uated 1205 consecutive AMI patients (pts) with ST segment elevation who presented from 1989 to 1993. Baseline characteristics of age (64 ± 13 years), gender (70% male), and TT contraindications (38%) did not vary from year to year. Characteristics of pts treated with TT by year are shown.

	1989	1990	1991	1992	1993	p
TT treated % (n)	42 (87)	45 (113)	45 (104)	63 (156)	65 (175)	0.0001
Mean age (yrs)	58 ± 11	58 ± 11	57 ± 13	60 ± 11	60 ± 13	0.190
Age > 76 (%)	2.3	1.0	1.9	7.7	9.1	0.003
Male (%)	75	75	85	73	71	0.150
Symptom duration, min						0.010
mean ± SD	87 ± 57	106 ± 96	108 ± 104	119 ± 97	135 ± 112	
range	12–307	17–676	15–657	12–740	16–609	
median	69	80	80	94	103	
AMI mortality (%)						
TT treated pts	8.3	7.1	5.3	7.7	4.6	0.350
No TT pts	21.8	16.2	15.2	13.9	20.8	0.447
All pts	16.0	12.0	10.9	10.0	10.3	0.050

Utilization of TT increased significantly by treating more pts > 76 years and those with longer symptom duration. Trend analysis demonstrates that mortality in AMI pts treated with TT did not change significantly from year to year. Overall AMI mortality, however, decreased significantly with expanding use of TT. Thus, use of TT can be increased by treating more elderly pts and those with longer symptom duration. Expanding use of TT is associated with reduction in overall AMI mortality.

956-119 Inferior Wall Myocardial Infarction and Thrombolytic Therapy: An Appraisal of Clinical Heterogeneity and Indications for Treatment

John F. Murphy, Nilesh L. Jain, Michael G. Kahn, Calixto A. Romero. *Washington University School of Medicine, St. Louis, MO*

Clinical trials to determine the efficacy of thrombolytic therapy trials consider all patients with acute inferior myocardial infarction (IMI) as a single group, but these patients have heterogeneous clinical characteristics. Stratification of IMI patients by the amount of myocardium at risk and the time to treatment should clarify the precise indications for thrombolytic therapy.

This study is an independent secondary analysis of the TIMI II patient data available through the NHLBI. Clinical features were used to identify IMI subgroups in the TIMI II trial characterized by increased myocardium at risk. There were 861 patients with IMI who had one or more of the following markers for myocardium at risk: anterior ST depression, hypotension defined as a systolic blood pressure <100 mmHg, or advanced AV block. There were 455 patients with IMI who did not have any markers of increased myocardium at risk. The subgroups for each marker and the group without any marker were then stratified by time to thrombolysis and their outcomes were compared to historical controls with hypothesis tests and confidence intervals.

Patients with IMI plus anterior ST depression, hypotension, or AV block who received thrombolysis had a highly statistically significant decrease in mortality ($p < 0.001$) compared to historical controls. Patients with IMI plus hypotension or AV block had a significant decrease in mortality only up to 3 hours from onset of symptoms ($p < 0.05$). In patients with simple IMI, an insignificant relative reduction in mortality of 15.4% was seen from a baseline mortality of 2.5%. Consequently, thrombolytic therapy cannot be justified for all patients with IMI, but it is clearly indicated for IMI with anterior ST depression, advanced AV block, and hypotension. The decrease in mortality for patients with hypotension or AV block declines steeply over the first 3 hours. IMI with anterior or lateral ST elevation, right ventricular infarction, or new bundle-branch block is hypothesized to have the same benefit but could not be tested because the data was not available in the TIMI II database. To demonstrate significance of the relative reduction in mortality for patients with simple IMI would require 32,220 patients. For the individual patient with a simple inferior myocardial infarction, the essentially immaterial benefit of 15.4% relative reduction in mortality from a baseline mortality of 2.5% may not outweigh the risk of a hemorrhagic complication of therapy. In conclusion, IMI patients should be considered on an individual basis, with consideration given to the amount of myocardium at risk and the time to treatment.

957 Reperfusion in Acute Myocardial Infarction: Benefits and Concerns

Tuesday, March 21, 1995, Noon–2:00 p.m.
Ernest N. Morial Convention Center, Hall E
Presentation Hour: Noon–1:00 p.m.

957-108 Does Reperfusion Induced by Angioplasty Confer the Same Benefit as Thrombolysis in Terms of Late Potentials?

Carma Karam, P. Gabriel Steg, Dominique Himbert, Jean-Michel Juliard, Marie-Claude Aumont. *Hôpital Bichat, Paris, F*

Angioplasty or thrombolysis (T) during acute myocardial infarction (MI) are two effective methods for achieving reperfusion, but whether reperfusion induced by angioplasty confers the same protection against the presence of late potentials on signal-averaged electrocardiography (SAE) as that induced by T remains debated. We studied retrospectively 102 consecutive Pts with successful reperfusion (TIMI grade 3 patency in acute phase), obtained by T, primary angioplasty (P), or rescue angioplasty (R) during the first 6 hours of MI. T Pts all had angiography at 90 min to prove reperfusion. All had SAE > 6 days later. Late potentials were defined as ≥2 of the following criteria: QRS > 120 msec, RMS40 < 20 μV, LAS > 38 msec. Results are (mean ± SD):

	T	P	R	p
number of Pts	35	40	27	
Age (years)	59.9 ± 11	60.5 ± 14	53 ± 13	<0.04
% males	86	85	93	NS
% anterior	54	58	46	NS
Time to treatment (min)	169 ± 72	212 ± 79	171 ± 76	NS
Time to reperfusion (min)	285 ± 75*	261 ± 90	280 ± 98	NS
Ejection fraction° (%)	53 ± 8	45 ± 15	46 ± 14	NS
% Late potentials	**43**	**10**	**11**	**<0.001**

* time to 90 min angiography with proven reperfusion
° radionuclide left ventricular ejection fraction at discharge

Thus, after MI, the prevalence of late potentials appears lower when acute reperfusion is obtained by angioplasty rather than by thrombolysis. This difference does not appear related to differences in time to treatment, time to reperfusion, left ventricular function or other patient characteristics.

957-109 Coronary Artery Bypass without Cardiopulmonary Bypass for Patients with Acute Myocardial Infarction

Yaron Moshkovitz, Hanoch Hod [1], Gabriel Amir, Rephael Mohr. *Dept. Cardiac Surgery, Sheba Medical Center, Israel;* [1] *Heart Institute, Sheba Medical Center, Israel*

Acute myocardial infarction (AMI) is usually associated with increased mortality and morbidity following standard CABG. Between Jan 1992 and Jul 1994, 47 pts with coronary anatomy suitable for CABG without cardiopulmonary bypass (CPB) underwent this procedure within one week of AMI. There were 36 (77%) males and 11 (23%) females. Mean age was 59.6 ± 11.4 years (range 37–80). Thirty-three pts (70%) underwent anterior and 14 (30%) inferior AMI. Twenty-seven underwent emergency CABG within 48 hours of AMI, 9 (33%) as a bailout procedure following complicated PTCA. Of this group, 9 (33%) were in cardiogenic shock, and 12 (44%) pts required preop IABP. Twenty pts underwent urgent CABG 2 to 7 days following AMI, one (5%) with cardiogenic shock, and 3 (15%) with preop IABP. Mean number of grafts/pt was 1.8 (range 1–4), and IMA was used in 37 (79%). Only 6 pts (13%) received a graft to a circumflex marginal branch. There was no operative mortality, and mean hospital stay was 6.3 ± 2.9 days. At mean follow-up of 18 ± 8 months, there was one cardiac-related (in a pt with preoperative EF 13%), and 2 non-cardiac-related deaths. Two-year actuarial survival was 92%. However, in 9 pts (19%) angina returned. Eight had CHF, 5 of whom were in preoperative cardiogenic shock. These results suggest that CABG without CPB is a relatively low-risk procedure for AMI pts with coronary anatomy suitable for this technique. However, the cost might be increased risk of early return of angina.

957-110 Effect of Direct Angioplasty on Coronary Flow Reserve in Acute Myocardial Infarction

Hiroshi Yamaguchi, Yoshihiko Atsuchi, Shinichi Arima, Shouichirou Nakao, Hiromitsu Tanaka. *Kagoshima University, Kagoshima, Japan*

To determine the effects of direct angioplasty on coronary flow reserve (CFR) in reperfused myocardium in patients with acute myocardial infarction (AMI), we studied 16 patients (ten men and six women, 50 ± 10 (mean ± 1SD) years old) with anterior AMI undergoing successful direct angioplasty and