-10-

EFFECTS OF ACUTE PERCUTANEOUS TRANSLUMINAL ANGIOPLASTY FOR ACUTE MYOCARDIAL INFARCTION -RELATION OF RESIDUAL STENOSIS WITH WALL MOTION-

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This study was attempted to clarify the efficacy of PTCA in acute stage of myocardial infarction for the improvement of wall motion in chronic stage. In 27 cases of acute antero-septal myocardial infarction (successful coronary thrombolysis (CT) 11 cases and successful CT+PTCA 16 cases), the infarct size and cardiac performance in chronic stage were examined. As an index of infarct size, % abnormally contracting segment (%ACS), total CK release ($\bar{L}$ CK) were used. Anterior regional ejection fraction (REF) was provided for an index of chronic left ventricular performance.

Results were :

- 1) The %ACS was significantly smaller in the CT+PTCA group than in the CT group.
- 2) The residual stenosis and the elapsed time had no correlation with the %ACS and the REF.
- 3) The difference between the % stenosis before and after PTCA had significantly positive correlation with the %ACS and negative correlation with the REF.

Thus the degree of dilation in PTCA related the infarct size and the left ventricular performance.

-11-

EFFECT OF THROMBOLYTIC THERAPY AND PERCUTANEOUS TRANSLUMINAL CORONARY ANGIOPLASTY IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION RECANALIZED WITHIN TWO HOURS FROM THE ONSET

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Effects of thrombolytic therapy (TT) and percutaneous transluminal coronary angioplasty (PTCA) on left ventricular function and infarct size were evaluated in 13 patients (pts) with acute myocardial infarction (AMI) recanalized within 2 hours from the onset of symptoms (Group 1). Eight pts with AMI recanalized after more than 2 hours (Group 2), 10 pts with AMI without reflow or with conventional therapy (Group 3) and 20 normal controls were also examined. In Group 1, 8 pts were treated by TT and 5 pts were treated by combined TT and PTCA.

Regional wall motion (RWM) in the infarcted zone was analyzed using left ventricular cineangiogram in the right anterior oblique projection. End-diastolic and end-systolic outlines of the left ventricular chamber were superimposed, and % shortening of each of 14 radial axes drawn from the center of gravity of end-systolic left ventricu-

lar chamber was calculated. Evaluation of infarct size was performed using Tl-201 emission computed tomography (ECT). With circumferential profile analysis in two short-axis sections and one long-axis section of the ECT images, the extent of hypoperfused myocardium was calculated as % defect and uptake loss.

Results: Group 1 was clearly classified into 2 subgroups; 9 pts with normal RWM and small Tl defect (Group 1A) and 4 pts with severely depressed RWM and large Tl defect same as those in Group 2 or Group 3 (Group 1B). Group 1A was composed of 5 pts treated by PTCA, 2 pts with residual stenosis less than 75 % after TT and 2 pts with spontaneous recanalization. All 4 pts in Group 1B had 99 % residual stenosis.

Conclusions: Although early reflow is essential, enough coronary flow after thrombolytic therapy is also needed for myocardial salvage.

-12-

THE BENEFITS AND RISKS OF EMERGENCY PTCA

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This report represents the benefits and risks of the emergency PTCA comparing to those of other therapeutic procedures. Primary angiographic success rate was similar in emergency PTCA group (77%) and the elective PTCA group (78%). Incidence of complication of emergency PTCA (12%) was somewhat higher than elective ones (4%), though there was not statistical significance. According to therapeutic procedures, emergency cases with LAD occlusion were subdivided into four groups containing A-group (emergency PTCA), L-group (thrombolysis), G-group (emergency CABG) and C-group (conservative therapy). Anterior wall motion was quantitatively described as anterior hypo-kinetic index (AHZ). In A-group, EF increased from $45 \pm 9\%$ in acute phase to $56 \pm 13\%$ in chronic phase ($p < 0.01$) and AHI decreased from 338 ± 118 to 189 ± 148 ($p < 0.01$). Although similar such changes were detected in L-group, no statistical significance was obtained. In G-group, such a beneficial change was revealed itself only in AHI (from 325 ± 191 to 173 ± 119 , $p < 0.05$). These two parameters of A, L and G-group showed more normal value in chronic phase than C-group. A criteria for indication of emergency PTCA may be decided from analysis of other factors such as time interval from onset to recanalization and severity of LAD lesion. Mortality rate has decreased drastically in our hospital after conduction of these invasive therapeutic procedures.

Chairman

13-18 H. Yamaguchi, Tokyo
19-24 T. Fujinami, Nagoya

-13-

A STUDY OF TOTAL CORONARY OCCLUSION OCCURRING BETWEEN TWO ANGIOGRAPHIES BASED ON A COMPARISON OF PATIENTS