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EVALUATION OF VIABLE MUSCLE AT THE INFARCT ZONE BY STRESS THALLIUM SCAN AND ECHOCARDIOGRAPHY.

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To evaluate the viable muscle at the infarct zone is important for post-infarction angina and aorto-coronary bypass surgery. In this study, 75 patients(pts) with MI(SVD) were evaluated by stress thallium scan and echocardiography. Then, the patients were classified into 4 groups. Fifty-four pts had complete or incomplete redistribution(RD). There were 19 pts with hypokinesis and normal wall thickening, 10 pts with akinesis and normal wall thickening, and 21 pts with akinesis and wall thinning. And remaining 25 pts had no RD with akinesis or dyskinesis and wall thinning. As a result, group A had high probability of viable muscle at the infarcted zone. Then, preoperative differentiation of viable muscle was performed by these combined methods. Nineteen of 31 cases (4 SVD, 13 DVD and 14 TVD) showed significant improvement of myocardial perfusion. These cases had normal wall thickening with hypokinesis or akinesis and showed incomplete or complete RD at the infarcted zone. In conclusion, the viability of myocardium at the infarcted zone was assessed by these combined methods noninvasively.

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CLINICAL SIGNIFICANCE OF THALLIUM-201 STRESS MYOCARDIAL PERFUSION IMAGES FOR EVALUATING THE EFFECT OF AORTO-CORONARY BYPASS SURGERY.

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The purpose of this study is to evaluate the effect of myocardial perfusion following aorto-coronary bypass surgery using Tl-201 stress myocardial perfusion images. Stress and redistribution Tl-201 myocardial images were performed before and after surgical treatment. The territory of the individual major coronary artery on myocardial image was determined by analysis of the side according to the classification of Rigo et al. The results are summarized as follows. 1) Thirty-eight patients with ischemic heart disease who underwent aorto-coronary bypass surgery have been studied. 2) In sixteen patients who underwent the single bypass surgery, fifteen patients were recognized the improvement of Tl-201 stress myocardial images. But one case was recognized the worse, because he had caused perioperative infarction. The stress myocardial perfusion image is very useful to estimate the effect of surgical treatment for patients who underwent the single bypass surgery. 3) Twenty-two patients who underwent double (18) and triple (4) aorto-coronary bypass surgery, were not always identify the effect of surgical treatment. But stress myocardial perfusion images were considered to be useful non-invasive technique to evaluate the effect of aorto-coronary bypass surgery in patients with multiple vessel disease.

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PREDICTION OF GRAFT PATENCY AFTER CORONARY ARTERY BYPASS SURGERY BY QUANTITATIVE TL-201 SCINTIGRAPHY.

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To assess the accuracy of stress myocardial scintigraphy with Tl-201 to predict graft patency after coronary artery bypass surgery, Tl-201 scintigraphy and coronary arteriography were performed preoperatively and 1 year after operation. The scintigraphic results were compared with graft patency in 22 patients with a total of 51 grafts. Excluding 11 grafts with progression or regression of native coronary artery lesion, Tl-201 scintigraphy had a 95% sensitivity, 85% specificity and 90% overall accuracy in detecting graft occlusion, which was predicted by scoring change of perfusion defect compared to preoperative results. Occluded grafts were correctly localized by scintigraphy in 95%. However, scintigraphy showed improved perfusion in seven occluded grafts supplying region by obvious regression of native coronary artery lesions, and no improvement of perfusion in four patent grafts supplying regions by progression of native coronary artery lesions. These results indicate that prediction of graft patency by Tl-201 scintigraphy is limited due to progression and regression of native coronary artery lesion.

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ESTIMATION of MYOCARDIAL VIABILITY BY TL-201 MYOCARDIAL PERFUSION SCINTIGRAPHY, POST EMARGENT A-C BYPASS OPERATION.

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Emargent A-C bypass operation (ECABG) were performed immediately after PTCA procedure for 10 patients with acute myocardial infarction (AMI) and 2 patients with unstable angina pectoris (without PTCA). The purpose of this study was to evaluate the myocardial viability after ECABG by using TL-201 myocardial scintigram. Quantitative analysis of TL-201 myocardial scintigraphy was performed by circumferential profile method. PTCA procedure had been done with 4 hours after the onset of AMI and ECABG within 3-12 hours after the onset of AMI and impending infarction. Defect score had been showed less than about 7.0 in 8 of the patients. The patients, showed delayed filling in CAG, had been salvaged comparatively in injured myocardium by ECABG. TL-201 myocardial scintigram was useful to estimate of myocardial viability after emargent A-C bypass operation.