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EFFICACY STUDY OF THE DIAGNOSIS OF MYOCARDIAL INFARCTION. K.Machida, J.Nishikawa, T.Ohtake, N.Watanabe, M.Iio. Univ. of Tokyo. K.Fukuhisa, T.Matsumoto, T.Iinuma, Y.Tateno. Nat.Inst. for Rad.res. T.Kozuka, K.Kimura, T.Uehara. Nat.Inst. for Circ.Dis. K.Murata. Tokyo Ger.Hosp. H.Kambara. Univ. of Kyoto. S.Furuta. Mitsui Hosp.

The diagnostic efficacy of ECG, Tl-201 scan, Tc-99m gated pool scan, ultrasound and MAP-ECG was studied in myocardial infarction.

The confirmation of the diagnosis was performed with cineangiography or autopy generally. 349 cases were collected from 7 hospitals.

The reading and diagnosis of each examination were carried out by the specialists, and the efficacy was evaluated by the decision matrix and ROC curve. The gated pool study showed the best efficacy followed by ECG and Tl-201 scan.

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INCIDENCE, SEVERITY AND CLINICAL COURSE OF RIGHT VENTRICULAR INFARCTION AFTER ACUTE INFERIOR MYOCARDIAL INFARCTION; ASSESSMENT BY Tc-99m-PYP AND GATED BLOOD POOL SCAN. T. NISHIMURA and H.W. STRAUSS*. National Cardiovascular Center, Suita and Massachusetts General Hospital, U.S.A.*

To evaluate incidence, severity, and clinical course of right ventricular (RV) involvement after acute inferior myocardial infarction, 78 patients with IMI were investigated by PYP scan and gated blood pool scan (GBPS). RV uptake of PYP was demonstrated in 25(32%) on initial PYP scan and remaining 53 did not. RV akinesis by GBPS was observed in 39(50%) on the acute scan; 25 (A) had RV uptake and 14 (B) no RV uptake. In remaining 39, 10 (C) showed hypokinesis and 29 (D) showed normal RV wall motion. The RVEF improved nearly 10 points at 10 days in group A and B, however, the recovery of RV function was much less in group A. In group A and B, 14 pts of 39 who had developed shock/hypotension improved strikingly after volume-loading in group A during hospital course.

In conclusion, 1) many patients with RV dysfunction in IMI do not have necrosis and 2) the combination of PYP scan and GBPS offers prognostic information in IMI with RV dysfunction.

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RELATIONSHIP BETWEEN LOCALIZED WALL MOTION ABNORMALITIES AND ABNORMAL MYOCARDIAL SCINTIGRAMS IN MYOCARDIAL INFARCTION. C.Hayashi, T.Tsuda, T.Nagai, O.Hosokawa, K.Watanabe, Y.Yazawa, Y.Arai and A.Shibata. First Department of Internal Medicine, Niigata University School of Medicine. Niigata.

Ejection fraction (EF2), as a quantified wall motion index, was calculated from the maximum and minimum of time-activity curve obtained for each of eight sections, divided surrounding the volume center, of the left ventricle on gated RI angiograms by LAO (45°) scanning. The mean and S.D. of pixel phase data were also calculated for each section. On Tl201 myocardial scintigrams obtained almost simultaneously by LAO (45°) scanning, the left ventricle was divided into 40 sections with a central section at its volume center and early and late (2.5 hrs.) images of each section were recorded quantitatively. From these, washout index was divided by the formula: (early image - late image) x 100/early image. Localized wall motion abnormalities on RI ventriculography were collated with myocardial infarction of long standing. Values were recorded as abnormal when aberrant from normal limits calculated as the mean \pm 2S.D. of data from 8 normal subjects for RI angiograms and 12 for myocardial scintigrams.

Results: (1) The sections without regional wall motion abnormalities are almost normal myocardial perfusion. (96%) (2) Areas showing low wall momentum with phasic abnormalities exhibited greater abnormalities in myocardial perfusion than areas showing low wall momentum alone or areas showing phase abnormalities alone.

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CORRELATION OF LEFT ATRIAL FUNCTION AND SERUM ENZYME IN MYOCARDIAL INFARCTION. BY MEANS OF THE BACKWARD METHOD OF EQUILIBRIUM RADIONUCLIDE ANGIOCARDIOGRAPHY. K.Ishine, K.Ishida, T.Arita, T.Ohya, N.Ohta. Shimane Prefectural Central Hospital. Izumo.

There are few reports regarding to correlation of left atrial function and serum enzyme in myocardial infarction (MI). The purpose of this study was to evaluate correlation of left atrial function and serum enzyme in MI.

Peak left atrial filling velocity (peak AFV) as an index of left atrial function was measured by means of backward method of Tc-99m equilibrium RN angiocardiology from 13 normal control and 24 patients (Pts) with MI after about one month from the onset. Serum enzyme activity were determined from Pts with acute MI at admission and thereafter every four hour to obtain peak CPK, peak GOT, peak LDH. Peak AFV was significantly increased in Pts with small amount of elevation of serum enzyme activity (peak CPK < 1000u, peak GOT < 150u or peak LDH < 1000u) than that of normal control. But there were no significant difference in peak AFV between normal control and Pts with large amount of elevation of serum enzyme activity (peak CPK > 1000u, peak GOT > 150u or peak LDH > 1000u). In conclusion there was compensating atrial booster pump in Pts with small amount of elevation of serum enzyme activity but not in Pts with large amount of elevation of serum enzyme activity.