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Infections of Port Access Catheters 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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Contents

1 **Original submission** Referee 1, Associate Editor 2
2 **Revision 1** Referee 2, Associate Editor 3
Authors' reply to reviewers 4
Reviewer and editor comments 5
3 **Revision 2** Referee 3, Referee 4, Fariba Alaei, Referee 5 7
Authors' reply to reviewers 8
Reviewer and editor comments 11
4 **Revision 3** Associate Editor 13
Authors' reply to reviewers 14
Reviewer and editor comments 18

1 Original submission

2 comments · 5 Jul 2020 – 5 Jul 2020

Referee 1 Reviewer

MAJOR REVISION 5 Jul 2020

Thank you very much.
There are some questions:
1. The introduction is very short; the authors should explain why they did the study.
2. What are the “Other singular cases” in the table?
3. In table 1, there is a problem: the last column is not correct.
4. The study results should be revised according to malignant and nonmalignant cases, as in the discussion the authors have compared the results on infections with those of studies only on malignant cases because they are immunocompromised. The discussion should then be divided into two separate groups, and the results should be compared with those of appropriate studies.

Associate Editor

MAJOR REVISION 5 Jul 2020

Thank you very much
Reviwer 1. There are some questions:
1. The introduction is very short; the authors should explain why they did the study.
2. What does “Other singular cases” mean in the table?
3. In Table 1, there is a problem: the last column is not correct.
4. The study results should be revised according to malignant and nonmalignant cases, as in the discussion the authors have compared the infection results with studies only on malignant cases because these patients are immunocompromised. The discussion should then be divided into two separate groups, and the results should be compared with appropriate studies.
Reviwer 2:
This is a retrospective study evaluating PAC infections in pediatric patients in a single hospital.
General
The manuscript needs linguistic editing.
Introduction
The Introduction section is very short for an original paper.
Methods
How were the blood cultures obtained? Was the blood sample obtained from the PAC or peripheral veins or both at the same time?
While some information was provided in the abstract (e.g., type of follow-up), it was not mentioned in the text.
Results
The type of organism should be defined precisely, and if this information is not available, it is a major limitation of this study that cannot be ignored.
Discussion
An important limitation of this study is its retrospective design. In addition, the follow-up was performed, in part, by calling parents. These points should be added to the discussion as limitations.

2

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 Editor:

Thanks to the respected Reviewers, and according to their recommendations the following changes were performed in the article

1: *The introduction was prolonged according to the both Reviewers*

2: Table 1 was corrected according to the both Reviewers

3: *Table 3 was corrected according to the Reviewer2*

4: Blood cultures sampling, was more clearly discussed both in the abstract and the discussion, according to the reviewer 2

5.The limitations was written in more detail according to the Reviewer2

Sasan.M.S: corresponding

2 Revision 1

3 comments · 25 Aug 2020 – 11 Sep 2020

Referee 2 Reviewer

MINOR REVISION 25 Aug 2020

Infections of Port Access Catheters in children

- Please prepare your keywords according to the MeSH system.
Introduction
Please add the following references to your manuscript.
*Goudarzi M, Navidinia M. Overview Perspective of Bacterial Strategies of Resistance to Biocides and Antibiotics, Arch Clin Infect Dis. 2019; 14(2):e65744. DOI: 10.5812/archcid.65744.
*Phenotypic and molecular characterization of methicillin-resistant staphylococcus aureus clones carrying the panton-valentine leukocidin genes disseminating in Iranian hospitals. Microbial Drug Resistance 2018 24 (10) : 1543-1551
*Molecular characterization of resistance genes in MDR-ESKAPE pathogens. Journal of Pure and Applied Microbiology 2017; 11(2): 779-792

Methods
Inclusion/exclusion criteria were not explained.
In review articles, the methods used for searching, selecting, and extracting the articles were not revealed.
The software and tests used for statistical analysis and the comparisons performed were not properly described.
Results

Demographic data and baseline characteristics of the studied population were not fully addressed.
Discussion
The main findings of the study were not indicated at the beginning of the discussion.
The limitations of the study and suggestions were not addressed at the end of the discussion.
Conclusion
The conclusion was not based on the main findings of the study.
Acknowledgment, funding, conflict of interest, and authors' contributions sections (all four items) were not presented at the end of the article.
Please prepare the references according to the journal format.

Associate Editor

MAJOR REVISION 6 Sep 2020

Infections of Port Access Catheters in children
- Please prepare your keywords according to the MeSH system.
Introduction
Please add the following references to your manuscript.
*Goudarzi M, Navidinia M. Overview Perspective of Bacterial Strategies of Resistance to Biocides and Antibiotics, Arch Clin Infect Dis. 2019; 14(2):e65744. DOI: 10.5812/archcid.65744.
*Phenotypic and molecular characterization of methicillin-resistant staphylococcus aureus clones carrying the panton-valentine leukocidin genes disseminating in Iranian hospitals. Microbial Drug Resistance 2018 24 (10) : 1543-1551
*Molecular characterization of resistance genes in MDR-ESKAPE pathogens. Journal of Pure and Applied Microbiology 2017; 11(2): 779-792

Methods
Inclusion/exclusion criteria were not explained.
In review articles, the methods used for searching, selecting, and extracting the articles were not described.
The software and tests used for statistical analysis and the comparisons performed properly were not described.
Results
Demographic data and baseline characteristics of the study population were not fully addressed.
Discussion
The main findings of the study were not indicated at the beginning of the discussion.
The limitations of the study and suggestions were not addressed at the end of the discussion.
Conclusion
The conclusion was not based on the main findings of the study.
Acknowledgment, funding, conflict of interest, and authors' contribution sections (all four items) were not presented at the end of the article.
Please prepare the references according to the journal format.

Associate Editor

MINOR REVISION 11 Sep 2020

Dear author
1- The time from catheter placement to the onset of infection should be considered as a determining factor in the definition of infection, which is not mentioned in this article.
2- Which statistical test was used to compare the incidence rate of infection in different groups? Please explain it in the method section.
Regards

3

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: salam

With many thanks for the valuable recommendations, the following is our response and the corrections that have been performed in the article.

Reviewer 1:
1*.* The introduction is very short, the authors should explain why they did the study

1. **Answer:** The introduction was changed with more details

2*.* What is the "Other singular cases" in the table?
2. **Answer:** Those cases were defined in the table one

3*.* In the table 1, there is a problem in the table, the last column is not correct
3**-Answer:** thanks for your attention, the last column was corrected

Reviewer 2:
The manuscript needs linguistic editing.
Answer: linguistic errors were corrected and highlighted in the text

1*.* Introduction section is very short for an original paper.

Answer: The introduction was changed with more details.

Methods
2*.How were the blood cultures obtained? Was the blood sample obtained from PAC or peripheral veins or both at the same time?*

Answer: The method part,*" the section of case definition"* was corrected in this way **:** positive blood culture (peripheral or from the catheter)
And also in the last paragraph, before summery(study limitations), this phrase was added: Because of the retrospective nature of the study, it was not possible to determine the place of blood sampling for each case, therefor our definition of" PAC infection" is based on clinical signs and any positive blood culture.

3. *While some information was declared in the abstract (e.g. type of follow up), there was not mentioned in the text.*
Answer: The "Method part of the main text" was corrected and is highlighted in the text.

Results
4*.The type of organism should be defined exactly and if not available it is a major limitation for this study that cannot be ignored.*

Answer: The types of organisms were defined, and for this the table 3 was changed

Discussion

5.An important limitation of this study is being retrospective. In addition, the follow up was performed, in part, by calling parents. These points should be added to the discussion part as the limitations.

Answer: The paragraph of limitation was corrected according to the respected reviewer.

Associate Editor 1:

1-Please prepare your keywords according to the MeSH system.

Answer: The keywords were corrected according to the MeSH

2-Please add the following references to your manuscript.

**Goudarzi M, Navidinia M. Overview Perspective of Bacterial Strategies of Resistance to Biocides and Antibiotics, Arch Clin Infect Dis. 2019; 14(2):e65744. DOI: 10.5812/archcid.65744.*

**Phenotypic and molecular characterization of methicillin-resistant staphylococcus aureus clones carrying the panton-valentine leukocidin genes disseminating in Iranian hospitals. Microbial Drug Resistance 2018 24 (10) : 1543-1551*

**Molecular characterization of resistance genes in MDR-ESKAPE pathogens. Journal of Pure and Applied Microbiology 2017; 11(2): 779-792*

Answer: The first mentioned reference was added in the introduction.

3-Inclusion/exclusion criteria were not explained.

Answer: Inclusion/exclusion criteria was defined in the Method

4-In review articles; the methods used for searching, selecting, and extracting the articles were not revealed.

Answer: The “search method” was added to the 5th paragraph of discussion.

5-The software and tests used for statistical analysis, and the comparisons done properly were not introduced.

Answer: The software and statistical analysis was added in the method.

6-Demographic data and baseline characteristics of the studied population completely were not addressed.

Answer: The Demographic data and baseline characteristics are summarized in table 1.

7-The main findings of the study were not indicated at the beginning of the discussion.

Answer: The first paragraph of the discussion was changed and the main findings were added

8-The limitations of the study and suggestions were not addressed at the end of the discussion.

Answer: The paragraph of limitations was changed with more details.

9-The conclusion was not based on the main findings of the study.

Answer: The last paragraph *which* is devoted to conclusion was changed*.*

10-Acknowledgment, funding, conflict of interest, and authors' contribution sections (all four items) were not presented at the end of the article.

Answer: A paragraph was added at the end of article for the above issues.

11-Please prepare the references according to the journal format.

Answer: The correction was performed.

Associate Editor 2:
Dear author
1- The duration of Incidence of infection from the time of catheter placement should be considered as a determining factor in the definition of infection, which is not mentioned in this article.
Answer: The following phrase has been written in the paragraph of “the study limitations”: The second limitation is the method of reporting the rate of catheter infections. The best way for calculating the rate of CRBSI is based on number of infections per 1000 catheter days. In this study although we have reported the mean time between catheter implementation and diagnosis of infection (which was 5.3±5.5month) but the rate of infections is based on the number of infections per number of catheters

2- Which statistical test was used to compare the incidence rate of infection in different groups? Please explain it in the method section

Answer: The following **phrase was added to the method.** Data were analyzed with SPSS 20. Chi-square test was used to examine the significance of the association between categorical data. The probability values less than 0.05 were considered significant.

Sasan.ms : The corresponding author

3 Revision 2

4 comments · 23 Oct 2020 – 8 Dec 2020

Referee 3 Reviewer — MINOR REVISION — 23 Oct 2020

Dear author
Are the comparisons adjusted based on the duration of catheter placement?
Regards

Referee 4 Reviewer — REJECT — 21 Nov 2020

Thanks for your manuscript. There are many basic problems.
-Your study is retrospective, without simultaneous blood cultures obtained from PAC and peripheral sites, and only existing data were gathered. So it can't yield valuable results.
Introduction:
-It is not conclusive and has only 2 references. Your real aim is not elucidated.
Methods:
-This section is very short and incomplete. The study population, laboratory methods, ethics committee approval, and statistical analysis are not described.
Results:
-This section is too long and presents data that are not comprehensive. Your tables are not beneficial.
-Table-4 is meaningless. Your manuscript is not a meta-analysis or a review article.
Discussion:
-This section comprises other studies without comparing them with your study, and no reasons are given for the differences between your study and others.
-There is no funding support, conflict of interest, or grant number.
-The number of references is small.

Fariba Alaei Reviewer — MINOR REVISION — 7 Dec 2020

Introduction
Your manuscript states, " Chills and fever during catheter usage (without port infection) in 6 cases (%37/5)"; how could you define infection in these cases, since you did not have positive cultures in all of them?
You did not mention the number and percentage of endocarditis cases.
Results
The abbreviations are not written out in full in the tables.

Referee 5 Reviewer — MINOR REVISION — 8 Dec 2020

Thank you very much for this great article.
I studied the first revision of this article by colleagues, but I still think it needs some revision.
As we know, one of the most important groups of patients who use a Port-A-Cath is patients with malignancies, as shown by the results of this study.

So I think it is better to write more about the information and results regarding the use of a Port-A-Cath in this group of patients, including infection rates, microorganisms, and risk factors.

4

Revision 3

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: Salam

The following is our answers to the respected reviewers

Reviewer 1:
Dear author
Are the comparisons adjusted based on the duration of catheter placement?

Answer: This is one of the major limitations of our study which we have mentioned at the end of article : *The second limitation is the method of reporting the rate of catheter infections. The best way for calculating the rate of CRBSI is based on number of infections per 1000 catheter days. In this study although we have reported the mean time between catheter implementation and diagnosis of infection (which was 5.3±5.5month) but the rate of infections is based on the number of infections per number of catheters*

Regards

Reviewer 2:
Thanks for your manuscript. There are many basic problems.
-Your study is retrospective without obtaining simultaneous blood cultures from PAC and peripheral and only existing data were gathered. So it can't indicate valuable results.

Answer:

1.We added to the introduction that : The term CRBSI is reserved for bloodstream infections (BSI) that are demonstrated by culture of CVC tip or other techniques to have been caused by colonization of the device. On the other hand, the more general term central line –associated bloodstream infection (CLABSI) is often used for surveillance and refers to any BSI in a patient with a CVC, unless an alternative source is identified.

2.And in the discussion we have shown that : Interestingly in almost all of published researches about PAC infections in children, this practical criteria is used for CRBSI , although for such cases the term CLABSI is more appropriate(7,8,9,10,13,15)

Introduction:
-Not conclusive and with 2 references. Your real aim is not elucidated.

Answer: The introduction was modified according to the respected reviewer.
Methods:
-Very short and incomplete. No study population, laboratory methods, ethics committee approval and statistical analysis.

Answer: the method was changed according to the respected reviewer's recommendations.

Results:
-Is too long with incomprehensive data. Your Tables are not beneficial.
-Table-4 is meaningless. Your manuscript is not meta-analysis or review article.
Discussion:
-Is comprised of other studies and no comparing them with your study and there are no causes of differences between your study with others.
-There is no funding support, conflict of interest and grant number.

Answer: The "funding support, conflict of interest" has been written before references and the ethics committee confirmation letter has been sent to the journal as an attachment to the article.

-Number of references is small.

Answer: The number of references was increased to 16.

Reviewer 3:
Thank you very much for this great article.
i studied the first revision of this article by collegues , but still , I think it needs some revision .
as we now, one of the most important group of patients who use of port a cath are malignant group of patinets such as results in this study .
so i think it is better to write more about the informations and results of using of port cath in this group of patients includs , rate of infections , microorganisms , risk factors in this groups..
Answer: As the table 1 shows 71% of our cases and 75% of PAC infections were in children with cancer, but at this moment it is not possible for us to analyze the data of this subgroup.

Reviewer 4:

Hi,

1- Due to the major limitations of this study, which is retrospective, more information and results can not beexpected

2- Therefore, with the corrections made by the authors of the article in response to the objections made by the respected judges, this article can be a basis for future prospective studies.

Reviewer 5:
Introduction
According to your manuscript," Chills and fever during catheter usage (without

port infection) in 6 cases (%37/5)"; how could you define infection in them, since you did not have positive cultures in all of them?

Answer :

1.In the last paragraph of methods , in which we define different type of PAC infections , the fourth type of PAC infection is : fever during infusion from the catheter and resolution of fever with catheter removal and negative blood culture

2. As the table 2 shows, of 6 patients with "Chills and fever during catheter usage (without port infection)" , blood culture was positive in 5 cases.
You did not mention number and percent of endocarditis cases.

Answer: Unfortunately we didn't look for endocarditis in the patients' files.
Results
The abbreviations are not mentioned in complete format for tables.

Answer: this problem was corrected in table 1.

Associate Editor's Comments:

Associate Editor 1:
Thank you very much for sending the article as revised.The most important problem in the article is the retrospective nature of the study which has weakened the value of the study,We know that a prospective study for such a goal might be hard and lengthy so I would suggest to describe this important issue in the discussion.

Answer: In the last paragraph before conclusion, we have written about this limitation.
Associate Editor 2:
MINOR REVISION
Dear author,
Thank you so much for your contribution to APID.
According to reviewers' comments, my decision about this manuscript is minor revision.
Please revise and update it according to reviewer's comments.

EIC Decision:

MY decision about this manuscript (MINOR revision).

4 Revision 3

1 comment · 12 Feb 2021

Associate Editor

ACCEPT 12 Feb 2021

Dear author,
Thank you for the revisions.