DIAGNOSIS OF LUNG CANCER BY INTRABRONCHIAL ARTERIAL INJECTION OF T1-201 CHLORIDE.

We have reported that T1-201 chloride has an ability to visualize lesions of lung cancer. However, in clinical comparison with Ga-67, there is no report that T1 is superior to Ga. This unsatisfactory result of T1 is probably due to the fact that the total amount of T1 in one perfusion is not enough to visualize lung cancer. This came to an idea of new method by intrabronchial arterial injection of T1 chloride. This was performed in 12 patients with lung cancer. 0.5-1mCi of T1-201 chloride (2-5ml) was injected slowly through the catheter after X-ray bronchial arteriography for the purpose of diagnosis and anticancer drug treatment. Images were taken about 30 min. after bronchial arterial injection. All of metastatic hilar and mediastinal lymphnodes as well as primary lesions were clearly visualized. However, there were 2 false positive cases in the evaluation of hilar and mediastinal areas. One had anthracosilicotic nodes and the other nonspecific inflammatory lymphnodes. This method is invasive but seem to be useful for the evaluation of hilar and mediastinal involvement in lung cancer.

CLINICAL EVALUATION OF T1-201-CHLORIDE SCAN FOR BONE DISEASE.

Clinical evaluation of T1-201 chloride scan for bone disease was examined in 66 patients by comparing with Tc-99m MDP scan. The abnormal accumulation of T1-201 was found in 43.9% of 57 patients with bone disease, and that on Tc-99m MDP was 98.2%. The abnormal findings of T1-201 scan in cases with primary bone tumors were found in all cases with osteosarcomas and giant cell tumors. A case with recurrent giant cell tumor also had positive findings of T1-201 scan. The sensitivity and specificity of T1-201 scan for detecting bone metastasis were 50% and 100%, and those of Tc-99m MDP scan were 100% and 54.2%, respectively. Positive images with T1-201 scan were obtained in several cases with metastatic bone tumors. In the cases with inflammatory bone disease, no positive findings of T1-201 scan were obtained, though in all of these cases Tc-99m MDP scintigraphic findings were positive. From these results, T1-201 scan for bone disease is considered to be useful for the diagnosis of primary bone tumors.