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

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

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 Sternum and Vertebra. It becomes easy to estimate the accumulation spatially with Ga-SPECT. So, we examined the value of Ga-SPECT by means of comparison 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 false positive cases had swelling of the N2 lymphnode. Accumulation of the N2 lymphnode in false positive cases was thought to be reactive accumulation.

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BRAIN TUMOR IMAGING WITH a-AMINOISOBUTYLIC ACID.

We investigated the imaging of brain tumor with a-aminoisobutyric acid(AIB). This substance has a special characteristics of blood-brain-barrier substance, and once leaked out of the leaky 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-aminoisobutyric acid imaged whole tumor correctly, which corresponded very well with the histological pictures. Central part of the tumor showed the presence of a-aminoisobutyric acid, and histological specimen showed no necrosis at the site.

In contrast to a-aminoisobutyric 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-aminoisobutyric acid fell rapidly, and intraperitoneal AIB remained for a considerable time. These findings strongly suggest that a-aminoisobutyric acid will be an useful brain tumor imaging agent when labeled with positron emitting radionuclide such as C-11.