Author’s response to reviews

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

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Author’s response to reviews:

Thank you very much for the excellent reviews. We have addressed each comment, criticism, and suggestion individually below. We believe that the changes suggested by the reviewers have improved this manuscript. We hereby resubmit this document with point-by-point responses to all of the reviewers ‘comments along with the updated version of our manuscript, which has been revised in accordance with the comments from the reviewers.

Christoph Laux (Reviewer 1): Dear Author(s),

You did adequately and comprehensively address all comments by the reviewers. In my opinion, the conclusion is now drawn correctly.

Thank you very much for your efforts and the preparation of this interesting manuscript.

→We appreciate your great review.

Kai Sprengel (Reviewer 2):

1) The procedure performing the 1 year follow up is still a little bit unclear (personal investigation, phone call, mail?) Please clarify.

→ Based on these comments, we have now added specific information regarding procedure performing the 1 year follow up in the manuscript (P5, line 54-57).
2) I still think, that ANOVA instead of the t-test is indicated for interval scaled variables (sorry in Review 1 I suggest ordinal scaled, I apologize for this), like the NRS (not VAS), ECOG and probably some scores. The Mann-Whitney U test is correct for ordinal scaled variables. It seems to be used only for (some) of the new parameters like current smoking, because there were no changes in other p-values and you can't use it for nominal scaled variables like preoperative slip or number of fused levels. But if using the Mann-Whitney U test, also sex must be analyzed with this test. Please mark the used test in the text and tables in each parameter, so it is clear which test was used. If there a still doubts concerning the statistics, a statistician should be asked.

→ With respect to this suggestion, we have reconfirmed the statistics carefully. We have used the Mann-Whitney U test for NRS and PS scores, the Fisher exact test for sex and current smoking status and the Unpaired T test for other nominal scaled variables. We have marked the used test in the text (figure legend) and tables in each parameter to be clear which test was used.

3) It seems that there was a learning curve of the surgeons in the beginning of the study as mentioned on page 5. Please discuss this weakness critically in "Discussion" or clarify if the expertise was gained before beginning of the study.

→ To clarify this point, we have added information in more detail regarding the experience of the surgeons in the manuscript (P5, Line 42-45).

4) There was a difference between the two groups in using allograft or autologous bone. It is well known, that especially iliac crest bone grafting could strongly influence postoperative pain and therefore some of the used scores. Also, serum creatine kinase and inflammation markers could be influenced because of a second area of surgery. Please discuss this weakness critically in "Discussion".

→ Based on this comment, we have added this point as the limitation in "Discussion" (P11, line 44-51).