Reviewer's report

Title: Induction of twin pregnancy and the risk of caesarean delivery: a cohort study.

Version: 1 Date: 4 February 2015

Reviewer: TANYA NIPPITA

Reviewer's report:

Induction of twin pregnancy and the risk of caesarean delivery: a cohort study
Author: Jonsson Maria
Journal: BMC Pregnancy and Childbirth

This is a retrospective cohort study conducted in Sweden in two university hospitals, investigating the association between induction of labour (IOL) and caesarean (CS) in twin deliveries and also the influence of the induction method and the risk of CS.

REVIEWER’S REPORT

Major Compulsory Revisions

1. Method (page 5, paragraph 2)
The manuscript states that births with a CS of the second twin after vaginal delivery of the first twin were excluded. Why was this so? An attempt of vaginal birth by IOL carries a risk of CS for both twins, but also a risk of vaginal birth of twin 1 and a CS of twin 2, so these caesareans should be included in the rate of CS.

2. Methods (page 5, paragraph 1)
Of the 1,282 twin births, how many were delivered at Uppsala, and how many from Orebro?

3. Methods/Results
For the women that required cervical ripening, please clarify/confirm that these women then went on to have amniotomy and oxytocin once the BS reached 6, i.e. so 60 women had Foley catheter/PG and then amniotomy and oxytocin. Also, do the two hospitals share the same standard protocols for the use and dosages of oxytocin?

4. Results/Table 1
With regards to the mode of delivery, Table 1 reports vacuum delivery and caesarean delivery. What was the forceps rate? Or are there no forceps done in Sweden, and the rest of the women had a normal vaginal delivery?
Also, with regards to the ‘duration of active labour’: second stage and bearing
down'- does ‘second stage’ mean the overall length of the second stage was 30 min for both IOL and spontaneous labours, but the ‘active’ or pushing stage was 16 min for IOL vs 15 min for spontaneous labours (ie the ‘passive’ second stage lasted 14 min for IOL and 15 min for spontaneous labours)? These terms are not clear to me. Maybe do not use the word ‘active’ in the phrase ‘duration of active labour’.

5. Results (page 8, paragraph 3)/Discussion (page 10, paragraph 3)
The results indicate that 34% of CS performed after IOL were for failed IOL, which appears very high. More clinical information as to when this decision was made eg duration and maximum dose of oxytocin would improve the interpretation of this paper in the discussion section.

6. Discussion (page 9, paragraph 1)
Although the risk of CS appears to be two fold higher for women having an IOL compared to spontaneous labour, it is also important to bear in mind that 75% of the IOLs appeared to be for valid medical indications, and therefore necessary, despite the risk of CS. I would suggest that the last sentence (‘Of the twin pregnancies planned for a trial of labour….counselling of these women’) needs to be softened, as when considering IOL, it is not just the risk of CS that needs to be considered, but also other maternal and perinatal risks of continuing the pregnancy e.g. stillbirth/complications of preeclampsia etc.

7. Discussion (page 11, paragraph 3)
Other investigators (including our research group) have found increased risk of neonatal+/- maternal morbidity and/or mortality for women with twins having a prelabour CS compared to labour (eg Roberts CL et al, 2015; Wenckus DJ et al, 2014; Hoffman E et al, 2012; Smith GC et al, 2005). Thus I would assert that there is some evidence that suggests there may be some benefit for the neonate for prelabour CS, and recommend that the author soften or change the first sentence of this paragraph that states that there is lack of evidence of benefit to the infant.

Minor Essential Revisions

8. Results
A small proportion of women (2% for IOL and 6% for spontaneous labours) had a breech presentation for the first twin. Is it usual standard of care in Sweden for women with the first twin in breech presentation to labour or to be induced?

9. Abstract line 41
The adjusted OR for IOL and the risk of CS compared to spontaneous labour onset is usually reported rather than the unadjusted OR. Please add the ‘A’ (though I note that values of OR and AOR are identical).

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.