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## Letters to the Editor

### Antiplatelet therapy suspension in patients undergoing coronary surgery for acute coronary syndrome: Is point-of-care guided strategy the best choice?




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Coronary artery bypass  
Bleeding

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In their recent publication Nagashima and colleagues evaluated the impact of recent exposure to dual antiplatelet therapy (DAPT) with aspirin and oral adenosine diphosphate (ADP)-receptor antagonists (clopidogrel or ticlopidine) before urgent coronary artery bypass graft (CABG) on increased risk of bleeding complications in Japanese patients with acute coronary syndromes (ACS) [1]. We read with interest the article and congratulate the authors on this original and timely study. The authors processed 130 consecutive patients with ACS divided into two groups according to the use of antiplatelet medication prior to surgery: 30 patients with preoperative thienopyridine exposure within 5 days and 100 patients without exposure. All patients continued to receive aspirin 100 mg/day until surgery. They concluded that preoperative DAPT increases the risk of CABG-related major bleeding in Japanese patients with ACS undergoing urgent CABG.

The authors are to be commended for taking the initiative to challenge the current guidelines given that no data are available on Japanese patients [2].

In our randomized controlled study carried on Caucasian patients undergoing CABG for ACS who were receiving clopidogrel alone or in addition to aspirin, we showed a wide interindividual variability in recovery time after clopidogrel withdrawal, a large range of individual responses to clopidogrel, and a synergistic effect of aspirin plus clopidogrel in terms of degree of platelet inhibition [3]. On this basis, in our recent case-control study we analyzed the possibility to guide the time of preoperative clopidogrel discontinuation using an individualized point-of-care platelet function measurement and we suggested a different, individualized, approach than current guidelines to determine the optimal time for CABG surgery, especially in those patients who need urgent surgery [4].

Our results showed that monitoring platelet function provided an objective guideline to determine a flexible timing of surgery. This individualized strategy reduced the postoperative bleeding and the consumption of blood products in our experience. Finally,

it is striking to note, that we identified a number of patients with normal platelet function despite an adequate dosage of clopidogrel (clopidogrel resistant) and patients who had a fast recovery of platelet function after clopidogrel discontinuation (within 2–3 days). By contrast nearly 20% of patients displayed persistent platelet inhibition and required from 6 to 8 days for complete recovery of platelet function after clopidogrel suspension. In conclusion, as suggested by the 2011 Blood Conservation Clinical Practice Guidelines from the Society of Thoracic Surgeons/Society of Cardiovascular Anesthesiologists, the point-of-care guided preoperative administration/discontinuation for antiplatelet agent could be indicated for the individual approach to patients with the aim to reduce both bleeding and adverse events [5].

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#### Conflicts of interest

The authors declare that there is no conflict of interest.

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**Authors' reply**



We thank Mannacio and colleagues for their interest in our study [1]. We concluded that preoperative dual antiplatelet therapy increased the incidence of coronary artery bypass grafting (CABG)-related major bleeding in Japanese patients with acute coronary syndromes (ACS) undergoing urgent CABG. The timing of CABG should be determined by weighing the ischemic risks of delaying surgery against the bleeding risks, especially in patients with increased risks of both fatal ischemic events and major bleeding.

It is well known that the antiplatelet response to clopidogrel widely varies among individuals. Mannacio and colleagues reported a wide inter-individual variability in recovery time after clopidogrel withdrawal [2]. Therefore, it seems reasonable that platelet function testing may be considered in shortening the time window to CABG following P2Y12 inhibitor discontinuation [3], as

suggested by the 2015 European Society of Cardiology guidelines for the management of ACS in patients presenting without persistent ST-segment elevation (class IIb recommendation) [4]. Unfortunately, we did not obtain data on the platelet inhibitory response to P2Y12 inhibitors as an option for guiding interruption of treatment. However, we stand by the conclusion of Mannacio and colleagues. Patients on dual antiplatelet therapy should be carefully evaluated for the risk of CABG-related bleeding, including preoperative platelet function testing if it is available. Prospective, randomized, multicenter studies using platelet function testing are needed to determine the optimal timing of CABG.

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