Reviewer's report

Title: Selection of competent blastocysts for transfer by combining time-lapse monitoring and array CGH testing for patients undergoing preimplantation genetic screening: a prospective study with sibling oocytes

Version: 2

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Reviewer: Siyuan Zheng

Reviewer's report:

In this study Yang et al. compared cultured blastocysts from time relapse system and conventional incubator in 1) cellular ploidy; 2) morphokinetic parameters; 3) clinical pregnancy rate and implantation rate. Their results showed a significant improvement of the time lapse system in the related clinical outcome, meanwhile no obvious differences were found in cellular morphology and aneuploidy. In my opinion it is a well-designed and performed study.

Major Compulsory revisions:

1. At line 377 on page 12, the authors concluded that “Our results suggest that ploidy of the 378 transferred blastocysts is the primary factor for determining clinical pregnancy and 379 implantation outcomes....” Through the entire paper I could not see any evidence that supports this claim. It is true that in both groups embryo selections were primarily based on ploidy but no difference were found between the two groups regarding aneuploidy, and it is unlikely they considered all the factors differentiating the two culture conditions. Although I think this caveat does not affect the merit of this study, it is worth considering removing or revising it.

Minor essential revisions:

1. It was not clear to me how they selected the baseline (control DNA) for the copy number analysis. Was the parental blood profiled as baseline?
2. They should have text annotations for the two branches in Figure 1. It would help readers quickly grasp the main facts of the study design.
3. Please increase the font size of figure 2. The x/y axis labels are not readable.
4. It would be informative if they could show a global copy number variation picture for the two groups, rather than a few cases currently included in Figure 2. They can use integrative genomics viewer (http://www.broadinstitute.org/igv/).

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I have no competing interests.