Author’s response to reviews

Title: Dexmedetomidine Prevents Acute Kidney Injury After Cardiac Surgery: A Meta-analysis of Randomized Controlled Trials

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Editor Comments:

1. Your manuscript "Dexmedetomidine Prevents Acute Kidney Injury After Cardiac Surgery: A Meta-analysis of Randomized Controlled Trials" (BANE-D-17-00312R1) has been assessed by our reviewers. Based on these reports, and my own assessment as Editor, I am pleased to inform you that it is potentially acceptable for publication in BMC Anesthesiology, once you have carried out some essential revisions suggested by our reviewers.

Re: Thank you for the advices. We have done a lot of language editing and added some discussions as suggested by the reviewer. We have also presented within the additional supporting files.

Special thanks for your constructive advices.

Reviewer 1:

1. The authors dealt with all of the initial concerns without generating any additional concerns. Minor editorial changes for grammar (e.g. verb tense) are necessary.

Re: Thank you for the concerns. We have done a lot of language editing.

Special thanks for your constructive advices.
Reviewer 2:

1. Dr. Chen and colleagues submitted a revised version of their meta-analysis on the effect of dexmedetomidine on AKI in cardiac surgery. The Authors adequately addressed all my comments. After reading the revised version of the manuscript, I have only one final suggestion which I think might improve the manuscript:

considering new results displayed in Table 5, I think that a few lines may be added to the discussion to comment some of the subgroup analyses:

- possibly more effective with no loading dose and at low continuous infusion dose
- possibly more effective with pre/intraoperative administration
- possibly effective as compared with placebo but not against other treatments

These could be interesting issues to be investigated in future trials

Re: Thank you for your advice. We have revised these information according to your suggestion as follow:

Our subgroup analyses showed that dexmedetomidine infusion without loading dose or at low continuous dose appeared to be safe and potentially efficacious by avoiding undesirable haemodynamic effects and was possibly more effective for renal-protection, although there was no significant difference (P=0.86 and P=0.08). (Discussion Section Page 11 Line 1-4)

Our subgroup analyses indicated that dexmedetomidine was possibly more effective for renal-protection with pre/intraoperative administration compared with postoperative administration, but there was no significant difference (P=0.21). (Discussion Section Page 11 Line 17-20)

Our subgroup analyses showed that dexmedetomidine was possibly effective for renal-protection compared with placebo but not against other treatments (P=0.33). The advantages of dexmedetomidine compared with other anesthetics still call for further research. (Discussion Section Page 12 Line 6-9)

Thank you for the constructive comments!