Reviewer’s report

Title: Comparison of serum markers for muscle damage, postoperative recovery, and surgical site pain after extreme lateral interbody fusion with percutaneous pedicle screws or traditional open posterior lumbar interbody fusion

Version: 0 Date: 30 May 2017

Reviewer: Christoph Laux

Reviewer's report:

Dear author,

You present a well-elaborated approach to that interesting topic. The manuscript is well written and arranged. However, I have some conceptional queries:

INTRODUCTION

- While explaining the downsides of open posterior fusion and the benefits of XLIF procedure you withhold well-known complications of the XLIF procedure like femoral neuropathy.

- You define the study goal as establishing the effectiveness of XLIF with PPS versus PLIF. However, the effectiveness of a surgical procedure is the capability of achieving a predefined goals. In case of lumbar interbody fusion these are pain relief, correction of alignment and fusion. You only partially assess these parameters. In my opinion, this study evaluates the invasiveness and tolerability of the respective procedures, not their effectiveness.

MATERIAL & METHODS

- For the sake of completeness, please specify on "full course of conservative treatment"

- When assessing the effectiveness of XLIF vs PLIF: What are the fusion rates 1 year postoperatively?

- Please elaborate on the full perioperative analgesic regiment. It seems exceptional that celecoxib is the only analgesic administered.

- Please explain how the nursing staff was blinded during postoperative surgical wound care.
RESULTS

- Any data on preoperative coronal or sagittal alignment in the respective groups would be desirable as this might affect the postoperative pain and performance scores.

DISCUSSION

- Unfortunately, you do not discuss the higher complication rate of XLIF versus PLIF procedures in your series.

CONCLUSION

- You state, that the XLIF/PPS procedure is advantageous for less blood loss. This seems reasonable. However, in my opinion, this conclusion cannot be drawn based on the information given. How did you quantify blood loss in a minimally invasive procedure? Did you ascertain drainage output or hemoglobin levels? Please specify.

Even though recognising the structured approach when preparing this manuscript there are weaknesses that might be rectifiable. Especially, more objectivity towards both procedures evaluated is desirable.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal

Do you want to get recognition for reviewing this manuscript? Add a record of this review to Publons to track and showcase your reviewing expertise across the world’s journals. Signing up is quick, easy and free!

No