Reviewer's report

Title: Standard care informed by the result of a Placental Growth Factor blood test versus standard care alone in women with reduced fetal movement at or after 36+0 weeks gestation: a pilot randomised controlled trial

Version: 0 Date: 28 Nov 2019

Reviewer: Frederick Morfaw

Reviewer's report:

Peer review of the article "Standard care informed by the result of a Placental Growth Factor blood test versus standard care alone in women with reduced fetal movement at or after 36 + 0 weeks gestation: a pilot randomized controlled trial".

By Frederick Morfaw (28 November 2019)

Abstract
The abstract is well structured overall, providing a good overview of the study. Consider the following comments.

Please explain why the objectives and feasibility are found within the methods in the abstract. We would expect these within the background.

Please provide a timeframe for the study within the abstract.

The conclusion states the trial is feasible. Please kindly provide within the abstract your purported number of eligible women for the feasibility threshold.

Background

The authors adequately lay the background of the topic which deals with providing evaluating the potential benefit of assessing placental dysfunction using a novel biomarker in women with reduced fetal movements at or after 36 weeks gestation.

They provide an adequate justification for the choice of placental growth factor (PIGF) over human placental lactogen given it is a less resource intensive assay. We have the following minor concerns:

In first time use of the abbreviation "fms-like" the authors do not give the meaning of "fms" in full.

I find it hard to understand the justification of using the sFlt-1/PIGF given its extremely low sensitivity in this situation which the authors highlighted. How will the sensitivity of the test be
increased by "adding it to currently available regimes?". We recommend a better explanation of this to justify the choice of the test.

Methods
Participants

We recommend providing an explanation of how gestational age was determined (last menstrual period? Ultrasound age?)

Please equally provide a justification for excluding younger and older women (<16 and ≥50 years).

Trial intervention

The intervention and control procedures are well described. Please clarify why you choose to still perform blood sample tests on patients in the control arm even though this was not acted upon.

It is unclear whether the central analysis of all blood samples provided a measure of reliability or validity of the local test? Reliability deals more with consistency of repeat measurements. In my opinion this seems more like an assessment of the validity of the local tests assuming the central analysis to be accurate. Please clarify.

Outcome measures

The main outcomes were to determine feasibility of a large scale trial with different parameters cited (line 191). However, the authors do not provide any feasibility thresholds and the justification for these thresholds. Without these, it is difficult to determine if the reported results confirm feasibility. Please modify accordingly.

Please provide a justification for using the diagnostic performance of the placental factor test in participants allocated to the control group and not the entire study population for the proof of concept outcome (line 211).

Sample size

The authors state that being a feasibility trial, a formal sample size calculation was not appropriate (line 218). However, there are multiple approaches to sample size determination and justification for pilot studies. We refer the authors to the following papers: Cocks and Torgerson 2013, Journal of Clinical epidemiology 66; 197 - 201., Sim and Lewis (2012) Journal of Clinical Epidemiology 65; 301 - 308., Teare et al (2014) Trials 2014, 15:264.
Results

The results are described in detail which we found very good.

Discussion

The discussion highlights the main results of the study and puts it into context of the current literature.

There is a lot of repetition of results within the discussion. Please revise accordingly.

The authors present limitations of their study (lines 438 to 450) and them return to continue discussing the results. We found this confusing and would recommend discussing strengths and limitations after discussing the study results in the context of current literature.

Conclusion

The authors conclude that a large trial assessing placental dysfunction via a biomarker in combination with delivery is feasible. However, in the absence of clear-cut feasibility thresholds it is hard to justify such a conclusion. We recommend the authors review this accordingly.

My overall conclusion is that the authors carry out an interesting study to address an important research gap. Their methods are very well described.

This paper needs minor revisions in design and structure as highlighted above which when addressed, we WILL RECOMMEND it for publication.
Level of interest
Please indicate how interesting you found the manuscript:

An exceptional article

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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