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CLINICAL EFFICACY OF GA-67 SCINTIGRAPHY. K.Asakura, Y.Ono, S.Takebayashi, K.Tanohata, H.Kawashima, K.Yuzuta, T.Nozawa, M.Ujiie and K.Matsui. Dept. of Radiology, Yokohama City University School of Medicine. Yokohama.

Ga-67 scintigraphy is useful because of its' affinity for tumor and inflammation. We have discussed the clinical efficacy of it. We classified the cotributions as (+); giving useful informatoins for clinical managements, (+); giving further informations however without contribution to clinical management, (+-); giving no further information, however true positive, (-); giving false positive or false negative. On the result of 348 cases in 1981, (++) was 13%, (+) was 21%, (+-) was 22% and (-) was 45%.

Ga-67 scintigraphy was more effective in the cases of malignant lymphoma and absess, although less effective in the cases of lung and other cancers.

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REEVALUATION OF Ga-67 CITRATE AS TUMOR SCINTIGRAPHY IN AGED PATIENTS. CORRELATIVE STUDY BETWEEN SCINTIGRAPHIC AND AUTOPSY FINDINGS. Y.Shimohara, M.Tanno, T.Muraki, H.Tabuchi, H.Murata, K.Chiba and H.Yamada. Tokyo Metropolitan Geriatric Hospital, Tokyo

Positive ratio of Ga67 scintigram in aged patients seem to be lesser than that in younger adult patients. In order to ascertain this hypothesis the present study was conducted.

One hundreds eight autopsy cases had Ga-67 study during clinical course. An avarage age was 78 years old with the youngest patient of 56 yso. Of all 108 patients, 67 (57 %) had positive scan. Out of 56 patients with cancer of the lung, 35(63 %) had positive scan. Compared with age, degrees of anemia, serum Fe, UIBC, CEA and fibrinogen, there is no difference between cases with positive and negative studies. On pathological classification of the lung cancer, 19 patients with adenocarcinoma had 7 positive scans (7 %), 18 with squamous cell cancer had 15 (83 %), 11 with small cell cancer had 7 (64 %) and 8 patients with large cell cancer had 6 positive scan (75 %). The tumor with positive scan showed more than 3 cm in diameter. Adenocarcinoma tends to be smaller than others. From the precise histological study, 3 of 4 Ga-67 positive adenocarcinoma showed marked fibrosis, lymphocyte infiltration and vascularity. These characteristics and tumor size could be the important factors of Ga67 positiveness in tumor detection.

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DIFFERENTIAL DIAGNOSIS OF DIFFUSE PULMONARY DISEASE USING Ga-67. S.Ito, Y.Ryujin, H.Kasuga, R.Miyazaki, N.Narita, R.Mikami, S.Tsutsui, H.Shibatsuji and S.Hamada. Nara Medical University. Kashiwara.

The Ga-67 uptake was studied in 61 cases of diffuse pulmonary diseases; 13 silicosis (Si), 11 asbestosis (As), 9 idiopathic interstitial pneumonia (IIP), 4 collagen disease (Col.IP), 2 hypersensitivity pneumonia (HP), 9 hilum type sarcoidosis (Sar. H), 4 pulmonary type sarcoidosis (Sar.P), 2 histiocytosis X (HX), 7 diffuse panbronchiolitis (DPB).

High uptake was observed in patients with Si Sar.P, moderate uptake in patients with As IIP and low uptake in patients with Sar.H. Higher concentration of Ga-67 was observed in Col.IP than in IIP. Remarkably high concentration of Ga-67 was observed in one case of HP although we had examined only a couple of cases.

As to the patients with Si higher concentration of Ga-67 was observed in X-P Class 3 and 4 than in X-P Class 1 and 2. No relationships were found in concentration among the patients with As. As to the patients with IIP the Ga-67 uptake was higher in X-P Class II than in X-P Class I.

Thus in the present contribution, Ga-67 scintigram was proved to be useful in differential diagnosis and estimating the activity of every diffuse pulmonary disease, such activity is usually hard to be estimated by chest X-P findings.

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EFFICACY OF Ga-67 SCANNING IN ABNORMAL SHADOW ON CHEST ROENTGENOGRAM FOR THE DETECTION OF LUNG CANCER. S.KOSUDA, Y.TAKAGI\*, N.OHIGASHI\*, A.KUBO\*, S.HASHIMOTO\*, Y.NISHIMURA\*\*, and N.YANAI\*\*. The Second Tokyo National Hospital, \*Keio University School of Medicine, \*\*Seiranso-Byoin National Sanatorium. Tokyo and Ibaragi.

To assess prospectively the usefulness of Ga-67 imaging in abnormal shadow on chest roentgenogram, 78 patients were scintigraphed after intravenous injection of 3 mCi of Ga-67 citrate. Before and after Ga-67 scanning, the same physician completed two questionnaires indicating his differential dianosis, diagnostic confidence (expressed as a percentage) and therapeutic plan, referring chest roentgenograms (posteroanterior and lateral views) and chest roentgen tomograms (frontal projection only). The impact of the imaging of the physician's diagnostic confidence was expressed as a log-likelihood-ratio (LLR).

The mean log-likelihood-ratio (LLR) for this series was  $0.191 \pm 0.308$  (n=78), with 47 of 78 (60.3%) patients demonstrating a LLR, 0.00. In only two of 78 (2.6%) patients, a LLR greater than 1.0 was achieved.

These results reflect the little impact of Ga-67 scanning on the decision-making process for lung cancer.