Reviewer’s report

Title: Short- and long-term outcomes in infective endocarditis patients: a systematic review and meta-analysis

Version: 0 Date: 22 May 2017

Reviewer: Mahmoud Diab

Reviewer's report:

The authors conducted a systemic review and meta-analysis to examine short-term and long-term outcomes of IE patients. They included 34 out of 4,466 articles in the systemic review and 28 in the meta-analysis. They found a significant increase in mortality in IE patients undergoing long-term treatment 27.7% compared to IE patients undergoing short-term treatment 19.9%. The authors concluded that a significant increase in mortality was found in IE patients undergoing long-term treatment than short-term treatment.

General Comments

This manuscript addresses an interesting topic (short-term and long-term outcomes in infective endocarditis patients: a systemic review and meta-analysis). However, there are serious issues with the methodology of this study. (see below for details).

Specific comments:

1. The authors did not define the long-term and short-term treatment in the methods. It is unclear what they mean with these terms. It is crucial to define these two different treatment strategies, especially if the final conclusion is based on these treatment strategies.

2. There is no data about the preoperative patient’s characteristics, incidence of neurological complications, echocardiographic findings (vegetation, abscess, valvular insufficiencies), surgical therapy and indications for surgery. It is expected that there is heterogeneity among the 34 studies included in this review and meta-analysis which could cause bias in the results. The authors did not mention if there was such heterogeneity and if there was some, how they deal with it.
3. The studies included were conducted over a very wide interval between 1984 and 2016. There have been big advances in diagnostic tools, medical therapies and surgical techniques during this period which could lead again to bias.

**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.

Unable to assess

**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
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