

## SCA 48

**EFFECTS OF CLOPIDOGREL ON BLEEDING AND TRANSFUSION REQUIREMENTS IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS SURGERY**

Bradley JC, Pekkattil JD, Dandona NR

*Department of Anesthesiology, Baylor College of Medicine, Houston, TX*

**Purpose:** Patients with cardiovascular disease routinely take platelet inhibitors such as clopidogrel. Although several studies have evaluated outcomes in patients taking aspirin or GPIIb/IIIa inhibitors before coronary artery bypass (CAB) surgery, there is little data of the perioperative effects of clopidogrel. This study was undertaken to evaluate the effects of clopidogrel on blood loss and transfusion requirements in patients receiving CAB surgery.

**Methods:** We performed a retrospective chart review of patients receiving first-time CAB surgery from 1998 to 2000. Exclusion criteria included prior chest surgery, combined valve surgery, OPCAB, or patients taking other types of anticoagulants. Patients taking clopidogrel prior to surgery were compared with control patients who were taking no antiplatelet medications or aspirin alone. Preoperative data were collected on demographics, hematocrit, platelet count, and partial thromboplastin times. Perioperative data was collected on cardiopulmonary bypass time, amount of packed red blood cells (PRBC) transfused, amount of platelets transfused, amount of cryoprecipitate or fresh frozen plasma (FFP) transfused, length of ICU and hospital stay, length of time intubated postoperatively, and amount of chest tube drainage for the first 12 and 24 hours after surgery. In a separate analysis, we found no

significant difference in these variables between patients taking aspirin alone versus patients taking no antiplatelet drugs.

**Results:** 26 patients who were taking clopidogrel preoperatively were compared to 75 patients not taking clopidogrel. There was no significant difference between these two groups in the preoperative variables, and no difference in cardiopulmonary bypass times. The percent of patients requiring perioperative PRBC transfusion in the clopidogrel group was greater than the control group, 81% vs. 75%, as was the amount of PRBC transfused per patient, 4.0 units vs. 2.9 units ( $p < 0.10$ ); a 38% increase in PRBC transfusion requirements. The average amount of platelets transfused per patient taking clopidogrel, 5.9 units, was significantly greater than in the control group, 3.2 units ( $p < 0.01$ ). There was a significant increase in the amount of salvaged blood given to patients taking clopidogrel versus the control group, 3.4 units vs. 2.7 units ( $p < 0.05$ ), use of cryoprecipitate, 3.5 units vs. 0.5 units ( $p < 0.01$ ), and in the use of FFP, 3.8 vs. 2.5 units ( $p < 0.1$ ). There were no perioperative deaths in this study, and no patient required re-operation for postoperative bleeding. There was no significant difference in length of ICU stay, length of hospital stay, length of time the patient remained intubated, or postoperative chest tube drainage.

**Conclusions:** Preoperative use of clopidogrel increases perioperative blood loss as measured by need for blood product transfusion and use of salvaged blood. This study suggests that changing treatment strategies for patients on clopidogrel preoperatively may decrease blood loss and decrease perioperative transfusion requirements.