evaluated on the images displayed on teletypewriter, CRT and color CRT. The following five conditions for data handling were compared.

1) Data without uniformity correction.
2) 9 points smoothing of 1).
3) Correction of 1) using computer program and original data.
4) Correction of 2) using computer program and original data.
5) 9 points smoothing of 3).

The best image resolving cold and hot spots was obtained in the data processing 5). Effective field of view was significantly expanded by the correction of non-uniformity. The better images were obtained as the total counts were increased.

We concluded that scan images obtained from patients may be significantly improved by the correction of non-uniformity, provided that enough counts can be collected. Clinical evaluation of uniformity correction is now under study.

Rapid Data Processing for Whole body Gamma Camera Images

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A computer program for the rapid processing of whole body gamma camera images was developed in order to answer the clinical needs for speeding up the conventional data handling. Whole body gamma camera (LFOV, Searl Co.), scintipac 201 minicomputer (Nova model 01) and color display unit were used. The program allows simultaneous data collection from whole body gamma camera in list mode and image reconstruction on core memory both performed in the CPU of the minicomputer.

Data processing such as image transfer, 9 points smoothing and back ground cut off can be done in high speed, which takes less than 10 seconds. The processed whole body image (128×128 matrix) or half body image (256×256 matrix) is displayed in color. The pre- or post-processed data can be transmitted to a magnetic tape for later replay, which takes about 30 seconds. Representative ^{67}Ga tumor scans processed with this program were demonstrated.

Characteristics of this program as compared with the one inherent to scintipac 201 are as follows; 1) rapid data collection, processing and display, 2) color display, 3) easy procedures through conversation on CRT and 4) free from limitation caused by total counts when magnetic disk is used.

Development of Two Screen Polaroid Camera and Its Clinical Application

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Radioisotopic distribution of the organs were recorded by the Polaroid camera attached to the Anger scintillation camera. Three eye Polaroid camera is widely used to obtain different density images at the same time.

In this study, we tried to develop a two screen Polaroid camera using a filter (ralf mirror) and a surface mirror.

This Polaroid camera is consisted of a lens (EL NIKKOR f=80 mm), a Polaroid film holder and a 60×70 mm roll film holder. The advantages of this camera are to be able to obtain two images of different density or one Polaroid and one translucent negative images.

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