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Delaying the clampers

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Amanda Burleigh explains the call to change NICE guidance on cord clamping

Approximately 50 years ago oxytocic drugs were introduced to labouring women with the intention of shortening the third stage of labour, preventing postpartum haemorrhage and improving the mortality rate. The function of the umbilical cord was not even considered, never mind researched, and immediate clamping and cutting became standard practice, often occurring before the baby had taken its first breath.

Both Aristotle and Darwin observed the process and warned against early clamping of the cord. Yet premature cord clamping is still widely practised in many UK and world hospitals today.

'Frequently the child appears to be born dead, when it is feeble and when, before the tying of the cord, a flux of blood occurs into the cord and adjacent parts. Some nurses who have already acquired skill squeeze [the blood[back out of the cord [into the child's body] and at once the baby, who had previously been as if drained of blood, comes to life again.' Aristotle 300BC

*'Another thing very injurious to the child, is the tying and cutting of the navel string too soon; which should always be left till the child has not only repeatedly breathed but till all pulsation in the cord ceases. As otherwise the child is much weaker than it ought to be, a portion of the blood being left in the placenta.'*Erasmus Darwin, Zoonomia, 1801

In response to growing maternal requests for delaying cord clamping and the mounting evidence of the benefits leading to evolving personal opinion, in November 2012 the Royal College of Midwives (RCM) released new evidence based guidelines for the third stage of labour.[1]

The World Health Organisation (WHO), UNICEF, International Confederation of Midwives (ICM), Royal College of Obstetricians and Gynaecologists (RCOG), International Liaison Committee on Resuscitation (ILCOR) and International Federation of Gynecology and Obstetrics (FIGO) all support delayed cord clamping. NICE (National Institute of Clinical Excellence) is looking to change their guidelines but not until November 2014, still two years away.

Benefits of delayed cord clamping

Immediately after birth the cord pulsates as the placenta continues to provide essential oxygen and nutrients, and delivers blood back to the baby. This is known as placental transfusion and is a vital part of the birth process. As long as the cord is pulsating the risk of haemorrhaging from the uterus is minimal as

the placenta is still attached.

Dr Judith Mercer, a leading expert on cord clamping, has produced an extensive amount of evidence regarding the benefits of delaying clamping for both full-term and very preterm infants.[2,3] With colleagues, her review of the available literature showed that delaying cord clamping produced higher blood pressure, higher haematocrit levels, more optimal oxygen transport and higher red blood cell flow to vital organs, reduced infant anaemia and increased duration of breastfeeding. For very preterm infants, the benefits also included fewer days on oxygen and ventilation, fewer transfusions, and lower rates of intraventricular haemorrhage and late-onset sepsis.

Other research has shown that immediate cord clamping deprives the baby of up to 40% of its intended blood volume. Research shows that leaving the cord intact leads to a weight gain of up to 210g in the five minutes following birth.[4]

The blood that the baby is deprived of contains stem cells, blood cells and other natural hormones intended to complete the birth process.

Immediate cord clamping is a major risk factor for anaemia in newborns. Research studies have shown that immediate cord clamping leads to long-term anaemia which impedes learning and development[5,6]

The guidelines

The new RCM guidelines recommend that midwives should be competent in both active and physiological management of the third stage of labour. However, after decades of active management, midwives need to develop competency and confidence in physiological management. This is important because (and my experience reflects this) when physiological management is offered to women as a reasonable option, many will choose it.[7] Physiological management can be seen as the logical ending to a normal physiological labour.[8,9]

Women at low risk of postpartum haemorrhage who request physiological management of the third stage should be supported in their choice.[10]

Active management involves giving a prophylactic uterotonic, cord clamping and controlled cord traction. Physiological management, where the cord naturally clamps itself, involves no administration of drugs to contract the uterus and no clamping or cutting the cord until the placenta is delivered. It also includes promoting the use of gravity to assist delivery of the placenta in a timely manner with maternal effort.

The guidelines recommend that if physiological management is attempted but intervention is subsequently required, then management must proceed actively. If the placenta is retained after one hour, active management should be considered, but of course women still have the choice.

The Cochrane review exploring the effect of timing of umbilical cord clamping showed both benefits and harms for late cord clamping.[11] Immediate cord clamping was associated with reduced placental

transfusion and lowered infant haemoglobin. Following delayed clamping there was a significant increase in infants needing phototherapy for jaundice accompanied by an increase in infant haemoglobin levels and serum ferritin levels in the first few months of life. In response to this evidence, guideline recommendations have been amended to include delaying cord clamping. The timing of cord clamping needs to be determined in the clinical context. It is estimated that this normally would be around three minutes. RCOG simply concluded there was a need for large trials in this area.

More importantly, perhaps, for low-risk women who can accommodate the increased blood loss, there is significant evidence to suggest that active management does have an iatrogenic effect, whereas doing nothing does not. 2 Routine active management with the specific aim of reducing blood loss is questionable in countries where women enjoy good health and nutrition.8 This challenges the appropriateness of practice that responds to statistically significant outcomes rather than to clinically significant outcomes.

Incorporating skin to skin contact, early breastfeeding and upright posture may also expedite expulsion of the placenta and reduce the length of the third stage and, subsequently, the amount of blood loss. Sharing such information with women will allow them to make an informed choice.

WHO recommends12 that in newly-born term or preterm babies who do not require positive-pressure ventilation, the cord should not be clamped earlier than one minute after birth, based on a decrease in the need for blood transfusion, an increase in body iron stores and very low quality evidence for risk of receiving phototherapy for hyperbilirubinemia. This should be understood as the lower limit supported by published evidence.2

Personally, I wish the guidelines had been a bit stronger and clearer about best practice. WHO issued stronger guidelines outlining the benefits of delaying cord clamping; however, the RCM guidelines imply that there is less clear evidence either way, leaving it still open to individual practice in the UK. Better guidance for practitioners is needed, and not only for midwives supporting normal birth, but for obstetric and neonatal staff who are involved in more complex births.

In the UK, as a member of a growing global network, I have started a petition as a method of trying to persuade NICE to bring forward the review date and recognise the necessity of ensuring that optimal cord clamping is included in the guidance as best practice. If we can convince NICE to change the guidelines earlier, this may encourage other organisations worldwide to implement delayed cord clamping as well as making a difference to the one-and-a-half-million children who will be born in the UK between now and the review date.

NICE's initial response to the delay in issuing new guidance is that informed choice is, and should be, practised. However, we know that the majority of births are actively managed and women do not get informed choice. In addition, many midwives, after decades of performing active management, need to gain skill and confidence in managing a physiological third stage of labour and many UK doctors will simply not proceed to implement change unless they have written guidance.

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The link to the petition can be found here: www.change.org/petitions/nice-implement-delayed-cord-clamping-immediately The RCM guidelines can be downloaded here: www.rcm.org.uk/college/policy-practice/guidelines/practice-guidelines

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