

Answering reviewers

World Journal of Clinical Cases

Dear Editor,

Thank you for your letter and advice concerning our manuscript titled “Accuracy study of a binocular-stereo-vision-based navigation robot for minimally invasive interventional procedures” (Manuscript NO: 55735).

We sincerely appreciate the reviewers’ constructive and positive comments that help us revise and improve our manuscript. We have revised the manuscript according to reviewers’ suggestions and the suggestions are highlighted in green color. Point-by-point responses to reviewers’ comments are presented below.

We would like to re-submit our revised manuscript for your consideration. We hope it could meet the publication standard of World Journal of Clinical Cases.

Please let us know if you have any question.

Best wishes,

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Point-by-point response to reviewers

Reviewer #1:

Comment 1: This is a report of development of a new and interesting robot system designed for interventional pain therapies. The authors should be commended for their innovative approach to this emerging technology.

Response: We sincerely appreciate your positive comments for our study.

Suggestion 1: Abstract: Page3 line 1, replace "issued" with "designed" Page3 line 2, replace "designed" with "developed" Change the unit cm to mm throughout the paper so that it will be consistent. Change "obviously" to "significantly" throughout the paper. Page 3 line 2. "10 mm" appears to be an error. Do you mean "100 mm"? please clarify or correct this in several places of the paper.

Response: Thank you very much for your constructive suggestion.

In Abstract, we have replaced "issued" with "designed" (Page3 line 1) and replaced "designed" with "developed" (Page3 line 2).

We have changed all the unit cm to mm throughout the paper (Page 3 line11-12, Page 6 line 17, Figure legend of Figure 2).

We have checked whole paper and changed "obviously" in four places to "significantly" (Page 3 Result line 6, Page 8 Result line 6 and line 13, Page 10 line 11).

We have checked the manuscript and changed the mistake “10 mm” in three places to “100mm” (Page 4 line 1 and 12, Page 11 line 2).

All the revisions were marked with yellow shading.

Suggestion 2. Introduction Page5 line 12, replace "machines" with "systems" Change "cannulated" to "placed" in many occasions throughout the paper. Change "cannulation" to "placement" in many occasions throughout the paper. Page 7 line 10, add "the tip of the needle" Page 7 second paragraph first sentence, Changes to "Head models were used for needle insertion targeting the foramen ovale..."

Response: Thank you very much for your constructive suggestion.

In page 5 line 10, we have changed “machines” to “systems”.

In Page 7 line 3, we have changed “cannulated” to “placed”.

We have checked the whole paper and changed “cannulation” in 15 places to

“placement” (page 3 method line 7, page 4 line 2, 4, 14 and line 22, page 5 line 17 and line 27, page 7 line 17 and line 22, page 10 line 8 and 14, page 11 line 3, Figure legend of Figure 5).

In page 7, we have added the “the tip of” before “real needle”

In Page 7 second paragraph first sentence, the first sentence was replaced with “Head models were used for needle insertion targeting the foramen ovale in the second part of the experiment”.

All the revisions were marked with yellow shading.

Suggestion 3. Discussion In regarding to the limitations of the study, the authors recognized that head movement during clinical practice will pose a major challenge to the application of this approach and to this system. Indeed, this is a matter that will determine whether this system can ever be developed and utilized in patient care. It would be very helpful to propose potential solutions to this problem.

Response: Thank you very much for your constructive suggestion. Our team has conducted robot guided trigeminal ganglion radiofrequency thermocoagulation on several trigeminal neuralgia patients under local anesthesia. The head moving was the biggest challenge. Based on our experience, three measures can be take, including fixation with headrest, sufficient local anesthesia before registration and appropriate sedation. We have added this text in page 10.

All the revisions were marked with yellow shading.

Other revision

1. Figure 2 was replaced by new one with slight place adjustment of solid arrow.
 2. The Manuscript Type was changed to “*Clinical and Translational Research*” (page 1 line 4)
 3. the last one key word “cannulation” was replaced by “Needle placement”.
 4. All numbers of citation was revised as superscript.
 5. Article Highlights was added on page 11-page 12.
 6. Footnotes were updated.
- All the revisions were marked with yellow shading.