Reviewer’s report

Title: Postoperative Tight Glycemic Control Reduces Postoperative Infection In Patients Undergoing Surgery: A Meta-Analysis

Version: 0 Date: 23 Jan 2018

Reviewer: Mario Luca Morieri

Reviewer's report:

Dear Authors,

I've read with interest your manuscript reporting a meta-analysis of the effect of tight glycemic control (TGC) Vs conventional glycemic control (CGC) on postoperative outcomes. As you highlight, this is a confirmatory study, showing no clear overall benefit of TGC in post-operative settings. Overall methods and analyses appear to be well reported, however, I have some comments:

1) My biggest concern is for studies selection. For example, it is unclear to me why some studies, identify by the authors and cited in background or discussion (eg. Diabetes Care. 2015 Sep;38(9):1665-72) were not included in the list of studies analyzed in the meta-analysis.

2) Early studies reporting a clear benefit of TGC in critically ill patients (also in postoperative setting) compared TGC to a "standard" treatments with glucose levels that were often higher as compared to the "conventional" glycemic control levels used in more recent trials. 

a. For this reason, I think it would be very helpful to: i. Specify if studies were excluded on the basis of TGC and CGC levels.; ii. Report some measures of CGC and TGC (eg. average of CGC and TGC found across studies). In this regard, it's my opinion that table 1 is really difficult to be read and need to be simplified or edited to make it more readable. iii. Overall, I invite Authors to address this point also in discussion
3) Authors have evaluated the quality of studies with the Jadad scale. However, it's not clear if studies were excluded or not on the basis of this evaluation. If not, Authors can consider doing a sensitivity analysis/subgroup analysis on the basis of this evaluation. Anyway, authors should describe and report in the text a description of the overall quality of the studies included in the meta-analyses.

4) Discussion and analyses: I would recommend discuss and consider the possible roles that type of treatments more than levels of glycemic controls might have on these outcomes. [see Piatti. J Clin Transl Endocrinol. 2017 Feb 11;7:47-53]

5) Risk of hypoglycemia: Overall all studies shows an RR with a trend for benefit among those randomized to TGC. (RR 0.87, P=0.07). Although all studies showed RR below 1, the meta-analysis result was primarily driven by one study that showed a clear benefit RR 0.22 (0.13 to 0.36 CI).
   a. However, in the discussion, PG 12 line 22 authors report that in this study the TGC group was at high risk of hypoglycemia. This is confusing. How was the RR computed? Is for TGC effect on CGC reference or the other way around?
   b. Please clarify and modify the text accordingly.

6) The tile appears to be unclear to me and I recommend modify it.

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.
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