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262
Blockade seen in 10 CAD patients with exercise TI-201 ischemia who were reexercised to same level and imaged in the same manner after 4-20min MIBI at peak exercise and at rest.

Blood level 5 min. was 4.5% after exercise and 3.0% at rest. Uron clearance 0-2 hrs was 18%.

Lung injury uptake, rapid biliary excretion, and good heart to lung contrast 3.3/1 without redistribution was seen. MIBI/TI interpretation was same in 9 patients, but not in 1 who, put on beta blockade between T1 and MIBI stress tests. Because of the kinetics MIBI has unique characteristics appropriate for myocardial imaging in detection and management of CAD.

EVALUATION OF EXERCISE-INDUCED ST DEPRESSION IN NON-INFRACT-RELATED LEADS IN OLD MYOCARDIAL INFARCTION WITH RIGHT CORONARY ARTERY DISEASE. T.Ohkubo, T.Takao, M.Tabuchi, & Y.Hashimoto. 2nd Dept of Int Med, Kagoshima Univ, Kagoshima.

To differentiate single from multi vessel disease of inferior myocardial infarction due to right coronary artery disease with exercise-induced precordial ST segment depression. 28 patients were performed stress TI-201 myocardial imaging and radionuclide ventriculography. Patients were divided into 2 groups. Group I consists of 18 patients without significant stenosis at left coronary artery (LAD), and group II 10 patients with significant stenosis at LAD.

In radionuclide ventriculography, no significant differene was found on LV ejection fraction at rest between two groups; however it showed significant decrease in group II compared to group I, during exercise. (47±7.6 vs 39.1±8.3 P<0.05)

On TI-201 myocardial imaging, a reversible defect in the myocardium distant from the infarcted area occurred significantly more in group II patients than in group I patients. (70% vs 0%, P<0.01)

Although both exercise ECG and exercise radionuclide ventriculography had limited clinical value for predicting multivessel disease, TI-201 myocardial imaging is highly accurate for predicting multivessel disease.

EVALUATION OF CHANGES OF REGIONAL RADIOACTIVITY IN MYOCARDIUM BY STRESS TI-201 SCINTIGRAPHY IN PATIENTS WITH HYPERTROPHIC CARDIOMYOPATHY. S.Suzuki, K.Owada, T.Saito, M.Sato, Y.Yamada, E.Katouno, A.Fujino, M.Komatsu, K.Ono, T.Uchida and S.Kariyone. First Department of Internal Medicine, Fukushima Medical College.

Defect of image and redistribution in its area are reported in patients with Hypertrophic Cardiomyopathy (HCM) on exercise stress TI-201 scintigraphy. Serial images according to time were studied in 5 cases of HCM, 6 normal control (C) and 11 cases of coronary artery diseases (CAD).

Uptake Ratio (UR) is defined as the radioactivity 10 matrix (4x4x64) in anteroseptal, inferior and postero lateral region against total injected radioactivity at first pass on chest after TI-201 injection. The serial images were obtained in LAO view at 5, 15, 30, 60 and 120 minutes after TI-201 injection at one minute before stop exercise. Serial UR of thickened region (HCM) were between UR(C) and UR(CAD). Decreasing gradient of UR(HCM) was smaller than UR(C) and was similar to UR(CAD). During 30 min after exercise, differences of UR(HCM) were larger than at 60 and 120 min.

These results may suggest that kinetics of TI-201 after exercise in HCM is different from normal myocardium and that of CAD.


Stress thallium scan was performed in 67 patients with prior myocardial infarction (LAD single vessel disease) and quantitative assessment of myocardial ischemia was generated by circumferential profile analysis. Exercise induced ST-T change was compared with thallium ischemic score (TIS) derived from circumferential profile analysis to evaluate how ST-T change reflect residual myocardial ischemia. TIS was derived by summing the area between the initial and 4 hr redistribution profiles for each of three projections (ANT, LAO 45, 70). ST-T change were divided into five groups; concave ST elevation with prominent T wave (Group 1), convex ST elevation (Group 2) in leads of infarcted area, horizontal or sagging ST depression (Group 3), slow rising ST depression (Group 4) in other precordial leads and no ST-T change (Group 5). TIS was 70-34, 32 14 (p<0.01) for groups 1 and 2 and 78 39, 40 15 (p<0.05) for group 3, 4, respectively. On the other hand, angiographic dyskinesis was 17%, 52% for group 1, 2 and 10%, 17% for group 3, 4, respectively. In conclusion, not only ST depression in preordial leads but also concave ST elevation with prominent T wave reflect residual myocardial ischemia.