Reviewer’s report

Title: FACTORS PREDICTING ONE-YEAR POST-SURGICAL MORTALITY AMONGST OLDER ASIAN PATIENTS UNDERGOING MODERATE TO MAJOR NON-CARDIAC SURGERY – A RETROSPECTIVE COHORT STUDY

Version: 1 Date: 19 Aug 2019

Reviewer: Research Square

Reviewer's report:

STATISTICAL REVIEWER ASSESSMENT:

Is the study design appropriate for the research question (considering whether the analyzed population accurately reflects the design and whether you see any problems with control/comparison groups, e.g., likely confounders)?
No - there are minor issues

Are methodologies adequate and well implemented (considering whether assumptions are addressed and whether analyses are robust)?
No - there are minor issues

Are the analyses adequately communicated (considering whether reporting details are adequate and whether figures and tables are well labeled and described)?
No - there are minor issues

Does the interpretation accurately reflect the analyses without overstatement (considering whether limitations/bias are acknowledged and whether accurate descriptors, e.g., 'significant', are used)?
No - there are minor issues

Could an appropriately REVISED version of this work represent a statistically sound contribution?
Probably - with minor revisions

STATISTICAL REVIEWER COMMENTS:

Overall, well designed study with some questions and concerns that authors may have explanation for or need to revise (details to follow)
Sample size is large enough to run a reliable multivariate analysis. Authors have run a univariate model to capture potentially significant factors to be included in the multivariate analysis.

REQUESTED REVISIONS:
Questions:
1- why authors chose age of 45 and above while most studies in this field use age 18 and above? this would potentially affect mortality rate and also types of surgical procedures included in the study. If that was the concern, they could have stratified patients based on age group to address that issue.

2- OR for "lower BMI" is 0.93 which is considered a protective factor not a risk factor (in contrast to
authors interpretation). However, it is hard to interpret if it means lower BMI is an actual protective factor or it means obesity is a risk factor. It is necessary to classify patients based on BMI into underweight, normal, overweight, obese and morbidly obese and redo the analysis with BMI status as a categorical factor.

3- What was the final sample size that the multivariate analysis was performed on? It is very unusual for the final sample size to be the same as the one in the univariate analysis because most databases would have some missing data that would result in that case to be dropped out of the multivariate analysis.

4- There are potential for effect modification in this study. Not sure if authors have considered that or run statistical test to evaluate it. If not, need to evaluate the database for effect modification and if present, re-analyze data after stratifying the database for effect modifiers.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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