noma one case (4.5%) of 22 cases was false negative case.

In 12 cases which were suspected metastatic hilar lymphnodes on the chest X-ray film, 2 cases (16.7%) showed no accumulation of ^{67}Ga.

From the above results, it was suggested that ^{67}Ga-citrate scintigraphy was rather difficult to diagnose small metastatic lesion in hilum or mediastinum, because false negative cases and false positive cases were frequently observed in surgical operation. However, few cases which showed false negative sigh were observed in advanced inoperable cases. It was considered, therefore, ^{67}Ga-citrate scintigraphy was useful to determination of the field of irradiation on hilum or mediastinum in the inoperable cases.

Gallium-67 Scanning in the Evaluation of Therapy of Lung Cancer

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The relationship between ^{67}Ga accumulation and effectiveness of radiation therapy was studied. The study population consisted of 76 primary lung cancer patients.

The histological diagnosis in the cases in which the Gallium-67 scan was performed is as follows: 20 cases of anaplastic carcinoma, 35 cases of squamous cell carcinoma and 21 cases of adenocarcinoma.

Carrier-free ^{67}Ga-citrate (2.0–3.0 mCi) was administered intravenously 48 hours before scanning and Gallium-67 scans performed prior to treatment.

Result

1) In reference to histologic types, the anaplastic carcinoma showed the highest density Gallium scan next, the squanous cell carinom showed an intermediate density and the adenocarcinoma showed the lowest density Gallium scan.

2) In cases of carcinomas of the same histologic type, the cases that gave initially strongly positive Gallium scan tended to respond better to radiotherapy than those which were weakly positive.

Gallium-67 scans of lung cancer performed prior to treatment appear to be of value in predicting radiosensitivity of lung cancer.

The Gallium Scintigraphies with Diffuse Accumulation in the Lungs

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Gallium scintigrams of 26 cases were studied in which diffuse abnormal thoracic accumulation of the radionuclide were seen. In 15 cases, abnormal diffuse densities were noted in chest radiopaphs correlating well with gallium scintigrams, but there were no corresponding abnormalities in chest radiographs of 11 cases.

In 4 of the latter group, bronchographies were performed prior to gallium scintigraphes. Scintigrams showed higher gallium accumulation in accordance with the sites of trachea and bronchus. These facts suggest that bronchographic contrast media has significant effects on the accumulation of gallium in the lungs. 6 cases of normal chest radiographs had malignant lymphomas and received prolonged chemoterapy with VEMP or others. All of 6 patients had high fever, leucopenia, elevation of ESR, and positive CRP, at the time of gallium scintigraphy.

These clincial data suggest that these patient

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