**Reviewer’s report**

**Title:** Cardiac valve calcification and risk of cardiovascular or all-cause mortality in dialysis patients: A meta-analysis

**Version:** 0  **Date:** 26 Feb 2017

**Reviewer:** Emmanuel Akintoye

**Reviewer’s report:**

The authors conducted a meta-analysis of prospective studies in order to summarize available evidence of the association between cardiac valve calcification and the risk of cardiovascular and all-cause mortality in dialysis patients. Ten studies involving 2686 participants met their inclusion criteria and were included in the meta-analysis. They concluded that cardiac calcification was significantly associated with cardiovascular and all-cause mortality.

This is an interesting meta-analysis that summarizes the literature in one piece. For the most part, the meta-analysis was methodological and the main conclusion was supported by the analysis. However, I have some reservations:

**Major**

1. It's not clear from the analysis what method was used to pool the estimates together. Is it DerSimonian and Laird, or other methods? This need to be stated

2. Reference 13 i.e. Varma R et al did not report hazard ratio as study estimates. Was relative risk used for this study in the meta-analysis? This will not be compatible with other studies and analysis with and without this study should be performed. If you decide to include this study, report the summary estimate as HR may not be right except you have a justification for approximating the estimate used as HR

3. For reference 17, what I found published is "Risk Factor Analysis of Calcification in Aortic and Mitral Valves in Maintenance Peritoneal Dialysis Patients Kidney Blood Press Res. 2013;37(4-5):488-95" which does not evaluate mortality. Was the article referenced by the author actually got published?

4. You will need to conduct a metaregression for all subgroups analysed. You are not able to claim any subgroup difference (e.g peritoneal vs hemodialysis) without showing that there is statistical significant difference between the subgroups. Hence, discussion of subgroup analysis in the DISCUSSION should based on the result of the metaregression. This point should be address throughout the manuscript

5. If there is a difference in study result by region (i.e. asia vs non-asia), it will be nice to have critical review of the studies by region to be sure the difference is not actually due to difference
in quality of the studies. If this difference cannot be explained by difference in quality, then the authors can speculate on why this difference exist or can leave it to future studies has done already.

Minor

1. Under the references, ref 16 is incorrectly written as 12

2. In the tables, avoid break in words as much as possible e.g prospective should be one line instead of two lines (with "e" on a different line)

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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