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PHYSIOLOGICAL ACCUMULATION OF GALLIUM-67 CITRATE IN PULMONARY HILA. J.Yamagishi, H.Kobayashi, Y.Kato, M.Yamauchi, H.Watanabe, S.Kubota, N.Katsuyama, K.Kawakami and S.Mochizuki. Department of Radiology, Jikei University School of Medicine. Tokyo.

Ga-67 citrate scanning were carried out with PHO/CON in 214 cases without hilar abnormality on Chest P-A, Tomogram or Computed Tomogram, at least for 3 months later. The incidence of accumulation of Ga-67 into hila was investigated in these cases retrospectively. Accumulation of radioactivity in hila was obtained 27 out of 114 male cases (23 %), and 18 out of 100 female. The percentage of the incidence of hilar accumulation in each decade was as follows: Under 20--0 %, 30--10 %, 40--10 %, 50--13 %, 60--37 %, 70--50 %, 80--60 %. The incidence of physiological accumulation was progressively increased with age. This incline was noticed especially in over 60 year-old patients.

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QUANTITATIVE EVALUATION OF THE LUNG TUBERCULOSIS USING GA-67-CITRATE. C.Tobari, H.Kurosawa, M.Noguchi, and Y.Ohtsuka. Dept. of Radiol., 1st Int. Med., TOHO Univ.. Tokyo.

This presentation was performed Ga-67-citrate scan associated to the imaging and its quantitative evaluation for the lung tuberculosis.

The scan of 19 cases of lung tuberculosis was examined at 48 hrs after intravenous injection of  $2mCi$  of Ga-67-citrate.

Ga-67 lung scan was notified positive accumulation if the lesion has activity but normal BG accumulation has in the non-active region. The images of the improved case in clinically were observed to be normal BG accumulation. On the other hand, The cavernes had a doubtful like accumulation but no uptake in the tuberculoma. After the ratio of Ga-67-uptake between the lesion and liver (C.I.: color index) at each 3 months was examined using the digital color system, The worsen cases were significantly increased C.I. and its results had also well correlation to the clinical studies as chest X-p or laboratory datas.

As these results, Ga-67 lung tuberculosis scan with the quantitative evaluation was very useful on the following therapy and clinical interpretation.

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ON THE DIFFERENTIAL DIAGNOSIS OF LUNG CANCER BY Ga-67-CITRATE AND Tc-99m-MAA. M. Toyohara, K.Iwai, T.Sasazawa, H.Ando and A. Koyama. Institute of Tuberculosis, Japan Anti-tuberculosis Association.

Possibility of level up of the differential diagnosis of lung cancer by lung scintigraphy in combination with Ga-67-citrate and Tc-99m-MAA was studied. Subjects were 89 persons of lung cancer, 18 of pulmonary tuberculosis and 14 of other pulmonary disease. Degree of accumulation of Ga-67 was evaluated as score 1 of accumulation of liver. 37 of 89 cancer(42%) and 2 of 18 tuberculosis(11%) showed the larger degree of accumulation than 1. Defect of pulmonary perfusion was compared as 1 of size of lung lesion by x-p. Cases of the larger defect than 2 were 58 of 85 cancer(68%), 6 of 18 tuberculosis(33%) and 1 of 10 other pulmonary disease(10%). Certainty of diagnosis of lung cancer was increased by lung scintigraphy in combination with Ga-67-citrate and Tc-99m-MAA. Epidermoid was most among lung cancer that showed the larger degree of accumulation of Ga-67 than 1.

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CLINICAL USEFULNESS OF GALLIUM-67 LUNG SCAN IN DIFFUSE INTERSTITIAL LUNG DISEASES OF VARIOUS ETIOLOGY. H.Nakajima, H.Sawa, Y.Masuda, T.Fukuda, Y.Minamikawa, R.Arai, T.Umekawa, H.Ochi, K.Hamada, Y.Onoyama, N.Kurihara, K.Terakawa, S.Fujimoto and T.Tuchida. Osaka City University Medical School, Department of Radiology, First Internal Medicine and Osaka City Sirokita Hospital, Division of Nuclear Medicine.

Gallium-67 lung scan was performed in 83 patients with diffuse lung diseases to evaluate clinical usefulness of this examination. The series included cryptogenic fibrosing alveolitis(25), pneumoconiosis(12), drug-induced pneumonitis(11), pneumonitis due to collagen disease(10), miliary tuberculosis(6), sarcoidosis(5), hypersensitivity pneumonitis(5), lymphangitis carcinomatosa(5) radiation pneumonitis(3) and eosinophilic granuloma(1). Diffuse interstitial lung diseases characterized by granuloma formation such as hypersensitivity pneumonitis, sarcoidosis and miliary tuberculosis were associated with prominent Ga-67 accumulation.

In four patients under VEM(N)P therapy with malignant lymphoma, diffuse high accumulation of Ga-67 was seen in the both lung field. Chest radiograph and blood gas data were almost normal in these patients. Two of them were proven by histology as pneumonitis. Ga-67 lung scan could be more sensitive than chest radiograph and blood gas data for the early detection of pneumonitis under chemotherapy.