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OPEN PEER REVIEW

Risk Factors of Mortality in the Intensive Care Unit Following Cardiac Surgery for Congenital Heart Diseases in Children

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

1 comment · 21 Jan 2023

Referee 1 Reviewer

MAJOR REVISION 21 Jan 2023

Comments to the Author

Dear Authors,
The manuscript was clearly and succinctly written, making it a pleasure to read. However, I have provided some major comments to improve the quality of the present paper:

Title: Erase the punctuation in the title.
Abstract-Methods: Please use months in parentheses instead of month in the Abstract and Main document.
Main document:

1. Introduction

- Please erase the part 'the most common' (line 40).
- Check the validity of this sentence and the reference.
- 'Patients with CHD are at higher risk of infections and malignancies??? and may develop hematological problems (thrombocytopenia and neutropenia)' (lines 41-42).
- Please erase the quotation marks in lines 44,46,48.
- Add 'type of' before cardiac anomalies (line 44).
- Add a comma before 'or' (line 47).
- The Introduction section is unnecessarily long. I think that some parts sound more like a discussion than an introduction. The part between lines 54-62, for example, should be erased and/or incorporated into the Discussion section.

2. Methods
- The part between lines 70-72 should be divided into at least two sentences.

'In this retrospective, cross-sectional data analysis, all patients younger than 18 years of age who underwent open-heart surgeries and were admitted to open-heart ICU (OH-ICU) between March 2018 and March 2019 in a tertiary referral hospital, Tehran, Iran, evaluated (n=277).'

This sentence would be clearer as follows:
'Our retrospective and cross-sectional study was conducted in a tertiary referral hospital in Tehran, Iran, between March 2018 and March 2019. A total of 277 patients under the age of 18 who underwent open heart surgery and were admitted to the open-heart intensive care unit (OH-ICU) were evaluated.'
- Make the corrections I have added in the PDF document for line 76.
- Clearly explain the inclusion and exclusion criteria.
- Please add the ethics committee approval.

3. Results

- Make the corrections I have added in the PDF document for lines 84-85.
- Line 85… The stay in the OH-ICU was a mean (SD) of 6.95 (7.72) days… This sentence would be clearer as follows:

'The mean (SD) stay in the OH-ICU was 6.95 (7.72) days…'
- Lines 86,87… The mean (SD) for CPB and XCT time are respectively 109.57 (75.43) and 77.63 (57.82) minutes. The neutrophil-to-lymphocyte ratio was 4.04 (2.92) (Table 1). These sentences would be clearer as follows:

'The mean (SD) for CPB and XCT time was 109.57 (75.43) and 77.63 (57.82) minutes, respectively. The mean (SD) neutrophil to lymphocyte ratio was 4.04 (2.92) (Table 1).'

• Please explain why you categorized the patients according to their platelet count. It would be clearer to add the grades of thrombocytopenia, such as mild, severe, etc.
• Don't use "value" after "p" in parentheses throughout the Abstract and Main document. For example, (p =0.124).
• Please seek support from a native English speaker to correct the parts between lines 108-117 and 126-128.
• Lines 131-133… Check the platelet count unit (X109/ liter): is it liter or mL?

4. Discussion
Some portions sound merely descriptive. You can share your experiences and the advantages and disadvantages of your study. You can also explain in more detail the reasons for the differences between your study and other studies in the same field instead of repeating the results. Please seek support from a native English speaker to correct the parts I have highlighted in the PDF document.

5. Limitation
• The text in lines 208-210… does not sound like a limitation of the study.

6. Tables

Table 1

• Make the title of Table 1 clearer. This title would be clearer as follows: Duration of surgery, demographic, and laboratory features of the study group.
• After Duration of Hospitalization, add (days???) in parentheses.
• Check the platelet count unit (X109/ liter): is it liter or mL?

Table 2

• Define the title of Table 2 more precisely. This title may be clearer as follows: Classification of patients by platelet count
• Add a new column with the names of the groups, such as Group 1 – severe thrombocytopenia, Group 2 ……..
• Explain 'n' as the number of patients under Table 2.
• Check the platelet count unit: microliter, liter, or mL?

Table 3

• Define the title of Table 3 more precisely. This title may be clearer as follows: Frequency of surviving and deceased patients after congenital heart disease surgery • It would be better to categorize CHD as cyanotic, non-cyanotic, or infectious in Table 3.

Table 4

• Make the title of Table 4 clearer.
• After Duration of Hospitalization, add (days???) in parentheses.
• Check the platelet count unit (X109/ liter): is it liter or mL?
• Add an explanation of RACHS at the bottom of Table 4.
• Explain 'n' as the number of patients under Table 4.
• How was the p-value calculated? Add an explanation at the bottom of Table 4.

Table 5

- Define cyanotic/non-cyanotic disorders as cyanotic and non-cyanotic CHD in the title of Table 5.
- Explain 'CPB and XCT ' at the bottom of Table 5.
- How was the p-value calculated? Add an explanation at the bottom of Table 5.

7. Figures

A representative figure showing the relationship of cyanotic and non-cyanotic CHD with platelet count and neutrophil-to-lymphocyte ratio can be added.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Reviewers

According to your comments, the following changes have been made:

The punctuation erased in the title.

The word ‘month’, changed to ‘months’ in the whole manuscript.

In the line 40, the part ‘most common’ is erased.

In the lines of 41-42, the words, malignancies and hematologic problems were omitted.

The quotation marks in the lines 44,46,48, were deleted.

In the line 44, a comma was added before ‘or’.

The unnecessary parts of the introduction between lines 54-62 are erased and transferred to the discussion part.

In the part of Method, the lines 70-72, divided into two sentences.

The mentioned corrections applied to the line 76.

The inclusion and exclusion criteria and the ethics committee approval added.

The structure of the lines 84,85,86,87 was changed according to the comments.

The reason for categorizing the patients according to the platelet count was explained: In order to assess the extent of impact of thrombocytopenia, the patients were categorized by their platelet count into four groups.

The thrombocytopenia was classified as, mild, moderate and severe.

P value, mentioned as p=0.

The lines 108-117 and 126-128 were changed.

The unit of platelet can be mentioned as x10^9/L.

In the part of the Discussion, the experiences of other researches have been added.

Lines 208-210 have been erased.

The tables have been corrected according to the comments.

Thanks and Regards

2 Revision 1

1 comment · 25 Mar 2023

Referee 1 Reviewer

MAJOR REVISION 25 Mar 2023

Comments to the Author

Dear Authors,
I appreciate that all the recommended changes were successfully incorporated into the manuscript; however, I have some major comments to improve the quality of the present paper. The quality of the English language in this article is unfortunately not high enough. A complete revision of the English grammar is needed for both the abstract and the manuscript. You should seek support from a native English speaker or alternatively enlist the assistance of language polishing services before submitting your article. You should also have the scientific content of your article checked by the professors in your department.
Letters to the reviewers should be written point by point; otherwise, the review process could take longer.

Title: Erase the punctuation in the title.

2. Methods
• Make the corrections I have added in the PDF document in lines 99,100.
• Lines 91,92.... "Patients were included if they had been under 18 years of at the time of open-heart surgery and were admitted in open-heart ICU between March 2018 and March 2019."... This sentence would read more clearly as follows:

Patients included were under 18 years of age, had undergone open heart surgery, and were admitted to the open heart intensive care unit.

3. Results

• Make the corrections I have added in the PDF document in lines 103,109,116,148.
• Please seek support from a native English speaker to correct the part between lines 129-136.

4. Discussion
Please seek support from a native English speaker.

6. Tables

Table 3

• Please check your CHD classification using current literature. Define CHD as cyanotic, non-cyanotic, infectious, valvular... in Table 3.

Table 4

• How was the p-value calculated? Add an explanation at the bottom of Table 4.

Table 5

• It is not clear to me how you distinguish patients with cyanotic and non-cyanotic disorders. For example, the Ebstein anomaly is not a non-cyanotic anomaly, but did you use it as non-cyanotic in the statistical analysis? Or did you count endocarditis as CHD? You should also have the scientific content of your article checked by the professors in your department.

7. Figures

A representative figure showing the relationship of cyanotic and non-cyanotic CHD with platelet count and the neutrophil-to-lymphocyte ratio can be added.

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Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Editor

According to your comments, the following changes have been made:

The punctuation erased in the title.

The Abstract and Manuscript part have edited with the support from a native English speaker.

The scientific parts reviewed again more precisely by our department.

Corrections made in the lines 99, 100, according to the comments.

Lines 91, 92, have changed according to the reviewer’s comments.

Changes made in the lines 103,109,116,148, as ordered by the reviewer.

The part between lines 129-136 have changed.

The discussion part has been edited by native English-speaking editor.

Tables:

Table 3: CHD classification has been checked and Ebstein’s anomaly transferred to cyanotic and Endocarditis has been deleted as it is not CHD.

Table 4:

The explanation of p-value has been added at the bottom of table 4.

Table 5:

CHD classification has been checked and Ebstein’s anomaly transferred to cyanotic and Endocarditis has been deleted as it is not CHD.

A figure is added to demonstrate the comparison of platelet count between patients with cyanotic and non-cyanotic congenital heart disease.

Thanks and Regards

3 Revision 2

1 comment · 15 May 2023

Referee 1 Reviewer

ACCEPT 15 May 2023

Comments to the Author

Dear Authors,
I appreciate that all the recommended changes were successfully incorporated into the manuscript, making it a pleasure to read.
The revised manuscript has improved considerably and can be accepted.