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OPEN PEER REVIEW

The Effect of Intravenous Dexmedetomidine During Surgery in the Prevention of Shivering After General Anesthesia in Patients Undergoing Spinal Surgery: A Randomized Clinical Trial

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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.

More about open peer review: brieflands.com/knowledgebase/opr

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1 Original submission

4 comments · 1 Feb 2025 – 7 Feb 2025

Referee 1 Reviewer

MINOR REVISION 1 Feb 2025

Dear AE,
This study is well-designed and contributes meaningfully to the anesthesia literature. Minor revisions would significantly enhance its clarity, impact, and applicability to clinical practice:

-Some sentences lack references. All sentences quoted from other articles must have references at the end of each sentence.
For example, the following sentence:
Shivering is an important defense mechanism in thermoregulation in adults and consists of spontaneous, asynchronous and accidental contractions.....

-The article does not mention how the sample size (n=60) was determined. Proper sample size calculation based on expected effect sizes, power analysis, and previous studies is crucial to ensure that the study is adequately powered to detect meaningful differences.

-While some references are recent, it would strengthen the manuscript to include more recent studies or systematic reviews to reinforce the findings and claims made in the discussion.

Referee 2 Reviewer

MINOR REVISION 6 Feb 2025

Hi, thanks for your invite. My opinions are as follows:
1. The title is too long. " in the pron position " should be deleted.
2. The manuscript should be arranged according to this journal's instructions.
In the abstract, " introduction " should be replaced by " background ".
3. In the main body of the manuscript, the introduction is too long.
4. The dose of dexmedetomidine should be mentioned in mcg/kg.
5. The inclusion and exclusion criteria should be mentioned precisely.
6. Please add BMI (replace body weight with BMI).
7. Some references are too old (nos. 3, 23, 24, 25, 31 and 32).
Best wishes

Associate Editor

MAJOR REVISION 7 Feb 2025

Dear EIC,
It is a useful study but needs some revision. All comments should be answered by the authors, and changes should be made based on the reviewers' comments.

Editor-in-Chief MAJOR REVISION 7 Feb 2025

Dear Author,
Thank you for submitting the article. It needs some revision. Please revise it based on the reviewers' and AE's comments.

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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.

Reviewers' Comments:

Reviewer 1:
Dear Editor_ In_ Chief
It is my pleasure to be invited in reviewing process of this manuscript. There are some points about this paper that are mentioned below:
Introduction
1. The introduction section is long and needs to be summarized.

Dear Reviewer Thank you for your comment. We summarized the introduction section and deleted two paragraphs of it.
Method

2. The year of the study should be written in Gregorian calendar in the method section.

Dear Reviewer Thank you for your comment.We revised it

3. The method for determining the sample size should be mentioned

Dear Reviewer Thank you for your comment. We added the Determining The Sample Size paragraph in method section

Results
4. In the results section, describe how to examine changes in respiratory rate in an anesthetised patient.

Dear Reviewer Thank you for your comment. We added the describe how to examine changes in respiratory rate in an anesthetised patient.

Discussion
5. The authors should explain why the body temperature at T0, was statistically significantly different between the two group.

Dear Reviewer Thank you for your comment.We mention it in discussion section

Reviewer 2:
Dear AE,
This study is well-designed and contributes meaningfully to anesthesia literature. With minor revisions, it would significantly enhance its clarity, impact, and applicability to clinical practice:

-Some sentences lack references. All sentences quoted from other articles must have references at the end of themselves.
for example below sentence:

Shivering is an important defense mechanism in thermoregulation in adults and consists of spontaneous, asynchronous and accidental contractions.....

Dear Reviewer Thank you for your comment.We added references for each paragraph as possible and update them.

-The article does not mention how the sample size (n=60) was determined. Proper sample size calculation based on expected effect sizes, power analysis, and previous studies is crucial to ensure that the study is adequately powered to detect meaningful differences.

Dear Reviewer Thank you for your comment. We added the Determining The Sample Size paragraph in method section including expected effect sizes, power analysis, and previous studies

-While some references are recent, it would strengthen the manuscript to include more recent studies or systematic reviews to reinforce the findings and claims made in the discussion.

Dear Reviewer Thank you for your comment.We added more recent references and update them.
Reviewer 3:
Hi, thanks for your invite. My opinions are as follows:
1. The title is too long. " in the pron position " should be deleted.

Dear Reviewer Thank you for your comment We deleted " in the pron position " in title.
2. The manuscript should be arranged according to this journal instructions.
In abstract part, " introduction " should be replaced by " background ".

Dear Reviewer Thank you for your comment. We replaced " introduction " to " background ".
3. In the stem of the manuscript, introduction part is too long.

Dear Reviewer Thank you for your comment. We summarized the introduction section and deleted two paragraphs of it.
Method

4. The dose of dexmedetomidine should be mentioned according to mcg/kg.

Dear Reviewer Thank you for your comment. We revised it.

5. The inclusion and exclusion criteria should be mentioned precisely.

Dear Reviewer Thank you for your comment We added inclusion and exclusion criteria in method section.
6. Please add BMI(Body weight replaced by BMI).

Dear Reviewer Thank you for your comment We added the BMI of the patients in manusript and tables

7. some references are too old (no. 3, 23, 24, 25, 31 and 32)

Dear Reviewer Thank you for your comment.We added more recent references and update them.

Best wishes

Associate Editor's Comments:

Associate Editor 1:
Dear EIC,
It is a useful study but needs some revision. All comments should be reply by authors and changes should be done based on Reviewers comments.

EIC Decision:

Dear Author,
Thank you for submitting the article. It needs some revision. Please revise it based on Reviewers and AE comments.

Uploaded Files by Reviewers/Associate Editor/ or EIC: Below, you can find the list of files attached by reviewers or associate editor or EIC during the review process (if any).

Download	Upload Date	Uploaded By	#
Link	2025-01-11 17:54:15	Reviewer	1

Reviewer Assistant Comments:

These comments were generated by AI based on your manuscript. Please review them and consider incorporating the suggestions to enhance your article.

Based on the abstract provided, the study design is a Randomized Clinical Trial. Therefore, I will use the CONSORT checklist for Randomized Trial Studies to conduct the peer review【4:0†CONSORT_checklist.docx】.

Peer Review Using CONSORT Checklist

1. **Title and Abstract**
    - **Question:** Identification as a randomized trial in the title.
    - **Peer Review:** The title clearly identifies the study as a randomized clinical trial.
2. **Abstract**
    - **Question:** Structured summary of trial design, methods, results, and conclusions.
    - **Peer Review:** The abstract provides a structured summary including the trial design, methods, results, and conclusions.
3. **Introduction**
    - **Question:** Scientific background and explanation of rationale.
    - **Peer Review:** The introduction explains the scientific background and rationale for the study, focusing on the importance of controlling postoperative shivering in patients undergoing spinal surgery.
4. **Methods**
    - **Question:** Description of trial design (such as parallel, factorial), including allocation ratio.
    - **Peer Review:** The trial is described as a double-blind randomized clinical trial with a parallel design, involving 60 patients.
5. **Participants**
    - **Question:** Eligibility criteria for participants.
    - **Peer Review:** Eligibility criteria are specified as ASA class I or II patients undergoing vertebra surgery in the prone position.
6. **Interventions**
    - **Question:** The experimental and control interventions for each group with sufficient details to allow replication.
    - **Peer Review:** The study group received dexmedetomidine infusion, while the placebo group received 0.9% normal saline.
7. **Outcomes**
    - **Question:** Completely defined prespecified primary and secondary outcome measures, including how and when they were assessed.
    - **Peer Review:** Outcomes include hemodynamic variables, frequency and severity of shivering, and drug side effects, which were recorded during the study.
8. **Results**
    - **Question:** For each primary and secondary outcome, results for each group and the estimated effect size and its precision.
    - **Peer Review:** Results are presented with statistical significance, showing lower mean MAP and HR values, higher body temperature, and reduced frequency and intensity of shivering in the study group compared to the placebo group.
9. **Discussion**
    - **Question:** Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence.

- **Peer Review:** The discussion interprets the results, highlighting the effectiveness of dexmedetomidine in reducing shivering but also noting associated hypotension and bradycardia.

Categorization of Comments

Major Comments:

- The abstract and introduction provide a clear rationale and background for the study.
- The methods section clearly describes the trial design, interventions, and outcome measures.

Minor Comments:

- The abstract could include more detailed information on the statistical methods used.
- The discussion could further elaborate on the implications of the findings for clinical practice.

2 Revision 1

4 comments · 4 Mar 2025 – 29 Mar 2025

Referee 2 Reviewer

MINOR REVISION 4 Mar 2025

Hi, thanks for your invite. I read the reviewers' comments. All of them were addressed except reviewer 1's comment no. 4.
How did you check RR in the patients who were under general anesthesia and mechanical ventilation at T1, T2, T3, T4, T5, T6 and T7? Explain this.
Best wishes

Referee 1 Reviewer

ACCEPT 7 Mar 2025

Dear AE.
Previous errors have been corrected, and there are no further recommendations.

Associate Editor

MINOR REVISION 29 Mar 2025

Dear Editor-in-Chief,
I wish to express my appreciation to the authors for their efforts and commend the researchers for their valuable manuscript. Nevertheless, there is a need for revisions, and I encourage the authors to review and address the comments provided in order to enhance the quality of the manuscript.

Editor-in-Chief

MINOR REVISION 29 Mar 2025

Dear Author,
Your manuscript still needs some revision. Please revise it based on the reviewers' suggested changes and the AE's comments.

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.

Reviewer 1:
Hi, thanks for your invite. I read the reviewers comments. All of them were done except reviewer 1; comment no.4.
How did you check RR in the patients who were under general anesthesia and mechanical ventilation at T1, T2, T3, T4, T5, T6 and T7? Explain this
Best wishes

Dear reviewer
Thank you for your valuable comment In this study we used Documentation method at Specific Time Points (T1–T7) and At each predefined time point (T1 to T7), RR is recorded directly from the ventilator screen.

Reviewer 2:
Dear AE.
Previous errors has been corrected and there is no any more recommendation.

Associate Editor's Comments:

Associate Editor 1:
Dear Editor-in-Chief,
I wish to express my appreciation to the authors for their efforts and commend the researchers for their valuable manuscript. Nevertheless, there is a need for revisions, and I encourage the authors to review and address the comments provided in order to enhance the quality of the manuscript.

EIC Decision:

Dear Author,
Your manuscript still needs some revision. Please revise it based on suggested changes provided by Reviewers and AE comments.

3 Revision 2

3 comments · 21 Apr 2025 – 21 Apr 2025

Referee 2 Reviewer

ACCEPT 21 Apr 2025

Hi, thanks for your invite. I read the reviewers' comments. All of them were addressed.
Best regards

Associate Editor

ACCEPT 21 Apr 2025

Dear EIC.
The previous errors have been corrected, and there are no further recommendations.

Editor-in-Chief

ACCEPT 21 Apr 2025

Dear AUTHORS,
We appreciate your attentiveness and prompt response to the reviewer's feedback. Your revisions have significantly improved the article, and it is now deemed acceptable for publication.