Abciximab plus stenting reduced coronary events in patients with acute myocardial infarction

QUESTION

In patients with acute myocardial infarction (MI), is abciximab plus stenting more effective than placebo plus stenting for reducing coronary events?

DESIGN

Randomized (unclear allocation concealment*), blinded (clinicians, patients, and outcome assessors),* placebo-controlled trial with 6-month follow-up.

SETTING

26 centers in France.

PATIENTS

300 patients (mean age 61 y, 82% men) who were > 18 years of age, had had the first symptoms of MI within 12 hours before enrollment, and had ST-segment elevation of > 1 mm in ≥ 2 contiguous electrocardiographic leads. Exclusion criteria were bleeding diathesis; administration of thrombolytic agents for the current episode; neoplasm; recent stroke; uncontrolled hypertension; recent surgery; oral anticoagulant therapy; limited life expectancy; child-bearing potential; and known contraindications to aspirin, ticlopidine, or heparin. Follow-up was 100%.

INTERVENTION

149 patients were allocated to abciximab (bolus of 0.25 mg/kg of body weight, followed by a 12-hour infusion of 0.125 µg/kg per min) plus stenting (the treatment group); 151 patients were allocated to placebo plus stenting (the control group).

MAIN OUTCOME MEASURES

The main outcome was a composite of death, reinfarction, or urgent revascularization of the target vessel at 30 days. The major secondary outcome was a composite of death, reinfarction, or any revascularization at 30 days and at 6 months.

MAIN RESULTS

Analysis was by intention to treat. At 30 days, the incidence of the composite end point of death, reinfarction, or urgent target-vessel revascularization and the incidence of the composite end point of death, reinfarction, or any revascularization were lower in the treatment than in the control group (Table). At 6 months, the incidence of the composite end point of death, reinfarction, or any revascularization was lower in the treatment than in the control group (Table).

CONCLUSION

In patients with acute myocardial infarction, abciximab plus stenting was more effective than placebo plus stenting for reducing coronary events.

*See Glossary.

Abciximab plus stenting vs placebo plus stenting for acute myocardial infarction†

Outcomes	Abciximab	Placebo	RRR (95% CI)	NNT (CI)
Composite 1‡ at 30 d	6%	15%	59% (15 to 80)	12 (7 to 59)
Composite 2‡ at 30 d	12%	21%	41% (1 to 65)	12 (6 to 1421)
Composite 2 at 6 mo	23%	34%	32% (3 to 53)	10 (5 to 135)

†Abbreviations defined in Glossary; RRR, NNT, and CI calculated from data in article.
‡Composite 1 = death, reinfarction, or urgent target-vessel revascularization; composite 2 = death, reinfarction, or any revascularization.

COMMENTARY

Equipped with the knowledge that platelet glycoprotein IIb/IIIa inhibitors decrease ischemic complications in patients having elective percutaneous coronary intervention (PCI) with or without stenting, Montalescot and colleagues have successfully designed, implemented, and completed a trial testing whether treatment with abciximab before primary PCI and stenting also decreased postprocedure ischemic complications. Abciximab or placebo was administered early in > 25% of the patients in the mobile intensive care unit before hospital arrival or in the emergency room. The result was a substantial relative risk reduction (RRR) of 59% in the primary outcome (composite of death, reinfarction, or urgent target-vessel repeated PCI at 30 d) and a 41% RRR in other prespecified outcomes at 30 days (death, reinfarction, or any revascularization) and a 32% RRR at 60 days. Serial diagnostic catheterizations (up to 4 separate studies at up to 6 mo from randomization) showed a greater proportion of patients with TIMI grade-3 flow in the abciximab group both before and after PCI and a more rapid and persistent improvement in left ventricular function, possibly consistent with the "open-artery" hypothesis.

The major effect of the results of this study is best illustrated in Boden and McKay's algorithm for the treatment of acute coronary syndromes that accompanies their editorial (1). For ST-segment elevation and high risk, this algorithm includes aggressive therapy with anti-ischemic agents, antiplatelet agents, and an antithrombin. If a catheterization laboratory is available, then primary PCI with stenting and abciximab should be provided. If interventional facilities are not available, then infusion of a fibrinolytic agent should be given with or without a glycoprotein IIb/IIIa inhibitor. If a center has the expertise to treat ST-segment elevation MI with primary angioplasty, evidence now exists that patients will do better if pretreated with abciximab.

Busy clinicians may now include abciximab therapy with catheter-based revascularization for the treatment of ST-segment elevation MI.

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Reference

1. **Boden WE, McKay RG.** Optimal treatment of acute coronary syndromes—an evolving strategy. N Engl J Med. 2001;344:1939-42.