

Individualized strategy for clopidogrel suspension in patients undergoing coronary surgery: is it the best choice?

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Received 16 November 2015; accepted 8 January 2016

Keywords: Platelet aggregation inhibitors • Coronary artery bypass • Bleeding

We read with interest the recent article by Gielen *et al.* and congratulate the authors on this timely study [1]. The study processed a number of patients divided into three groups according to the use of antiplatelet medication within 10 days prior to surgery: (i) acetylsalicylic acid (ASA) only, (ii) ASA + clopidogrel or (iii) no antiplatelet medication. To assess the optimal stop day, the authors analysed the amount of blood loss within 48 h after the operation by a series of multiple linear regression models, one for each preoperative day (from Day –10 up to –1). They concluded that there is no clinically relevant effect on blood loss, indicating an optimal day of withdrawal for ASA alone or in combination with clopidogrel. Nonetheless, the suspension of clopidogrel 2 days before surgery resulted in the reduction of percentage of patients receiving platelet transfusions, especially in the ASA + clopidogrel group.

The authors are to be commended for taking the initiative to challenge the current guidelines by the evidence that discontinuation at a later day (–4 till –1) is not life threatening and does not significantly impact the postoperative blood loss and the amount of blood transfusions required. As recommended by European Society of Cardiology/European Association for Cardio-Thoracic Surgery guidelines on myocardial revascularization, preoperative clopidogrel should be suspended at least 5 days before surgery in elective patients referred for coronary artery bypass graft (CABG) surgery to reduce bleeding, usage of blood products and related complications [2]. However, guidelines have not taken into account the wide interindividual variability in recovery time after clopidogrel withdrawal, the wide range of individual responses to clopidogrel and the synergistic effect of ASA + clopidogrel in terms of the degree of platelet inhibition [3]. As a consequence, a different approach from current guidelines could be required to determine the optimal time for CABG surgery, especially in those patients with acute coronary syndrome who need urgent surgery and are exposed to antiplatelet therapy with ASA + clopidogrel or clopidogrel alone.

In our recent case-control study carried out on patients undergoing CABG who were assuming clopidogrel, we evaluated the possibility of determining the time of preoperative clopidogrel discontinuation using an individualized point-of-care platelet function measurement [4]. Our results showed that monitoring platelet function provides an objective guideline to determine a flexible timing of surgery. This individualized strategy reduced the postoperative

bleeding and the consumption of blood products. Finally, it should be emphasized that we identified a number of patients with normal platelet function despite being on an adequate dosage of clopidogrel (clopidogrel-resistant) and patients who had a fast recovery of platelet function after discontinuation of clopidogrel (within 2–3 days). In contrast, ~20% of patients displayed persistent platelet inhibition and required from 6 to 8 days for complete recovery of platelet function after clopidogrel discontinuation. In conclusion, according to suggestions by the 2011 Blood Conservation Clinical Practice Guidelines from the Society of Thoracic Surgeons/Society of Cardiovascular Anesthesiologists, we believe that the point-of-care guided preoperative administration/discontinuation of antiplatelet agent could be indicated for an individual approach to patients with the aim to reduce both bleeding and adverse events compared with the current practice of unselected timing [5].

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doi:10.1093/ejcts/ezw007