

# Abciximab and stenting reduced death, myocardial infarction, and repeated revascularization in coronary revascularization

Lincoff AM, Califf RM, Moliterno DJ, et al., for the Evaluation of Platelet IIb/IIIa Inhibition in Stenting Investigators. Complementary clinical benefits of coronary-artery stenting and blockade of platelet glycoprotein IIb/IIIa receptors. *N Engl J Med.* 1999 Jul 29;341:319-27.

## QUESTION

In patients undergoing percutaneous coronary revascularization, what are the comparative 6-month mortality and morbidity rates with use of stent implantation alone, stent implantation with abciximab, or angioplasty with abciximab?

## DESIGN

Randomized (allocation concealed\*), blinded (outcome assessor)\*, placebo-controlled trial with 6-month follow-up.

## SETTING

63 centers in the United States and Canada.

## PATIENTS

2399 patients {mean age 60 y, 75% men}† who were scheduled for percutaneous coronary revascularization, had ≥ 1 target lesion suitable for treatment by stenting or angioplasty, and were not having intervention for acute myocardial infarction (MI). Follow-up was 98%.

## INTERVENTION

Patients were allocated to stent and placebo ( $n = 809$ ), stent and abciximab ( $n = 794$ ), or angioplasty and abciximab ( $n = 796$ ).

## MAIN OUTCOME MEASURES

Death or MI and repeated target-vessel revascularization.

## MAIN RESULTS

Analysis was by intention to treat. At 6 months, the composite outcome of death or MI was lower in the stent and abciximab ( $P < 0.001$ ) and angioplasty and abciximab ( $P < 0.01$ ) groups than in the stent and placebo group (Table). The 2 abciximab groups did not differ ( $P = 0.07$ ). The rate of repeated revascularization of the target vessel was lower in the stent and abciximab group than in the angioplasty and abciximab group ( $P < 0.001$ ) and was higher in the angioplasty and abciximab group than

in the stent and placebo group ( $P < 0.005$ ) (Table).

## CONCLUSION

In patients having coronary revascularization, abciximab reduced death and myocardial infarction, and stenting decreased repeated target-vessel revascularization.

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For correspondence: Dr. A.M. Lincoff, Department of Cardiology, Desk F25, Cleveland Clinic Foundation, Cleveland, OH 44195, USA. FAX 216-444-8050.

\*See Glossary.

†Data provided by author.

## Outcomes at 6 mo for comparison regimens during percutaneous coronary revascularization‡

Outcomes	Comparison regimens	Event rates	RRR (95% CI)	NNT (CI)
Death or myocardial infarction	Stent and AB vs stent and placebo	6% vs 11%	51% (31 to 65)	17 (12 to 32)
	Angioplasty and AB vs stent and placebo	8% vs 11%	32% (7 to 50)	28 (15 to 141)
Repeated TVR	Stent and AB vs angioplasty and AB	9% vs 15%	43% (25 to 57)	15 (10 to 30)
			RRI (CI)	NNH (CI)
Repeated TVR	Angioplasty and AB vs stent and placebo	15% vs 10%	46% (12 to 89)	21 (12 to 67)

‡AB = abciximab; TVR = target-vessel revascularization. Other abbreviations defined in Glossary; RRR, RRI, NNT, NNH, and CI calculated from data in article.

## COMMENTARY

The Evaluation or Prevention of Ischemic Complications (EPIC) (1) and Evaluation of PTCA to Improve Long-term Outcomes with Abciximab (EPILOG) (2) trials have shown that coronary balloon angioplasty used with abciximab reduces the risk for emergency reintervention and periprocedural MI less than angioplasty and high-dose heparin alone. Since 1998, however, > 70% of coronary interventions have involved elective placement of a stent.

Lincoff and colleagues have completed the largest trial comparing abciximab and angioplasty with elective coronary stenting. It shows that patients receiving stent therapy with adjunctive abciximab are less likely to have a periprocedural MI than those receiving heparin alone. Periprocedural MI is associated with increased long-term mortality (3). This trial shows a reduction in mortality with abciximab therapy among patients receiving a stent.

Another major finding is that stent placement in complex lesions reduces subsequent clinical restenosis requiring reintervention more than angioplasty. Further, patients with diabetes mellitus who

received abciximab and a stent had a lower rate of angiographic or clinical restenosis than those treated with stent alone.

Further analysis and economic data are needed to determine whether the incremental cost of adjunctive abciximab with elective stenting is worth the incremental benefit. The 1-year mortality data and preliminary analyses show that adjunctive abciximab with elective stenting has a cost-effectiveness ratio superior to that of most widely accepted cardiovascular therapies (4).

William B. Hillegass, MD, MPH  
Satyam Tatineni, MD  
The Heart Group  
Evansville, Indiana, USA

## References

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3. Califf RM, Abdelmeguid AE, Kuntz RE, et al. *J Am Coll Cardiol.* 1998;31:241-51.
4. Hillegass WB, Newman AR, Raco DL. *Pharmacoeconomics.* [In press].