.

Key Words: Skin; neoplasm metastasis; lung neoplasms; fluorodeoxyglucose F18; positron-emission tomography (PET)

ÖZET Cilt, iç organ kanserlerin nadir bir metastaz yeridir. Biz burada, ilk klinik bulgusu cilt metastazları olan bir skuamöz hücreli akciğer kanserinin FDG PET/BT görüntülerini sunuyoruz.

Anahtar Kelimeler: Cilt; tümör metastazı; akciğer tümörleri; fluorodeoksiglukoz F18; pozitron emisyon tomografi (PET)

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Our patient was a 59-year-old man with multiple skin lesions in his scalp. Clinically, lesions were on the frontal and parietal parts of scalp. They were necrotic and ulcerated. Pathological and immunohistochemical (with CEA, EMA, TTF-1) examination of the skin lesions revealed metastases of a squamous cell carcinoma. F-18 fluorodeoxyglucose positron emission tomography (FDG-PET) combined with computed tomography (CT) was performed to assess the primary tumor, and the scan demonstrated two intense hypermetabolic cutaneous lesions in the scalp (one was 2.5 cm in size and SUV 4.8; other was 2 cm in size and SUV 3.6) (Figure 1). In addition, there was a mass obliterating upper lobe bronchus of the right lung (5 x 5 cm in size, SUV 6.5) and multiple ipsilateral mediastinal and hilar hypermetabolic lymph nodes on PET/CT images (Figure 2). The diagnosis of the specimen obtained by bronchoscopic biopsy from the mass was reported as squamous cell carcinoma of the lung.

In cases of lung cancer, metastasis to the skin is less common than that to other organs (brain, bones, liver, and adrenal) and the reported incidence ranges from 1 to 12%.^{1,2} Although most patients develop these lesions du-

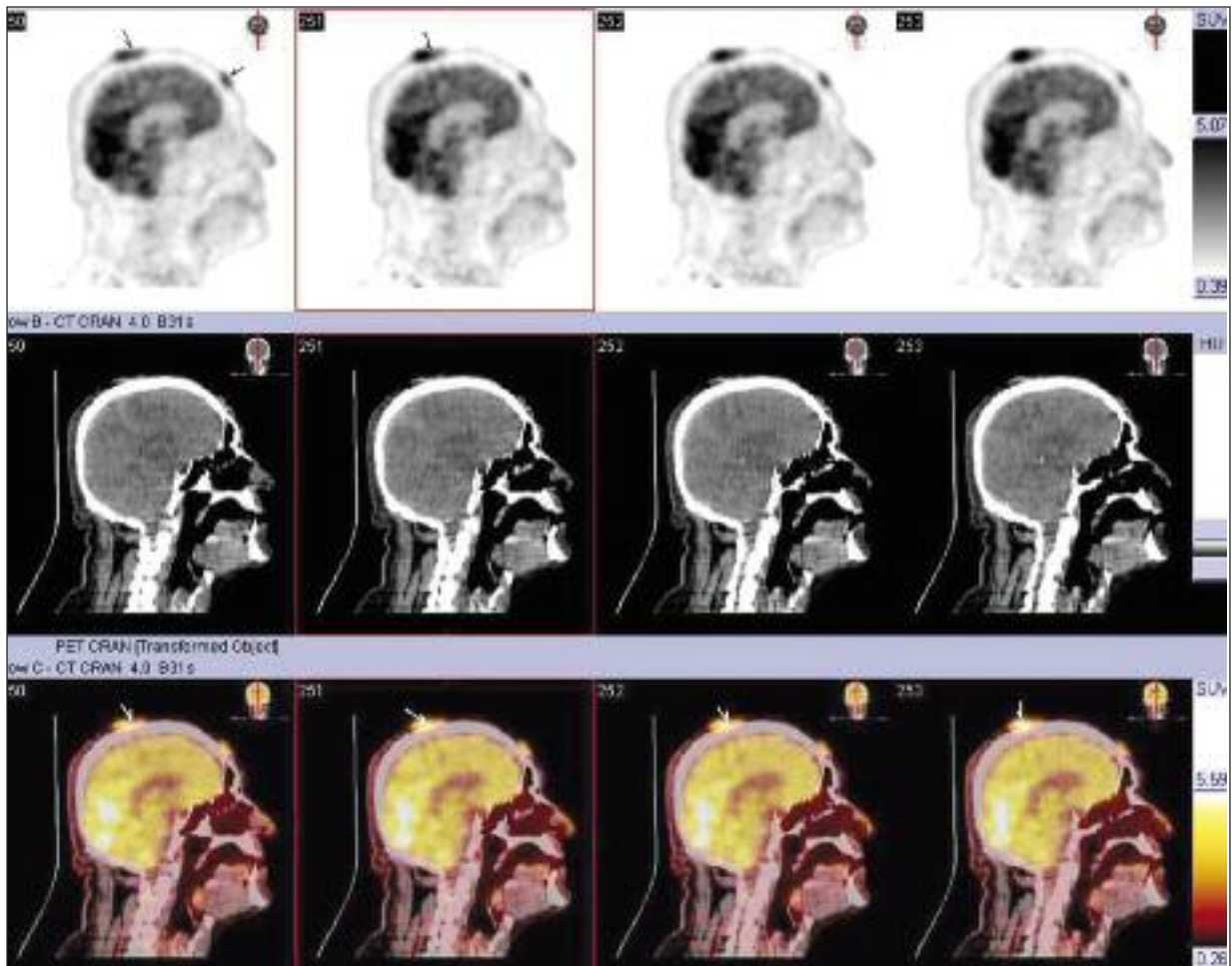


FIGURE 1: FDG PET/CT was performed using the Hi-Rez Biograph 6 (Siemens Medical Solutions, Biograph 6, IL, Chicago, USA), consisting of a high-resolution 3D LSO PET scanner and a state-of-the-art 6-row multi-slice CT. The sagittal PET, CT and fusion PET/CT images of the head show two foci of intense F-18 FDG uptake in the scalp corresponding to skin lesions.

ring the course of a known progressive disease, they may be the presenting manifestation of a primary tumor in the lung. Cutaneous metastases of lung cancer indicate poor prognosis. Brownstein and Helwig classify clinical manifestations of skin metastases as nodular, inflammatory, and sclerodermoid metastatic lesions.³ The scalp is a favorite

site of cutaneous metastasis of lung cancers that accounts for 54% of all cutaneous metastases of this cancer. This finding can be explained by the rich blood flow in the scalp.⁴⁻⁸ This case highlights the value of FDG-PET/CT in detecting unusual sites of metastatic involvement and in staging of lung carcinoma.

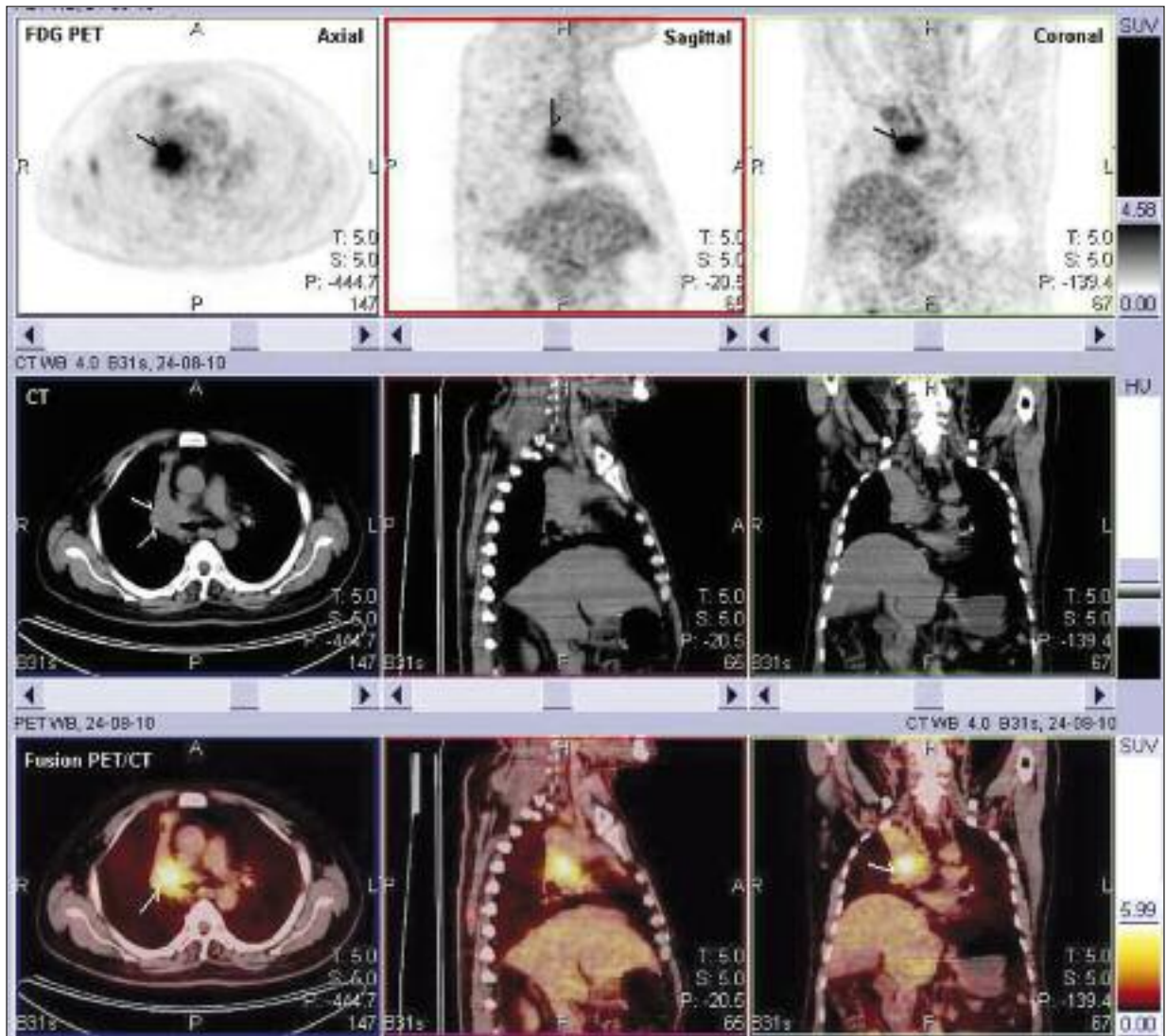


FIGURE 2: The PET, CT and fusion PET/CT images of the thorax show a mass obliterating upper lobe bronchus.

REFERENCES

- Lookingbill DP, Spangler N, Sexton FM. Skin involvement as the presenting sign of internal carcinoma. A retrospective study of 7316 cancer patients. *J Am Acad Dermatol* 1990; 22 (1):19-26.
- Coslett LM, Katlic MR. Lung cancer with skin metastasis. *Chest* 1990;97(3):757-9.
- Brownstein MH, Helwig EB. Spread of tumors to the skin. *Arch Dermatol* 1973;107(1):806.
- Hidaka T, Ishii Y, Kitamura S. Clinical features of skin metastasis from lung cancer. *Intern Med* 1996;35(6):459-62.
- Terashima T, Kanazawa M. Lung cancer with skin metastasis. *Chest* 1994;106(5):1448-50.
- Molina Garrido MJ, Mora Rufete A, Guillén Ponce C, Maciá Escalante S, Carrato Mena A. Skin metastases as first manifestation of lung cancer. *Clin Transl Oncol* 2006;8(8):616-7.
- Dhambri S, Zendah I, Ayadi-Kaddour A, Adouni O, El Mezni F. Cutaneous metastasis of lung carcinoma: a retrospective study of 12 cases. *J Eur Acad Dermatol Venereol* 2011; 25(6):722-6.
- Sasaki Y, Minamiya Y, Okuyama M, Hibino M, Kudo S, Tenma K, et al. A case of lung cancer with skin metastases responding to erlotinib. *Gan To Kagaku Ryoho* 2011; 38 (2):271-4.