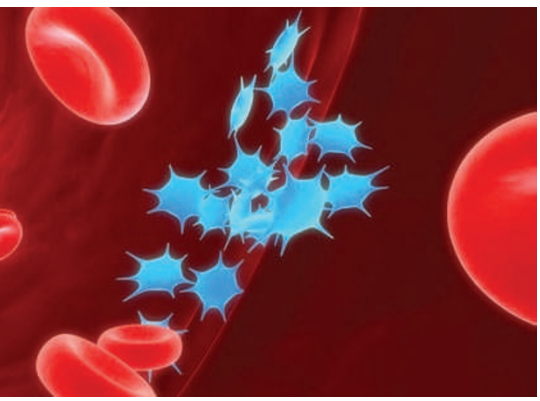
ANTIPLATELET THERAPY

Eptifibatide is noninferior to abciximab: implications for clinical practice

The glycoprotein IIb/IIIa (GPIIb/IIIa) inhibitors eptifibatide and abciximab have comparable efficacy and safety in patients with ST-segment elevation myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI). These findings, from a randomized trial and a registry study, are reported in two papers published in the *Journal of the American College of Cardiology* (*JACC*).

Platelet aggregation and thrombus formation can be inhibited by blocking the GPIIb/IIIa receptor on the platelet membrane, thereby preventing the binding of fibrinogen. Platelet inhibition has been shown to reduce the risk of cardiovascular events in patients with acute coronary syndromes who are undergoing PCI. Several GPIIb/IIIa inhibitors are available as adjuncts to PCI; abciximab is the most studied and is recommended for use in this setting by the European Society of Cardiology and the American College of Cardiology/American Heart Association guidelines. Although eptifibatide is approved and widely used, it is not currently recommended by the guidelines, owing to relative lack of data for this agent in comparison with abciximab. The two studies published in *JACC* are, therefore, important additions to the literature.

The EVA-AMI trial, reported by Uwe Zeymer and colleagues, was a prospective, randomized, open, parallel-group comparison of eptifibatide and abciximab in 427 patients presenting within 12 h of STEMI onset and who underwent primary PCI. Enrolled patients were from 22 centers in France and Germany. The two study drugs were administered in combination with background therapy comprising clopidogrel, aspirin, and heparin or enoxaparin. This study used the surrogate primary end point of complete electrocardiographic ST-segment resolution (STR) 60 min after completion of PCI.



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In the intention-to-treat analysis, no significant difference between the treatment groups was found in the percentage of patients who achieved complete STR (eptifibatide 62.6% versus abciximab 56.3%; adjusted difference 7.1%; 95% CI 2.7–17.0%). Although the trial was not powered to assess hard clinical outcomes, the reported incidence of death, stroke, revascularization, and bleeding 30 days after PCI was not significantly different between the two groups. "This was the first randomized trial comparing gold-standard abciximab with eptifibatide," says Dr Zeymer. "Our findings suggest equal efficacy and safety [of these two drugs] and support reports from nonrandomized retrospective studies."

The second study was reported by researchers from Sweden. Axel Åkerblom and co-workers retrospectively evaluated data from the Swedish Coronary Angiography and Angioplasty Registry (SCAAR). In 2004, several hospitals in Sweden switched from using abciximab to eptifibatide, which is the less expensive of the two drugs. "This switch ... was very closely monitored via the SCAAR" explains Dr Åkerblom. "This registry can be combined with the national registry of health and long-term follow-up is thereby gained."

Abciximab was used in 9,124 primary PCIs for patients with STEMI between January 2004 and December 2007, and eptifibatide was used in 2,355 such procedures over this time frame. During the 1-year follow-up period, no significant difference was reported for the incidence of death (8.0% and 7.6%), myocardial infarction (9.0% and 8.4%), or bleeding (2.7% and 3.2%) between abciximab and eptifibatide, respectively. Multivariable analysis showed that eptifibatide was noninferior to abciximab for the prevention of death or myocardial infarction (odds ratio 0.94, 95% CI 0.82–1.09).

These findings "fuel an already much debated hypothesis that high-dose GPIIb/IIIa inhibitors, although very different in terms of action, reversibility, and cost, provide adequate and comparable platelet inhibition and that the clinical use of either drug is feasible," concludes Dr Åkerblom.

Commenting on these two studies, with which he was not involved, A. Michael Lincoff from the Cleveland Clinic, OH, USA cautions that "the results are plausible, but not definitive". He goes on to reveal that "the field is [however] moving away from this entire class of platelet inhibitors." In the HORIZONS trial, the direct thrombin inhibitor bivalirudin was associated with reduced bleeding and 1-year mortality when compared with abciximab. "Thus, comparisons between different GPIIb/IIIa antagonists ... are of diminishing importance as many interventionalists are substituting bivalirudin for GPIIb/IIIa [antagonists] entirely."

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Original articles Zeymer, U. *et al*. Randomized comparison of eptifibatide versus abciximab in primary percutaneous coronary intervention in patients with acute ST-segment elevation myocardial infarction: results of the EVA-AMI Trial. *J. Am. Coll. Cardiol.* **56**, 463–469 (2010) | Åkerblom, A. *et al*. Eptifibatide is noninferior to abciximab in primary percutaneous coronary intervention: results from the SCAAR (Swedish Coronary Angiography and Angioplasty Registry). *J. Am. Coll. Cardiol.* **56**, 470–475 (2010)