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UTILITY OF TL-201 MYOCARDIAL IMAGES AT REST TO EVALUATE STRESS TL-201 MYOCARDIAL IMAGES
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Perfusion defects seen on 4-6 hour delayed exercise Tl myocardial images have generally been considered as fixed defects indicating myocardial infarction. However we experienced 5 cases in which prominent discrepancy between delayed exercise images and rest images were noted. In each case marked defects were noted on stress images and defects persisted on 2-8 delayed images, however no definite perfusion defects were noted on rest images. Three of 5 showed severe proximal stenosis of LAD, one 100% obstruction of LAD supplied by collateral from RCA and the last severe three vessels disease. In exercise Tl-myocardial images for each case enough delay time is not expected and in case of inadequate delay time complete redistribution is not expected. In some case without rest images it might be impossible to differentiate ischemia from infarction.

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EVALUATION OF SEVERITY OF MYOCARDIAL ISCHEMIA IN SINGLE VESSEL CORONARY ARTERY DISEASE BY CIRCUMFERENTIAL PROFILE ANALYSIS.
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Exercise Thallium myocardial scintigraphy was performed in 54 patients with single-vessel coronary artery disease and quantitative analysis of myocardial ischemia was generated by circumferential profile analysis. The ischemic score was derived by summing the area between the initial and redistribution profiles for each of three projections. In 39 cases with LAD disease, lung Thallium uptake increased according to the increase of the ischemic score and correlation was significant ($r=0.653$). Coronary stenosis more than 90% showed higher ischemic score than that of 75% and then, the group of horizontal or sagging type ST depression showed higher ischemic score than that of slow rising type ST depression. The ischemic score should be as valuable as coronary stenosis and exercise electrocardiogram in evaluating the severity of myocardial ischemia.

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ASSESSMENT OF THE SIGNIFICANCE OF CORONARY COLLATERAL VESSEL BY USING 201-THALLIUM MYOCARDIAL IMAGING.
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To assess the significance of coronary collateral vessel, twenty-three patients with effort angina pectoris who had total coronary obstruction were studied. The patients were divided according to the degree of development of collateral into 2 groups (good development as group I:n=13, poor development as group II:n=10). Stress thallium scan was performed immediately(Ex-1 image), 20 minutes(Ex-2 image) after exercise and after nitroglycerin administration(NTG image). All images were evaluated quantitatively, that is, the relative % to the counts of normal myocardium in collateral dependent area were calculated.

Results:	Group I	Group II	P
Image			
Ex-1	75.8 ± 3.5%	77.2 ± 2.9%	NS
Ex-2	85.3 ± 4.7%	79.3 ± 3.9%	0.005
NTG	97.3 ± 3.1%	96.4 ± 5.2%	NS

In the present study, good development of collateral induced early partial redistribution in its perfusion area. Thus it was suggested that good collateral circulation may provide rapid recovery from ischemia.

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EVALUATION OF THE SEVERITY OF ISCHEMIC HEART DISEASE BY EXERCISE STRESS THALLIUM PERFUSION IMAGING. ---INFLUENCE OF CORONARY ARTERY DISEASE ON LUNG THALLIUM-201 UPTAKE--- M.KOBAYASHI,T.NISHIMURA, T.UEHARA,K.HAYASHIDA,T.SHIMONAGATA, M.SAITO,T.SUMIYOSHI, NATIONAL CARDIOVASCULAR CENTER,OSAKA

55 patients who have anterior myocardial infarction with left anterior descending coronary arterial lesion underwent exercise myocardial scintigraphy. The size of infarction and ischemia were calculated by circumferential analysis. Greater the size of myocardial infarction, lung thallium-201 uptake increased. Greater the size of redistribution, lung thallium-201 uptake increased. This suggests that lung thallium-201 uptake is available for the evaluation of the severity of ischemic heart disease.