

Thallium and FDG uptake by atelectasis with bronchogenic carcinoma

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We report a case of bronchogenic carcinoma with atelectasis studied by Tl-SPECT and FDG-PET. In the carcinoma, abnormally high uptake of Tl and FDG were detected, but in the region of atelectasis, an abnormally high uptake of Tl with a relatively low uptake of FDG were observed. On quantitative analyses, the Tl retention indexes of the tumor and atelectasis were 29.7 and 42.0. The mean SUVs of FDG of the tumor and the atelectasis were 8.92 and 1.28. Tl-SPECT could not distinguish the atelectasis from the carcinoma. FDG-PET was superior to Tl-SPECT in this case in detecting malignancy and distinguishing it from atelectasis.

Key words: atelectasis, bronchogenic carcinoma, fluorine-18-fluorodeoxyglucose (FDG), thallium-201-chloride (Tl), retention index (RI)