

Answering reviewers

World Journal of Clinical Cases

Dear Editor,

Thank you for your letter and advice concerning our manuscript titled “Observation and measurement of applied anatomical features for thoracic intervertebral foramen puncture on CT images” (Manuscript NO: 61915).

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: The thoracic intervertebral foramina are the most direct and frequently used channels for reaching the dorsal root ganglia with interventional tools. Interventional procedures involving passage through the thoracic intervertebral foramina have been performed for many years, and X-ray, CT and ultrasound imaging have been used as common guidance solutions. The puncture trajectory usually passes from lateral to medial along the outer edge of the articular process. The spinal nerves regularly exit the intervertebral foramina from the upper part, increase the precision requirement of target positioning. The difference in features between the upper, middle and lower thoracic segments has been vaguely described. In this study, the authors summarized the spatial relationship between the ribs, intertransverse spaces, and the puncture characteristics for thoracic intervertebral foramina cannulation. The study is very well designed, and the results are very interesting. The inclusion and exclusion criteria, and the measurements are very clear. Results are reasonable and well discussed.

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

Suggestion 1: The reviewer suggests to accept this manuscript for publication after a minor editing.

Response: Thank you very much for your constructive suggestion.

We carefully reviewed the manuscript and made the following revision.

1. In Methods of Abstract, we have replaced "*for each segment*" with "*between segments*" (Page 3 line 25).
2. In Results of Abstract, we have replaced " $(D_R/D_P=0)$ " with " $(D_R/D_P>0)$ ", for " $(D_R/D_P>0)$ " represents rib neck/head occlusion (Page 3 line 28). The same replacement was also made in Result of Main Text (Page 8, Line 28). And the words " $(D_R/D_P>0)$ " in the following sentence "*The incidence of occlusion for the upper thoracic segments*" was deleted (Page 9, Line 1).

We have also replaced "*lower thoracic segment*" with "*lower thoracic segments*" (Page 3 line 30) in Results of Abstract.

3. In conclusion of abstract, we have replaced "*an appropriate puncture angle*" with

"appropriate puncture angles" (Page 4 line 14).

4. In Core Tip, we have replaced *"differs"* with *"varies"* (Page 4 line 28).

5. In Introduction, we have replaced word *"increase"* with *"increasing"* (Page 6 line 1).

6. In Materials and Methods, we have replaced *"a three-dimensional skeletal structure model of the thoracic vertebrae was reconstructed"* with *"three-dimensional skeletal structure models of the thoracic vertebrae were reconstructed"* (Page 7, Line 7-8).

" $0 < D_R/D_P < 1/2$ " was replaced with *" $0 < D_R/D_P \leq 1/2$ "* (Page 7, Line 26).

"The inclination angles were compared between two sides. The correlation between inclination angle and segment location was also counted" was replaced with *"The inclination angles were compared between two sides. The correlation between inclination angle and segment location was also counted"* (Page 8, Line 10-12).

All the revisions were marked with yellow shading.

Other revision

1. We changed the author sort and put the order of co-first and co-third authors backward based on the comment of Dong-Mei Wang (assistant editor). In the title page, we show the equivalent contribution of Wei-Wei Sun by "*Equally contributed to this work*" (Page 2, Line 5)
2. In Table 2, the number of occlusions for middle segment was changed from "100 (100%)" to "116 (100%)", for input error.
3. For reference 2, 3, 9, 13, we only found the number of PMID. The Doi number was not provided on the website of journal.

All the revisions were marked with yellow shading.