Correspondence

Letter by Poullis Regarding Article, “Efficacy of Long-Term β-Blocker Therapy for Secondary Prevention of Long-Term Outcomes After Coronary Artery Bypass Grafting Surgery”

To the Editor:
Zhang et al\(^1\) present important information with regard to β-blocker therapy and long-term outcomes in patients who have undergone coronary artery bypass graft surgery. Despite a meticulous analysis, a number of issues exist.

Interestingly, in univariate analysis of patients with prior myocardial infarction, inconsistent use was significantly associated with a worse long-term survival compared with never and always users, implying that β-receptor upregulation, supersensitivity, and proarrhythmic potential are possible underlying mechanisms of their study findings rather than β-blockage therapy itself.\(^2\)

Of note, a very high incidence of elective work (98%) formed the study cohort. Currently, 10% to 20% of isolated coronary artery bypass graft cases in the United Kingdom are urgent,\(^3\) with a higher rate in the United States. However, the incidence of unstable angina reported in Table II in the online-only Data Supplement is incongruent with this.

Dyslipidemia, chronic obstructive pulmonary disease, peripheral vascular disease, complete revascularization, and the use of the off-pump technique were significantly different between the 3 groups. Such a large variation needs propensity matching to ensure that the groups are matched; however, little information is provided about the accuracy of the match other than a univariate comparison. A 1:1 match that involved so few patients being excluded from analysis is unusual with a good match, especially with so many preoperative covariates used. I would argue that only patients who received a left internal mammary artery–to–left anterior descending artery graft should be included in the analysis because patients who did not will have a significant confounding variable with regard to outcomes.\(^4\)

The very low rate of aspirin on discharge (75% in Table III in the online-only Data Supplement) may be an important study limitation and may explain the very high nitrate use at 1 year (65%). The same issue exists with regard to statin use in the study.\(^5\) In addition, the high use of dual antiplatelet therapy postoperatively in the Western world may limit direct applicability of the study findings.

It is important not to confound studies on coronary outcomes with patients undergoing concomitant valvular procedures, and Zhang et al need to be praised for this. Zhang et al need to be congratulated on their important contribution using β-blockers after isolated coronary artery bypass graft surgery.

Disclosures
None.

Michael Poullis, BSc(Hons), MD, MBBS, FRCS(CTh)
Liverpool Heart and Chest Hospital
Liverpool, UK

References
Letter by Poullis Regarding Article, "Efficacy of Long-Term β-Blocker Therapy for Secondary Prevention of Long-Term Outcomes After Coronary Artery Bypass Grafting Surgery"

Michael Poullis

_Circulation_. 2016;133:e391
doi: 10.1161/CIRCULATIONAHA.115.018190

_Circulation_ is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2016 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/133/6/e391

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in _Circulation_ 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_ is online at:
http://circ.ahajournals.org//subscriptions/