1001 Improving Outcomes in Acute Myocardial
Ischemia

Sunday, March 30, 2003, 9:00 a.m.-11:00 a.m.
McCormick Place, Hall A
Presentation Hour: 9:00 a.m.-10:00 a.m.

1001-106 Early Use of Beta-Blockade in Complicated Myocardial
Infarction: The VALIANT Trial

Robert M. Califf, Marc A. Pfeffer, John J. McMurray, Aldo P. Maggioni,
Jean-Lucien Rouleau, Lars Kober, Frans J. Van der Weel, Jeffrey L. Lemberger, Marc
Henis, Susan Edwards, Mary Ann Sellers, Helmut Dixler, Jiri Kvasnicka, Jiri Spac,
Marin Myers, Eric J. Velanich, Duke Clinical Research Institute, Durham, NC;
Brigham & Women's Hospital, Boston, MA

Background: The early use of beta-blockers (BB) in myocardial infarction (MI) compli-
cated by left ventricular dysfunction (LVD) or heart failure (HF) has been controversial,
especially with intensive blockade of the renin-angiotensin system (RAS).

Methods: The VALIANT trial randomized 14,806 patients with acute MI and HF/LVD to
catiopril, captopril, or both. The use of BB was not mandated. We divided patients by
BB use at randomization (median 4.8 days post-MI) and compared baseline factors and
covariates.

Results: The BB-treated patients (n=10,390; 70%) were younger and tended to be in a
lower Killip class. Mortality 30 days after enrollment was lower in those treated with BB,
even after adjusting for a risk model in the population (hazard ratio 0.74; 95% CI 0.63-
0.88).

Conclusions: Although the trial did not mandate the use of BB, the rate of use was high
and associated with lower mortality, even with high-intensity blockade of RAS.

Characteristics and Outcomes by BB Use at Randomization

<table>
<thead>
<tr>
<th>Variable (median or %)</th>
<th>BB (n=10,390)</th>
<th>No BB (n=4412)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, y</td>
<td>64</td>
<td>69</td>
</tr>
<tr>
<td>Male sex</td>
<td>70</td>
<td>66</td>
</tr>
<tr>
<td>Prior MI</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>Prior HF</td>
<td>91</td>
<td>97</td>
</tr>
<tr>
<td>Blood pressure, mm Hg</td>
<td>120/70</td>
<td>120/70</td>
</tr>
<tr>
<td>Anterior MI</td>
<td>61</td>
<td>55</td>
</tr>
<tr>
<td>Killip class =I</td>
<td>68</td>
<td>62</td>
</tr>
<tr>
<td>Ejection fraction, %</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td>Heart rate, bpm</td>
<td>74</td>
<td>60</td>
</tr>
<tr>
<td>Stroke</td>
<td>0.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Mortality</td>
<td>3.0</td>
<td>6.5</td>
</tr>
</tbody>
</table>

1001-107 Effect of Gender on Strategies for Revascularization for
Cardiogenic Shock

Anette D. Kugelmas, Michael Mack, Sameer Mehta, Lynn G. Tarkington, Salvatore
Battaglia, April W. Simon, Stanton D. Cutler, Edmund R. Backer, Emory University,
Atlanta, GA; Henry Ford Health System, Detroit, MI

Background: Mortality of patients with cardiogenic shock (CS) complicating acute myo-
cardial infarction (AMI) remains markedly elevated. This study assesses the effect of
gender and revascularization on in-hospital survival. Method: The HCA Casemix Data-
base, a dataset on all patients discharged from the 195 HCA Hospitals for the period Jan-
uary 1998 through March 2001, was analyzed. The sample consisted of 6,615 male and
2,991 female CS patients with a primary diagnosis of AMI. Logistic regression techniques
were used to determine if the type of revascularization treatment (no intervention or con-
servative therapy, thrombolytic only, PCI only, CABG only, or any combination of these
therapies) CS patients received was associated with an increased mortality (male patients
receiving conservative therapy as the reference).

Results: Male CS patients averaged 72 years of age and had higher rates of CPFRD,
smoking, chronic liver disease, prior MI, and conduction disorders. Female CS patients
were older (75 years) and had higher incidence of diabetes, chronic renal failure, PVD,
and hypertension. Below are the odds ratios for mortality after adjusting for age and
comorbidity. Conclusions: After risk adjustment, all reperfusion and revascularization
strategies confer substantial survival advantage (p<0.02) for both male and female CS
patients. Our data suggests that gender should not prevent utilization of thrombolytic
or revascularization therapy in AMI complicated by cardiogenic shock.

1001-108 Increased Risk of Adverse Outcomes With Proximal
Culprit Artery Lesions in Acute Myocardial Infarction

Johanna Kuhn, Sabrina A. Murphy, Ajay J. Kirtane, Christopher P. Cannon, Elliott M.
Antman, C. Michael Gibson, The TIMI Study Group, Brigham & Women's Hospital,
Boston, MA

Background: Reduced flow and left anterior descending (LAD) artery culprit location
have been associated with poorer outcomes following thrombolytic administration. We
hypothesized that culprit lesion location in the proximal portion of the culprit artery would
also result in poorer clinical outcomes compared to a distal location.

Methods: Lesion location and clinical outcomes were evaluated in 2,536 patients from the
TIMI 4, 10A, 10B, and 14 trials.

Results: The majority of culprit lesions (76.4%, 1,967/2,536) were located proximally.
Proximal lesions (lesions before or at the second major branch) were associated with a
higher incidence of in-hospital death or recurrent myocardial infarction (MI) when com-
pared to distal lesions (7.3% (144/1988) vs. 4.3% (237/549), p=0.01), and they tended to
be associated with a higher rate of in-hospital death (9.1% (182/1986) vs. 2.9% (14/549),
p=0.066). In a multiple logistic regression model, the presence of a proximal lesion
increased a patient's risk of death or MI (O.R. 1.8, p=0.04, after adjustment for LAD loca-
tion, ejection fraction and multivessel disease). In a quantitative analysis, the planimetered
distance from the ostium to the LAD culprit lesion was shorter in patients who died or
experienced recurrent MIs within 30 days (3.0 cm vs. 3.8 cm, p=0.011). This pattern was not
evident for right coronary artery (RCA) or circumflex culprit vessels. In a multiple
logistic regression model, the distance from the ostium to the LAD culprit lesion was
associated with 30-day death or recurrent MI (O.R. 0.79 per cm increase in distance
down the artery, p=0.008).

Conclusions: Independent of TIMI grade 3 flow and LAD location, a proximal culprit lesion location is also associated with an increased risk of adverse outcomes following thrombolytic administration, possibly due to a larger area of
myocardium subtended.

1001-109 Higher Platelet Counts Are Associated With Greater
Thrombus Burden in Patient Arteries Following
Thrombolytic Administration: A TIMI Angiographic
Substudy

C. Michael Gibson, Sabrina A. Murphy, Graham C. Wong, Elliott M. Antman, Susan J.
Marble, Rural Kalapanda, Nicole Kraimer, Rosemary Markovic, Christopher P. Cannon, TIMI
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Background: While dosing of many drugs is adjusted to a patient's weight, little attention
has focused on variations across patients in the platelet count (plt). Methods: Data were
obtained from 2,917 patients enrolled in the TIMI 4, 10A, 10B, 14 and 20 trials of ST ele-

terolysis of myocardial infarction (STEMI). Core laboratory angiographers were blinded to
hematologic data. Results: Baseline platelet counts were higher in females and in pts <
age 65 (p<0.0001, Table). Platelet counts were higher in patients with thrombus present
(p<0.0002, Table) but did not differ by patency at 60 minutes following thrombolysis
(thrombus=0.45 vs. without thrombus=0.40, Table). There was no difference in hematocrit by
location, a proximal culprit lesion location is also associated with an increased risk of
adverse outcomes following thrombolytic administration, possibly due to a larger area of
myocardium subtended.

Platelet Count

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Characteristic Present</th>
<th>Characteristic Absent</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>median = 263.5K, n=688</td>
<td>median = 237K, n=2229</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Age &lt;65</td>
<td>median = 250K, n=1944</td>
<td>median = 232K, n=941</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>TFG 2/3</td>
<td>median = 244K, n=1240</td>
<td>median = 245K, n=376</td>
<td>0.41</td>
</tr>
<tr>
<td>Thrombus</td>
<td>median = 249K, n=942</td>
<td>median = 241K, n=1807</td>
<td>0.0002</td>
</tr>
</tbody>
</table>