Author’s response to reviews

Title: The shape of the glucose response curve during an OGTT heralds β-cell function in a large Chinese population

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Author’s response to reviews:

October 04, 2019

Nerys Astbury, PhD
Associate Editor
BMC Endocrine Disorders

Re: BEND-D-19-00268
Dear Dr. Astbury:

We would like to thank you and the reviewers for your detailed and very helpful comments on our manuscript entitled “The shape of the glucose response curve during an oral glucose tolerance test heralds β−cell function in a large Chinese population” (BEND-D-19-00268). We appreciate the opportunity to re-submit it for review. We have amended the manuscript according to your recommendations. A detailed, point-by-point response to the reviewer comments is presented below.

Reviewer #2 Comments

Comment 1

"Many factors play important roles in the development of glucose intolerance in individuals with type 2 diabetes (T2D), such as insulin secretion, insulin resistance, and β-cell function" - this was not corrected. The pathogenetic mechanisms leading to hyperglycemia are multiple. Insulin secretion and β-cell function basically refer to the same thing. It should anyways be written altered (or impaired) insulin secretion (or β-cell function).

<Response>

Thank you for mentioning the error. We agree with the reviewer and have corrected the information in lines 42-44.

Background: line 42-43, page 2
Comment 7

It is still not clear how the authors have chosen the threshold of 0.25 mmol/l. Were measure values subtracted by 0.25 mmol/l? What adjustment was done? And why only two response curves were adjusted? Not clear.

Response

We sincerely thank you for this opportunity to explain our thoughts. The threshold of 0.25 mmol/l plasma glucose change was chosen empirically, based on previous studies[1-3]. The aim of the threshold is to avoid false classification due to experimental imprecision. Every type of the response curve (monophasic, biphasic, and triphasic) was defined based on the threshold of 0.25 mmol/l. We have added a brief explanation of this in lines 104-106.


Methods, Classification of glucose curve shapes: line 105-106 page 5

Comment 9

The SDs (error bars) in figure 2 are missing. Moreover, to figure 2 there is a reference regarding the effect on glucose status (pg 11, line 153), but the figure does not reflect this. I would suggest modifying the figures by indicating the type of curve according to glycemic status or age - as means of measurements at each time points for these categories.

Response

We thank you for this comment. We have added SD (error bars) in figure 2 and modified the figures according to glycemic status. Figure 3 refers to the effect on glucose status; we have fixed this in the text.
Figure 2

Results: Comparison of the glucose curve shapes among different age groups: line 153, page 7

Comment

The abstract should also contain actual data in Results section.

<Response>

We thank you for this constructive feedback. We have inserted the actual data in the revised abstract (lines 28-35).

Abstract, Results: line28-32, page 2

Comment

The conclusion should indicate that the monophasic curve was also associated with higher HOMA-IR and older age

<Response>

Thank you for this comment. We have revised the conclusion (lines 254-255) based on your recommendations.

Conclusion: line 254, page 11

We would like to thank you again for your consideration and for the opportunity to revise our manuscript. Please do not hesitate to contact us should you require any further information.

Sincerely,

Huabing Zhang (on behalf of the co-authors)

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