

Ectopic accumulation of ^{99m}Tc -HMDP in primary lung cancer in comparison with CT findings

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The purpose of this study was to evaluate the frequency and the extent of extraosseous ^{99m}Tc -HMDP accumulation in 412 patients with primary lung cancer.

CT scanning was also performed and we compared the extraosseous uptake by lung cancer with the internal structure of the tumor on CT scans. The extent of ectopic ^{99m}Tc -HMDP accumulation was classified as low, moderate or high. CT scans were used to evaluate the size and internal structure of the tumor, including calcification and necrosis.

Ectopic ^{99m}Tc -HMDP accumulation in primary lung cancer was found in 32 patients (7.7%), and included 2 cases (0.5%) of high uptake, 8 cases (1.9%) of moderate uptake, and 22 cases (5%) of low uptake. No difference in uptake was observed among the histological types, but a relationship between tumor size and ^{99m}Tc -HMDP extraosseous accumulation was observed. CT scans of the 32 tumors exhibiting ectopic ^{99m}Tc -HMDP accumulation revealed 5 cases of calcification in the tumor and 18 cases of tumor necrosis. The factors promoting ectopic ^{99m}Tc -HMDP accumulation were considered to be tumor size and calcification or necrotic change. In patients with neither calcification nor necrosis, other factors such as increased calcium metabolism and altered vascular permeability may be involved.

Key words: ectopic accumulation of ^{99m}Tc -HMDP, primary lung cancer, CT findings