

129

CHANGES IN LEFT VENTRICULAR WALL MOTION AFTER AORTO-CORONARY BYPASS SURGERY
T.Uchida, M.Saito, T.Honma, T.Sumiyoshi, K.Fukami, K.Haze, K.Hiramori
T.Nishimura, T.Uehara, K.Hayashida
National Cardiovascular Center, Osaka

We studied the reversibility of left ventricular asynergy in 37 patients with aorto-coronary bypass surgery (ACB). Fifty-four revascularized regions were assessed using exercise Thallium scintigraphy (Ex-SG), left ventriculogram (LVG) and coronary arteriogram (CAG) before and after ACB. LVG before ACB showed 32 asynergic regions; 12 were infarcted area and 20 were non-infarcted area. In 9 of the former (75%) and in 16 of the latter (80%) asynergy improved after ACB. Preoperative Ex-SG showed significant redistribution in these asynergic regions, especially in the infarcted area. In patients with no previous myocardial infarction, Ex-SG did not show complete redistribution in these asynergic regions preoperatively. However, perfusion defect completely disappeared postoperatively. CAG showed severely jeopardised coronary perfusion in these asynergic regions. These findings suggest that if Ex-SG shows significant redistribution in asynergic region perfused by jeopardised coronary artery, chronic ischemia is responsible for the asynergy and that wall motion can be restored by ACB in these regions.

131

THE EFFECT OF EARLY REPERFUSION IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION TREATED BY PTCA WITH OR WITHOUT SUBSEQUENT PTCA --- ASSESSMENT BY Tl-201 ECT IN ACUTE AND CHRONIC PHASES. H.Yamaguchi, H.Fujiwara, H.Nosaka and M.Nobuyoshi. Kokura Memorial Hospital, Kitakyushu

The effects of reperfusion in patients with acute myocardial infarction treated by PTCA alone (11) or with concomitant PTCA (18) were studied using Tl-201 ECT during the acute period of MI and repeated 3 - 4 weeks later. Patients were divided into three groups, A-I group: 11 patients with total occlusion of the involved artery and who were successfully recanalized, A-II group: 8 patients with subtotal occlusion of the involved artery and also successfully recanalized. B group: 10 patients with no recanalization. The improvement of myocardial perfusion and function was evaluated by short axis tomography of Tl-201 ECT; that is the ratio(% defect) between the defect area and the entire purposed myocardial area.

The improvement of % defect in the chronic phase was significantly higher in A groups, especially in A-II group, than that in B group. In A groups, patients with adequate collaterals had better improvement than that in patients with inadequate or no collaterals.

130

THE EVALUATION OF PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY (PTCA) BY Tl-201 STRESS SCINTIGRAPHY.
J.Yamazaki, T.Uchi, Y.Kawamura, I.Okuzumi, T.Muto, T.Morishita, Y.Yabe, N.Koyama, Y.Sasaki, A.Okabe, T.Aizawa, 1st Dep. of Int. Med., Card.Diag. Lab., Radiol.Toho Univ. Cardiovascular Institute Hosp., Tokyo.

The efficacy of PTCA is being established recently. In order to validate the usefulness of Tl stress scintigraphy for the non-invasive evaluation of effect of PTCA. The test was performed in selected 31 patients (27 angina pectoris, 4 myocardial infarction) in whom "primary success" of PTCA was obtained. Tl-defect ratio was calculated by circumferential profile method from three projections Post-PTCA, deration of stress was significantly prolonged. The change in Tl-defect ratio from pre- to post-PTCA was not significant. But 11 patients showed significant improvement of Tl-defect ratio post-PTCA as compared with that of pre-PTCA. Tl-myocardial image correctly detected the effect of PTCA in 17 of 31 patients (55%), while Tl-defect ratio detected in 15 of 28 patients (54%), also, treadmill stress test detected in 10 of 20 patients (50%). The sensitivity of the combination of Tl-image and treadmill test was 68%, and markedly higher than myocardial scintigraphy alone. We conclude Tl-stress scintigraphy is useful to know the effect of PTCA if adequate stress is obtained.

132

QUANTATIVE ANALYSIS OF STRESS Tl-201 ECT FOR EVALUATION OF PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY. M. Naka, S. Nanto, Y. Higashino, K. Taniura, T. Fujioka, T. Sakai, K. Kodama. Intensive Cardiac Care Unit, Osaka Police Hospital, Osaka.

To evaluate the effectiveness of percutaneous transluminal coronary angioplasty (PTCA) on stress induced myocardial ischemia, 20 patients with single or double vessel disease were assessed using exercise Tl-201 ECT before and after the successful PTCA. The identical four ROIs were chosen on the middle and the basal transaxial slices both of initial and delayed images, and washout rate (WR), relative WR (1/maximum WR) and % Tl uptake were calculated. Before PTCA, WR, relative WR and initial % Tl uptake in the 48 PTCA related regions were lower than in the 30 non-stenotic regions (23 ± 13 vs $32 \pm 11\%$, 0.67 ± 0.27 vs 0.99 ± 0.04 , 88 ± 10 vs $97 \pm 6\%$, $p < 0.01$, respectively). After PTCA, these indices in the PTCA related regions significantly increased as compared with before PTCA (WR: $33 \pm 11\%$, relative WR: 0.86 ± 0.19 , initial % Tl uptake: $92 \pm 10\%$, $p < 0.01$, respectively), whereas did not in the non-stenotic regions. Even after PTCA, % Tl uptake showed an increase from the initial to the delayed images.

These data suggest that PTCA enhances coronary reserve and improves exercise-induced myocardial ischemia, and stress Tl-201 ECT may be a useful tool in detection of the residual ischemia after PTCA.