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PRESUMPTION OF CORONARY LESION BY Tl-201 MYOCARDIAL IMAGING USING SPECT (SINGLE PHOTON EMISSION COMPUTED TOMOGRAPHY). T.Uehara, T.Nishimura, K.Hayashida, M.Takamiya. National Cardiovascular Center, Osaka.

Presumption of coronary lesion is clinically very important. Value and limitation of the presumption by myocardial SPECT image is evaluated by ROC analysis comparing to planar image. And the occupying area of each coronary artery is assessed by the investigation of single vessel disease. The result is as follows: (1) For the accuracy of the presumption of the coronary lesion, the myocardial SPECT imaging is superior to the planar image. (2) As for single vessel disease, the SPECT and planar diagnosis is equal in the detection of LAD lesion. The SPECT diagnosis is superior to the planar diagnosis in the detection of diagonal lesion, RCA and LCX lesion. (3) As for double vessel disease, the SPECT diagnosis of RCA+LAD coronary lesion is superior to the planar diagnosis. (4) Assessment of the occupying lesion of each coronary artery shows the difficulty to distinguish RCA lesion from LCX lesion, and LCX lesion from diagonal lesion. But it's easy to differentiate LAD lesion from RCA lesion, and LAD lesion from LCX lesion.

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MYOCARDIAL PROTECTION OF CORONARY RECANALIZATION IN ACUTE MYOCARDIAL INFARCTION: AN ASSESSMENT BY EXERCISE Tl-201 ECT. M.Naka, Y.Higashino, S.Nanto, K.Taniura, T.Fujioka, T.Sakai, K.Kodama, M.Inoue\*. Cardiovascular Division of Osaka Police Hospital, \*Osaka University, School of Medicine, Osaka.

To assess the ability of recanalization to salvage the myocardium involved, 46 patients with AMI were examined by the exercise Tl-201 ECT in the chronic stage. All were divided into the occlusion(OC, n=15), the thrombolysis(LY, n=11), the emergency PTCA(CA, n=12) and the spontaneous recanalization(SR, n=8) groups. The Tl uptake in each zone of the proximal and distal short-axial slice was calculated both for the initial(I) and the delayed(D) imagings. In the infarcted zone, %Tl uptake of each group was as follows:

	OC	LY	CA	SR
I uptake	55±8%	67±13%*	69±16%*	85±7%*
D uptake	58±8%	78±14%†	70±18	91±7%†

\*p<.01 as compared with the OC group.

†p<.01 as compared with the I uptake.

In the cases with anterior MI, there also was no difference in I uptake in each zone involved between LY(n=8) and CA(n=9). The filling-in occurred more frequently in LY than in CA. Thus, the emergency coronary angioplasty in acute myocardial infarction is less likely to leave the ischemia than the thrombolysis alone but has little additional effect of myocardial preservation.

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SIGNIFICANCE OF REDISTRIBUTION ON DIPYRIDAMOLE LOADING THALLIUM SPECT IN PATIENTS WITH OLD MYOCARDIAL INFARCTION

---COMPARISON WITH REGIONAL CORONARY FLOW RESPONSE AND LACTATE PRODUCTION

T.Mori, M.Ohnishi, Y.Kanoh, H.Shiotani, Y.Ohmori, K.Kobayashi, K.Maeda and H.Fukuzaki Kobe University The First Department of Internal Medicine

To evaluate the significance of Tl-201 redistribution on infarct area, we compared dipyridamole loading Tl-201 myocardial image using SPECT with regional coronary flow response and lactate uptake ratio measured by Webster catheter in 12 patients with old myocardial infarction. Eight regions in 11 regions with Tl-201 redistribution after dipyridamole administration had decreased regional coronary flow response, but only 4 regions in the same 11 regions had lactate production. Among 9 patients with Tl-201 redistribution, left ventricular endodiastolic pressure(LVEDP) elevated in 5 patients with lactate production, on the other hand LVEDP didn't elevate in 4 patients without lactate production. Moreover, only 4 patients had chest pain after dipyridamole administration and only 5 patients showed ischemic changes on ECG. In conclusion, these data suggest Tl-201 redistribution on infarct area after dipyridamole administration reveals not only overt ischemia but also decreased coronary flow response without regional lactate production or left ventricular dysfunction.

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ASSESSMENT OF CORONARY RESERVE OF HYPERTROPHIC CARDIOMYOPATHY USING THALLIUM UPTAKE RATIO BY DIPYRIDAMOLE LOADING -COMPARISON WITH EXERCISE STRESS MYOCARDIAL SCINTIGRAPHY- M.Uruma, K.Kodera, K.Ojima, T.Tsuda, Y.Aizawa, Y.Arai, A.Shibata, M.Kimura\*, I.Odano\*, K.Sakai\*, T.Mitani\*\* and H.Hama\*\*. The First Department of Internal Medicine and \*Department of Radiology, Niigata University School of Medicine, Niigata. \*\*Kido Hospital, Niigata.

Using exercise stress myocardial scintigraphy, we had experienced some patients of hypertrophic cardiomyopathy (HCM), who showed redistribution. To evaluate the significance of the redistribution in HCM, we examined coronary reserve using Tl uptake ratio calculated by Tl uptake counts before and after dipyridamole loading. Tl uptake ratios of six patients who showed redistribution (group A) were compared with those of five patients who showed no hypoperfusion area (group B) and four control patients. One patient in group A had hypoperfusion but no redistribution. We injected 2 mCi of Tl two times before and after dipyridamole loading (0.56 mg/kg). Ten minutes after injection, we collected Tl uptake counts for five minutes in left anterior oblique view and another view. Mean Tl uptake ratio of all HCM patients was smaller than controls (p<0.001). Mean Tl uptake ratio of group A was significantly smaller than that of group B (p<0.001). But in group A patients, Tl uptake ratios of redistribution areas were not smaller than no redistribution areas. We concluded that coronary reserve of HCM was lower than control, and coronary reserve of group A was lower than that of group B. Redistribution seems to be related to the coronary reserve and other local factors.