Abciximab: a new antiaggregant used in angioplasty

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Authors' objectives
To review the scientific literature on the pharmacology and clinical uses of abciximab.

Searching
MEDLINE, Index Medicus, and bibliographies were searched for English language articles pertaining to abciximab, 7E3, m7E3, and c7E3. Unpublished data was also obtained from the Eli Lilly company.

Study selection
Study designs of evaluations included in the review
Controlled trials using abciximab at FDA (Food and Drug Administration)-approved doses were included.

Specific interventions included in the review
Abciximab used to prevent reocclusion in percutaneous transluminal coronary angioplasty (PTCA), as a treatment in unstable angina, and to reduce complications of thrombolytic therapy in myocardial infarction (MI).

Participants included in the review
Patients undergoing PTCA, patients with unstable angina before and after PTCA, and patients receiving thrombolytic therapy for MI, were included.

Outcomes assessed in the review

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
The authors do not state that they assessed validity.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the authors performed the data extraction.

Methods of synthesis
How were the studies combined?
The studies were combined by a narrative review.

How were differences between studies investigated?
The differences between the studies were investigated by a narrative review.

Results of the review
PTCA: 2 studies, of which one was a small pilot study (number of patients not given) and the other included more than 2,000 patients.
Unstable angina: one pilot study (number of patients not given).

MI: one study with 60 patients.

PTCA: the small pilot study suggested that abciximab reduced the incidence of restenosis following PTCA. The large trial showed that abciximab was associated with a 35% reduction in deaths and cardiac events within 30 days (p=0.008). There are 3 comparison groups in the large trial: placebo (n=696), abciximab bolus alone (n=695), and abciximab bolus plus infusion group (n=708). The death rate within 30 days did not differ significantly between groups (1.7 versus 1.3 versus 1.7%). The difference between the placebo and the abciximab bolus alone groups was not statistically significant for nonfatal MI (8.6 versus 6.2%), rate of repeat PTCA (4.5 versus 3.6%) and coronary artery bypass graft (3.6 versus 2.3%). Compared with the placebo group, the abciximab bolus plus infusion group had a significantly lower rate of nonfatal MI (8.6 versus 5.2%, p<0.05) and PTCA (4.5 versus 0.8%, p<0.05).

Unstable angina: the pilot study showed a lower incidence of ischaemia with intravenous abciximab (p=0.06).

MI: the single study found a lower incidence of ischaemia in patients receiving m7E3 Fab, with a similar risk of bleeding in the two groups.

Adverse effects: in the MI trial, treatment with abciximab was associated with an increased risk of bleeding and an increased need for transfusions. Thrombocytopenia was also more common, as was the need for platelet infusions (p<0.001). Human antimurine antibody production was more frequent with m7E3 Fab fragments than with abciximab.

Authors' conclusions
Clinical trials demonstrate the efficacy of abciximab in inhibiting platelet aggregation, though there is a risk of bleeding and thrombocytopenia. On the basis of the large trial, the use of this agent is supported in high-risk patients undergoing PTCA or atherectomy.

CRD commentary
The search is limited to English language articles and the number of trials found is small. It is, therefore, difficult to be certain of the generalisability of the review's conclusions.

Implications of the review for practice and research
Further investigations confirming the findings of the large trial are required, as are studies examining the cost-effectiveness of abciximab. A trial investigating its effect on survival is also required.

Bibliographic details

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Subject indexing assigned by NLM

MeSH
Angioplasty, Balloon, Coronary; Antibodies, Monoclonal /adverse effects /pharmacology /therapeutic use; Humans; Immunoglobulin Fab Fragments /adverse effects /pharmacology /therapeutic use; Platelet Aggregation Inhibitors /adverse effects /pharmacology /therapeutic use

AccessionNumber
Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.