Reviewer's report

Title: Frequency and risk factors for recurrent gestational diabetes mellitus in primiparous women: a case control study

Version: 3 Date: 15 Jan 2019

Reviewer: Hema Venkataraman

Reviewer's report:

1. Important observation re 1hPG and TG predicting GDM recurrence.

2 Relation to FPG and GDM is likely to be a statistical relationship rather than a real mechanistic one. O looking more carefully - in the first pregnancy women in both groups had similar BMI / similar pre-pregnancy weight with lower FPG in the GDM recurrence group. In the second pregnancy - the women in the GDM recurrence group now have a higher BMI and a FPG slightly higher than the group with no recurrence. The jump in TG levels between pregnancies is higher in the GDM recurrence group than in the group with no recurrence. Although weight gain between pregnancies is not different statistically (because of very wide SD and significant missing data) it is conceivable from the above observations that women in the GDM recurrence group gained more weight / adipose tissue than the other group making them prone to GDM despite their lower FPG in the first pregnancy. It would be useful to adjust for between pregnancy weight gain in the adjusted analysis. If that is not possible a hypothesis as above should be included in the discussion rather than postulating that this is related to B cell dysfunction which is not very well supported by literature.

Would be useful to get a statistics review by a statistician to look at the adjustments in table 3.

3 Methods: Inclusion criteria should be all women with GDM between ".....time period"and had a subsequent pregnancy between ....time period. Lines 95 - 98 is unclear.

4. Line 101 - "A total of 142 women" - numbers should not be included in methods. It would suffice to say Women were divided into two groups based on recurrence of GDM in subsequent pregnancy.
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?
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Yes

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