

75% in the no-treatment arm (p=0.04). (2) Secondary end points: Death at one week was 23% in the L-NMMA arm vs. 75% in the no-treatment arm (p=0.01). Unaugmented mean arterial blood pressure (MAP) at 24 hours was 80±17 mmHg in the L-NMMA arm vs. 66±13 mmHg in the no-treatment arm (p=0.04). MAP increased by 20±17 mmHg vs. 2.5±10 mmHg respectively (p=0.005). Urine output at 24 hours was 223±88 cc/hour in the L-NMMA arm vs. 119±93 cc/hour in the no-treatment arm (p=0.01). Urine output increased by 141±81 cc/hour in the L-NMMA arm vs. -11±93 cc/hour in the no treatment arm (p=0.001). Time on IABP was 59±56 hours in the L-NMMA arm vs. 90±56 hours in the no treatment arm (p=0.15). Time on mechanical ventilation was 73±51 hours and 121±53 hours respectively (p=0.03).

Conclusion: From these preliminary results it seems that L-NMMA is beneficial in the treatment of patients in refractory cardiogenic shock.

3:15 p.m.

862-6 Electrocardiographic Left Ventricular Hypertrophy Is Associated With Mortality and Left Ventricular Rupture in Patients With Acute Myocardial Infarction

David S. Marks, Surendra B. Gudapati, James F. Kleczka, Sabina A. Murphy, Christopher P. Cannon, Eugene Braunwald, C. M. Gibson, *Medical College of Wisconsin, Milwaukee, Wisconsin, Harvard Medical School, Boston, Massachusetts.*

Background: Left ventricular hypertrophy (LVH) is a potent predictor of cardiovascular events, particularly in the presence of coronary artery disease. The impact of LVH in patients with acute myocardial infarction is incompletely understood.

Methods: The data sets of TIMI 10B and TIMI 14 were pooled. Electrocardiograms were classified as LVH present (n=191), LVH absent (n=1,250), or uninterpretable (n=91). Multivariate analysis was performed to examine 30 day mortality, TIMI flow, and cause of death.

Results: Patients with electrocardiographic LVH compared to LVH absent were older (60.5 vs 58.3 years; p=0.01), black race (13.4 vs 4.1%; p<0.001), and experienced an anterior MI (42.2 vs 33.7%). Death (6.25 vs 3.1%; p=0.029) and the composite death/MI/failure/shock (12.5 vs 8.1%; p=0.04) were increased in the LVH group. Angiographic characteristics including TIMI flow did not differ between groups. The LVH group died frequently from ventricular rupture compared to LVH absent (33.3 vs 7.8%; p=0.04). Patients with uninterpretable electrocardiograms had the highest mortality (9.9%) with no increase in ventricular rupture (11.1%).

Conclusions: In patients treated with lytic reperfusion therapy, the presence of electrocardiographic LVH portends a significantly worse outcome, independent of coronary blood flow. Moreover, these patients died more frequently from ventricular rupture compared to patients without LVH. Further investigation is required to determine the mechanism of increased mortality and the increased incidence of ventricular rupture.

POSTER SESSION

1192 Novel Approaches to Minimize Myocardial Ischemia

Tuesday, March 19, 2002, 3:00 p.m.-5:00 p.m.
Georgia World Congress Center, Hall G
Presentation Hour: 4:00 p.m.-5:00 p.m.

1192-31 An Intramyocardial Implant System Suitable for Sustained-Release Delivery to Ischemic Myocardium

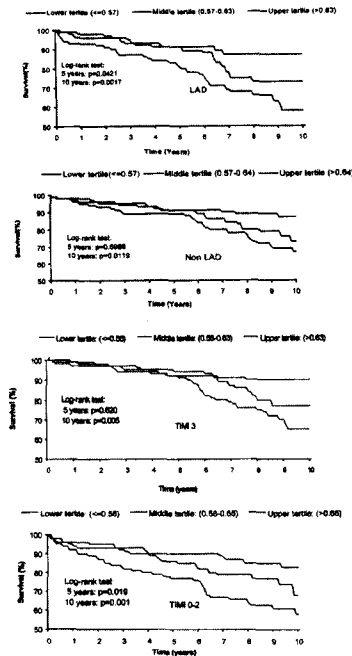
Takafumi Ueno, Keith A. Robinson, Jianhua Cui, Jennifer J. Fitzgerald, David M. Hoganson, John E. Nash, Nicolas Chronos, *Atlanta Cardiovascular Research Institute, Norcross, Georgia, Kensey Nash Corporation, Exton, Pennsylvania.*

Background: Current techniques for local treatment of diseased myocardium with drugs or genes do not allow sustained release. A bioabsorbable polymer implant system was tested for local tissue reaction and potential utility to deliver therapeutic agents. **Methods:** Normal juvenile pigs (n=3); and juvenile (n=13) and adult Yucatan (n=12) pigs with chronic myocardial ischemia induced by coronary ameroid constriction received braided polylactide/polyglycolide implants (average 12 implants) or sham therapy by direct injection implantation into the left ventricular free wall via thoracotomy. Responses to implant and sham injections were evaluated by dobutamine stress echocardiography (DSE), coronary angiography, microsphere-based blood flow measurement, histology, and histomorphometry. **Results:** Implantation was readily achieved without significant bleeding using the prototype system. Absorption of implants was nearly complete by 3 mo, via histiolympocytic and fibrotic reaction accompanied by local neovascularization. In the ameroid study, 3 pigs died after ameroid placement, 2 after baseline DSE, and 2 after intramyocardial injection procedures. There were no differences between sham-injected or implanted pigs (juvenile at 1 mo, or Yucatan at 3 mo) in regional wall motion scores on DSE, % stenosis or collateral scores by angiography, or in myocardial blood flow at rest or cardiac pacing. However, pigs receiving implants in the ischemic zone had increased capillary density compared to those receiving sham injection in epicardial (597±103 vs 460±167/mm², P=0.05) and tendency in endocardial (675±183 vs 489±210/mm², P=0.06) regions. Curiously, this effect also involved the adjacent non-ischemic non-injected myocardium (586±138 vs 403±164/mm², P=0.02 in epicardium; 617±188 vs 427±222/mm², trend at P=0.08 for endocardium). **Conclusions:** A novel intramyocardial absorbable implant does not impair cardiac function after implant in chronically ischemic tissue, and is associated with increased angiogenesis. This system may be useful for localized sustained-release delivery of conventional drugs or gene-based molecular therapies in treatment of chronic myocardial ischemia.

1192-32 Increasing Left Ventricular Sphericity Is Associated With Decreased Survival Even in Patients With TIMI-3 Flow or Inferior Infarction

Selwyn P. Wong, John K. French, Wanzhen Gao, Harvey D. White, *Green Lane Hospital, Auckland, New Zealand.*

Background: Following acute myocardial infarction (MI), left ventricular (LV) function and volumes are closely associated with late survival, though there is little data on the relationship between LV sphericity and late survival. **Method & Results:** To examine the association between late survival and LV sphericity, assessed on biplane contrast ventriculography at 3 weeks, we studied 767 patients presenting with electrocardiographic ST-segment elevation within 4 hours of symptom-onset who were enrolled in 3 trials of thrombolytic and adjunctive therapies. When both ventricular volumes and regional wall motion were normal, median biplane LV sphericity index was 0.56 (interquartile range 0.51-0.60), determined as the average ratio of the short to long axes in the right and left anterior oblique projections. Decreased survival was associated with increasing LV sphericity even in patients with TIMI 3 flow or inferior infarction (Fig). Independent multivariate predictors of decreased 10 year survival were lower ejection fraction (P=0.002), decreased treadmill exercise duration (P=0.04), increasing sphericity index (P=0.032), increased age (P=0.043), and increased end-systolic volume index (P=0.047) but not TIMI flow grade or infarct-related artery. **Conclusion:** The simple biplane LV sphericity index of the ratios of the minor to major axis predicts late survival in patients with TIMI 3 flow or inferior MI.



1192-33 Thrombolytic Fibrin Specificity Influences Activated Partial Thromboplastin Time Prolongation

James P. Tsikouris, Kenneth C. Jackson, II, Craig D. Cox, Gary E. Meyerrose, Jose A. Diaz, Charles F. Seifert, *Texas Tech University Health Science Center, Lubbock, Texas.*

Despite limited clinical trial evidence, current guidelines suggest the same unfractionated heparin (UFH) dosing for all fibrin specific thrombolytic agents used for acute myocardial infarction (AMI). Since excessive aPTT prolongation correlates with bleeding and mortality, clarifying the effects of various fibrin specific agents on the aPTT is needed. Alteplase (rt-PA) is slightly more fibrin specific than reteplase (r-PA), and tenecteplase (TNK) is exceedingly more fibrin specific than rt-PA and r-PA. **Methods:** We treated blood samples from healthy volunteers (n=12) with equipotent concentrations of rt-PA (4 mcg/ml), r-PA (4.2 mcg/ml), or TNK (8.6 mcg/ml), with and without UFH (0.3 U/ml). Each treatment group samples - rt-PA alone, r-PA alone, TNK alone, UFH, UFH + rt-PA, UFH + r-PA, UFH + TNK - were incubated at simulated body temperature, with aPTT and fibrinogen measured after 4 hours. Data were analyzed using repeated measures ANOVA with Bonferroni t-test and Pearson correlation. Mean aPTT values for rt-PA alone and r-PA alone were significantly prolonged compared to TNK alone, which were in the normal range for 11 of 12 patients (85 vs. 62 vs. 32 secs, respectively, p=0.001 for both). rt-PA alone prolonged the aPTT to a greater extent than r-PA alone (p<0.02). Combined with UFH, rt-PA and r-PA significantly increased the aPTT vs. UFH alone (234 and 228 vs. 187 secs, p<0.02 for both). Interestingly, UFH + TNK significantly reduced the aPTT vs. UFH alone (137 vs. 187 secs, respectively, p<0.001). This finding was consistent for all 12 patients. A significant correlation existed between decreasing fibrinogen and increasing aPTT for all treatments (p<0.05), except TNK alone, which minimally reduced fibrinogen vs. UFH alone. This relative comparison shows that an agent with maximal fibrin specificity (TNK) is unlikely to prolong the aPTT, while less fibrin specific agents have a greater propensity to prolong the aPTT with and without UFH. Also, TNK attenuates the