Author’s response to reviews

Title: A novel approach to neuraxial anesthesia: application of an automated ultrasound spinal landmark identification

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Author’s response to reviews:

21 March 2019

To: Amy Branch-Hollis / Dr Guangde Tu

The Editor

BMC Anesthesiology

Dear Amy / Dr Tu,

RE: “A novel approach to neuraxial anesthesia: application of an automated ultrasound spinal landmark identification” (Submission ID: BANE-D-18-00450R2)

Thank you very much for the review of our manuscript.
We appreciate your comments and kind help to improve on the manuscript.

Please find below point-by-point responses to each of the comments. Amendments to the text are indicated in our responses.

Editor Comments:

1. Please respond to the reviewer's comments, which can be found below.

------- Thank you very much for your time and effort to review our manuscript.

2. Please rename "Ethics approval and trial registration" to "Trial registration"

------- Correction done.

3. Please remove the Ethics approval information from the Trial Registration section.

------- Correction done.

4. Please include the date your study was registered with Clincaltrials.gov in the Trial Registration section of your manuscript.

------- Correction done.

5. Please specify in the Ethics approval and consent to participate section whether you obtained written or verbal consent from the participants in your study. If verbal, please state the reason and whether the ethics committee approved this procedure.

------- We have included the following statements in “Ethics approval and consent to participate” section: “The written informed consent was obtained from every participant by the investigators.”
6. Please note that Consent for publication refers to consent for the publication of identifying images or other personal or clinical details of participants that compromise anonymity. If identifying images or other personal or clinical details of participants are presented that compromise anonymity, a statement of consent to publish from the patient should be included. This section must be included even if it is not applicable to your manuscript. If consent to publish is not applicable to your manuscript please write ‘Not Applicable’ in this section.

------- Consent for Publication: Not applicable.

7. Please remove the funding information from the Competing Interests section.

------- Correction done.

8. In the section ‘Funding’, please also describe the role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.

------- We have included the following statements in “Funding” section: “The funders had no role in the design of the study, data collection and analysis, interpretation of data and in writing the manuscript.”

9. Please add a “Conclusions” section after the “Discussion” section. This should state clearly the main conclusions of the research article and give a clear explanation of their importance and relevance.

------- “Conclusion” section has been added.

10. Please remove the cover letter from the file inventory as this is no longer needed at this time.

------- The cover letter has been removed from the file inventory.

11. At this stage, please upload your manuscript as a single, final, clean version that does not contain any tracked changes, comments, highlights, strikethroughs or text in different colours. All relevant tables/figures/additional files should also be clean versions. Figures (and additional files) should remain uploaded as separate files.

------- The files had been uploaded according to the requirements.
Reviewer reports:

Vincent Chan (Reviewer 1): Please include all comments for the authors in this box rather than uploading your report as an attachment. Please only upload as attachments annotated versions of manuscripts, graphs, supporting materials or other aspects of your report which cannot be included in a text format.

Please overwrite this text when adding your comments to the authors.

The manuscript has been revised satisfactorily. Some further comments and questions:

------ Thank you very much for your time and effort to review our manuscript.

1) Once the experienced investigators have scanned the back and identified the optimal site of needle insertion, did the anesthesia trainees insert the needle without spine palpation? If this is true, please add this point to your text.

------ We have clarified the point on the 1st attempt need insertion without spine palpation on Page 9 Line 7-11:

“After this scan sequence was completed, the anaesthetist used the identified needle entry insertion point to attempt spinal anesthesia insertion without traditional palpation. If the required dural puncture was not obtained at first attempt at the marked site, subsequent attempts could include the use of traditional palpation led skin surface markings.”

2) For future studies, please mention scanning and needle insertion by anesthesia trainees and determine the accuracy of locating the spinal level and the success of needle insertion.

------ We have included the following statements in Discussion “Future Directions”, page 16, line 6:

“We plan to further determine the accuracy of locating the spinal level and the success of needle insertion by anesthesia trainees, and investigate the use of this system in the obese population………”