Reviewer's report

Title: GASTRIC BYPASS SURGERY REVEALS INDEPENDENCY OF OBESITY AND DIABETES MELITUS TYPE 2

Version: 2 Date: 04 Sep 2016

Reviewer: Miguel Goncalves

Reviewer's report:

Major Compulsory Revisions

General: the paper is peppered with statements of "statistically equivalence" which are not correct. Statistics aims at showing whether there is enough evidence in the data to reject the hypothesis of equivalence. The lack of evidence in the data does not equate to statistically equivalence.

Kolmogorov-Smirnov two sample test: I find the use of the test a bit confusing - as a means to accept similarities between patients. I think this needs to be better explained. I particularly do not like the sentence "If the similarities of distributions are exact the two traits are directly related." as it implies that the Kolmogorov-Smirnov can determine whether two distributions are equal (rather than the Kolmogorov-Smirnov does not provide enough evidence to reject the null hypothesis).

Power: Why are power calculations provided? This is usually done to provide the reader with a rational for selecting a particular sample size. In this study the authors do not select their sample size so the power seems confusing. It feel a way to justify statistically non-significant results. This is not the way power works: power calculations are carried out to confirm (or not) via sampling an expected difference between two values. The paper would benefit from a justification for this inclusion.

Bonferoni correction: The authors correctly use Bonferoni p-values for their clustering methodology, but I would like to see the same sort of correction for multiple comparisons for all the pairwise comparisons carried out in table 1, 2 and 3. There are more than 60 t-tests performed in this paper using the same dataset.

Small sample sizes: Some of the samples are quite small (see table 2 on the DMT2-DMT2 comparison). It looks like that the authors are still carrying out t-tests which would be highly unreliable in these conditions.
Discretionary Revisions

I find the "The most significant results are shown in bold" very confusing. This is usually used for statistically significant results and not just the lowest p-value in a set (a statistically non-significant result could this way be highlighted).

Figure 1: The sentence "Although the trajectories seem alike they are in fact significantly different." is incorrect as Class 1 and Class 2 are not statistically significant.

Commas: the paper uses commas instead of points to determine the decimal point. (see table 3).

Tables: the tables are quite confusing for a general reader and they would benefit from an extensive explanation of what the numbers mean.

Number of decimal places: Most of the paper seems to settle for 2 for figures and 3 for p-values. However, some p-values have 2 or 4 decimal places.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

Unable to assess

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

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal