

## Peer Review File

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### Reviewer A

The paper titled “Analysis of the clinical features and risk factors of kidney injury in patients with chronic heart failure- a retrospective observational cohort study” is interesting. Kidney injury occurred in more than half of the patients with CHF during hospitalization. The independent risk factors for kidney injury in the CHF patients included sex (male), hypertension, and stroke. Kidney injury was positively correlated with age and serum potassium, and negatively correlated with serum albumin, hemoglobin concentration, LVEF, and ARB application. However, there are several minor issues that if addressed would significantly improve the manuscript.

1) In the introduction of the manuscript, it is necessary to clearly indicate the knowledge gaps and limitations of prior study and the clinical significance of this study.

Reply 1: The knowledge gaps and limitations of prior study and the clinical significance of this study has been clearly indicated in the Introduction section according to your suggestion.

Changes in the text: Page 4, line 117-119.

2) It is recommended to detect new kidney biomarkers and evaluate whether they can predict the progression of kidney injury in CHF patients.

Reply 2: Many novel biomarkers for kidney injury have emerged in recent years. However, they have not been applied in routine clinical practice and would be studied in our future researches.

Changes in the text: None.

3) This study is a single-center retrospective study. It is recommended to conduct a multi-center, large sample, prospective study and external verification.

Reply 3: Thank you very much for your valuable suggestions. The results of multi-center, large sample size and prospective study have a higher level of evidence, but it takes more time to carry out such researches. The results of the present study will be validated in future multi-center prospective studies.

Changes in the text: None.

4) This study should include research on survival outcomes.

Reply 4: Survival is a hard endpoint of prognosis in clinical studies. The lack of survival data in our study was attributed to the study design and the size of the existing dataset.

Changes in the text: None.

5) There are many uncertainties in retrospective research, which increase the deviation of research results. How to explain and solve this problem?

Reply 5: Retrospective studies have inherent limitations, including selectivity bias, information bias, and uncertainty in causal relationships, which have been addressed in the "Limitations" of the Discussion section. (see Page 12, line 415-416; and Page 13, line 420-427.)

Changes in the text: None.

6) The introduction part of this paper is not comprehensive enough, and the similar papers have not been cited, such as "Comparison of early and delayed strategy for renal replacement therapy initiation for severe acute kidney injury with heart failure: a retrospective comparative cohort study, Transl Androl Urol, PMID:37305617". It is recommended to quote the article.

Reply 6: The recommended article has been quoted in the Introduction section and the numbers of the references have been revised accordingly.

Changes in the text: Page 4, line 119-121.

7) Why did the study select patients from January 2022 to May 2022 as the research subjects? Is there any effect of COVID-19? If so, what are the possible impacts?

Reply 7: There were no impacts of COVID-19 on the study time interval.

Changes in the text: None.

#### **Reviewer B**

1) First, in the title, there is no need to emphasize "observational" since cohort study per se is observational.

Reply 1: The "observational" has been removed from the title.

Changes in the text: Page 1, line 4.

2) Second, the abstract needs some revisions. The background needs to describe the knowledge gaps on the clinical features and risk factors of KI in CHF and what the clinical significance of this research focus is. The methods need to describe the inclusion criteria, assessment of baseline clinical factors, and follow up procedures. The results need to describe the baseline clinical characteristics of the study sample and the incidence rate of KI. The conclusion should not repeat the main findings again, rather please have comments on the clinical implications of the findings.

Reply 2: The "Abstract" section has been revised according to your suggestions.

Changes in the text: Page 3, line 43-47.

3) Third, in the introduction of the main text, the authors need to review what has been known on the incidence rate of KI in CHF and what has been known on the factors associated with KI in general. The comments on the limitations of the only available studies should be detailed enough including its sample size, which factors were not covered, and what other limitations are.

Reply 3: The Introduction of the main text has been revised according to your suggestions.

Changes in the text: Page 4, line 117-121.

4) Fourth, in the methodology of the main text, please check the correct clinical research design of this study, i.e., a retrospective or prospective, sample size estimation, follow up details, and details of the assessment of potential clinical factors. In statistics, because the outcome is time-to-event data, the authors need to explain why they did not consider Cox regression analysis. Please describe the calculation of measures quantifying the associations between factors and outcomes.

Reply 4: The methodology of the main text has been revised according to your suggests. Although the outcome is time to event data, the time interval from admission to kidney injury is relatively short, so both logistic regression and cox regression are appropriate statistical methods. The calculation of measures quantifying the associations between factors and outcomes had been described.

Changes in the text: None.