Correspondence

Letter by Petricevic and Biocina Regarding Article, “Platelet Function Measurement-Based Strategy to Reduce Bleeding and Waiting Time in Clopidogrel-Treated Patients Undergoing Coronary Artery Bypass Graft Surgery: The Timing Based on Platelet Function Strategy to Reduce Clopidogrel-Associated Bleeding Related to CABG (TARGET-CABG) Study”

To the Editor:

We read with great interest the recently published study by Mahla et al. The efficacy of platelet inhibition with aspirin and clopidogrel varies widely among patients from intensive platelet inhibition to poor platelet response.

The effect of clopidogrel on bleeding mainly depends on 2 factors: (1) observed platelet inhibition, which is dependent on inherent platelet activity before clopidogrel administration and platelet inhibitory response to clopidogrel; and (2) newborn platelets’ ability to restore normal aggregation after clopidogrel discontinuation. In addition to increased costs of hospitalization, clopidogrel discontinuation 5 days before coronary artery bypass surgery could place patients with high residual adenosine diphosphate-induced platelet-fibrin clot strength to risk of preoperative ischemic adverse events.

The study enrolled patients with a wide range of aspirin daily dose, from 81 to 325 mg. Percent inhibition of arachidonic acid-induced aggregation did not differ between clopidogrel-naive and clopidogrel-treated patients despite treatment with lower aspirin doses observed in the clopidogrel-naive group. In addition, clopidogrel-treated patients had a more frequent history of coronary artery stenting. Was preoperative aspirin dose targeted after arachidonic acid-induced aggregation test to achieve adequate platelet inhibitory response? If so, can we assume that a higher proportion of clopidogrel-treated patients had a poor platelet-inhibitory response to lower aspirin doses?

There is evidence that certain patients have an accentuated response to the usual doses of preoperative aspirin that may result in increased perioperative blood loss. It would be very valuable if authors correlated arachidonic acid-induced aggregation test values with chest tube drainage. Did authors detect patients with accentuated response to aspirin and compare chest tube drainage between patients with respect to presence of pronounced versus poor platelet inhibitory response to aspirin treatment? In our opinion, when assessing the influence of preoperative antiplatelet therapy administration management on bleeding and adverse ischemic events, the role of aspirin should inextricably be included in considerations by objective quantification.

Adenosine diphosphate-induced platelet-fibrin clot strength cutoff associated with ischemia in patients with coronary artery disease undergoing stenting is not a reliable surrogate for adequate hemostasis. A correlation between drug-specific platelet function test (adenosine diphosphate-induced platelet-fibrin clot strength and arachidonic acid-induced aggregation test) with chest tube drainage could bring the most precise and reliable cutoff values that delineating bleeding tendency.

The role of aspirin and clopidogrel on bleeding should separately be assessed by drug-specific platelet function tests, facilitating an individual therapeutic approach for each antiplatelet agent preoperatively. Such an approach could distinguish patients with high residual platelet activity, thus proclivity to ischemic events, or enhanced platelet inhibition, thus proclivity to excessive bleeding. In a group of patients with pronounced platelet inhibition after aspirin administration, early aspirin discontinuation should be considered. Such an approach requires further studies to provide cutoff values that predict excessive chest tube drainage and, according to obtained cutoff values, evaluate antiplatelet therapy management in the context of chest tube drainage and clinical outcome.

We congratulate the authors on their elegant and timely research.

Disclosures

None.

Mate Petricevic, MD
Bojan Biocina, MD, PhD
University of Zagreb School of Medicine
University Hospital Center Zagreb
Cardiac Surgery Department
Zagreb, Croatia

References


Letter by Petricevic and Biocina Regarding Article, "Platelet Function Measurement-Based Strategy to Reduce Bleeding and Waiting Time in Clopidogrel-Treated Patients Undergoing Coronary Artery Bypass Graft Surgery: The Timing Based on Platelet Function Strategy to Reduce Clopidogrel-Associated Bleeding Related to CABG (TARGET-CABG) Study"

Mate Petricevic and Bojan Biocina

_Circ Cardiovasc Interv_. 2012;5:e47
doi: 10.1161/CIRCINTERVENTIONS.112.970061

_Circulation: Cardiovascular Interventions_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2012 American Heart Association, Inc. All rights reserved.
Print ISSN: 1941-7640. Online ISSN: 1941-7632

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circinterventions.ahajournals.org/content/5/3/e47

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in _Circulation: Cardiovascular Interventions_ can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to _Circulation: Cardiovascular Interventions_ is online at:
http://circinterventions.ahajournals.org//subscriptions/