Reviewer’s report

Title: Impact of thyroid function on Cystatin C in detecting acute kidney injury: a prospective, observational study

Version: 0 Date: 24 Jun 2018

Reviewer: Ziad M. El-Zoghby

Reviewer's report:

This is a prospective, observational study evaluating the effect of thyroid hormone on the diagnostic performance of Cystatin C in regard to acute kidney injury.

Overall, the study is informative and the method sound.

I have a few comments:

1. In the text and Figure 1, it would be less confusing for the readers to label the "established AKI" as "AKI prior to ICU admission" and those with "late onset AKI" as "AKI post ICU admission."

2. Table 1 reports the median and IQR of the thyroid hormone levels. Can you specify the proportion of patients who had abnormal thyroid hormone levels? Was it different between AKI and non-AKI groups.

3. On multivariate linear regression analysis, sex is negatively associated with cystatin C. What was the reference group? Please specify if male or female.

4. Since FT3 and TT3 are closely correlated with each other, they probably should not be included both in the multivariate model to avoid misfitting the model.

5. Can you explain why TT3 was negatively correlated with cystatin C in the bivariate analysis but positively correlated with it in the multivariate analysis? This is confusing and lead to some doubt regarding the robustness of the results / statistical analysis.

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?
If not, please specify which controls are required in your comments to the authors.
Yes

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

Yes

**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 recommend additional statistical review

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

Needs some language corrections before being published

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