

F-18 FDG PET/CT Imaging and Bronchoscopic Image of Tracheal Recurrence in Patient With Non–Small-Cell Lung Cancer

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Abstract: We report tracheal recurrence in patient with non–small-cell lung cancer (NSCLC) who was diagnosed with F-18 fluorodeoxyglucose positron emission tomography/computerized tomography (FDG PET/CT) during follow-up period. A 56-year-old man presented with mediastinum involvement of NSCLC (clinical stage IIIA). After 3 cycles of neoadjuvant platinum-based chemotherapy, he underwent right pneumonectomy. Because tumor in the right main bronchus was located <2 cm distal to the carina, pathologic stage IIB (T3N0M0) disease was diagnosed according to seventh addition of American Joint Committee on Cancer (AJCC) TNM classification. Thereafter, adjuvant 3 cycles of chemotherapy was administered. At the 21st month of follow-up period, he presented with dyspnea and inspiratory stridor. FDG PET/CT was performed and it revealed multiple intense uptake foci in the trachea ($SUV_{max} = 10.1$) compatible with malignant tracheal nodules. After rigid bronchoscopy and biopsy were carried out, tracheal recurrence was confirmed. We conclude that it would be interesting to investigate the use of

FDG PET/CT in the work-up of tracheal recurrence of NSCLC. Tracheal recurrence was confirmed with rigid bronchoscopy and biopsy.

Key Words: trachea, recurrence, PET/CT, non-small cell, lung cancer
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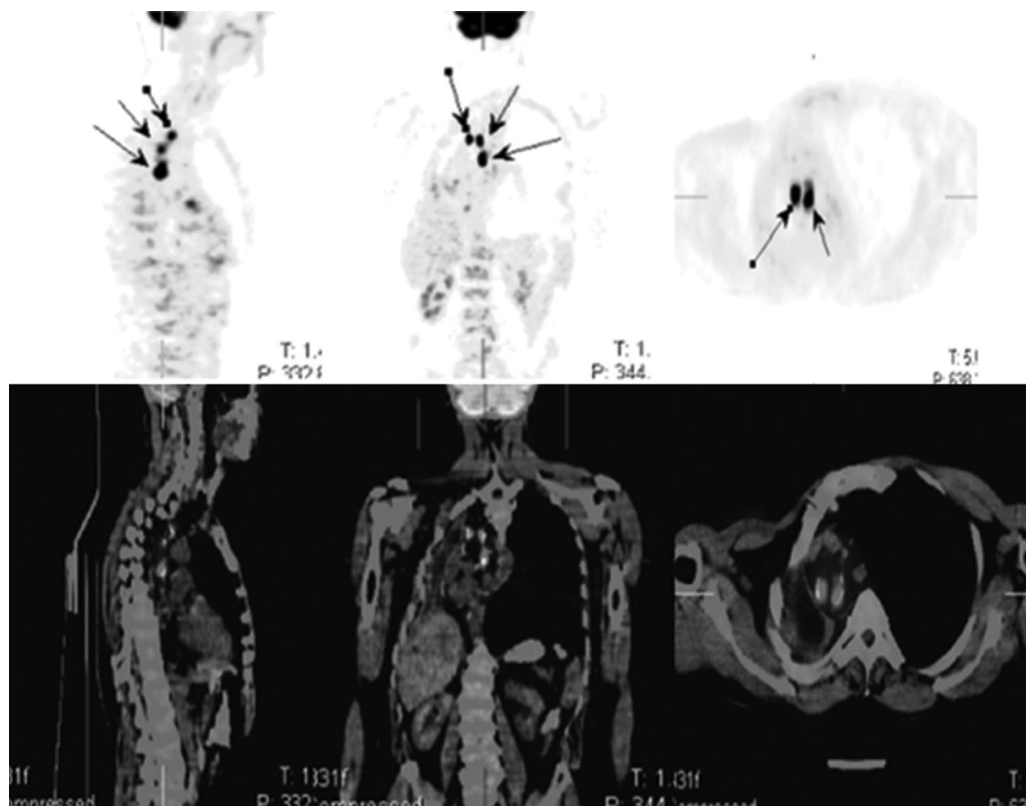


FIGURE 1. Tracheal metastasis of the primary non-small-cell lung cancer (NSCLC) is extremely rare. Although several malignancy such as breast, colorectal, renal cell carcinomas metastasis to trachea were reported,^{1–3} only 6 recurrent tracheal metastasis of NSCLC which was diagnosed with thorax CT have been previously reported⁴ in the English Medical literature. Common presenting symptoms are cough, hoarseness, and dyspnea and radiotherapy is a reasonable treatment modality for unresectable disease.⁵ Our patient was a 56-year-old man who presented with mediastinum involvement of NSCLC (clinical stage IIIA).⁶ After 3 cycles of neoadjuvant platinum-based chemotherapy, he underwent right pneumonectomy, and pathologic stage IIB (T3N0M0) disease was diagnosed. At the 21st month of follow-up period, he presented with dyspnea and inspiratory stridor. Because thorax CT was nondiagnostic, F-18 fluorodeoxyglucose positron emission tomography/computerized tomography (FDG PET/CT) was performed to detect suspicious recurrence. FDG PET/CT scan revealed tracheal deviation to the right side and multiple endotracheal lesions with malignant FDG uptake ($SUV_{max} = 10.1$) in the tracheal lumen. There was no malignant FDG uptake in the other sides of the body. FDG PET/CT is important not only in the diagnosis and staging of lung cancer, but also in the prediction of recurrence.⁷ PET/CT findings of recurrent respiratory papillomatosis of the trachea was reported.⁸ We confirmed the diagnosis of recurrence of NSCLC in the trachea by rigid bronchoscopy and histopathological evaluation. This case report constitutes because of the first case of tracheal recurrence of NSCLC diagnosed by PET/CT images in the literature. FDG PET/CT is useful in recurrent NSCLC with involvement of the trachea.

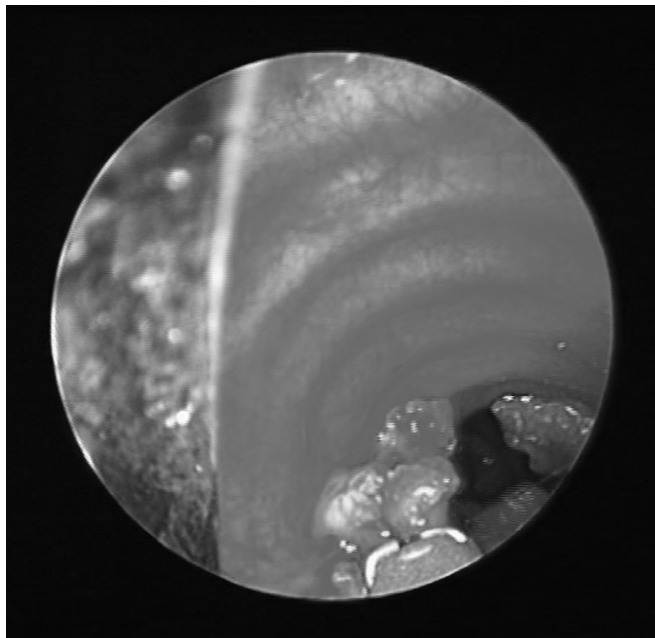


FIGURE 2. Rigid bronchoscopy under general anesthesia reveals multiple vegetative lesions protruding into the tracheal lumen.