Of the 16 patients without apical image defect, 9 patients had apical abnormal motion. Thus, our studies suggest that regions of anterior, apical, lateral and inferior image defects correspond with the regions of left ventricular abnormal motions.

**Study on Myocardial Scintigraphy in Patients with Myocardial Infarction (VI)**

*Comparison of Regional Myocardial Detection by Thallium-201 with Coronary Angiography*


*Department of Internal Medicine, Hyogo College of Medicine, Hyogo**

**Department of Radioisotope, Hyogo College of Medicine, Hyogo**

Myocardial scintigraphy was performed after intravenous injection of Thallium-201 at rest in 31 patients with myocardial infarction and the results were compared with coronary angiographic findings. Each finding was interpreted independently by each observer.

All 18 patients with anteroseptal myocardial infarction had image defects and more than 75 percent stenosis of the left anterior descending artery. Of the 4 patients with anteroseptal image defects, 3 patients revealed 90 percent stenosis of the left anterior descending artery. Of the 11 patients with from anteroseptal to apical image defects, 6 patients had 90 percent stenosis, 3 patients had complete occlusion of the left anterior descending artery. Of the 3 patients with from anteroseptal, apical, lateral to apico-inferior image defects, one patient had 90 percent stenosis, 2 patients had complete occlusion of the left anterior descending artery.

In 13 patients with inferior myocardial infarction, of the 4 patients with mainly posterior image defects, one patient had not significant stenosis, two patients had more than 75 percent stenosis and one patient had complete occlusion of the circumflex artery. And 2 patients had no significant stenosis 2 patients had 90 percent stenosis of the right coronary artery. Of the 9 patients with posteroinferior image defects, 4 patients had no significant stenosis, 5 patients had more than 75 percent stenosis of the circumflex artery. And only one patient had no significant stenosis, 8 patients had more than 75 percent stenosis of the right coronary artery.

Thus, our studies suggest that when the image defects of the patients with anteroseptal myocardial infarction were larger, the degree of the stenosis of the left anterior descending artery was severer. In the patients with inferior myocardial infarction posterior image defects were usually associated with the circumflex artery stenosis and posteroinferior image defects associated with the right coronary artery stenosis.

**201Tl Myocardial Scintigraphy for the Patients of Myocardial Infarction**


*Nippon Medical School Department Radiology, **Internal Medicine*

Object; The myocardial scintigraphy with 201TI Cl is practised in the cases of myocardial infarction. The scintigrams are compared with ECG, coronary angiography and left ventricle graphy.

Subject and method; 42 cases were studied of myocardial scintigraphy in our department from
September 1976 till June 1977, the 42 patients were practised ECG, coronary angiography and left ventriculography within the following months. The 42 cases consist of 31 males and 11 females, and the age extends from 26 to 78.

15 minutes after $^{201}$TICI 2mCi intravenous injection, the scintigraphy was performed anteroposterior view, left anterior view (30, 45, 60) left lateral view, and right anterior view.

Results:
1. In all cases, fine myocardial image could be seen, and area of infarction was manifested as low activity area.
2. In comparison with ECG in 18 cases were absolute identity, in 19 cases were nearly indentity, in 5 cases were not identity.
3. In comparison with coronary angiography, 16, 18 and 8 cases, each.
4. In comparison with left ventriculography, 13 18 and 11 cases, each.
5. Usefulness of this examination recognized the area of myocardial infarction with no side effects is emphasized.

Complex Examination of Myocardial Ischemia with $^{201}$TICI and $^{99m}$Tc-Diphosphonate
Tamotsu OSAWA, Satoshi SAWADA, Toshihiko KANNO, Tadakazu FUJII,
Takashi KONDO, Shuji NOBEZAWA
Department of Radiology, Kenseibu Hamamatsu Medical Center

Fifty-two patients with clinical and documented electrocardiographic features of ischemic heart disease have undergone complex examination with Thallium-201 and Tc-99m-Diphosphonate, left ventriculography and selective coronary angiography within a week.

Myocardial imaging could be obtained from 5 minutes after intravenous injection of Thallium-201.

Normal Thallium-201 myocardial images were not all homogeneous and one case without myocardial infarction showed decreased activity of nuclide at apex. Other examinations of this case were all within normal limits.

It was necessary to take multiple images in various projection in order to detect the location and size of the myocardial ischemia.

Of 34 lesions in 25 patient with old myocardial infarction, twenty-eight were detected sufficiently the location and size of the lesions by Thallium-201 myocardial imaging as compared with the findings of selective coronary angiogram, left ventriculogram and electrocardiogram.

Right ventricle was fairly well visualized in cases with right ventricular overload.

Three way stopcock method which used right femoral vein, produced a good bolus injection.

RI angiocardiography with Tc-99m-Diphosphonate was taken at a rate of 5 fps and recorded for 20–30 seconds and was useful for indirect evidence of existing of myocardial infarction.

The series of Tc-99m-Diphosphonate myocardial scintiphoto were obtained in six different projection from 4 to 5 hours after administration of nuclide.

Tc-99m-Diphosphonate myocardial imaging was visualized as positive image not only in acute myocardial infarction but also in old one. One patient who passed 82 days after onset of myocardial infarction, showed positive imaging with Tc-99m-Diphosphonate.

It was difficult to distinguish by myocardial scintiphoto using Tc-99m-Diphosphonate whether the myocardial infarction was acute or old.

Myocardial imaging with Thallium-201 and Tc-99m-Diphosphonate, and RI angiocardiography are simple, safe and reliable method to detect and to localize myocardial ischemia, and are helpful to estimate the ischemic size.