**Reviewer’s report**

**Title:** Live-birth rates and perinatal outcomes when all embryos are frozen compared with conventional fresh- and frozen-embryo transfer: a cohort study of 337,148 in-vitro fertilisation cycles

**Version:** 0  **Date:** 14 May 2019

**Reviewer:** Zi Jiang Chen

**Reviewer's report:**

This was an observational study comparing the cumulative live birth rate and perinatal outcomes after segmented vs. non-segmented IVF cycles, using a large sample data from HFEA registry.

The authors found the rate of live birth was lower in the segmented cycles than the non-segmented cycles. Segmented cycles were associated with a higher risk of LGA. The manuscript was well organized.

The authors had tried to control the confounding factors in the statistical analysis. However, I have several concerns as follows:

1. How many segmented cycles included in this study were elective freeze all cycle? How many segmented cycles were performed due to medical conditions? Does the result differ among different conditions?
2. The author attributed the lower rate of live birth after segmented cycles to the "partial loss of viable embryos during cryopreservation".

However, the survival rate after thawing is 95% or more in lots of labs. I doubt the thawing failure contribute that much to the live birth rate. Is the total number of embryos transferred comparable between the segmented and the non-segmented cycles?

As the authors said, the segmented cycles were more likely to perform blastocyst cycle. Was it possible that the difference in the live birth rate was due to the less number of available embryos in the segmented cycles?

**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?**
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Yes
Are the conclusions drawn adequately supported by the data shown?
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Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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I am able to assess the statistics

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