Author’s response to reviews

Title: Predicting Operative Mortality in Octogenarians for Isolated Coronary Artery Bypass Grafting Surgery: A Retrospective Study

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Response to Reviewers Comments

Editor:

Well written paper dealing with an interesting issue. Despite that, the study needs major revisions, as follows, in order to strengthen the key messages.

>>> Response to Editor: We appreciate the constructive comments provided by you and the reviewers, which has enabled us to improve the quality of our manuscript. In the following pages are our point-by-point responses to each of the comments of the reviewers. It did take some time to identify a statistician who was capable of performing the Net Reclassification Improvement analysis requested by reviewer #1; hence the delay in returning our revisions. These calculations have been performed. We hope that our revisions will make our manuscript suitable for publication in BMC Cardiovascular Disorders.

Reviewer 1: Emiliano Angeloni

Comment 1: Really poor-quality images, please assess.

>>> Response to Reviewer 1 Comment 1: We have replaced the poor-quality images with high-quality images.
Comment 2: As already known, it seems quite clear STS score is the most reliable tool in predicting CABG mortality even in octogenarians. Nevertheless, it would be very interesting to add a comparison between models performances either in terms of ROC curves comparison or Net Reclassification Improvement (preferable in my opinion) in order to assess quantitatively the superiority of the STS score in predicting mortality in this subset of patients with respect to the other EuroSCORE algorithms.

>>> Response to Reviewer 1 Comment 2: Thank you for this comment. We agree that NRI would be useful information and have therefore performed the required analysis. An alternate statistician had to be identified who was able to perform these analyses, hence the delay in revising the manuscript.

Comment 3: Analysis of the Add EuroSCORE is really redundant and somewhat confounding, please remove.

>>> Response to Reviewer 1 Comment 3: The simple additive EuroSCORE and the full logistic EuroSCORE were both included because both have been adopted in clinical practice for reasons of simplicity for the additive model and accuracy for the logistic model [1]. We have included this comment in the Methods section of the manuscript on page 6.

We thank you very much for your comments. We hope that our revisions in the manuscript and our accompanying responses will be sufficient to make our manuscript suitable for publication in BMC Cardiovascular Disorders.

Reviewer 2: Umberto Barbero

Comment 1: Luc et al performed an interesting retrospective study to assess the up-to-date discriminatory accuracy of different risk models for cardiac surgery in patients aged >80 year olds. It is a simple study that focus on the fact that these scores have not been validated to specifically predict operative mortality in octogenarians. The design is simple but clear, the statistics are well chosen and the results are important, stressing the importance to not overestimate the risk in elderly patients but rather to focus on the frailty bearing in mind concept like the gait speed. The paper is well written in a good English.
>>> Response to Reviewer 2 Comment 1: Thank you very much for your evaluation and kind words about our manuscript.

Comment 2: I think that the only untouched point of the discussion is the importance to follow-up these frail patients in a non-invasive way in order to reduce late complications. Recent meta-analysis showed how CCTA has the same accuracy of invasive angiography and should be preferred in older patients in order to reduce both complications and hospitalization (please see and cite 64 slice-coronary computed tomography sensitivity and specificity in the evaluation of coronary artery bypass graft stenosis: A meta-analysis. Int J Cardiol. 2016 Aug 1;216:52-7.)

>>> Response to Reviewer 2 Comment 2: Thank you for this comment. While we do agree that the 64-slice-coronary computed tomography shows promise in detecting graft stenosis [2], we would respectfully suggest that in a frail octogenarian population, symptoms and quality of life should be the driver for any further invasive or non-invasive investigations. We have added this point to the discussion section of the manuscript on page 10.

Comment 3: Furthermore recent published papers showed that the use of a third arterial conduit in patients with coronary artery bypass grafting is not associated with higher operative risk and is associated with superior long-term survival (see Three Arterial Grafts Improve Late Survival: A Meta-Analysis of Propensity-Matched Studies. Circulation. 2017 Mar 14;135(11):1036-1044.). If possible the authors should add a table showing the outcome of patients over 80 yo according to the numbers of graft received.

>>> Response to Reviewer 2 Comment 3: This is an important comment. The use of multiple arterial conduits is rare in Alberta. No patients in this octogenarian cohort received a third arterial graft. We have added this point to the results section of the manuscript on page 7.

Comment 4: The figures are nice but of low resolution.

>>> Response to Reviewer 2 Comment 4: We have replaced the poor-quality images with high-quality images.

Comment 5: Anyway, I think that after these minor revisions this is a very good paper worthy of publishing.
Response to Reviewer 2 Comment 5: We thank you very much for your comments. We hope that our revisions in the manuscript and our accompanying responses will be sufficient to make our manuscript suitable for publication in BMC Cardiovascular Disorders.

References
