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 (LGV) and coronary arteriogram (CAG) before and after ACB. LGV before ACB showed 32 asynergic regions; 12 were infarcted area and 20 were non-infarcted area. In 9 of the former (75%) and in 18 of the latter (80%) asynergy improved after ACB. Preoperative Ex-SG showed significant redistribution in these asynergic regions, especially in the infarced 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.

The effects of reperfusion in patients with acute myocardial infarction treated by PTCA alone (11) or with concomitant PTCA (18) were studied using TI-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 TI-201 ECT; that is the ratio (% defect) between the defect area and the entire supposed 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.