Author’s response to reviews

Title: Morphologic analysis of the proximal tibia after open wedge high tibial osteotomy for proper plate fitting

Authors:
Oui Sik Yoo (osyoo@corentec.com)
Yong Seuk Lee (smcos1@hanmail.net)
Myung Chul Lee (smcos1@naver.com)
Jae Hong Park (ParkJH@hanmail.net)
Jae Won Kim (JKKIM@corentec.com)
Doo Hoon Sun (smcos1@snu.ac.kr)

Version: 1 Date: 29 Aug 2016

Author’s response to reviews:

This is the revision of “BMSD-D-16-00455
Morphologic analysis of the proximal tibia after open wedge high tibial osteotomy for proper plate configuration

Oui Sik Yoo, MS; Yong Seuk Lee; Myung Chul Lee, MD, PhD; Jae Won Kim, MS; Doo Hoon Sun, BMC Musculoskeletal Disorders”

Thank you for your kind and detailed edition. I would like thank you again very greatly for your comments and contributions on making this a better article. We have changed our article as you suggested. We have highlighted the changes in red and have added a detailed description on the areas that you have suggested.

Additionally, one author was added during revision process and one author’s e-mail address was corrected.
Reviewer reports:

Reviewer #1: BMSD-D-16-00455

Title: Morphologic analysis of the proximal tibia after open wedge high tibial osteotomy for proper plate configuration

GENERAL COMMENTS

This manuscript is an interesting study in terms of measuring the radii at several levels of the tibia to evaluate the surface curvature in OWHTO. As mentioned by the authors, it is important to understand a mismatch between the post-correction bony surface and the previous pre-contoured plate geometry. The authors had good views on the topics for surgeons to avoid the improper fitting of the plate. However, their methods and results lacked sufficient information with the present format. The results depend on the accuracy of the measurement which should affect the values of the radii. In addition, it may be preferable to add the intraoperative condition. Some modifications are needed to be accepted by the journal of <BMC Musculoskeletal Disorders>.

Thank you for your comments. We edited as you commented and these were addressed in specific comments. Thank you again.

SPECIFIC COMMENTS

Methods

Demographics

Please show the demographic data of the patients in more detail (e.g, ROM, FTA, correction angle…). In addition, the authors should explain their surgical techniques in more detail.

New line 140-149, demographic data were added as you commented. New line 158-182, surgical technique was added as you commented.

Line 109

Please explain <group I and II>.

New line 150, it was edited as you commented.
Evaluations

Their measurements should be affected by some factors; the slice thickness, the orientation of the patient's legs during the scan and the scanning direction. The authors should evaluate the accuracy of the measurements. I recommend to use intra- and inter-observer reliabilities which are assessed by intraclass correlation coefficients.

New line 190-197, 220-223, 233-234, we added detailed re-alignment process and added ICCs as you recommended. Figure 3 was also added.

The authors should mention the definition of the plane of measurements in more detail. If they used the raw data, their results may be not correct because the scanning direction affects the measurements as mentioned above.

New line 190-197, 220-223, 233-234, we added detailed re-alignment process and added ICCs as you recommended. Figure 3 was also added.

Line 124

I recommend the sentence of <The measurements of the radii showed that the radii increased with the increased in the flatness of the surface and the radii decreased with the increase in the surface curvature> in the Discussion section should be added to the Materials section for readers to understand <the radii> more easily.

New line 201-203, it was added as you recommended.

Line 129

What's the distance among the positions of (Head_Top, Head_Mid, and Head_Bot)? Is there any problems caused by the thickness of 3mm?

New line 201-210, it was explained with details as you commented.
Results

The values of the results are different from the values in the figures.

New line 236, 243, The values of the text was edited. Figure 5 and 6 were changed.

Is there any relationship between the Distance X and the θs?

New line 243-244, it was described in the result.

Discussion

The author should discuss their methods of measurement in more detail. (accuracy, the definition of the coordinate…)

New line 190-197, 220-223, 233-234, we added detailed re-alignment process and added ICCs as you recommended. Figure 3 was also added.

From the results, how the surgeons should plan the OWHTO to avoid the mismatch as much as possible?

New line 268-271, it was added as you commented.

Line 180

It should be very useful to show the relationship between the correction degree and the changes using the specific values in the results.

New line 248-253, 268-271, it was added as you commented.
How about the real fitting in the intraoperative condition? Is there relation with the results?

New line 268-271, it was added as you commented.

Please delete one of <because>s.

New line 285, it was edited as you commented.

Reviewer #2:

1. The meaning of the phrase "proper positioning" in the title is rather vague. What constitutes a 'proper' position?

New line 1-2, the title was changed as you commented.

2. Methods section of the abstract is too brief. Authors need to include the following items: inclusion and exclusion criteria of the subjects; more details of analytic methods; a sentence explaining the statistical tests used.

New line 49-59, it was edited as you commented.

3. In results section of abstract, authors need to give a sentence explaining the demographic characteristics of the subjects included in the study.

New line 60-63, it was added as you commented.
4. In discussion section of abstract, the following sentence is grammatically incorrect. Please amend. "The radii of the shaft on the coronal plane were larger the radii of the head."

New line 72-74, it was edited as you commented.

5. Introduction: OK

Thank you.

6. Methods: Was this a prospective or a retrospective study? Please state.

New line 138, it was added as you commented.

7. Methods: Please clearly state what the 'inclusion criteria' and 'exclusion criteria' were. Authors briefly imply these, but did not categorically state them.

New line 140-149, it was added as you commented.

8. Who performed the morphologic analysis/measurement? Give initials (if one of authors) and state the number of years of experience doing this kind of morphologic CT analysis.

New line 197, 220-223, it was added as you commented.

9. There is no description of measurement error. Did authors take into account potential measurement error in their analysis?

New line 190-197, 220-223, 233-234, we added detailed re-alignment process and added ICCs as you recommended. Figure 3 was also added.
10. There is no description of intra-observer or inter-observer variation. The same measurements should be repeated to calculate these variations. Ideally, a second reader should repeat the measurements and report inter-observer variability. If there is no suitable second reader, the reader who did the original measurement should repeat the measurement and report intra-observer variability.

New line 190-197, 220-223, 233-234, we added detailed re-alignment process and added ICCs as you recommended. Figure 3 was also added.

11. Overall impression is that the Methods section is too brief. Authors should give more detailed explanation of morphological analysis portion.

New line 190-197, 220-223, 233-234, we added detailed re-alignment process and added ICCs as you recommended. Figure 3 was also added.

12. Results: When reporting p-values, the actual values should be reported (not just p<0.05 or p<0.01). I suggest reporting p-values to the third decimal places. Very small p-values can be reported as p<0.001.

New line 247, 251, 252, it was edited as you commented.

13. Discussion/Conclusion: Please make sure that the stated conclusion matches the stated aim of the study.

New line 307-309, it was edited as you commented.

Best regards

Sincerely yours