Reviewer's report

Title: Type 2 diabetes gene TCF7L2 polymorphism is not associated with fetal and postnatal growth in two birth cohort studies.

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Reviewer: Clive Osmond

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Thank you for sending me this article for statistical review.

If I had been reading it for more general review I would have questioned the wisdom of searching for genetic causes of a condition that is showing epidemic behaviour in many populations.

I would also say that the issue of postnatal growth as a predictor of type 2 diabetes could be described a bit more fully. As I understand it studies of infant growth (Hertfordshire, Helsinki, Delhi) suggest that infant weight gain (muscle rather than fat?) is protective, but later childhood weight gain is harmful.

However, to the stats (which are nicely expressed)...........

The knee-jerk reaction of some statistical referees would be to ask for more detail about the robustness of the findings, given that many observations are missing. I don’t think that is actually too critical an issue here. The authors report some differential follow-up according to genotype. Maybe there is also differential follow-up according to size/growth. More critical is whether there is differential association between genotype and growth according to follow-up. But there is no way to assess that, nor does it seem very likely.

I would suggest giving the n's available in the tables, rather than the footnotes.

For some reason my Figure 1 came out as a page of empty boxes.

I was a bit concerned about the growth units that are given as sds/week. The first value quoted in para 3 on page 5 gives a value of –0.04 sds/wk. That is an enormous difference between the genotypes. Over just one year it would imply a change of –2sds, which doesn’t seem plausible.

I missed the derivation of the SD scores. If they are internal to the study, which I doubt, it would be good to know how the authors cope with the variable ages at measurement.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published
Statistical review: Yes, and I have assessed the statistics in my report.

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