ATRIAL NATRIURETIC FACTOR IN PATIENTS WITH ACUTE RIGHT VENTRICULAR INFARCTION.

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RV infarction often complicates inferior myocardial infarction (MI), causing elevated RA and RV pressures and inappropriate diuresis. To assess the role of ANF in this syndrome, we measured plasma ANF, RA, PA and capillary wedge pressures 39±2 hrs from the onset of symptoms in inferior MI pts with (n=15) and without (n=15) associated RV involvement diagnosed by hemodynamic criteria. Measurements were repeated after acute volume expansion to raise wedge pressure ≥20 mmHg to maximally stimulate ANF release.

	RV Involvement		No RV Involvement	
Pressures	Basal	Vol.Exp.	Basal	Vol.Exp.
PA (mmHg)	15±4	27±5**	14±1	29±5**
RA (mmHg)	8±3	19±2**	5±2	14±2**
wedge (mmHg)	9±3	21±3**	8±3	22±2**
ANF (fmol/ml)	4.6±2.9	7.1±5.7*	2.7±1.5	12.1±6.3**

**p<0.001, *p<0.05 (basal vs volume expansion)

RA pressure (p<0.001) and ANF levels (p<0.05), but not PA and wedge pressures, were higher at baseline in pts with RV involvement. This ANF level exceeded the normal value of our laboratory (1.7±0.9 fmol/ml). After volume expansion, RA pressure was still higher in pts with RV involvement, and PA and wedge pressures were still similar in the 2 groups. In spite of this greater stimulus for ANF release, the increase in ANF was less in pts with RV involvement (2.5±3.9 vs 9.4±5.9, p<0.001), due in part to 5 pts with RV involvement and supraventricular tachyarrhythmias who had no increase.

Thus, pts with RV involvement had elevated basal ANF levels but showed an attenuated ANF response to volume expansion.

EFFECT OF CARDIAC HISTORY UPON THE ACCURACY OF ACUTE MYOCARDIAL INFARCTION DIAGNOSIS BY ELECTROCARDIOGRAM IN CANDIDATES FOR OUT-OF-HOSPITAL THROMBOLYSIS.

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The effect of a prior cardiac history (PMH) of angina, previous myocardial infarction, heart failure or bypass surgery upon the ECG diagnosis (DX) of acute myocardial infarction (AMI) was evaluated in 792 candidates (PTS) for out-of-hospital thrombolytic therapy. ECGs were acutely obtained by paramedics at the scene, within 6 hours of chest pain onset. ECGs were interpreted immediately by computer (Marquette 12SL analysis program) and reviewed by 2 electrocardiographers (MD) who were blinded to PTS identity and computer DX. MD criteria for possible AMI were ≥1mm ST elevation in 2 contiguous ECG leads. Both MD and computer interpretations were compared to the hospital discharge DX. Results:

	PMH Present		PMH Absent	
AMI	MD	Computer	MD	Computer
Sensitivity	48%	28%	73%	49%
Specificity	94%	99%	96%	99%

Regardless of PMH, MD sensitivity for AMI was consistently higher than the computer (p<.03); while MD specificity was lower than the computer (p<.01). Both MD and computer sensitivity declined markedly in PTS with vs. those without PMH (p<.007), whereas specificity for AMI did not appreciably change with PMH (p>.4). MD and computer DX are both consistently highly specific for AMI, but far less sensitive when PMH is present.

ALTERATION OF NEUTROPHIL FUNCTION IN MYOCARDIAL INFARCTION IMMEDIATELY AFTER SUCCESSFUL RECANALIZATION OF THE INFARCT RELATED VESSEL BY ANGIOPLASTY.

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To investigate changes in neutrophil (PMN) function in the early phase of acute myocardial infarction (MI), 8 pts with anterior myocardial infarction were examined, who underwent angioplasty (PTCA) of the infarct related occlusion of the left anterior descending coronary artery within 2 to 4 hours after onset of symptoms. A control group included 10 pts with stable angina undergoing routine PTCA of the left anterior descending coronary artery. In both groups blood samples were obtained through the guiding catheter and from the PA before and immediately after successful PTCA. After PTCA in MI significant (p<0.05) changes in PMN parameters were found in the PA: As compared to the values before PTCA, f-Met-Leu-Phe (10^{-7} mol/l) stimulated superoxide anion production (cytochrome C reduction) rose by 45%±22%, proportion of activated neutrophils (nitrobluetetrazolium test) by 23%±18%, and chemotaxis (microwell chamber) by 56%±23%, while passive deformability (filterability) decreased by 15%±11%. Plasma from the PA after PTCA was by 78%±31% (p<0.05) more chemoattractive to neutrophils from normal donors than that before PTCA. No significant changes in PMN parameters were found in the arterial blood, nor was there a significant difference between AO and PA before PTCA. Neither, did the control group show any significant changes in PMN function. The study indicates a release of chemoattractive substances in the ischemic and reperfused myocardium of early MI which is associated with PMN activation.

Wednesday, March 21, 1990
Poster Displayed: 2:00PM–5:00PM
Author Present: 2:00PM–3:00PM
Hall C, New Orleans Convention Center
Cardiac Transplantation: Basic and Clinical

UNACCEPTABLE RISK OF SUDDEN DEATH WITHOUT TRANSPLANTATION IF LOW EJECTION FRACTION IS DUE TO CORONARY ARTERY DISEASE

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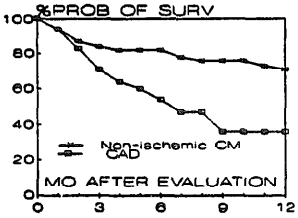
Although transplantation (Ctx) has been recommended for pts with ejection fractions (EF) ≤20%, donor heart shortage limits Ctx. While critical status inpts receive highest priority, outpts are ordered only by waiting time. Identification of outpts at high risk for early death may influence Ctx priority and interim medical Rx. Survival without Ctx was analyzed for ischemic (CAD) or non-ischemic etiology and hemodynamic parameters for 152 pts with EF≤20%, discharged on tailored therapy after Ctx evaluation.

When 56 CAD pts were compared to 96 non-CAD pts, initial EF and age were higher (16 vs 14% and 51 vs 41 yrs, both p < 0.001), but both groups had mean initial CI 2.0L/min/m², pulmonary wedge pressure 28mm, RA pressure 13mm, and LV diameter 76mm.



However 1 yr survival for CAD pts was only half that for nonCAD pts (p=0.005 Mantel-Cox). In both groups, 80% of deaths were sudden. After etiology, the only independent variable predicting sudden death was the final pulmonary wedge pressure on therapy (p=.001), which was >16 mmHg in 59% of CAD pts vs 42% nonCAD pts(p=.05).

Ctx candidates with EF ≤20% due to CAD have twice the sudden death risk of nonCAD pts, and may need earlier Ctx.