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[Intervention Review]

Early versus delayed umbilical cord clamping in preterm infants

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ABSTRACT

Background

Optimal timing for clamping of the umbilical cord at birth is unclear. Early clamping allows for immediate resuscitation of the newborn. Delaying clamping may facilitate transfusion of blood between the placenta and the baby.

Objectives

To delineate the short- and long-term effects for infants born at less than 37 completed weeks' gestation, and their mothers, of early compared to delayed clamping of the umbilical cord at birth.

Search methods

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (2 February 2004), the Cochrane Neonatal Group's Trials Register (2 February 2004), the Cochrane Central Register of Controlled Trials (*The Cochrane Library* 2004, Issue 1), PubMed (1966 to 2 February 2004) and EMBASE (1974 to 2 February 2004). We updated the search of the Cochrane Pregnancy and Childbirth Group's Trials Register on 30 November 2009 and added the results to the awaiting classification section

Selection criteria

Randomized controlled trials comparing early with delayed (30 seconds or more) clamping of the umbilical cord for infants born before 37 completed weeks' gestation.

Data collection and analysis

Three reviewers assessed eligibility and trial quality.

Main results

Seven studies (297 infants) were eligible for inclusion. The maximum delay in cord clamping was 120 seconds. Delayed cord clamping was associated with fewer transfusions for anaemia (three trials, 111 infants; relative risk (RR) 2.01, 95% CI 1.24 to 3.27) or low blood pressure (two trials, 58 infants; RR 2.58, 95% CI 1.17 to 5.67) and less intraventricular haemorrhage (five trials, 225 infants; RR 1.74, 95% CI 1.08 to 2.81) than early clamping.

Authors' conclusions

Delaying cord clamping by 30 to 120 seconds, rather than early clamping, seems to be associated with less need for transfusion and less intraventricular haemorrhage. There are no clear differences in other outcomes.

[Note: The 14 citations in the awaiting classification section of the review may alter the conclusions of the review once assessed.]

PLAIN LANGUAGE SUMMARY

Early versus delayed umbilical cord clamping in preterm infants

Delayed cord clamping for babies born early improves their health.

In the womb, blood flows to and from the baby and the placenta bringing oxygen to the baby from the mother's blood. If the cord is left unclamped for a short time after the birth, some of the baby's blood from the placenta passes to the baby to help the flow of blood to the baby's lungs. In the review of studies on babies born prematurely, delaying cord clamping for just a very short time helped the babies to adjust to their new surroundings better. Further studies are needed on longer delays to see whether this brings even more benefits.