Review of: "Delayed vs Early Umbilical Cord Clamping in 100 Preterm Infants: an RCT from Bhavnagar, Gujarat"

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Potential competing interests: No potential competing interests to declare.

The authors have summarized the results of their RCT comparing >120s of Dcc to <30s of ECC. This is important work and is necessary to be shared with other institutions who want to implement >120s DCC in preterm infants. The methods and results in the manuscript can be clarified to make it easier for the reader.

Suggestions.

Abstract

There is no information regarding the feasibility of performing 120s DCC in the paper. It will be important to add information regarding the actual duration of Cord Clamping in the DC group – Table 2 and Figure 4.

What is Known – page 2

“Risk of IVH and polycythemia are associated with DCC” – the DCC studies have shown a decrease in IVH in preterm infants, not an increase. Please clarify this in the “what is known” section.

Introduction

Page 2, paragraph 2, line 3

“During the first 5 to 15 seconds after the delivery, blood volume increases by 5 to 15 ml/kg as a result of uterine contractions” but the figure referenced shows no increase if cord clamped at 10s. This statement is a little confusing. Does this mean that with ECC there will be an increase upto 15ml/kg of blood volume in infant, please clarify.

Page 5 – line 1

“Another benefit of DCC is that along with hemoglobin the Oxygen is also received by the baby and so asphyxia is prevented or minimized. This is seen as ‘intact cord resuscitation’ studies for asphyxia babies being carried out now.” As the current intact cord resuscitation studies are ongoing, this may be stated as a potential benefit.

Primary objective – instead of stating “selected hematological effects” please state the actual effects – i.e hemoglobin levels, MCV and hematocrits at birth, 1 and 4 months.

Sample size calculation - specify the primary outcome that was used for sample size calculation.

Page 7 line 3-4

“The midwives were also instructed to perform controlled cord traction”. Please specify that the cord traction was performed after the cord was clamped and cut.

After Data collection paragraph add a paragraph on the plan for Analysis including type of tests to compare the different variables, etc.

Tables 1 and 2

Summarize all the continuous values as mean or median, and add standard deviation or the range based on the normal or non-normal distribution of the values.

Table 1 – clarify what does 1 minute Apgar score mean as it is summarized as a percentage.

Table 2 - Add the "n" in each group in the top row.

Specify the definition of anemia in the foot note and in methods - data collection section. For the continuous variables please state "Mean and Standard deviation" in the first column and show the Standard deviation values in addition to mean shown. Add the loss to f/u at 1 month and 4 months as additional rows in the table so the denominator is clear for the readers.

Page 9 Line 1

“There was a significant difference, in the incidence of anemia (reduced) and MCV (increased) at 4-month of age (in DCC group, p=0.01, 0.00), in the requirement of blood transfusion (reduced by delayed clamping, in the DCC group,p=0.03), and in the mean hemoglobin at birth (higher in the DCC group, p=0.0) between two groups DCC and ECC.”

The differences in the DCC group can be stated more clearly *-there was a significant decrease in blood transfusion (difference in the values, p value) and anemia at 4 months(difference in the values, p value) and increase in the hemoglobin at birth (difference in the values, p value) and mCV at 4 months of age (difference in the values, p value) in the DCC group compared tot the ECC group.*

Figures – page 9 and 10

I am not sure if Figure 4 and 5 add more value to readers or if it is too confusing. Recommend summarizing the 4 month follow up result in the results narrative section as well: - there was a significant decrease in anemia, increase in hb and MCV at 4 months.

Figure 4 has the information broken down by the delivery type and the loss to f/u - so that is helpful for the readers. It will still be important to add the loss to f/u informaion in Table 2 as previously suggested.

Discussion

Page 10 - 12

Follow up – there are studies in term infants with dCC that show and increase in iron stores and hct values at 4 months. It will be important to highlight that this study shows that in preterm infants (GA age range in the study subjects).

Add references to discussion section when stating what is known in literature. “Several issues regarding the effects of DCC as compared to ECC have shown contradictory results, such as risks for maternal PPH, and infants’ risk for polycythemia and jaundice.” – add relevant references

Conclusion

“We conclude that delaying umbilical cord clamping for upto 120 sec is a safe and feasible alternative when handling uncomplicated preterm birth. Iron status as inferred from MCV was significantly increased at 4 months of age” – The duration of cord clamping for both the groups should be summarized and reviewed to emphasize feasibility in this study. Please add the information regarding this in the results section and perhaps discuss any relevant findings in the discussion.