

Peer Review File

Article information: <http://dx.doi.org/10.21037/jss-20-608>.

Review Comments

Comment 1: Overall - I would suggest that the authors have the paper reviewed and edited extensively by a native English speaker to improve the syntax, grammar, organization, and overall readability of the paper.

Reply 1: This paper has been carefully reviewed by an experienced medical editor whose first language is English.

Comment 2: Additionally, I think the paper is weakened by the approach of the study. Instead of looking for “risk factors for bone union,” I would look for risk factors for pseudarthrosis. Clinicians should know what factors may hurt their chances of obtaining a bony fusion, rather than just know the specific techniques that you guys utilized to achieve fusion. This will improve the generalizability of your findings.

Reply 2: Thank you for your suggestion. We did initially considered focusing our paper on pseudarthrosis, but we wanted to propose factors that contribute to bone fusion, especially in terms of technique, because of the following.

Although the original method of CBT-PLIF by Santoni et al. is superior in terms of fixation and minimally invasiveness, the anterior support and stability of lateral bending and axial rotation were insufficient because of the short screw length. (cf. [Luis Perez-Orribo, et. al, SPINE 2013; 38\(8\): 635-41](#)) As a result, early bone cyst formation and poor bone union might occur. (cf. [Reference 17](#)) Therefore, especially with regard to CBT-PLIF and to future development, we thought it would be a good idea to propose technical points to contribute to bone union in addition to the non-union factors reported in previous studies.

We would appreciate your understanding.

Comment 3: In the Introduction, I would maybe mention what findings have been shown to cause pseudo in TLIF/PLIFs in other studies. They dont need to be discussed in depth, but should be mentioned.

Reply 3: Thank you for pointing this out. There have been various reports of factors related to non-union, which are mentioned in the Introduction.

Changes in the text: page 5, line 11-14

Comment 4: In the methods I would specify that this is a prospective or retrospective study.

Reply 4: Our study was retrospective. We added the word “retrospectively” in the Methods section.

Changes in the text: page 6, line 12

Comment 5: In the results, I would have specific call outs to your tables. I would also summarize any demographics/surgical data that would be of note.

Reply 5: Thank you for pointing this out. We have tried to make it easier to read by adding "*" to the factors for which we found significant differences. In the text, we have also included a summary of important aspects of the surgical technique, even though this overlaps with the conclusions.

Changes in the text: page 11, line 2-3

Comment 6: Tell us how many patients and what percentage required revision surgery.

Reply 6: Fortunately, even in cases where bone fusion was not achieved during the two-year follow-up, fusion was subsequently achieved in some cases and there were no prevalent symptoms, so the patients did not have to undergo revision surgery.

Comment 7: In the discussion, particularly in the titanium/peek discussion, I would bring more direct correlations between your findings and what the literature shows.

Reply 7: It has been pointed out that the PEEK cage is inferior to the Ti cage in terms of initial fixation, which would have been particularly disadvantageous for CBT-PLIF because of poor anterior support. We have added that point to the text. Thank you for your suggestion.

Changes in the text: page 13, line 16, and page 14, line 1-3