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

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We have reported that Tl-201 chloride has an ability to visualize lesions of lung cancer. However, in clinical comparison with Ga-67, there is no report that Tl is superior to Ga. This unsatisfactory result of Tl is probably due to the fact that the total amount of Tl in one perfusion is not enough to visualize lung cancer. This came to an idea of new method by intrabronchial arterial injection of Tl chloride. This was performed in 12 patients with lung cancer. 0.5-1mCi of Tl-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 anthraco-silicolic 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.

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CLINICAL EVALUATION OF TUMOR IMAGING WITH Tl-201 CHLORIDE IN SOFT TISSUE SARCOMAS AND MALIGNANT MELANOMA

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To evaluate the effectiveness of Tl-201 chloride scintigraphy in the diagnosis of tumor,seventeen scintigraphy were performed in 12 cases of soft tissue sarcomas and in 5 cases of malignant melanoma.Twelve cases showed positive images.Images were clearer in larger tumors than in smaller ones. The degree of RN accumulation varied from one to another with no relation to its histopathology. Tumor images in abdomen and buttock were difficult to differentiate from the physiological uptakes into liver, kidneys and gastro-intestinal tract. We experienced one case which showed uptake into metastatic lymphnodes as well as primary tumor. We believe that Tl-201 scintigraphy is useful in evaluating the extent of tumor. We also experienced some cases with benign tumors which showed Tl-201 uptakes,and it was found to be of limited value in deciding if the tumor is malignant or not.

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

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Clinical evaluation of Tl-201chloride scan for bone disease was examined in 66 patients by comparing with Tc-99m MDP scan. The abnormal accumulation of Tl-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 Tl-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 Tl-201 scan. The sensitivity and specificity of Tl-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 Tl-201 scan were obtained in several cases with metastatic bone tumors. In the cases with inflammatory bone disease,no positive findings of Tl-201 scan were obtained,though in all of these cases Tc-99m MDP scintigraphic findings were positive. From these results,Tl-201 scan for bone disease is considered to be useful for the diagnosis of primary bone tumors.