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Is it time to rethink cord management when resuscitation is needed?

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Abstract

A newborn who receives a placental transfusion at birth, either from cord milking or delayed cord clamping, obtains about 30% more blood volume than the newborn whose cord is cut immediately. Receiving an adequate blood volume from placental transfusion at birth may be protective for the distressed neonate as it prevents hypovolemia and can support optimal perfusion to all organs. New research shows that ventilating before clamping the umbilical cord can reduce large swings in cardiovascular function and help to stabilize the newborn. Hypovolemia, often associated with nuchal cord or shoulder dystocia, may lead to an inflammatory cascade and subsequent ischemic injury. A sudden unexpected neonatal asystole at birth may occur from severe hypovolemia. The restoration of blood volume is an important action to protect the hearts and brains of these neonates. Current protocols for resuscitation imply immediate cord clamping and the care of the newborn away from the mother's bedside. We suggest that an intrapartum care provider can achieve placental transfusion for the distressed neonate by milking the cord several times or resuscitating the neonate at the perineum with an intact cord. Milking the cord can be done quickly within the current Neonatal Resuscitation Program guidelines. Cord blood gases can be collected with delayed cord clamping. Bringing the resuscitation to the mother's bedside is a novel concept and supports an intact cord. Adopting a policy for resuscitation with an intact cord in a hospital setting will take concentrated effort and team work by obstetrics, pediatrics, midwifery, and nursing.

KEYWORDS:

asystole; blood volume; cord milking; delayed cord clamping; hypovolemia; perfusion; placental transfusion; resuscitation; shock