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THE STUDY OF THE DETECTING ABILITY OF
THE HOT AREAS ON THE DIGITAL IMAGES.
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In the nucler medical examination,the
gamma cameras and computers make remarkble
progress,and recently,the image become in-
to the digital indication rapidly.We stud-
ied about the detecting ability to the hot
areas of the digital image that has the
ability of transaction and expression from
many angles to informations of an image,
with changing the factors,such as,colli-
metor,matrix,count of dots and window mode.
Method We made the flood source of 50cm in
diameter with Tc-99m 5mci as background,and
put on ten plates of 3cm in diameter with
different concentration of Tc-99m in each
of them as phantom of the hot areas.We took
the film and input the data to the computer
at the sametime. Result①Detecting ability
of the hot areas advance by increasing of
collecting numbers of count.②On detecting
of the hot areas,the general collimetor
with high sensitivity has an advantage over
the high resolution collimetor in the case
of same measurement time. ③In the low
counts,256×256 matrix has an advantage and
in high counts,512×512 matrix has. ④On
detecting ability of the hot areas by win-
dow mode,there is not difference between
the linear type and the exponential type
but on the image,the image of exponential
type is near to the analogue images.

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IMPROVEMENT IN THE TECHNIQUE FOR DIGITAL
IMAGE DISPLAY IN NUCLEAR MEDICINE.
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Diagnostic images in nuclear medicine
are displayed using either a conventional
dot imager or a video imager. The former
provides analog images and the latter,
digital. A software program has now been
developed which permits the Toshiba digital
gammacamera series, when recording digital
images on film, to linearly set the
relationship between γ-ray counts per pixel
and blackening of the film. It thus
displays an optimum image, which presents
on the film correctly and with fidelity,
the information contained in the acquired
data. At the same time, comparison has been
made between the conventional analog images
and the present digital images, using a
prototype phantom with the capability of
setting the radionuclide concentration in
16 steps. The result of the comparative
study showed that the digital imaging
technique provides clear images by
presenting on film the information
contained in the image based on the total
count, which was difficult with the
conventional technique using the dot
imager.

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PROCESS OF IMAGE DATA BY PERSONAL
COMPUTER.
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The basic functions of a nuclear medi-
cine computer system are the acquisition
of data and the process of data.However,
the process of data is usually late be-
couse a general nuclear medicine computer
system is not provided with multiple CPU.
We developed the program of process of
image data for a personal computer system
(PC-9801VM).The BASIC language is used
for main part of the program and the ma-
chine language is used for part of faster
process of data. pointing device is MOUSE.
Image data is tranced by 8'floppy disk
from MCS-560 to PC-9801VM. Processing
images on CRT are displayed with 16 inten-
sity level. Images of a study result are
printed out by 24 pin dot-matrix printer
with 10 intensity level.

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THE TRIAL OF THE VOICE ENTRY TYPE DATA
ANALYSIS (BONE SCINTIGRAPHY REPORTINGS).
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We reported in the 24th annual meeting
of this society about the automatic data
acquisition and reporting system of the
bone scintigraphy with voice entry. So we
already inputed about 300 cases' reports
and tried some kinds of the data analysis
using NEC computer ACOS 700S.Then we got
nice impression to handle clinical repors'
data for analysis.
Our system consists of micro computer
PC-8800(NEC) and speech recognizer DP-200
(NEC).This system is used the word input
and asking system with computer,so about
360 words are resistrated in its memory.
There are two main purpose in this
system,one is the save effort to input
reports in a computer and the another is
the possibility for the analysis of the
inputed data.We propose our data analysis
using this system and clinical utility.