
Peer Review File

Article information: <https://dx.doi.org/10.21037/jtd-23-43>

Review Comments-Reviewer A

- 1) First, the title needs to indicate the outcome of interest of this study, i.e., in-hospital mortality, and there is no need to emphasize PSM since this is only a statistical method.

Reply 1: we have modified our text as advised

Changes in the text: see Page 1, line 3,4

- 2) Second, the abstract needs some revisions since it is not adequate. The background did not explain why early CT after ECMO is potentially associated with in-hospital mortality and the relative importance of this factor in relative to other clinical factors associated with survival. The methods need to describe the inclusion of subjects, the assessment of baseline clinical factors including early CT, and follow up for the outcome, in-hospital mortality. The results need to first report the clinical characteristics of the whole sample, and the adjusted prognostic role of early CT in the whole sample by using HR and P values. The conclusion needs to have more detailed comments for the clinical implications of the findings and the limitations of this study that were associated with the negative findings.

Reply 2: we have modified our text as advised

Changes in the text: see Page 1, 2, line 28,29,32- 34,42,44-48,58

- 3) Third, the introduction of the main text needs to review factors associated with in-hospital mortality or survival of patients receiving ECMO, the difficulties for CT scans for ECPR patients including the possibility of elevated mortality, have detailed speculations on the unique contribution of early CT for the survival of patients, and explain the potential clinical significance of this study. Please describe in the authors' real-world clinical practice, how the clinical decision for the early CT was made considering the risk and benefits for the patients in need.

Reply 3: we have modified our text as advised

Changes in the text: see Page 3, line 86-93

- 4) Fourth, the methodology of the main text needs to describe the sample size estimation, data collection of baseline factors, and determination of the survival outcome, such as 30-day mortality? In statistics, because PSM can result in selection bias, the primary analysis should be based on the whole clinical sample by using multiple Cox regression analysis to adjust for the confounding effects of other clinical covariates. The findings from PSM samples can only be viewed as a sensitivity analysis of the primary findings. The authors need to describe the multiple Cox regression analysis in the statistics and ensure $P < 0.05$ is two-sided.

Reply 4: we have modified our text as advised

Changes in the text: see Page 3, line107-109, Page 5, line174-176, Page 6, line222-226, Page 14,15 line392-393

Review comment-Reviewer B

The sample size calculation is critical and fundamental for designing a study protocol. The sample size of the study is very small to support a strong conclusion, as a result the power of the study is not adequate.

Reply: Indeed the sample size is important to study design, however, ECPR is an expensive high resource consumption treatment. In our country, our sample is relatively big. In our opinion, to make an appropriate conclusion, sample size is an aspect, data quality and processing is another aspect, we believe that our conclusion is reliable.

Review comment-Reviewer C

Thank you for giving me the opportunity to review the manuscript. The authors investigated the efficacy of early-CT among cardiac arrest patients undergoing ECPR. And the results were early-CT was not associated with survival and authors noted cautions with transporting the ECPR patients.

Major comments.

1. Unfortunately, I disagreed with the conclusion that early-CT was not necessary after ECPR patients. As results revealed, some patients had intracranial disease or pulmonary embolism. These conditions were managed after diagnosis and some diseases were appropriately managed depending on CT results. In this study, the survival was not different between CT+ or CT-. I supposed the differences of patients' characteristics could affect the result; I recommend the conclusion was changed. "The survival rate was not different, however, the CT after ECPR could help clinicians to gain important information to guide clinical practice.

Reply: we have modified our text as advised.

Changes in the text: see Page 2, line 60-62, Page 9, line 318-321.

2. Additionally, I recommend authors describe discussion between in-hospital cardiac arrest and out of hospital cardiac arrest. The need of CT scanning differed to arrest condition.

Reply: we have modified our text as advised.

Changes in the text: see Page 7, line 264-266.

Minor comments.

#1. Page 4 Line 93.

CPR duration and so on were collected→collected variables should be described precisely.

Reply: we have modified our text as advised.

Changes in the text: see Page 4, line 126-128.

#2. Page 4 Line 97-98.

After matching, 90 patients were included in the analysis.

→This sentence should be included in result.

Reply: we have modified our text as advised.

Changes in the text: see Page 4, line 131.

#3. Page 6 Line 162-163

Most of the 71 patients had been transferred from the emergency department and the most common cause of cardiac arrest was myocardial infarction.

→I think it is better to note exact number or percentage of patients without using the word of "most".

Reply: we have modified our text as advised.

Changes in the text: see Page 6, line 206,207.

Review comment-reviewer D

1. Figure 1

Please explain VA-ECMO and ECPR in the legend.

Reply: we have modified our text as advised.

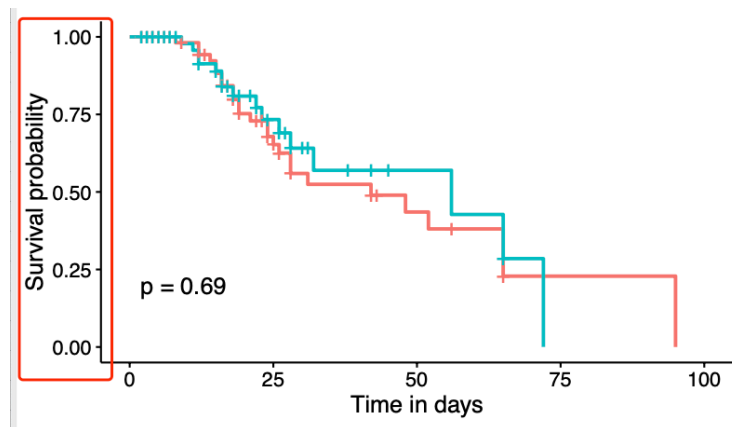
Changes in the text: see Page 15, line 407,408

2. Figure 2-3

a) Please explain CT in the legend.

b) Please remove "(percent)" in the legend, it is not shown as percent in the figure. Please revise figure 2 and 3's legend.

Figure 2 Kaplan-Meier curves representing cumulative in-hospital survival (percent) over time (days).↵



Reply: we have modified our text as advised.

Changes in the text: see Page 16, line 410,411,413,414

3. Table 1

a) Please explain ECPR, CPR, ECMO, and SOFA in the table footnote.

b) Please add the description to the table footnote that how the data are presented in table.

Age (years)	46.3±15.7	50.0±12.3	0.124
ECPR location			
Emergency room	48 (67.6%)	28 (45.9%)	

Reply: we have modified our text as advised.

Changes in the text: see Page 12, line 395

4. Table 2

a) Please provide the header of the first column.

transportation

	Incidence of finding	Survival with finding	Death finding
CT scan performed	71	16	55
All findings	4.3±1.9	3.8±1.3	4.5±2.0

b) Please explain ECMO and CT in the table footnote.

Reply: we have modified our text as advised.

Changes in the text: see Page 13,14, line 401

5. Table 3

a) Please explain SOFA, CPR, ECMO and PCI in the table footnote.

b) Please add the description to the table footnote that how the data are presented in table.

Age	48.1±15.5	48.1±11.9	0.548
Initial shockable rhythm	32 (71.1%)	34 (75.6%)	0.634
SOFA	13.7±2.6	13.4±2.8	0.550
CPR duration	28.3±7.5	28.9±11.6	0.764

c) Please provide the header of the first column.

Table 3 Description of matched samples

	Treatment	Control	P value
Gender	45	45	
Male	25 (55.6%)	25 (55.6%)	

Reply: we have modified our text as advised.

Changes in the text: see Page 14, line 402

6. Table 4

a) Please provide the header of the first column.

	<u>HR</u>	<u>95%CI</u>
<u>Early CT scan</u>	<u>0.705</u>	<u>0.335-1.483</u>
<u>Age</u>	<u>0.991</u>	<u>0.967-1.015</u>

b) Please explain HR, CI, SOFA, CPR, and ECMO in the table footnote.

Reply: we have modified our text as advised.

Changes in the text: see Page 14,15, line 403