

Value of whole-body FDG PET in management of lung cancer

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¹⁸F-fluorodeoxyglucose (FDG) PET imaging provides physiologic and metabolic information that characterizes lesions that are indeterminate by CT. FDG PET imaging is sensitive to the detection of lung cancer in patients who have indeterminate lesions on CT, whereas low grade malignancy such as bronchioloalveolar carcinoma and carcinoid may be negative on FDG PET. The specificity of PET imaging is less than its sensitivity because some inflammatory processes, such as active granulomatous infections, avidly accumulate FDG. This possibility should be kept in mind in the analysis of PET studies of glucose metabolism aimed at differentiating malignant from benign solitary pulmonary nodules. FDG uptake is considered to be a good marker of cell differentiation, proliferative potential, aggressiveness, and the grade of malignancy in patients with lung cancer. FDG PET accurately stages the distribution of lung cancer. Several studies have documented the increased accuracy of PET compared with CT in the evaluation of the hilar and mediastinal lymph-node status in patients with lung cancer. Whole-body PET studies detect metastatic disease that is unsuspected by conventional imaging. Management changes have been reported in up to 41% of patients on the basis of the results of whole-body studies. Whole-body FDG PET is also useful for the detection of recurrence. Several studies have indicated that the degree of FDG uptake in primary lung cancer can be used as an independent prognostic factor. Thus, whole-body FDG PET is clinically very useful in the management of lung cancer.

Key words: ¹⁸F-fluorodeoxyglucose, positron emission tomography, lung cancer