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CLINICAL UTILITY OF Tc-99m PYP MYOCARDIAL SCINTIGRAPHY IN ISCHEMIC HEART DISEASE. E. Yasuda, H. Ichikawa, I. Kanamori, S. Matuo, S. Nakano, T. Fukaya, T. Sibata and H. Sassa. Ogaki Municipal Hospital, Radiological Department and First Department of Internal Medicine.

We studied the clinical significance in 140 patients with ischemic heart disease, including 78 patients with acute myocardial infarction (=AMI).

Sixty nine of 75 patients (92%) with AMI revealed positive findings. Scintigram was performed within 7 days after the onset in all cases with AMI except 3 cases. Positive findings were obtained in all of 8 cases with pure posterior infarction, all of 7 cases with right ventricular involvement in inferior infarction, and 8 of 10 cases (80%) with subendocardial infarction.

Scintigraphy was considered to be very useful method in 12 cases of recurrent AMI and 6 cases showing no definite findings of AMI in ECG.

However, scintigrams were positive in 3 of 30 cases (10%) with intermediate type of angina, 2 of 9 cases (22%) with post infarction angina and 12 of 14 cases (86%) with ventricular aneurysm.

On the other hand, no findings were obtained in all cases with pericarditis (2 cases) and heart failure (7 cases).

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THE EVALUATION OF THE HEART ROTATION AND MORPHOLOGY OF VARIOUS HEART DISEASE IN Tl-201 MYOCARDIAL SCINTIGRAPHY. Y. TORII, T. WATANABE, T. ISHIZU, M. OCHIAI, H. ADACHI, H. MIYANAGA, H. KATSUME, H. IJICHI, K. OKAMOTO, N. TABATA. Kyoto Pref. Rakuto Hospital and Kyoto Pref. University of Medicine. Kyoto.

To detect the hemodynamic condition that changes the rotation, size and shape of the ventricle using Tl-201 myocardial imaging, we studied in 121 patients (pts) with various non-coronary heart diseases. First we defined the transitional projection (TP) to stand the long axis of the left ventricular image vertically. When the TP of each pts corresponded with the transitional zone of ECG, the TP could be evaluated the rotation around the long axis of the heart. Second the measurement of the base-apex distance (Le), the width (De) and the total wall thickness (th) of the left ventricle at the median in the image of the TP were performed. Both Le and De were significantly increased in pts with left volume overload (MR, AR and CCM), increased in pts with left pressure overload (AS and HCM) and decreased in pts with right ventricular overload (MS and CP) compared with normals (N). The ratio of De to Le was more increased in pts with MR, CCM and AS than N. The ratio of Th to De was more increased in pts with HCM and CP, and decreased in pts with MR, AR and CCM than N.

Thus we concluded that the TP is the standard projection evaluated the rotation of the heart and the size and shape of the left ventricle.

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CLINICAL APPLICATION OF Tl-201 MYOCARDIAL IMAGING FOR IDIOPATHIC CARDIOMYOPATHY. T. Takahashi, T. Syoh, A. Kamiya, M. Konno, T. Okayasu and T. Yanagisawa. Department of Radiology, Iwate Medical University School of Medicine, Morioka.

To determine whether Tl-201 myocardial imaging could be used to detect idiopathic cardiomyopathy, 7 patients were studied.

Asymmetric and symmetric septal hypertrophy were clearly evident on thallium scans in the patients with hypertrophic form of this disease and sometimes, apical ventricular wall thickening and thicker posterior ventricular free wall were demonstrated on these scans.

In congestive form, thallium scans showed the location and extent of zone with decreased regional distribution of the tracer that suggested histological changes.

The ratios of interventricular septum to basal and mid-posterior left ventricular free wall in these patients were markedly greater than the ratios in the miscellaneous heart disease and myocardial infarction.

Thus, Tl-201 myocardial imaging provides a noninvasive method for detection and evaluation of idiopathic cardiomyopathy.

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THE COMPARISON OF Tl-201 MYOCARDIAL IMAGE WITH X RAY VENTRICULOGRAPHIC AND ULTRASONOGRAPHIC FINDINGS IN CARDIOMYOPATHY. M. Kinoshita, M. Motomura, M. Sawamura, T. Fukuhara, Y. Kawauchi, N. Ozaki, Y. Takayama, K. Mitsunami, S. Kato, I. Mashiro, S. Kawakita, E. Yabumoto and D. Hamanaka. First Department of Internal Medicine and Radiology Department, Shiga University of Medical Science. Ohtsu.

Tl myocardial imaging can detect perfusion defect in ischemic heart disease as well as measure myocardial mass. However the reliability of the image to evaluate myocardial mass deserve the study. The study comprises 10 patients with hypertrophic cardiomyopathy (CM), 6 with congestive CM, 8 with symmetric hypertrophy and 6 normal controls. Cardiac catheterization was performed in all patients, including coronary and biventriculography. The myocardial imaging was taken in 4 directions of antero-posterior, 30° and 60° left anterior oblique and left lateral position after injection of 2 mCi of Tl. The imaging was read by three independent observers to evaluate hypertrophy in each segments of the image. Septal hypertrophy was diagnosed in 3 of 4 cases by Tl and in all cases by UCT. Apical hypertrophy was found in 4 out of 6 cases by Tl as well as UCT. A round contour was present in all patients with congestive CM.

In summary overall sensitivity for detection of cardiac hypertrophy has 67% (12 out of 18) and 89% (16 out of 18) in Tl imaging and UCT, respectively.