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Project title

Delayed Umbilical Cord Clamping in Premature Neonates

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Introduction

Early umbilical cord clamping (<20 seconds after birth) has been a routine for decades. Recent evidence reveals delayed cord clamping (30 seconds or more after birth) allows blood flow between the placenta and neonate. The return of placental blood volume to the neonate leads to a higher neonatal blood volume, which may cause a higher incidence of severe neonatal jaundice (NNJ) related to polycythaemia. However, the higher neonatal blood volume has also been linked to many benefits, including decreases in the number of blood transfusions, intraventricular hemorrhage (IVH) and necrotising enterocolitis (NEC) in preterm neonates. In light of these beneficial effects, our Obstetric and Paediatrics service leads the change of delayed umbilical cord clamping (DCC) after thorough evidence review.

Objectives

(1)- To provide evidence-based recommendation on time of cord clamping in premature neonates; and (2) to assess the effects of DCC for neonates from 30 to 35 weeks 6 days of gestation age.

Methodology

A working group including paediatricians, obstetricians and midwives, has been set up since July 2013 to study the feasibility and refinement of a safe and effective practice for DCC Singleton vaginal births from 30 to 35 + 6 weeks of gestation age are assessed for DCC. Exclusion criteria includes neonates with major congenital anomalies; requiring immediate resuscitation; tight nuchal cord; born by mothers with maternal complications. After birth, baby is dried thoroughly and wrapped in warm towel to prevent heat loss, then placed at the same level of the mother's introitus. The umbilicus cord is clamped and cut after one minute. The following parameters of neonates are collected: any blood transfusion or exchange transfusion; IVH and NEC. With a joint protocol, this initiative has been launched since November 2013.

Result

In our cohort of 100 preterm babies with DCC as from 2013 to 2015, only one baby needed blood transfusion. No baby required exchange transfusion as a result of severe NNJ. There was only one case of grade one IVH but no case of IVH of grade two or above. There was one case of stage two NEC which resolved without surgery. Comparing against preterm babies born within the same inclusion period who did not receive DCC, there was no statistically significant difference in the incidence of NEC (p = 0.48).

Conclusion Delayed umbilical cord clamping is simple and safe for premature neonates. Our experience is useful as reference for applying this practice in premature babies.