

Data Processing of RCG Using Functional Image

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RCG using scinticamera is an excellent and dramatic examination as screening of cardiac diseases, which gives little pain to patients. However, it is necessary for the diagnoses to determine the region of interest (ROI) and to frame the time activity curves.

Image information recorded at VTR has conventionally been regenerated in memory scope, the ROI has been determined on the basis of the images, and the time activity curves were framed. However, the procedure required a great deal of time and labor. Therefore, we utilized the functional image at peak time, determined the ROI automatically and framed the time activity curves on the basis of the determined ROI.

2–5 mCi of ^{99m}Tc -pertechnetate was injected into

an antecubital vein of the patient on the supine position followed by 2–5 ml of saline flush. It was injected as a bolus, and at the same time, the images detected by scinticamera were stored to CDS-4096 every 0.6 seconds, which were recorded to magnetic tape (MT) in order. Thereafter, this MT was processed by IBM 370–135 computer.

As for data processing, each frame of MT data was memorized to computer. After the processing of smoothing, the time to be a peak count at every each matrix of 64×64 was sought, and the functional image at peak time was framed. The regions of interest of venous heart, lungs and arterial heart were determined by extracting the sites of equal peak time. Furthermore, time activity curves were framed on the basis of these regions.