Reviewer's report

Title: Altered thyroid hormone profile in offspring after exposure to high estradiol environment during the first trimester of pregnancy: a cross-sectional study

Version: 2 Date: 14 October 2014

Reviewer: Pam Factor-Litvak

Reviewer's report:

This is a well done and careful analysis of newborn and child thyroid function following assisted reproduction. There are a few major compulsory revisions which would strengthen the conclusions.

1. In the first study of children age 3-10, the authors report relationships between type of conception and thyroid function without adjustment for age of child, type of assisted reproduction, sex of child or maternal variables. A regression model adjusting for these variables would help to solidify the results.

2. A similar analysis could be done for the newborn study.

3. The authors do not report the numbers of children with the various combinations of abnormal thyroid results. It would be interesting to see whether children with one abnormal parameter also had other abnormal parameters. In fact, the outcome could then be binary and a logistic regression model could be developed to assess the relationships while controlling for other possible confounding variables. This could be done for both the older child study and the newborn study.

4. A discussion of the implications of early thyroid dysfunction in later life would add to the manuscript, i.e. what does early dysfunction mean for behavioral, cognitive and metabolic disorders later in life.

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.