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Incidence of Thrombocytopenia After Exposure to Abciximab and Impact of Different Treatment Modalities on Platelet Recovery - A Retrospective Study

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Incidence of Thrombocytopenia After Exposure to Abciximab and Impact of Different Treatment Modalities on Platelet Recovery – A Retrospective Study

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Key words: abciximab, thrombocytopenia, treatment, platelet recovery, IVIG, IIb/IIIa

Platelets play an important role in acute coronary syndromes. Platelet glycoprotein IIb/IIIa receptor inhibitors have been used to block the final common pathway of platelet aggregation. The biochemical and pharmacological properties of these agents have been extensively studied. However, the impact of different treatment modalities on platelet recovery has not been compared.

Methods

A retrospective analysis was performed in 1,150 patients who underwent cardiac catheterization and received abciximab between 12/1997 and 1/2001. Abciximab was given as a bolus of 0.25 mg/kg immediately followed by an infusion of 0.125 mcg/kg/min for 12 hours (maximum of 10 mcg/min). Platelet counts were monitored prior to administration, 2–4 hours following the bolus and at 24 hours or prior to discharge, whichever was first. Pseudothrombocytopenia was excluded by drawing the platelet counts in three separate tubes containing ethylenediaminetetraacetate (EDTA), citrate, and heparin. Peripheral blood smears were done only for platelet counts less than 50,000/mm^3 and no platelet clumping was seen. Treatment modalities used were observation, platelet transfusion, steroids and intravenous immunoglobulins (IVIG).

Results

Among the patients that received abciximab, 24 (n) developed thrombocytopenia (ie, incidence of 2.09 %), within the first 24 hours of administration. Platelet counts recovered within 3–6 days from the start of the use of the different treatment modalities. Platelet transfusion was used in 18 patients (75 % of patients who developed thrombocytopenia).

Conclusion

Incidence of abciximab-induced thrombocytopenia is 2.09 %. The choice of the treatment modality depended on the severity of thrombocytopenia, which made no difference in the effectiveness of different treatment modalities on platelet recovery. IVIG may be a treatment option for patients with refractory abciximab-induced thrombocytopenia. Further research is needed. Platelet transfusion remains the mainstay of therapy.

Table 1. Response of thrombocytopenia to various treatment modalities

Treatment modality	n = 24	Pre-abciximab PC/mm^3	Post-abciximab PC/mm^3	Days (D) of platelet recovery
Observation	6	WNL	80,000–120,000	5–6
Platelet transfusion only	9	WNL	20,000–50,000	4–6
IV-steroids (with prior PT)	8	WNL	1,000–20,000	4–5
IVIG (with prior PT & steroids)	1	WNL	1,000	3

PC = platelet counts, IV = intravenous, PT = platelet transfusion, WNL = within normal limits, D = days beginning with the increase in platelet counts toward normal or low normal

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