and do not necessarily represent the official views of the Centers for Disease Control and Prevention, the National Institutes of Health, or the Arkansas Biosciences Institute.

REFERENCES


Relationship Between Patient’s Risk Profile and Benefits in Mortality From Adjunctive Abciximab to Mechanical Revascularization for ST-Segment Elevation Myocardial Infarction: A Meta-Regression Analysis of Randomized Trials

To the Editor: Adjunctive abciximab has been shown to reduce mortality in patients undergoing mechanical revascularization for ST-segment elevation myocardial infarction (STEMI) (1). The goal of this study was to investigate, by the use of a meta-regression analysis of randomized trials, whether the benefits in mortality have been shown mostly in trials enrolling patients are commonly enrolled in randomized trials, whereas highly selected non-high-risk patients are commonly enrolled in randomized trials, whereas benefits in mortality have been shown mostly in trials enrolling high-risk patients. In fact, by using a meta-regression analysis, a direct correlation was found between the patient’s risk profile and the benefits from abciximab administration in terms of long-term survival.

The main finding of this meta-analysis is that the mortality benefits of adjunctive abciximab therapy to mechanical revascularization for ST-segment elevation myocardial infarction are related to the patient’s risk profile.

Table 1. Characteristics of Randomized Trials Included in the Meta-Analysis

<table>
<thead>
<tr>
<th>Study Period</th>
<th>n</th>
<th>Study-Drug Design (Number of Patients)</th>
<th>Long-Term Mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAPPORT (1)</td>
<td>1995–1997</td>
<td>483 Abciximab* (n = 241) vs. placebo (n = 242)</td>
<td>4.1 4.5 0.83</td>
</tr>
<tr>
<td>ADMIRAL (2)</td>
<td>1997–1998</td>
<td>300 Stenting + abciximab* (n = 151) vs. placebo (n = 149)</td>
<td>3.4 7.3 0.13</td>
</tr>
<tr>
<td>CADILLAC (3)</td>
<td>1997–1999</td>
<td>2,082 Abciximab* + stent (n = 524) or balloon (n = 528) vs. control + stent (n = 512) or balloon (n = 518)</td>
<td>4.2 4.4 0.83</td>
</tr>
<tr>
<td>ISAR-2 (4)</td>
<td>1997–1998</td>
<td>401 Stenting (n = 200) vs. abciximab* + stenting (n = 201)</td>
<td>6.0 8.5 0.33</td>
</tr>
<tr>
<td>Petronio et al. (5)</td>
<td>1998–2000</td>
<td>89 Abciximab* (n = 44) vs. placebo (n = 45)</td>
<td>4.5 13.3 0.15</td>
</tr>
<tr>
<td>Zorman et al. (6)</td>
<td>1998–2001</td>
<td>163 Early (n = 56) vs. late (postangiography; n = 56)</td>
<td>4.5 13.7 0.036</td>
</tr>
<tr>
<td>ACE (7)</td>
<td>2001–2002</td>
<td>400 Stenting (n = 200) vs. abciximab* + stenting (n = 200)</td>
<td>5.0 10.5 0.04</td>
</tr>
</tbody>
</table>

Figure 1. Fixed-effect meta-regression analyses for the log-odds ratio (ln OR) on mortality (expressed as odds) of the control group at 6- to 12-month follow-up. Negative values of the ln OR (y axis) mean more benefits in mortality associated with abciximab administration, whereas the mortality rate of the control group (x axis) represents the risk profile of the patient population included in each trial. The size of the circle corresponds to the inverse variance of the log-odds ratio, and thus is related to the statistical weight of the study.

mortality. Furthermore, several non-randomized studies have shown significantly better survival in patients with cardiogenic shock treated with primary angioplasty and abciximab (4).

Recent investigations have shown that time to treatment is a relevant issue in primary angioplasty and has a significant impact on mortality (5). Therefore, early administration of pharmacologic therapy may improve earlier reperfusion with subsequent smaller infarct size and better clinical outcome, particularly in high-risk patients and when long-distance transportation is required. In the majority of the trials, abciximab was given just before the angioplasty procedure. Only a few and small randomized trials have been conducted so far to investigate the role of early abciximab administration during transportation. Data from large ongoing randomized trials hopefully will clarify this relevant issue, particularly in high-risk patients.

This meta-analysis shows a direct correlation between the patient's risk profile and the benefits in mortality from abciximab administration as an adjunctive therapy to mechanical revascularization for STEMI. Thus, adjunctive abciximab should be considered in primary angioplasty, particularly in high-risk patients, that may be identified by the use of validated risk scores for STEMI (6).

*Giuseppe De Luca, MD
Division of Cardiology
Federico II University
Via A. Pansini, 5
80131 Naples
Italy
E-mail: p.de.luca@libero.it

Harry Suryapranata, MD
Gregg W. Stone, MD
David Antoniucci, MD
James E. Tcheng, MD
Franz-Josef Neumann, MD
Erminio Bonizzi, PhD
Eric J. Topol, MD
Massimo Chiariello, MD


REFERENCES


To the Editor: Becker muscular dystrophy (BMD) is an allelic X-linked recessive disorder characterized by an in frame deletion encompassing one or more exons of the dystrophin gene, with a large phenotypic spectrum, ranging between severe childhood-onset muscular disease to asymptomatic cases. Cardiac involvement (leading to cardiomyopathy and heart failure) is frequent, age-dependent, and unpredictable (1). Since there is no direct relationship between severity of skeletal and cardiac involvement, cardiomyopathy frequently develops in patients with normal skeletal muscle function (2).

Recently, we showed that ultrasound tissue characterization (UTC) of myocardium is able to detect widespread signs of cardiac involvement even in Duchenne muscular dystrophy (DMD) children with normal electrocardiographs (ECGs) and left ventricular systolic function (3). This surprising observation lead to the hypothesis that UTC may be a useful tool in assessing early myocardial involvement in patients with other genetic diseases causing structural changes of myocardium (4). To further explore this hypothesis, we performed UTC analysis in a group of 34 BMD patients with no cardiac symptoms (ages 4 to 33 years, mean 17 ± 10 years), all with normal ECGs, left ventricular diastolic and systolic function, and segmental wall motion at baseline two-dimensional echocardiography, and in 34 healthy age-matched control subjects. The diagnosis of BMD was confirmed by muscular biopsy in all cases. None of the patients was under pharmaco-logical treatment.