Reviewer's report

Title: Effects of Body Weight and Alcohol Consumption on Insulin Sensitivity

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Reviewer: henk hendriks

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This paper presents a complex study in mice on the effects of alcohol consumption on insulin sensitivity and aims at elucidating the underlying mechanisms.

The study comprises more experimental groups than necessary for the study aim. The anti-inflammatory effects of alcohol are indicated.

Major compulsory comments:

The study aim, although new, is not very clearly defined; the roles of the LF and HF diets are not introduced. The conclusion is somewhat broad and does not include all experimental groups. The initial assumption that alcohol improves insulin sensitivity is not very clear from the paper. AUC GTT and ITT are given but unclear is whether the effect of alcohol is that it indeed directly improves insulin sensitivity. No further indications for such improvement are given.

An overall statistics paragraph is missing. Comparisons are not clearly described in the paper. P-values are not specified throughout the text, so that the reader knows which comparison is significantly different. Numbers are specified in too great detail, e.g. 21584 +/- 771 should be 22 +/- 0.8 x 10e3.

The manuscript should be shortened, there are lengthy descriptions. Lot of the results is repeated in the discussion, there is information in the results that belongs in materials and methods. Some sentences are a bit awkward, e.g. 4th sentence of the abstract.

Data on adiponectin are lacking.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests: 
I declare that I have no competing interests