Reviewer’s report

Title: Colchicine causes prenatal cell toxicity and increases tetraploid risk

Version: 0 Date: 28 Aug 2019

Reviewer: Marcia Ratner

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The teratogenic effects of colchicine when used at recommended dose have been extensively investigated and the majority of studies have concluded that the use of oral colchicine during pregnancy does not pose a substantial risks to the mother or fetus (see Diav-Citrin et al. 2010; Indraratna et al., 2018).

Therefore, it is unclear to this reviewer why this investigation was undertaken at this time. Given the number of parameters measured and the failure of these investigations to demonstrate that colchicine decreases cell viability at low concentrations, the significant findings of suppression of cell proliferation and increased risk of tetraploid in a small subset of cases are difficult to extend to an expected in vivo outcome of fetal development. In addition, the reported significant results may simply false positives due to analysis of many related parameters using paired T tests with an alpha level set at 0.05. This reviewer would therefore like to these preliminary in vitro results extended to a relevant in vivo end point that sufficiently moves the bar our our understanding o the risks associated with use of colchicine during pregnancy.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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