

RESPONSE TO PEER-REVIEW REPORT

Name of journal: World Journal of Cardiology

Manuscript NO: 54875

Title: Sonographic muscle mass assessment in patients after cardiothoracic surgery

Response to Editors and Reviewers' comments

We would like to thank the Editors and the Reviewers for their concise comments and the excellent contribution. We believe that their comments helped us to improve the quality of the manuscript.

Reviewer 1:

i review with interest the manuscript titled "Sonographic muscle mass assessment in patients after cardiothoracic surgery". the study is interesting but i have few comments:

- 1- the study needs good English editing.

According to reviewer's comment the manuscript has now been edited by a Professional English Editor and Translator. The provided Certificate letter has now been attached.

- 2- what was the duration and time of the study?

After reviewer's comment we clearly added the duration and time of the study in the methodology section.

- 3- what were the primary and the secondary outcomes?

After reviewer's comment we clarified the primary and secondary outcomes in the study design of the methodology section.

- 4- how was the sample size estimated?

The present study was an observational exploratory study based mainly on feasibility that might have been underpowered. This consists of a limitation that we added clearly in the limitation section according to reviewer's comment; however we consider that the results of our study would provide helpful information for further observational and interventional powered studies.

5- what were the inter and the intraobserver reliability for the ultrasound results?

In our study ultrasound measurements analyses were done by an experienced researcher. However, after reviewer's comment we added further reliability analyses that we performed with excellent intra-rater reproducibility results. Statistical analysis and results section was modified accordingly. Inter- and intra-observer reliability has been also shown high acceptable results by previous studies. We added these references in the discussion section and we modify accordingly the limitation section.

6- the discussion is long and redundant. please rewrite it.

After reviewer's comment we modified and reduced the length of discussion

7- write the conclusion at the end of the discussion

After reviewer's comment we write the conclusion at the end of the discussion

Reviewer 2:

The present study addresses a timing and critical issue in post-surgical ICU physical impairment. Authors use a novel approach by measuring the thickness of quadriceps muscle before and after ICU stay by ultrasonography. They conclude that skeletal quadriceps muscle thickness by ultrasound shows a trend to a decrease in patients after cardiac surgery post-ICU admission and is associated with prolonged duration of mechanical ventilation and ICU length of stay. The approach is interesting and the use of a surrogate marker of physical strength may prove to be clinically very useful. There are some issue that need to be addressed:

1. standardization and reproducibility are critical in ultrasounds. Please provide details

We thank the reviewer for this comment. In our study ultrasound measurements analyses were done by an experienced researcher. However, after reviewer`s comment we added further reliability analyses which has shown excellent intra-rater reproducibility results. Statistical analysis and results section was modified accordingly. Inter- and intra-observer reliability has been also shown high acceptable results by previous studies. We added these references in the discussion section and we modify accordingly the limitation section.

2. The clinical implications should be better addressed: what to do with patients with a higher rate of muscle thinness? When to start passive rehabilitation?

We thank the reviewer for highlighting the clinical implication of these findings. We have further added this issue in the discussion section.

3. In line with the previous comment, it would be very interesting to associate a grade of frailty and outcome data. It is well established that patients with a worse physical performance have a worse outcome one year after surgery.



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After reviewer`s comment we have further discussed this issue and added relative reference in the discussion section.