## 408

CLINICAL EVALUATION OF Ga-67 CITRATE SCINTIGRAPHY IN PULMONARY SARCOIDOSIS.

Y. Hiraki, S. Morimoto, H. Niiya, I. Joja, S. Kimoto, Y. Takeda, I. Togami, M. Kaji and K. Aono. Department of Radiation Medicine, Okayama University Meidcal School. T. Kishi and Y. Nakada. Second Department of Internal Medicine, Okayama University Medical School. Okayama.

Ga-67 citrate scintigraphy and lymphocyte count of the bronchoalveolar lavage (BAL) are useful in the evaluation of pulmonary sarcoidosis activity.

In 25 cases of untreated pulmonary sarcoidosis, Ga-67 citrate scintigraphy was performed and compared with the lymphocyte count in BAL.

The intensity of Ga-67 citrate accumulation in the hilus lymph node seemed to be correlated with the lymphocyte count, and the accumulation in the pulmonary region was negative correlated.

Ga-67 citrate accumulation was also compared with other measures, such as serum-angiotensin converting enzyme (SACE) and chest X-P.

## 409

CLINICAL EVALUATION OF Ga-67 SCINTIGRAPHY IN THE DIAGNOSIS OF LUNG CANCER.

Y.Kobayashi,K.Yuzuta,T.Tanaka,T.Ise, Y.Nakamura,Y.Yamamoto.Kanagawa Cancer Center,Yokohama.Y.Ono and K.Matsui.Yokohama City University,School of Medicine,Yokohama

This study was undertaken to evaluate the clinical usefulness and limitation of Ga-67 scintigraphy in the diagnosis of lung cancer.Scintigraphy was reviewed in 285 cases of lung cancer (squamous cell ca.:142 ,adenoca.:95,small cell ca.:40,large cell ca.:8)The cases which was performed after surgical removal,unknown size and pathological diagnosis were excluded from this study.Evaluation of the tumor uptake compared to the activity of the liver was performed into grade 4 to grade 0.Grade 4,3 and 2 were regarded to be positive.Classification of the size of the tumor were as follows,S:below 3cm,M:between 3 and 5cm,L:more than 5cm.Classification of the location of the tumor were performed-peripheral,intermediate and hilar region.Positive RN uptake was recognized in 81% of squamous cell ca., 39% of adenocarcinoma,68% of small cell ca. and 75% of large cell ca.No definite evidence was obtained suggesting the difference of RN uptake in regarding to the location of the diseases.But the rate of positive RN uptake were increased as the size of the mass was increased.The effect of the treatment seemed to be present in cases of adenocarcinoma and small cell ca.but not in cases of squamous cell ca.

## 410

DIAGNOSIS OF N2 FACTOR OF PRIMARY LUNG CANCER WITH Ga-67-SPECT.

R.Matsui.Hyogo Brain and Heart Center at Himeji,Himeji.I.Narabayashi.Hyogo Medical Center for Adult,Akashi.K.Sugimura, N.Ishido,K.Kanagawa,S.Nishiyama and S.Kimura.Kobe Univ. School of Medicine,Kobe.

It is important to estimate N2 factor of primary lung cancer not only for prognosis but also for application of operation, but It was difficult to diagnose N2 factor with planar image of Ga scintigraphy, because mediastional lymphnodes exist between Sterunum and Vertebra. It becomes easy to estimate the accumulation spatially with Ga-SPECT. So, we examined the value of Ga-SPECT by means of comparision of the histological findings of N2 factor after operation with diagnosis of the Ga-SPECT in fifteen cases of primary lung cancer. (Squamous cell carci 8 cases, adeno carci 4 cases, large cell carci 2 cases and small cell carci 1 case.)

True positive was five cases, true negative four cases, false positive 6 cases and false negative 0 case. Sensitivity was 5/5 =100%, specificity 4/10=40% and accuracy was 9/15=60%. All cases of the false positive cases had swelling of the N2 lymphnode. Accumulation of the N2 lymphnode in false positive cases was thought to be reactive accumulation.

## 411

BRAIN TUMOR IMAGING WITH a-AMINOISOBUTYLIC ACID.

H.Orii, A.Tamura, A.Asai, M.Matsutani, T. Nakagome, H.Tanaka, Tokyo Metropol.Inst. Med.Sci., Teikyo Univ., Metropol.Komagome and Toshima Hospital and Koseinenkin Hosp. Tokyo

We investigated the imaging of brain tumor with a-aminoisobutylic acid(AIB). This substance has a special characteristics of blood-brain-barrier substance, and once leaked out of the blood vessel into brain tissue, this substance will be incorporated in viable tissues very rapidly, and not in necrotic tissues. Radioautographic studies on rat transplanted with RG-12 glioma cells showed that a-aminoisobutylic acid imaged whole tumor correctly, which corresponded very well with the histological pictures. Central part of the tumor showed the presence of a-aminoisobutylic acid, and histological specimen showed no necrosis at the site.

In constrast to a-aminoisobutylic acid, protein tracer such as I-131 serum albumin did not demarcated the tumor correctly, and it spread out of the tumor very rapidly. In contrast, blood concentration of a-aminoisobutylic acid fell rapidly, and intraperitoneal AIB remained for a considerable time. These findings strongly suggest that a-aminoisobutylic acid will be an useful brain tumor imaging agent when labeled with positron emitting radionuclide such as C-11.