Reviewer's report

Title: Clinical outcomes associated with catecholamine use in patients diagnosed with Takotsubo Cardiomyopathy

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Reviewer: Masafumi Ueno

Reviewer's report:

In the present manuscript Ansari et al. investigated the clinical outcomes associated with catecholamine use in Takotsubo Cardiomyopathy (TCM). The results of the study indicate that TCM patients receiving catecholamine therapy have poorer in-hospital outcomes and higher long-term mortality rates in comparison to patients not receiving any form of catecholamine support. The manuscript is overall well written and deals with a topic of interest. However, there are numerous major limitations to consider:

1) The study population seems to be small, particularly considering over ten years enrolment period. In order to clarify the absence of a selection bias, the authors should provide a consortium diagram in order to better explain the population recruitment. For example, how many patients were lost to follow up?

2) This is a small sample sized study to assess the individual effect of numerous factors for clinical outcomes.

3) There are some errors in data values through the text and in the Tables (the number of patients with or without catecholamine support). The authors need to revise the entire manuscript.

4) Considering the previous investigations, the rate of mortality and numerous adverse events seems somewhat high in the study. The authors should provide the possible reasons for the unusual high rate of the clinical outcomes in TCM patients.

5) The authors should provide the baseline characteristics according not only to catecholamine use but also to survival status in a Table. In addition, please provide more clinical
information, such as duration of hospital stay, the incidence of sepsis, the number of patients with cardiovascular death.

6) The authors have already reported clinical features and outcomes of TCM using the same population. The authors should add these manuscripts to the references.

7) The authors stated that rates of in-hospital events as well as long-term mortality were significantly higher in TCM patients receiving catecholamine support compared to the other study patients. However, no significant differences appear to be in long-term mortality between the two groups. To clarify the long-term significance, please perform a landmark analysis at 30 days.

8) The discussion is poorly elaborated. In the discussion section, the authors should consider focusing on a deeper interpretation of potential changes in clinical management derived from the results of the study. For example, please describe the clinical implications based on the findings of the present study.

**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.
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.
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