Peer Review File

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Reviewer A

Comment 1: The term post-perioperative is confusing and should be replaced with "after perioperative."
Reply 1: Thank you for your recommendation. We have replaced all "post-perioperative" and "post-PCA" with "after perioperative" and "after PCA," respectively.
Changes in the text: Throughout document.

Comment 2: It is important to study not only 30-day mortality but also long-term mortality and morbidity outcomes in these patients (eg: tracheostomy and PEG tube placement, neurological recovery measured by CPC categories)
Reply 2: Thank you for your comment. Per your suggestion, we included long-term outcomes (mortality, neurological outcomes, tracheostomy, and PEG insertion) of the patients in our study as follow-ups one-year after PCA. These results have been summarized and included in Table 6.
Changes in the text: We included the following sentences "71 patients (67.6%) died within a year. Only 25 PCA survivors (23.8%) returned to their normal life status, while nine (8.6%) experienced moderate to severe cerebral disabilities." (Lines 206-208).

Comment 3: Conclusions: "early detection of complications, and aggressive interventions may help improve patient outcomes." What does this imply?
Reply 3: We wanted imply that healthcare providers should remain vigilant for potential complications and be prepared to act quickly to address them, which may help reduce the risk of mortality associated with PCA. This is also due to the nature of our independent risk factors (unmodifiable).
Changes in the text: We altered the wording of this sentence to "While these factors are difficult to modify, vigilant monitoring of high-risk patients before PCA occurs and early detection of PCA, along with prompt and aggressive intervention, may improve patient outcomes." (Abstract, Lines 58-60).

Comment 4: In the highlight box: "What is the implication, and what should change now? Identifying independent risk factors of post-PCA mortality would equip medical providers with the tools to perform risk assessments and stratification." None of the factors that were identified such as CPR duration >15 minutes could be predicted at the time of completing a preop medical assessment to risk stratify. The answer provided does not answer the question as the results (immediate preoperative and intra arrest factors) cannot help risk stratify patients.
Reply 4: Thank you for your comment. We have modified the content for this section of the highlight box.
Changes in the text: We have changed this section to "Preoperative vasopressor use was an independent risk factor for 30-day mortality after PCA. Although unmodifiable, it facilitates risk stratification and vigilant care for high-risk patients. In addition, other risk factors may remain undetectable prior to PCA. These results emphasize the significance of timely detection and intervention to enhance patient outcomes." (Highlight Box, Line 65).

Comment 5: "PCA was defined as the absence of cardiac rhythm" This is not the definition of cardiac arrest, including perioperative cardiac arrest. Only asystole is the absence of cardiac rhythm. Other arrests from Vfib, PEA etc have a cardiac rhythm. Please define perioperative cardiac arrest correctly.
Reply 5: Thank you for your comment. We corrected this definition.
Changes in the text: We removed this sentence and replace it with "PCA was defined as the absence of mechanical heart function (determined by a central pulse) and loss of effective circulation between the administration of anesthesia until 24 hours after surgery." (Lines 107-109).

Comment 6: several typographical errors need to be correct throughout the manuscript.
Reply 6: Thank you for your comment. We have corrected these typographical errors.
Changes in the text: Throughout document.

Comment 7: Massive blood loss was found to decrease post-PCA 30-day mortality (RR 0.15, P = 0.049). This is almost a p value of 0.05 and I believe this finding is because the sample size is very small. It is ironic how hypovolemia is associated with PCA but massive blood loss is associated with a decrease in 30-day mortality.
Reply 7: Thank you for your comment. We have modified our discussion accordingly.
Changes in the text: We adjusted the sentencing to the following "In our study, we observed that a reduction in 30-day mortality after PCA occurred with massive blood loss ($P = 0.049$). However, it should be noted that our study was limited by a small sample size, which may have affected the generalizability of these findings. Further studies are required to clarify these results." (Lines 258-261).

Comment 8: What was the incidence of cardiac arrest among those with an elective surgery? Were any subgroup analyses conducted to explore whether the same factors applied to those undergoing elective vs. emergent surgery? As those undergoing elective surgery are more likely to be optimized and less likely to arrest. It is unclear whether the factors are the same for those undergoing elective and emergent surgery as those undergoing emergent surgery may have other preop factors that we are missing but predispose them to the arrest.
Reply 8: The overall incidence of PCA was 4.31 per 10,000 cases. In non-emergency cases, the incidence of PCA was 1.8 per 10,000. In emergency cases, the incidence rose to 33.7 per 10,000. We also added a subgroup analysis for the factors associated 30-day mortality comparing the emergency and non-emergency groups. These results are presented in Table 4.
Changes in the text: We included the following sentence "Incidences of PCA by surgery type (non-emergency and emergency) were 1.8 and 33.7 per 10,000 cases, respectively." (Lines 152-153).

Comment 9: Equally important with mortality is morbidity and cerebral performance and long-term outcomes. I suggest that long term follow up data including morbidity data be added on these patients, especially since the sample size is so small.
Reply 9: Thank you for your comment. Per your suggestion, we included long-term outcomes (mortality, neurological outcomes, tracheostomy, and PEG insertion) of the patients in our study as follow-ups one-year after PCA. These results have been summarized and included in Table 6.
Changes in the text: We included the following sentences "71 patients (67.6%) died within a year. Only 25 PCA survivors (23.8%) returned to their normal livelihoods, while nine (8.6%) experienced moderate to severe cerebral disabilities." (Lines 206-208).

Reviewer B

1. Please add a statement regarding informed consent in the Methods section.
Change in the text: We included the following sentences "Informed consent was waived for this retrospective analysis" (Lines 113-114).

2. Please define SD upon first use in the Main Text.
Change in the text: Per your suggestion, we included definition of SD (Line 154).

3. We suggest changing the 2nd column header of Table 1 to "Value" or "Numbers" and add "Data is presented as Mean + SD or N (%)" at the bottom.
Change in the text: We changed the 2nd column header of Table 1 to "Numbers" and added "Data is presented as Mean + SD or N (%)" at the bottom (Table 1, Line 3).

We also changed the 2nd column header of table 5 to "Cardiac arrest cases" and added "Data is expressed as number of patients (percentage from total)" to the table legend (Table 5, line3). Finally, we changed the 2nd column header of table 6 to "Numbers"

4. A header is required in the first column of Table 3.
Change in the text: We added "Factors" as a header in the first column of Table 3.

5. Please define RR in the explanatory legend of Table 3 and 4.
Change in the text: We have included definition of RR in the table legends (Table 3, 4 also in Table 2), as you suggest.