studies are needed to define protocols for pre- and postoperative management.

References


eComment: Controversies on the antiplatelet therapy before coronary artery bypass grafting surgery

Authors: Rafet Gunay, Dr. Siyami Ersek Thoracic and Cardiovascular Surgery Center, Istanbul, Turkey; Yavuz Sensoz, Ilyas Kayacioglu, Mahmut M. Demirtas
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We read with great interest the report by Badreldin and colleagues regarding the effect of antiplatelet therapy (APT), especially the use of clopidogrel before operation, on postoperative bleeding and transfusion need in coronary artery bypass grafting (CABG) surgery [1].

The authors concluded that the use of APT before CABG was associated with higher postoperative bleeding, transfusion requirements, and longer intensive care unit and hospital stay. They have also found that combined therapy of acetyl salicylic acid (ASA) and clopidogrel has no significant increase in the postoperative bleeding risk and blood transfusion compared to clopidogrel alone. They advise the cessation of APT seven days preoperatively.

Clopidogrel has beneficial effects in patients with coronary artery disease prior to coronary artery interventions. Several large randomized studies have demonstrated its superior antiplatelet action, especially in combination with ASA. Clopidogrel has also been found to have beneficial effects in patients with acute coronary syndrome without ST-segment elevation. Although many studies have demonstrated the increased risk of bleeding and transfusion need under clopidogrel treatment [2], it is still controversial whether APT affecting thrombocyte function really increases the bleeding tendency after CABG surgery. Platelet dysfunction after cardiac surgery may be due to the effect of cardiopulmonary bypass or preoperative APT. Cardiopulmonary bypass activates platelets, and as a result, reduces platelet count and reduces their ability to generate an effective clot, thus leading to more blood loss under APT, especially with combined medication after CABG [3]. Some previous studies showed that the use of clopidogrel before the operation results in an increased blood loss in the postoperative period [2–4] and others did not [5]. Firanescu et al. recently concluded that stopping clopidogrel three days before intervention was sufficient for less blood loss. They also found that re-exploration for bleeding did not increase significantly due to clopidogrel treatment [4].

In our practice, we have encountered a number of patients under clopidogrel treatment who either had a previous coronary stenting or needed emergent surgical revascularization due to failed coronary interventions. There are two issues to consider when deciding on the timing of surgery in a patient under clopidogrel treatment: whether clopidogrel causes an increase in blood loss when it is continued or whether it causes an increase in thrombotic complications when it is withheld in high risk patients.

On the other hand, postoperative bleeding after CABG surgery is influenced by many factors, such as advanced age, female gender, concomitant procedures, urgency status, cardiopulmonary bypass time, the number of distal anastomoses, internal thoracic artery harvesting, inadequate control of bleeding, and coagulation disorders as well as thrombocyte dysfunction. Furthermore, bleeding control by a different surgical team may affect postoperative blood loss. We think that open heart operation under clopidogrel use is not a contraindication in an emergency situation. Careful management and adequate bleeding control must be done. Stopping clopidogrel three days before is sufficient in the elective operation, if clinical circumstances permit.

References


