Reviewer's report

Title: Association between gestational age at birth, antenatal corticosteroids, and outcomes at 5 years: Multiple Courses of Antenatal Corticosteroids for Preterm Birth Study at 5 years of age (MACS-5)

Version: 2  Date: 19 June 2014

Reviewer: Elaine Boyle

Reviewer's report:

This paper reports secondary analysis using data from a randomised trial of multiple versus single doses of corticosteroids. In the original study, no difference in outcome was found between the two randomised groups. Therefore, in this manuscript, the authors seek to investigate whether outcomes at 5 years are related to the gestational age at which birth actually occurred. Follow-up at 5 years of age was carried out in 80% of the original cohort of infants, which would be considered a good proportion.

Despite the inherent limitations of secondary analysis, this is a worthwhile research question.

Major revisions.

Although the proportion of children assessed at 5 years of age is high, no information is provided about those who were lost to follow-up. Given the positive findings of an association between poorer outcome and multiple steroid courses in children born at term, I feel that this may be an important issue. It would be helpful at least to know the proportions of children falling within each gestational age group that were lost, because if a higher proportion of parents with well term-born children had declined follow-up and that this might lead to artificially inflated numbers of children with poor outcomes in this group. Alternatively, it may provide a degree of reassurance that multiple courses do not carry increased risk. Since, at the time of administering steroids there is no way of predicting the timing of birth, this clarification would be important for clinicians making such decisions and warrants discussion in the paper.

The paper is otherwise well-written and free of typographical and grammatical errors.

Level of interest: An article of limited interest

Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests.