Impact of clopidogrel in coronary artery bypass grafting

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OBJECTIVE
Clopidogrel has become the standard of care to prevent thrombotic complications following cardiological interventions, in particular intracoronary stenting. In addition, patients with aspirin intolerance and those with carotid and peripheral vascular disease are also increasingly treated with clopidogrel. Platelet inhibition may become a concern for hemostasis in patients treated with clopidogrel who need emergency and undelayed surgery.

METHODS
We prospectively analyzed the intra- and postoperative outcome of 505 consecutive patients who underwent isolated CABG and compared two groups: those with clopidogrel exposure until 72 h prior to surgery (n = 136) with those without exposition to clopidogrel (n = 369). Patients undergoing emergency surgery because of failed PTCA and cardiogenic shock, associated valvular surgery, redo-CABG, and those with additional platelet IIb/IIIa receptor inhibitor exposure were excluded. Patients who received aspirin and/or heparin treatment prior to surgery were not excluded.

RESULTS
Patients who received clopidogrel had a higher prevalence of angina class III or IV (67 vs 39%, P < 0.01), received more often revascularization within 48 h (41 vs 14%, P = 0.02), and had received more frequently stenting (57 vs 13%). Chest tube drainage was significantly increased during the first 24 h following CABG in the group of patients who had clopidogrel treatment (1485 vs 780 ml, P = 0.003). These patients also required more transfusion of platelets and fresh frozen plasma. Overall re-exploration rate because of bleeding was significantly higher in the clopidogrel group (5.9 vs 1.2%, P < 0.01). Platelets transfused before chest closure had a beneficial effect on preservation of the hemostasis.

CONCLUSIONS
Clopidogrel exposure 3 days or less prior to CABG surgery significantly increases the risk of postoperative bleeding, the need for perioperative transfusion and the incidence of re-exploration. Surgery should be performed
using standard heparinization and anti-fibrinolytic strategies but aggressive correction of platelets dysfunction is required before chest closure.

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