Author's response to reviews

Title: Efficacy of tranexamic acid in reducing blood loss in posterior lumbar spine surgery for degenerative spinal stenosis with instability: a retrospective case control study

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Author's response to reviews: see over
Comment to Reviewer Jean Wong

Minor essential revisions:

Abstract, results

- Conclusion has been revised to “This study suggests a less blood loss when admitting tranexamic acid in posterior lumbar spine surgery as demonstrated by the higher postoperative hemoglobin concentration and the less blood loss. But given the relatively small volume of blood loss in the patients of this study it is underpowered to show a difference in transfusion rates.”

- The authors are referring to intraoperative blood loss. Therefore it is a significant difference in favor for tranexamic acid. It has been clarified in the present manuscript.

Major essential revisions:

- Discussion and Conclusion has been revised.
“Our results suggest a less blood loss as shown by the higher postoperative hemoglobin concentration and lower cell saver volume in the tranexamic acid group. But we found no significant reduction of allogenic blood transfusion rate with the use of tranexamic acid.”

“On the basis of this retrospective case control study, tranexamic acid use seems not to reduce transfusion rates in posterior lumbar spine surgery even if less blood loss was detectable. This could be explained by the lower bleeding risk and smaller overall blood loss of a posterior approach. Therefore the routine use of tranexamic acid in posterior spinal surgery has to be carefully considered to avoid unnecessary complications.”
Comment to Reviewer Leah Y Carreon

Major Compulsory Revisions:

Page 2, Abstract, Methods, Ln 13: Please replace “transmission” to “administration”.: Done

Page 5, Par 4 and Par 5: These paragraphs belong in the Results section.: Done

Page 6, Par 5, Ln 27-28: What analysis was used to compare non-continuous variables?: Chi quadrat testing was done to compare proportion between two groups, e.g. ASA classification and surgical procedures (PLIF and number of segments).

Table 1: Please provide p values for frequency distribution of surgical procedure (PLIF) as well as number of segments.: Done

Table 1: Please provide p values for frequency distribution of ASA grade: Done

Table 2: Please provide standard deviations and p values for drop in hemoglobin: Done.

Table 2: Please delete complications listing.: Done

Minor Essential Revisions:

Page 3, Par 1, Ln 4: Please change “is well proven” to “has been established”: Done

Page 3, Par 1, Ln 6: Please delete “through hemorrhagic shock”: Done

Page 3, Par 1, Ln 6: Please change “In consequence” to “As a consequence”: Done
Page 3, Par 1, Lns 7-9: Please revise “Yet blood transfusions are not free of risks: for example, transfer of infectious agents, increased risk of postoperative infections and immunological sensitizing including transfusion-related acute lung injury (TRALI) can occur” to “Yet blood transfusions are not free of risks, including, transfer of infectious agents, increased risk of postoperative infections and immunological sensitizing including transfusion-related acute lung injury can occur.”: Done

Page 6, Par 5, Ln 26-27: Please delete “and statistical analysis was performed”: Done

Page 8, Par 3, Ln 14-15: Please delete first sentence.: Done

Page 8, Par 3 & 4 to Page 9, Par 1: The description of these studies can be made more succinct.: Done