

A New Method for Obtaining Scintillation Camera Images with Serial Flow Camera

(The third Report: Basic Investigation on Efficiency)

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Last year in this meeting, we reported the system of taking the photograph of the large organs, such as the whole lung and the liver including the spleen, on one film without distortions by combining Serial Flow Camera, Linear Bed and Scintillation Camera. This time, we compared the efficiency of the photography by this system to that of the conventional photography.

Resolution: Line phantoms with the intervals of 6, 8, 10, 12 and 14 mm were prepared by sealing about 1mCi of $^{99m}\text{TcO}_4^-$ into a vinyl tube with the inside diameter of 0.6 mm, and the measurements were carried out on the slit of the recording system in three occasions: 1. when the slit was 4 mm wide, 2. when the slit was 8 mm wide, and 3. when there was no slit.

Distortion of Images: Grid phantom (30×30 cm) with the intervals of 3 cm was prepared by sealing $^{99m}\text{TcO}_4^-$ into the vinyl tube, and the measurement was carried out in the same way as above.

Detection of Shadow Defects: $^{99m}\text{TcO}_4^-$ was sealed into the liver slice phantom with 8 defects with the diameters of 4 cm to 0.8 cm, and the same measurement as above was performed.

Results: Concerning to the resolution and the detection of shadow defects, the conventional photography and the photography by this system had same efficiency, when the slit was 4 mm wide. Concerning to the distortion of images, better results were obtained by the photography by this system.

Whole-body Imaging with Large Field Gammacamera

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Whole-body imaging using large field gamma-camera provided with field of view of $35\text{ cm}\phi$ is reported. Whole-body imaging has become very important ever since tumor seeking radiopharmaceuticals have become to be used.

Whole-body imaging has hithertofore been

performed by means of scanner but recently Harper and Cooke and Kaplan have reported the method of performing whole-body imaging by using Gammacamera and scanning table. We have used a large-field Gammacamera GCA-202 having a field of view of $35\text{ cm}\phi$ in order to obtain