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EVALUATION OF GRAFT PATENCY AND ISCHEMIA BEFORE AND AFTER AORTO CORONARY BYPASS SURGERY BY RADIONUCLIDE CARDIOANGIOGRAPHY AND TL-201 MYOCARDIAL SCINTIGRAPHY.

T.Uehara,T.Nishimura,K.Hayashida,H.Naito, T.Kozuka,Y.Kito*and M.Saito** National Cardiovascular Center, Department of Radiology, Surgery*and Internal Medicine** Osaka.

In twelve cases, myocardial scintigraphy and radionuclide angiography were performed before and after A-C bypass(graft) surgery. In myocardial perfusion imaging, distribution of blood perfusion about mine segment of our own division was evaluated by visual inspection and segmental perfusion ratio quantitatively. In conclusion, exercise myocardial perfusion imaging had a great benefit for the evaluation of ischemic portion and graft patency. Rest and exercise radionuclide angiography was also very useful in evaluation of left ventricular functional reserve and exercise bearing ability. These methods were well-suited in estimation of stenotic lesion of coronary artery and bypass graft before and after A-C bypass surgery as a non-invasive follow-up study.

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DIFFERENTIAL DIAGNOSIS OF MEDIASTINAL ABNORMALITY WITH RADIONUCLEIDE ANGIOGRAPHY.

Y.Nakajima,K.Asakura,Y.Ono,K.Tanohata,T.nozawa,M.Ujiie,K.Matsui,H.Oikawa.T.Tanaka. School of Medicine,Yokohama City University and Kanagawa-ken Seijinbyo Center. Yokohama.

Radionucleide angiography(RNAG) with red blood cell labeled by Tc-99m were performed in 60 patients with mediastinal masses on plain chest radiograph. Forty one cases with vascular lesions and 19 cases with solid masses could be correctly diagnosed by RNAG . The vascular lesions included aneurysms, tortuosities, anomalies and others. In these cases contrast angiography could be avoided except for preoperative examination . The non-vascular masses could be imaged by RNAG except for 7 lower mediastinal ones , the images of which were obscured by RN pool in the heart and great vessels. The innominate artery and SVC can be clearly imaged by RNAG and it is most useful for right upper mediastinal masses. RNAG is very useful in differential diagnosis between vascular and solid mediastinal masses.

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CLINICAL EVALUATION OF ARTERIAL STENOSIS IN ASO BY RI ANGIOGRAPHY.

K.Hayashida, T.Nishimura, T.Uehara, H.Naito, T.Yamaguchi, T.Sugawara, T.Kozuka, I.Adachi* N.Nakajima* U.Ishikawa**and R.Nakayama** National Cardiovascular Center, Dep.of Radiology, Dep.of Surgery* Dep.of Internal Medicine**

The findings of arterial stenosis by RI angiography were compaired with those by contrast arteriography in ASO of 50 cases. The results of the comparison were as follows: 50% stenosis; coincident 32.3%, mistaken 38.7%, 75% stenosis; coincident 47.1% mistaken 5.8% and more than 90% stenosis; coincident 76.7% mistaken 3.3%. For the quantitative evaluation of the arterial stenosis, the mode of transit time (M.T.T.) was taken to differentiate dynamic curves of which ROIs set in both iliac region, bifurcation, and abdominal aorta. Then, the subtracted M.T.T. in the iliac region was taken to subtract the mean M.T.T. of bifurcation and abdominal aorta from M.T.T. in each iliac region.

The subtracted M.T.T. was graded in normal; 1.26 ± 0.84s, 50% stenosis; 2.45 ± 1.27s, 75% stenosis; 3.64 ± 1.38s and more than 90% stenosis; 4.26 ± 1.99s.

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EVALUATION OF LEFT VENTRICULAR FUNCTION BY RADIONUCLIDE ANGIOCARDIOGRAPHY SYNCHRONIZED WITH MECANOCARDIOGRAM.

J.Yamazaki, Y.Kawamura,M.Fukumoto,S.Suzuki,S.Iida,and T.Morishita. 1st Internal Medicine of Toho University. Tokyo.

In this study,the performance of the left ventricle was evaluated with the systolic time intervals which were calculated by RI angiocardiography synchronized with ECG,PCG,and carotid pulse. This study was performed in 129 subjects,116 cases of heart disease and 13 normal case volunteers. The beginning of the LVET was set on the first descent point of the RI count of the time activity curve and the time from the Q wave of ECG to this descent point was regarded as the PEP. The end point of the LVET was placed on the transitional point from nagative to positive on the differential curve of this curve. Use of the ECG, PCG and carotid pulse with which PEP and LVET are derived,as described by Weissler. The PEP is obtained indirectly by substracting LVET from Q-II interval. The LVET is measured from the beginning of the upstroke to the dicrotic notch of the carotid pulse. The coefficent of correlation between the values of PEP and LVET calculated by RI technique and MCG in 13 normal cases were $r=0.78$ and $r=0.86$. The coefficent of correlation between the values of PEP and LVET calculated by these two methods in the almost subjects excluding valvular disease were very good.