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COMPARATIVE EFFECTS OF PTCA AND CABG ON INFARCTED MYOCARDIUM

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Increased myocardial perfusion by PTCA and CABG on infarcted site was evaluated by exercise Tl-201 myocardial imaging (Tl-IM) and left ventriculography(LVG). Tenty three patients with old anterior myocardial infarction underwent coronary revascularization by PTCA or CABG were clasified 4 groups. Twelve patients succeeded in PTCA (Group I) consisted of 8 patients with regional hypo perfusion and redistribution(Ia), and 4 patients without redistribution (Ib). Eleven patients underwent CABG(Group II) consisted of 7 patients with redistribution (IIa) and 4 patients without redistribution(IIb). By Tl-IM, regional uptake ratio(RUR) was measured as the indicator of regional myocardial perfusion. And regional fractional shortening (RFS) was also measured by LVG. The results were compared before and after revascularization. RUR increased significantly in Group Ia(60±16%→77±16%,p<0.01) and Group IIa(56±11%→78±6.7%,p<0.01). RFS increased significantly in Group Ia(16±4.0%→23±3.7%,p<0.01) and Group IIa(17±6.5%→22±3.7%, p<0.05). There were no significant changes in Group Ib and Group IIb in RUR and RFS. It is concluded that in the PTCA group (Ia) as well as CABG group(IIa) the improvement of myocardial perfusion is pararell to that of wall motion abnormality.

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INDICATION OF PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY (PTCA) FOR OLD MYOCARDIAL INFARCTION.

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We assessed the viability of old myocardial infarction (MI) before PTCA and examined the grade of the ischemia before and after PTCA. 23 patients with old MI who had successful PTCA were studied. PTCA were done after 51 to 850 days of acute MI. The viability before PTCA was assessed by the presence of angina pectoris, stress Tl-201 scintigraphy, treadmill stress test and left ventriculography.
In 20 of the 23 patients the viability was confirmed by the chest pain or the change of ST segment during PTCA. In 20 patients who had the viability, we could assess the viability in 70% by stress Tl-201 scintigraphy, in 55% by treadmill stress test, in 75% by left ventriculography and in 100% by any of these three examinations before PTCA. All in 12 patients who had angina pectoris before PTCA have no angina pectoris after PTCA. The improvement of the grade of the ischemia were observed in 78% of the patients who had the viability assessed by stress Tl-201 scintigraphy or treadmill stress test before PTCA.
Conclusion: PTCA is useful for OMI when the viability is assessed before PTCA. The viavility should be assessed by the combination of several diagnostic methods.

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HIGH-DOSE,SHORT-TERM INTRAVENOUS CORONARY RECANALIZATION(IVCR) AND PTCR BY UROKINASE (UK) IN ACUTE MYOCARDIAL INFARCTION: ASSESSMENT BY THALLIUM-201 EXERCISE MYOCARDIAL IMAGING.

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Twenty patients with single vessel disease of AMI underwent Tl-201 exercise myocardial imaging in chronic phase. Five patients were treated by IVCR,15 minutes intravenous infusion of 1,920,000IU of UK, within 6 hours after the onset. Eight patients were treated by PTCR. Recanalization was angiographically recognized in these patients both in acute and chronic phases. In seven patients who were not treated by UK,recanalization was recognized in chronic phase. The washout rate of the center of diseased area was obtained. The development rate on defect scores was calculated from circumferential profile curves at 10 minutes and 3 hours after exercise. It was possible to distinguish the patterns of redistribution by the combination of washout rate and development rate. In IVCR-treated group,partial redistribution(PR) and incomplete redistribution(IR) were observed each in one patient. In PTCR-treated group,IR was observed in three patients. In non-UK group,PR and IR were observed each in one patient. The percentages of redistribution in IVCR and PTCR-treated groups were larger than that in non-UK group,although not significant statistically.

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INFLUENCE OF EARLY CORONARY RECANALIZATION ON QUANTITATIVE ENZYMATIC AND TL-201 SCINTIGRAPHIC ESTIMATION OF INFARCT SIZE : COMPARISON WITH LEFT VENTRICULAR FUCTION.

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The purpose of the present study was to investigate the influence of early coronary recanalization on clinical quantitative estimation of myocardial infarct size. We studied the relationship among the enzymatic infarct size(ΣCK), Tl-201 scintigraphic infarct size(Tl-IS), and left ventricular ejection fraction(LVEF) In 59 patients with acute myocardial infarction. The subjects were devided into the two groups; 34 who had early coronary recanalization by intracoronary thrombolysis(group I) and 25 on conventional therapy(group II). ΣCK was calculated by serial measurement of serum creatine phosphokinase activities, and Tl-IS by circumferential profile analysis of Tl-201 myocardial imaging. LVEF closely correlated with both ΣCK(r=-0.76) and Tl-IS (r=-0.83) in group I, and showed a closer correlation with Tl-IS(r=-0.87) than with ΣCK(r=-0.58) in group II. Although ΣCK significantly correlated with Tl-IS in both groups, it tended to be smaller in group II than in group I for approximately equivalent Tl-IS. In conclusion it was suggested that Tl-IS was more useful to estimate infarct size than ΣCK because the latter was strongly influenced by recanalization itself.