COMMENTARY

Optimal Timing of Umbilical Cord Clamping: A Commentary on Recent Evidence

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The optimal timing of cord clamping is an aspect of practice where old habits may over-shadow evidence. Yet, this everyday practice has significant implications for the neonate. The meta-analysis on late versus early clamping of the umbilical cord in full term neonates published in JAMA in 2007 [1] is poised to become an influential piece of evidence in obstetric practice.

The authors reviewed 15 controlled trials (1,912 newborns) which explored neonatal outcomes following either immediate clamping of the umbilical cord or delayed clamping at no earlier than two minutes after birth. The findings of the meta-analysis indicated that those newborns in the late cord clamping group may fare better in both physiological and clinical outcomes. Newborns in the late cord clamping group had higher levels of hematocrit and haemoglobin; higher blood volume and increased iron status. There were no significant differences between the groups in bilirubin levels or incidence of respiratory grunting or tachypnea. Importantly, there was also no significant difference between the early and late clamping groups with respect to the rates of jaundice at 3-14 days after birth which contradicts earlier research.[2] Finally, there also appears to be a reduction in the risk of anemia at both 24 hours after birth and at two to three months of age. Of note, there did appear to be an increased risk of polycythemia for the newborns with late clamping. However, none of the infants were symptomatic and when only the high quality studies were considered, the risk of polycythemia was not significant.

In addition to challenging previous research regarding jaundice and late cord clamping, this meta-analysis also challenges commonly held assumptions about the importance of the height of the infant in relation to the placenta during late clamping. The authors conducted sub-group analysis looking at the issue of what level the infant is held at (above or below the maternal introitus) prior to clamping and found that there was no change in the beneficial outcomes for the neonates. This research also demonstrates a welcome addition to the evidence regarding timing of cord clamping for term infants, because although several trials had indicated benefits of delayed clamping for pre-term infants [3], research of term infants had provided little evidence to influence practice.[4] The other significant contribution of this meta-analysis is the indication that these beneficial effects extend up to two to three months of age.

This meta-analysis provides an important contribution to the on-going debate regarding evidence for third stage management. The authors emphasize that further research is needed to understand whether or not late cord clamping is compatible with active management of the third stage and what effect oxytocic drugs may have on the optimal timing of cord clamping. Research examining how maternal outcomes are affected by the timing of cord clamping is also required. A Cochrane review is already underway to consider these issues.[5] This meta-analysis may begin an important cascade whereby clinical practice guidelines at national and international levels evolve to incorporate late cord clamping. It is crucial that midwives include this new evidence into their discussions with women regarding management of the third stage of labour. The late clamping is more of a physiologic approach likely to be favoured by midwives, and this evidence may give support to practice that has already been occurring.

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