Reviewer's report

Title: Biomarker Enhanced Risk Prediction for Development of AKI after Cardiac Surgery

Version: 1 Date: 09 Mar 2018

Reviewer: Kelly Liang

Reviewer's report:
This revised manuscript is much improved and previous issues and concerns have been adequately addressed. The inclusion of acute kidney injury (AKI) defined based on KDIGO criteria and the inclusion of urine volume as a variable makes the paper stronger. A few additional minor revisions and suggestions include the following:


-p. 8, Proteomic Analysis, 3rd and 4th lines: Change "(+)" and "(-)" after AKIr to "AKIr-positive" and "AKIr-negative" to be consistent with the wording in subsequent lines.

-p. 8, Proteomic Analysis, 5th and 6th lines: Discuss the Table 2A findings before the Table 2B findings (swap the results in either the body of the manuscript or Table 2).

-p. 9, Risk Prediction of Urine Biomarkers in AKI: Delete the "." after the subtitle.

-p. 9, Risk Prediction of Urine Biomarkers in AKI, last sentence of first paragraph: Put ";" before the "CI" for the IDI values for HRG and Factor B, and list it as "95% CI" if that is what it is. Also, would switch "Factor B" to "CFB" to be consistent with the terminology elsewhere, if "Factor B" refers to "CFB" (Complement Factor B).

-p. 10, Discussion, 8th line: Change "AUROC of 0.93, however, the AUROC for AKI..." to "AUROC of 0.93; however, the AUROC for AKI..." (change comma to semicolon).

-p. 12, Discussion, almost last paragraph: For discussion on HRG, please expound more on implications for how HRG may relate to AKI pathophysiologically, as the statement that "no association of HRG with AKI has been reported previously" suggests it does not have any known relation to AKI. The description of functions of HRG reported based on the work in reference [47] should be followed by a sentence or two describing how these protein-protein interactions may relate to the pathology of AKI in injured tubules or other kidney cells.
- p. 14, Competing Interests: Change "in abstract for to the 2015..." to "in abstract form at the 2015..."
- p. 14, Authors' Contributions: Insert a space after "-" before "KRM" for consistency.
- Table 1: For the columns "AKI (15)" and "No AKI (32)", do the numbers refer to sample sizes of each group? If so, would put "n=" before each number.
- Table 1: Please include a footnote describing whether this "AKI" and "No AKI" is based on the restricted AKI definition (AKIr)? For the last row, specify that the "AKI stage 1/2/3" are based on the KDIGO definitions of AKI stages. In the abbreviations footnote, please define "AKI" as "acute kidney injury" with other abbreviations. If possible, would boldface the "AKI" and "No AKI" column titles.
- Table 2: If possible, would boldface the column titles.
- Table 4, last column: Change "PKDIG" to "PKDIGO." Consider changing "Factor B" to "CFB."
- Table 5: Consider changing "Factor B" to "CFB" in all instances (rows 2, 3, 5, and 6).
- Table 6: Consider changing "Factor B" to "CFB" in all instances (in title and 2nd column). For "ISref" and "IPref", define what "ref" means.

If these minor revisions can be corrected and addressed, this manuscript seems worthy of publication as a preliminary work in finding additional biomarkers to predict post-cardiac surgery AKI, with the caveat that further studies are needed to validate these proposed biomarkers.

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

Does the work include the necessary controls?
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Unable to assess

Are the conclusions drawn adequately supported by the data shown?
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Please indicate the quality of language in the manuscript:

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