

Clinical Significance of Intrathoracic Lesions Detected by ^{18}F -Fluorodeoxyglucose Positron Emission Tomography in the Management of Patients with Head and Neck Cancer

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Background : Few studies have used positron emission tomography (PET) to identify metastases or simultaneous thoracic malignancies in patients with head and neck cancer (HNC). We retrospectively investigated the role of ^{18}F -fluorodeoxyglucose (FDG) positron emission tomography (PET) in detecting thoracic malignancies in patients with previously untreated HNC.

Methods : Patients (n=86) with HNC and intrathoracic lesions were divided into those who had abnormal FDG uptake in the mediastinum (n=29), lungs (n=34), or both (n=23). Whole body PET and chest computed tomography (CT) results were blindly reviewed and scored by two observers. The accuracy of FDG PET and CT were drawn in patients in whom diagnosis was confirmed by histopathology or follow-up ima-

ging and risk factors for thoracic malignancy were analyzed.

Results : Malignancy was suspected in 23 of 86 patients (27%) with FDG uptake. Most of the lesions (83%) with abnormal FDG uptake were benign, with thoracic malignancy confirmed in 15 patients (17%). The overall sensitivity, specificity, and accuracy of FDG PET for intrathoracic malignancy were 80%, 85%, and 84%, respectively. The likelihood of thoracic malignancy in the HNC patients was associated with high FDG uptake of thoracic lesions.

Conclusion : FDG PET may reveal lung and mediastinal malignancies with a high accuracy in patients with HNC. The thoracic staging by FDG PET may be helpful in therapeutic planning for these patients.