

Differentiation of bronchogenic carcinoma from secondary changes, obstructive pneumonitis and/or collapse by I-123 IMP lung imaging

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Serial lung images with N-isopropyl-p-[I-123]-iodoamphetamine (I-123 IMP) were obtained to assess the imaging findings and to clarify the lesion to uptake relationships in 74 lesions in 73 patients with various histological types of bronchogenic carcinoma. A decreased uptake area was observed in all 74 lesions in the initial one or two-min I-123 IMP image. The initial image was analogous to a Tc-99m MAA lung perfusion image in 70 patients in whom both lung imaging procedures were performed. The imaging findings changed following this initial phase. At 4 hr, the lesion was depicted as either areas of decreased uptake or increased uptake or a combination of the two. Comparison between the lesion findings in the 4-hr I-123 IMP images, radiograms and removed specimens revealed that areas of decreased uptake corresponded to the cancerous portions of the lung mass or pleural effusion and areas of increased uptake corresponded to inflammatory portions including obstructive pneumonitis and/or collapse. Thus, the 4-hr I-123 IMP lung images can be used to discriminate the cancerous portion from associated secondary changes, obstructive pneumonitis and/or collapse.

Key words: I-123 IMP, lung imaging, bronchogenic carcinoma, lung collapse, obstructive pneumonitis