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INFERENC OF FACTORS AFFECTING Ga-67 DIS
DISTRIBUTION IN THE HUMAN BODY USING
MULTIVARIATE STATISTICAL ANALYSIS.
K.Higashi, M.Ooguchi, S.Kobayashi,
T.Okimura, T.Miyamura, I.Yamamoto.
Kanazawa Medical College, Kanazawa.

We tried to estimate the main factors
affecting Ga-67 distribution in the human
body on scintigrams using multivariate
statistical analysis ( factor analysis ).
Regions of interest were set in several
portions on Ga-67 scintigrams that appeared
in 2 or 5 hours ( early scintigrams )
and 48 hours ( delayed scintigrams ) after
injection, and each area was counted.
As variables for this analysis, the follow-
ing Three kinds of variables were used.
(1) count ratios of delayed scintigrams to
early scintigrams of each portion.
(2) count ratios of each portion to femoral
soft tissue on early scintigrams.
(3) count ratios of each portion to femoral
soft tissue on delayed scintigrams.
When we used any kinds of variables, we
extracted similar factors. By correlating
extracted factors with each portion, each
portion was divided into various groups.
Consequently, we were able to presume some
factors which determine Ga-67 distribution
in the human body on scintigrams.

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CORRELATION BETWEEN SERUM UIBC AND TUMOR
UPTAKE OF Ga-67 ( SECOND REPORT ).
S.Nakano, Y.Hasegawa, K.Ibuka, T.Hashizume,
A.Noguchi, and T.Okishio. The Center for
Adult Diseases, Osaka.

We studied the relation between level of
serum iron and unsaturated iron binding
capacity ( UIBC ) and results of Ga-67 scan
in various tumors, because Bradley suggested
that conditions that affect iron metabolism
in patients may interfere with the success
of a Ga-67 scan. Positive rate of Ga-67 scan
in non-Hodgkin’s lymphoma, Hodgkin’s
disease, lung cancer, and hepatoma was
28/34, 7/7, 13/19 and 61/95, respectively.
If all cases of non-Hodgkin’s lymphoma,
Hodgkin’s disease, and lung cancer were
taken into account, positive rate of the
cases with increased UIBC above 250 mcg/dl
was 10/11, and that of the cases with
decreased UIBC below 100 mcg/dl was 2/2.
In the cases of hepatoma, serum iron and
UIBC distributed widely. Seventeen cases
with tumor size below 3 cm were all negative
in Ga-67 scan. In 78 cases with tumor size
above 3 cm, positive rate of the cases with
UIBC above 250 mcg/dl was 17/19 and that
of the cases with UIBC below 100 mcg/dl was
6/10. In the positive cases with decreased
UIBC, Ga-67 uptake into the tumor on the
image was not so much as in those with
increased UIBC. Level of serum iron and
UIBC seems to have some effect on Ga-67
uptake of hepatoma as well as of liver.

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RETROSPECTIVE STUDIES OF ABNORMAL UPTAKE PATTERN
OF Ga-67 IN THE LIVER.
A.Sawada, S.Yoshida, S.Morita, Y.Yamamoto,
Y.Ogawa, T.Maeda, N.Akagi, Y.Rubo.
Kochi Medical School, Kochi.

Our retrospective study of 1245 cases in Ga-67
scintigram yields 33 cases which show abnormal low
uptake of Ga-67 by the Liver.
There are 15 cases which undergo chemotherapy
12 cases which cause from liver dysfunction and
3 cases which have high accumulation of other part.
Almost cases in chemotherapy group undergo anti-
cancer drugs injection within 2 weeks prior to Ga-67
injection. In chemotherapy group, some cases show
tumor accumulation or accessory glands accumulation
in spite of low uptake of Ga-67 by the liver.

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POSTOPERATIVE FOLLOW UP OF MALIGNANT
MELANOMA USING GA-67-CITRATE TUMOR SCINTI-
GRAPHY. Y.Hosokawa and M.Kaneko. Dept. of
Dental Radiology, Higashi-Nippon-Gakuen
Univ., Ishikari-Tobetsu, Hokkaido.

A case of malignant melanoma occurred in the
gingiva was examined and followed up by
tumor scintigraphy with Ga-67-citrate. The
patient was a 38-year-old male admitted
with a pigmentation of gingival membrane.
The conventional radiography carried out
on the first admission could not reveal
the tumor lesion which tumor scintigraphy
with Ga-67-citrate could define. The whole
body scan scintigrams showed no abnormal-
ities except for an accumulation in the
oral region.

The histological examination revealed
malignant melanoma. Surgical operation was
carried out at the Department of Oral Sur-
gery.

In order to examine the postoperative
progress, tumor scintigrams were taken at 4
weeks’ intervals. Noteworthy changes were
seen until 16 weeks after the operation.
Remarkable metastases became obvious at the
20th week after the operation. The patient
died 24 weeks after the operation due to
remarkable whole body metastases.