**Author’s response to reviews**

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

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All changes are highlighted in yellow.

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**Major compulsory revisions**

“statistically equivalence”:

The Reviewer is correct about the improper use of the stringent term “statistically equivalence”. In the paragraph Classification of sub-populations in the result section the sentence “Eight of the ten comparisons were highly significant, but the class 3 and 6 distributions were statistically equivalent. A similarity was also seen for the classes 1 and 2, but they were not strictly equivalent.“ has been changed to Eight of the ten comparisons were highly significant.” and the remainder has been deleted. As a consequence the last sentence has been reformulated.

In the Table 3 header “equality” has been replaced by “Comparison”.

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Power:

The power analysis was included in an attempt to provide some indication of reliability. However, considering the controversy of post-experimental power calculations, these are now omitted. The scope of the paper is not to enter onto a discussion of power, but of course power calculations should be used in the proper context.

Kolmogorov-Smirnoff two sample test:

The test explore the null-hypothesis that two samples, that is the polynomial trajectory of traits for two patients are similar by calculating the distance between the polynomials. The idea is that if they are similar they may be related in a biological/physiological network. For instance the complex particle VLDL and triglyceride are similarly distributed and we know many years of research that triglycerides are central component in VLDL and are highly correlated. This is the thinking behind the sentence

“If the similarities of distributions are exact the two traits are directly related.” The motivation for this is the myriads of correlations published with low or modest correlation coefficients deemed significant, but only supply limited information of the complex genetic and biological networks that constitute physiological processes. The lower the correlation the more remote are the endophenotypes from each other in the network. However, the sentence as a statement may be to bold, as accepting the null-hypothesis is not a sufficient proof of equivalence or causality. The sentence has therefore been deleted, and the idea is anyhow presented in the previous sentence “The idea of these analyses is that traits should have similar distributions (of any kind) to be correlated, and the more similar they are the closer the interactions of the traits.“, which emphasize interactions and equivalence or causality.

Bonferoni correction:

The p-values in the tables are nominal values. Significant values after Bonferoni are now indicated in the tables. The p-values could of course be presented after Bonferoni correction, but we feel that presenting the “raw” data and results and then comment them as done now is the proper way to present data. In medical science (and in other scientific disciplines as well) discussions often emerge from marginal results, which may promote hypothesis generation. We should remember that this study will only provide one of many (ideally infinitesimal many)
values for the distribution of the test statistics, that is non-significant results may turn out significant in other studies (and visa versa). These remarks is only for the purpose of justifying presenting the nominal p-values.

Small sample sizes:

Some of the samples a small in size, but the researchers reading the paper are well aware of problem with small sample sizes. This is also pointed out the text several times.

Discretionary Revisions

“The most significant results are shown in bold”:

This was does to accommodate a Reviewer, but it did appear confusing to me and my co-authors just as it does to this Reviewer. We agree with the Reviewer and the bold-highlighting has been removed.

“Although the trajectories seem alike they are in fact significantly different”:

The Reviewer is correct. The sentence has be changed to: “most of them differed significantly” and is highlighted in yellow (Figure legend).

Commas:

The reason for the appearance of commas instead of points is simply that the computer used for submitting is set to Danish style. When opening the tables in a computer set to English style the decimal points appears as points and visa versa. Thats how the tables appears when I opened the PDF-file and the supplementary tables from the BMC submission. The manuscript will be forwarded using a computer (Linux) setup to English style, which will correct comma-point isssus.
Tables:

We find the tables self-explanatory (headers, means, variance etc) to a large extent, but has been improved as the power calculations has been removed. Also a remark of significance i.e. nominal and Bonferoni corrections has been added to all tables.

Number of decimal places:

The p-values are now with 3 decimal places (spreadsheet rounding corrected).