Reviewer’s report

**Title:** Effect of liraglutide on blood pressure: a meta-analysis of liraglutide randomized controlled trials

**Version:** 0 **Date:** 01 Sep 2018

**Reviewer:** Alon Eisen

**Reviewer’s report:**

The authors should be congratulated for performing this meta-analysis which examines an important clinical question.

Overall the selection of studies and other methods are fair. Yet, there are major concerns that must be addressed:

1. Overall the Heterogeneity of all studies is moderate (I²=55%). As the authors mention this might be due to several reasons. The main reason might be the duration of treatment. Since blood pressure is a continuous variable which changes with time it is very important to stratify the patients by time of treatment. As the authors reported they stratified the patients to <1 year of treatment. This exploration should be shown also in a forest plot and specify the heterogeneity. With this regards, It is quite surprising that the effect of liraglutide on SBP is diminished when including only studies > 1 year of treatment (the majority of patients are from the LEADER trial which demonstrated a reduction in SBP).

2. The discussion should be significantly improved. The authors must discuss mechanisms of action, and clinical implications for their findings. The discussion should include other insights such as the effect of liraglutide on renal outcomes and whether this might be explained by the effect on SBP? the effect of liraglutide on weight loss and the relationship to blood pressure?

Also discuss the results of BP in the LEADERS trial which is the main contributor to this meta analysis.

3. Can the authors extract the data and examine the effect of liraglutide on BP in patients with/without hypertension at baseline?

Minor issues:

1. All abbreviations should be defined when first mentioned in the text (eg. SBP, DBP)

2. An English grammar editing may be helpful.

3. To table 1, please add a column of the phase of the study (phase 1-phase 4). This will help the reader to understand how many clinical trials were included.
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.

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