

**ECG Gated Scintiscardiography**  
**Report 2. Trial Production of Synchronous Recording Equipment of ECG and**  
**Nuclear Image on the Magnetic Taperecorder**

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In the previous meeting, we have reported the heart beat linking apparatus (namely, CARDIOPHAX) would be connected with the scintillation camera and data-store playback equipment, and clinical data with this apparatus.

However, the method using this type apparatus could be recorded the scintigraphic images of any position on ECG only setting the patient with a scintillation camera, and could not select the gate at the time of playback. Therefore, it was in need of long time for several gated scintigraphy and given rise to discussion of the error depending on the changes of radioactivity in the blood pool. To make up for these imperfect, we tried to make the apparatus for synchronous recording of two signal from ECG and scintillation camera recently. ECG signal was recorded on the voice track (MIC-2) with transformed into FM. With this new method, continuous image of the heart was recorded on the tape recorder and at the time of playback could set the gate on the ECG.

Since, the examination time could be shorten

to the few minutes, and could make a profit to examine repeatedly the data on the taperecorder and could be obtained any time gated scintigraphy.

In the present meeting, we reported the characteristic constructions of new CARDIOPHAX and clinical data using it.

The most useful applications of ECG gated scintiscardi-angiography are the calculation of the left ventricular volume (EDV, ESV), stroke volume (SV) and ejection fraction (EF).

These clinical data of us gave the same as compared with that have been reported, and were very closely corrected with X-ray method.

The results obtained by the count method using medical computer, with the EDV, SV, EF's of normal subjects being in a range of 90 to 120 ml, 55 to 80 ml and 50 to 75%.

These of the subjects with cardiac dysfunction reported, too.

The cases of PMD, having irregular systole of myocard, were reported with many myocard images of systemic gated and analysed.