Author's response to reviews

Title: Posterior Short Segment Pedicle Screw Fixation and TLIF for the Treatment of Unstable Thoracolumbar Fracture

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Author's response to reviews: see over
Reviewer's report
Title: Posterior Short Segment Pedicle Screw Fixation and TLIF for the Treatment of Unstable Thoracolumbar Fracture
Version: 2 Date: 8 October 2013
Reviewer: Kook Jin Chung
Reviewer's report:
I reviewed this paper.
1. This paper is about the results of unstable burst fractures treated with short segment fixation with TLIF. This article handles with the results of thoracolumbar burst fractures treated with TLIF. I think that the techniques that the authors used in this paper is not the same as the original concept of TLIF. Usually TLIF can get good result especially in cases with good bone quality of endplate. If it is not good, the cages can sink within the vertebral body. The authors did not make any comments about conditions of endplate in this case series.
This is a great question. The techniques that we used in this paper is not the same as the original concept of TLIF, but because the whole process is just like TLIF, so we still name it TLIF, and it is the main point of innovation from our team. And sink of the cages within the vertebral body is sure a big issue. We did observed in some cases that the cages sank into the vertebral body when they were inserted into the disc space more or less, but the patients in this case series wore a long hard corset for 12 weeks during the postoperative period, and heavy exercise was avoided within three months, and at the final follow up, no cages migration was observed in this case series. In our operation design, the cage inserted in the disc space with endplate broken served mostly as a
large bone block to keep the autograft particles in place, and partly as an anterior and middle column strut.
This question has been answered in the discussion part.

2. Also pedicle screws that qew inserted did not offer secure anchor in the construct because they were polyaxial screws and did not reach anterior column.
Yes, it is right. polyaxial screws in the fractured vertebral did not offer as much secure anchor in the construct as the screws in the intact vertebral, but they did offer secure anchor in the construct to some extent according to some literature. So we think it is better to fix the fractured vertebral and polyaxial screws are good choice, because it is more convenient than monoaxial screws.

3. Also the materials that included in this study is not homogenous because in view of anatomical area that occurs in fractures such as thoracolumbar junction and lumbar spine.
Yes, the authors agree with the reviewer, so we change the title to Posterior Short Segment Pedicle Screw Fixation and TLIF for the Treatment of Unstable Thoracolumbar/lumbar Fractures. And Thoracolumbar/lumbar Fractures is referred throughout the paper.

4. In view of neurologic deficits, I think that many cases must be treated with anterior decompression and strut graft.
Yes, the reviewer is correct and according to our previous experience, many cases need anterior decompression and strut graft, but here in our small series we explore the feasibility of posterior approach only, and we got an effective result similar to anterior decompression and strut graft. We think that because the small number of cases in our series, further investigation needs to be carried out, and also comparation with anterior decompression and strut graft.

Level of interest: An article of limited interest
Quality of written English: Needs some language corrections before being published
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Reviewer's report
Title: Posterior Short Segment Pedicle Screw Fixation and TLIF for the Treatment of Unstable Thoracolumbar Fracture
Version: 2 Date: 27 September 2013
Reviewer: Hitesh Modi
Reviewer's report:
Major compulsory revision:
1. It is a good case study. However, I would request authors to change the title to unstable thoracolumbar/lumbar fractures. I see there is only five patients have T12 fracture and rest having Lumbar. Fracture at L3 and L4 should not be included in TL fractures. By definition TL level is body of T12 and L1 and adjacent discs only. So kindly correct the title.
Yes, the reviewer is correct and all the authors agree to change the title to Posterior Short Segment Pedicle Screw Fixation and TLIF for the Treatment of Unstable Thoracolumbar/lumbar Fractures.
2. I do not see any reason putting TLIF cage in the distal discs as well. I see burst fracture at the body which usually destroys upper endplate where you need to insert cage. However, in distal normal appearing disc should be spared. Authors need to clarify.

Yes, the reviewer is correct and we also hope to spare the distal normal appearing disc, but for that purpose we will have to remove the internal fixation after the bony fusion by a second operation, meanwhile we will have to take the risk of hard ware failure before they were removed. In China, hard ware failure might be a tough issue for surgeons. It was a compromise among different choices. We can try to spare the distal normal appearing disc in the near future.

Minor revision:
I would request authors to include following articles in manuscript:.
The above two articles are very good references, and they have been included in our manuscript (reference 2 and 3). Thanks for recommendation.

Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I declare that I have no competing interests

Reviewer's report
Title: Posterior Short Segment Pedicle Screw Fixation and TLIF for the Treatment of Unstable Thoracolumbar Fracture
Version: 2 Date: 25 October 2013
Reviewer: Yohan Robinson
Reviewer's report:
The authors present a prospective 2-years follow-up study on 20 patients with burst-fractures AO type A3. They performed a posterior decompression and interbody fusion using TLIF technique. Outcome parameters were radiographic successful decompression, kyphosis, bony union, pain (Denis) and return to work (Denis). The results are favourable with regard to decompression and kyphosis correction. The TLIF healed in all patients. 85% of the patients worked full-time at the final follow-up, 15% returned to work with restrictions. The technique is new; the study is well designed, and interesting to read. This is a manuscript worth publication. Still I have some recommendations that would improve the quality of the manuscript.

1. A native speaker should proofread the manuscript. There are several language problems, which must be addressed before publication.
A native speaker has proofread the manuscript as recommended. The spelling and grammar errors have been picked out, and corrected in red.

2. Despite the widespread use of the AO classification, the TLICS score for the patients should be presented as well, since it is more applicable with regard to surgical indication. I recommend the authors for using the AO A3 fracture treatment algorithm as inclusion criteria, where the indication for surgery is seen if there is neurological deficit, wedging >50%, kyphosis >25°, and canal encroachment >50%.

The raw material of some cases have been lost at present, so we can not get the exact TLICS score for each case now, we will present TLICS score for each case in the following research. The inclusion criteria and the indication for surgery have been changed according to the reviewer’s recommendation.

3. Why do the authors use a postoperative brace? There is no evidence available that bracing is necessary after posterior stabilisation of TL fractures.

Yes, there is not sound evidence available that bracing is necessary after posterior stabilisation of TL fractures according to some of the literature, but in China, some patients are not as adherent to their doctors as in the western world, so we use a postoperative brace to make sure that heavy exercise was avoided within three months by the patients. And please note that in China most people are slimmer than people in the western world, and the result of postoperative bracing is better than that in the western world.

Level of interest: An article of importance in its field
Quality of written English: Not suitable for publication unless extensively edited
Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:
I declare that I have no competing interests'