

# STEREOSCOPIC SCINTIGRAPHY : METHOD AND CLINICAL USE.

A.Komatani, K.Yamaguchi.

Department of Radiology, School of Medicine  
Yamagata University, Yamagata.

It was ascertained that stereoscopic scintigraphy was quite within the bounds of possibility because of recent improvement of the gamma camera's spatial resolution. The method and clinical usefulness were reported.

## ( Method )

After one ordinary scintigraphy, another scintigraphy was made with the gamma camera head tilted 5~25 degrees to find the most suitable angle for stereoscopic observation using a phantom. The phantom was a silicon tube filled with 0.2~0.3 mCi of Tc-99m pertechnetate and shaped like a corkscrew. The pair of scintigrams were observed using the convergence method with naked eye by several persons and the best angle for stereoscopic recognition was determined.

## ( Results and Discussion )

The most suitable angle for a gamma camera head depended on the enlargement ratio of the scintiphoto. The angle was about 10 degrees as 1.0 of enlargement ratio, and 15 degrees as 0.4 of enlargement ratio. The above angle were equivalent to a convergence angle from a distance of 40 cm with 6 cm of interpupillary distance.

The stereoscopic scintigraphy was very useful for differentiating overlapping hot structures, especially in case of brain scintigraphy with choroid plexus imaging.

# EVALUATION OF SCINTIGRAM BY MODULATION TRANSFER FUNCTION (MTF) (FIRST REPORT)

## - ECG GATED HEART POOL SCINTIGRAM-

Hirofumi Kinoshita<sup>°</sup>, Zen-ichiro Hombo<sup>°</sup>, Satomi Hakariya<sup>°</sup>, Fumio Tagawa<sup>°</sup>, Ryusho Haruta<sup>°</sup>, Yoshiharu Imaizumi<sup>°</sup>, Tsugio Hirakata<sup>°</sup>, Yutaka Okumura<sup>°°</sup>.

<sup>°</sup>Department of Radiology, <sup>°°</sup> Department of Radiation Biophysics, Nagasaki University School of Medicine, Nagasaki.

To study the influence of heart pulsation, and to prepare more accurate scintigrams in order to be able to diagnose more easily, the evaluation of scintigram was performed by means of MTF.

The equipments were as follows:

<u>Equipment</u>	<u>Manufacturer</u>	<u>Model</u>
Scinti-camera	Hitachi-Medico	RC-1C-1635LD
ECG gated unit	- Do -	ZPS - 1S
Multi-imager (with electro static CRT)	Matrix	IV
Microphotometer	Konishiroku	PDS-15
Personal comput.	Olivetti	P-6040-A

We analyzed the movement of a given position of the heart, and calculated MTF at the ventricular border of gated cardio-scintigrams at each frame-speed of four frames and sixteen frames per pulse, and compared mutually each MTF with others.

The deterioration of MTF of the scintigrams was inevitable, however, as the movement of the ventricular border on the scintigram was going on in comparatively short time of cardiac cycle, we could reduce this deterioration by the multi-image method. MTF could explain differences of the image quality in various frame-speeds.