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INFEERENCE 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 
following 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 levels 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 mammary 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 
SCINTIGRAPHY. 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.