Reviewer’s report

Title: Comparison of transcatheter aortic valve implantation with other approaches to treat aortic valve stenosis: a systematic review and meta-analysis

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Reviewer: Vincenzo L'imperio

Reviewer's report:

In their review authors compare efficacy and safety of transcatheter aortic valve implantation (TAVI) with other available methods to correct severe aortic valve stenosis, which is gaining progressively more importance for those patients that cannot undergo invasive surgery. Their results are substantially similar to the previous reviews but they provide an update of the most recent literature with a well conducted meta-analysis. Moreover, the manuscript is well written in a good quality English, and for these reasons in my opinion is amenable for publication.

However, some minor revisions/suggestions could be taken into account before the paper is accepted:

The title (Outcome after transcatheter aortic valve implantation: a systematic review and meta-analysis) does not reflect the real aim of the review and a more precise title should be chosen (e.g. Comparison of transcatheter aortic valve implantation with other approaches to aortic valve stenosis: a systematic review and meta-analysis).

Introduction, line 68-70, the authors state that one of the limitation of a previous study was the possible bias due to the combined treatment with medical therapy and BAV, getting the reader understand that they could provide in the review an unbiased comparison of TAVI vs either MT/BAV alone. However, this review analysed only two studies that compared TAVI and MT/BAV, none considering one of the alternative approaches alone. Please change or remove this observation.

In results section, when discussing efficacy of TAVI vs SAVR authors analyse one year mortality in 17 studies and 30-days mortality in 13 studies (I think due to follow-up duration reasons). Please explain it in the text.

In a same fashion, in the Safety (TAVI vs SAVR) paragraph comparisons take into account a different number of studies but authors do not specify the selection criteria (I think it is due to the lack of some specific-risk assessment in studies evaluated). Please explain.

In results, Efficacy (TAVI vs MT), line 229-230, this is interpretation of results, please move the sentence in discussion.
In results, Safety (TAVI vs SAVR), line 257-263, interpretation of heterogeneity, should be part of the discussion.

In results, Safety (TAVI vs SAVR), line 266-267, this sentence has been already reported before, it sounds redundant.

Table 1, eligibility criteria, design of the study selected, one of the possible study is represented by non-randomized controlled trial but among the 19 study selected there are not NRCT. Could it be removed from the table?

Finally, some of the analysed studies (the most recent) evaluated TAVI performance and outcomes on low-intermediate risk patients. It would be interesting a sub-group comparison of efficacy and safety of these arms with SAVR and high risk TAVI to see if any difference can be noted. Did authors performed this analysis?

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