Reviewer’s report

Title: Elevated exhaled acetone concentration in stage C heart failure patients with diabetes mellitus

Version: 0 Date: 18 Aug 2017

Reviewer: Akiko Suyama Chishaki

Reviewer’s report:

The reviewer read the manuscript by Yokokawa and colleagues with interest. In this manuscript, the authors demonstrated that the elevated exhaled acetone concentrations could be a noninvasive biomarker for heart failure patients with diabetes mellitus. The reviewer has the following comments.

1. The definition of heart failure staging must be included in the methods.

2. Was there any data of exhaled acetone in fasting diabetic patients with no heart failure?

3. The reviewer wondered about the small sample size, what was the sampling method used in this study and please mention the period of study?

4. Page 4, line 5, it is said that the study is prospective, but it seems to be cross sectional study since there was no any follow up data and no intervention.

5. It is better to include "severity" in the conclusion, because it seems that exhaled acetone is biomarker for heart failure severity in patients with diabetes mellitus.

6. The novelty of this paper is questionable because it has been known that exhaled acetone is biomarker of heart failure severity in some previous studies and most of patients with heart failure had diabetes mellitus as comorbidity. Additionally, the correlation between exhaled acetone and blood total ketone bodies is not only affected by diabetes mellitus state as mentioned in this paper. In the authors' previous paper (ref no. 15) it is also stated that there is elevated energy expenditure of ketone bodies in the setting of heart failure itself. This is also showed that this paper may lack of novelty.

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.

Not relevant to this manuscript

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

Acceptable

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