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2167 CASES OF Ga-67 SCANNING. S. Shida, H. Omi
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ta, H. Nishikawa, E. Nakazawa, K. Honda, S. Shiba,
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We performed 2167 cases on Ga-67-citrate scintigraphy
from March 1970 to January 1979. In 1752 of 2167 cases, except whole
body scanning for the purpose of reference on metastases, which were diagnosed on biopsy
or operative histology examination according to
pathologically and organically.

Method:
As a rule, Ga-67-citrate scintigraphy was
done at 48 hours after the intravenous
injection of 2 mCi of Ga-67-citrate.

In childhood we reduced the dose suitably.

Results:
1) Positive rates of the malignant tumor
were 78.2% in extremity, 66.5% in thorax,
63.7% in head&neck, 33.8% in abdomen.

2) Positive rates of the histological cla-
ssification were 73.4% in malignant lympho-
ma, 69.4% in squamous cell carcinoma, 37.7% in
adenocarcinoma.

3) Positive rates of the organic differenti-
ation were 87.0% in primary lung cancer,
31.6% in breast cancer, 20.7% in gastric
cancer, 24.8% in cancer of colon, etc.

4) Disorders comparatively high rate, except
for the malignant tumor were 84% in sarcoid-
osis, 64% in pneumonia, 63% in pulmonary
tuberculosis. Then, of 30 cases of benign
bone tumor, 17 cases were positive (57%).

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CLINICAL EVALUATION OF REPEATED Ga-67 SCANS
IN MANAGEMENT OF MALIGNANT LYMPHOMA
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One hundred and fifty six Ga-67 scans were
performed in 44 patients with malignant lymphoma from Sept. 1974 to Oct. 1979. Seventy
eight percent of untreated patients showed
positive scans. Negative scan increased in
number after treatment. In 119 studies on
untreated patients, 33 studies (44%) showed
negative scans. Seventy eight percent studies
(65%) were positive on the treated patients
with clinically detectable tumor. As much as
25% of the studies were proved to be false
negative. This fact should be regarded as the
cause of the unfavorable limitation of this
study. The causes of the false negative studies
were as follows; modifications by ir-
radiation and chemotherapy, superimposing the
physiological uptake, meningeal infiltration,
pleural involvement, and too small tumor size.

On the other hand, incidence of false posi-
tive scan was 10%, and positive scans were
thought to be more reliable and effective
in detecting the tumor reoccurrence. The
causes of the false positive studies were as
follows: physiological uptake, inflammation,
and unknown reasons. We conclude that Ga-67
scan study is a useful method in management
of malignant lymphoma, and we hope this study
should be done at least every 6 months even
in remission period.

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POTENTIAL USE OF GA-67 UPTAKE RATIO IN
DETECTION OF SMALL PULMONARY CANCER LESION.
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Yokosuka and Yokohama.

The small pulmonary cancer lesion of approxi-
mately 2.0-3.0cm in diameter could be
detected by Ga-67 scintigram. However, cli-
ically it is necessary to detect smaller
tumor than 2.0-3.0cm diameter. For this
purpose, we tried to externally measure the
Ga-67 accumulation of small pulmonary lesion
with scinticamera.

According to this method, it is possible
to detect smaller cancerous lesion than with
the imaging method with the scinticamera.

The study population consisted of 20 patien-
ts whom presented a variety of nodular or
diffuse shadows on chest X-ray. Ga-67 citrate
(2.0-3.0mCi) was administered intravenous-
ously 48 hours before use of the scinticamera.
The Ga-67 accumulation in abnormal shadow(T)
and the corresponding normal region(N) of
the opposite lung were measured with the
scinticamera utilizing the next formula.
Up=(T-N)/N The Up value of 5 patients with
adenocarcinoma was 0.14-0.18, whereas that
of 10 patients with nonactive chronic infla-
mation was -0.14-0.18, and that of 5 patie-
nts with active inflammation was 0.21-0.80.

This method appears to be a valuable tool
for differential diagnosis in patients with
small lesion found in routine chest X-ray.