Reviewer’s report

Title: Different dose regimes and administration methods of tranexamic acid in cardiac surgery: a meta-analysis of randomized trials

Version: 0 Date: 19 Feb 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

Statistics - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable
OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?

Yes - current version is technically sound

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The topic is hot and of interest for physicians

The results are very informative and useful Some parts of the manuscript are too long

ADDITIONAL REQUESTS/SUGGESTIONS:

ABSTRACT

Please rewrite the conclusions

METHODS

The decision to analyses only 2011-2018 is odd and questionable. I understand it, but I'm not sure it is the best solution or that it will be appreciated by readers

This sentence might be removed

Coronary artery bypass surgery, valve replacement surgery and other kinds of heart surgeries predominantly carried out in adult patients were all included.

Rephrase

The proportion of patients underwent blood transfusion during hospital stay

The amounts of blood transfused during hospital stay

The management of statistical heterogeneity is doubtful (both in methods and in the results). I would suggest to recheck definition (methods) and how did you apply it in the results

It is not clear if corresponding authors of RCT were contacted for missing data. Please write it.
RESULTS

All verbs should be in simple past

10340 might become 10,340

Do not start sentences with numbers

It is strange to have the transfusion volume for all patients in units and the transfusion volume for transfused patients in ml

TXA was not associated with an increased risk of death

I would suggest to write

Mortality between groups was not different

I would also suggest (here and in the all other dichotomous outcomes) to report n (%) vs n (%)

TXA was not associated with an increased risk of seizure

I would write

TXA was not associated with a statistically significant increase in risk of seizure

Results are too long (for most journals)

The authors should find the way to summarize them (eg simple tables for all non primary outcomes or subgroup analyses or non significant values

All subgroup analyses to be put in supplemental only

Keep one line for bolus+/-continuous and one line for high vs low dose and one line for seizure and one line for high vs low dose

Not simple to understand how did you calculate this without a network meta-analysis

The use of high-dose TXA did not reduce the need for allogeneic blood transfusion compared to low-dose TXA
4. Topical + intravenous versus intravenous application

Make it clear what does this mean

The use of TXA did not reduce the need for allogeneic blood transfusion (p 20 line 9)

Supplemental results should include major exclusion with reasons for exclusion

A TSA analysis could be useful

DISCUSSION

It seems too schematic and long and detailed and comprehensive

There were also a few studies compared

becomes

There were also a few studies which compared

The non-inclusion of reference 32 because it is an abstract is questionable according to methodological issue

The authors should probably put it into the (supplemental) results as major exclusion and write that the exclusion reason is NON RECENT abstract publication only

I disagree with this sentence

They thus recommended that patients with a high risk of bleeding should receive high-dose TXA, while those at low risk of bleeding should receive low-dose TXA. This result was largely in accordance with our findings, in the conclusion you correctly write High-dose TXA does not further decrease transfusion rate

Half of the patients were randomized in the Myles et al study

This should be acknowledged and a detailed comparison with this study should be performed

This is also the highest study included
REFERENCE

There is no 2018 reference (we're now in 2019)

FIGURES

Most figures should be put as supplemental material only

SUPPLEMENTAL

I suggest to prepare a nice supplemental material were to put the search string, most of the figures

Remember to name it properly with title, authors, index…..

Note: This reviewer report can be downloaded - see attached pdf file.

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.

Yes

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

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