

shape surrounding a slightly decreased radioactivity corresponding to the left ventricular cavity.

In patients with acute (AMI) or old myocardial infarction (OMI), focal defect in myocardial wall was demonstrated. The defect corresponded to the site of infarction demonstrated in ECG. All four patients with AMI revealed definite focal defects in the myocardial wall. Among patients with OMI, 4 showed definite defect, 3 were suspected of focal defect, one of whom was negative in the repeat study. In one patient with OMI, scan was interpreted as normal. Among 29 patients

without M.I. 8 revealed scan showing hypertrophic left ventricle and the others showed normal scan. In a normal subject, the scan repeated after exercise showed increased accumulation of radioactivity in the myocardium with decreased background radioactivity (as compared with the scan at rest). Ratio of counts on the ventricular cavity to wall (c/w) in a control subject was 0.70 at rest and 0.84 at stress. The lung left ventricular wall ratio were 0.5 at rest and 0.31 at stress. Post exercise myocardial scan in patients with coronary heart disease is now under study.

Correlation Between ^{201}Tl -Myocardial Scintigraphy and Coronary Cineangiography

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Myocardial imaging used ^{201}Tl was performed in 39 patients who underwent coronary arteriography. In 17 patients with acute myocardial infarction, the defects of 14 patients were detected by visual inspection corresponding to coronary angiographic and electrocardiographic localization of the infarction. 12 scintigrams with old myocardial infarctions showed lesser defects compared with acute myocardial infarction, probably owing to reduction and improvement of ischemic lesion by the formation of collaterals. In 6 patients with angina pectoris and two other cardiovascular diseases, three scintigrams were questionable and 5 negative scintigrams were obtained.

Two each evidently abnormal scintigram in congestive cardiomyopathy revealed normal coronary arteriogram, large left ventricular end-diastolic volume and poor contractility. One patient's ECG had left bundle branch block and the other had right bundle branch block.

5 patients undergoing aortocoronary bypass surgery were evaluated by preoperative and postoperative scintigraphic and coronary angiographic studies. In a patient with impending infarction who underwent double saphenous vein grafts, there was a significant improvement in the postoperative image when compared with abnormal preoperative one. The other postoperative scintigrams had no remarkable changes, but the left ventricles were smaller than preoperative ones, because of decrease of left ventricular end-diastolic volume.

^{201}Tl scintigraphy has proved to be of value to detect the presence, location and extent of infarction as well as the perfusion of the remaining myocardium. This noninvasive method will play an important role in the assessment of patients with ischemic heart disease, cardiomyopathy and aortocoronary bypass graft with further advance in instrumentation.