

Unexpected collapse of apparently healthy newborn infants: the benefits and potential risks of skin-to-skin contact

Peter J Fleming

The routine separation of mothers and infants after delivery, a practice until recently very common in western midwifery and obstetric practice, may have significant negative effects on the establishment of normal mother–baby postnatal interactions, most importantly, the establishment of breast feeding.¹ Recognition of the importance of close and direct contact between mothers and babies in the period immediately after delivery has led to the widespread adoption of the practice of ‘skin-to-skin’ care, in which the infant is placed naked and almost always prone directly onto the mother’s chest very shortly after birth. The widely recognised potential benefits of early skin-to-skin contact, include improved prevalence and duration of breast feeding, improved maternal attachment behaviour and reduced crying by infants, together with improved cardiorespiratory stability for preterm infants.¹ The Cochrane review notes that this practice has ‘no apparent short or long term negative effects’.¹

The study by Becher and colleagues,² investigating sudden unexpected postnatal collapse in the first 12 h after birth of apparently healthy term infants in the UK and Ireland, confirms that such a collapse is a rare event, but one that may lead to death or long-term neurodisability. This is most commonly observed in the infants of primiparous mothers who are unobserved by medical or nursing staff and undergoing a period of skin-to-skin contact, with the infant prone or on the side on the mother’s chest. This association has been reported previously in studies from Germany,³ France^{4–6} and Scotland,⁷ and the presence of evidence

of prenatal brain injury in one infant in the Scottish study suggests that prenatal compromise may be a contributing factor in some infants, even in the absence of evidence of intrapartum asphyxia or the need for resuscitation at birth. The circumstances in which the collapse has occurred in many instances is suggestive of accidental asphyxia,^{2 3 6} but surprisingly, the German study found that most mothers were awake at the time of the collapse, most had not been given sedative medication recently and most mothers had observed their infant to be apparently well less than 30 min before the collapse.³

Unexpected postnatal collapse of apparently healthy infants within a few hours of birth has been recognised for many years, and may be the first presentation of an underlying previously unrecognised congenital anomaly of the cardiorespiratory systems or neural control systems or an underlying metabolic disorder, but in most cases no underlying explanation is identified.^{2–7} Estimates of the incidence of such a collapse vary, but the recent population-based German, French and UK studies gave estimates of 2.6, 3.2 and 5 cases per 100 000 births, with overall death rates of 1.1, 0 and 0.8 per 100 000 births, respectively. These figures are compatible with the unexpected, infant death rate of 1.6 per 100 000 births in the first 24 h after birth recorded in the recent case-control study in Southwest England.⁸

The studies concur in recognising the association between unexpected postnatal collapse on the first day and primiparous mothers, skin-to-skin contact and the prone or side position of the baby. Unlike all other unexpected infant deaths, there is no excess of male infants or night-time occurrence. The only study to have addressed maternal smoking found that 15/17 mothers were non-smokers.³

Given the clear benefits to mothers and babies from skin-to-skin contact,

the small risk of unexpected postnatal collapse should not be seen as a reason to reduce or avoid this practice, but it is important to ensure that infants are not left under the covers for long periods of time, unobserved by staff. Becher noted that, even when mothers were healthcare professionals they seldom identified the collapse, which was commonly detected when the infant was reviewed by the attending medical or nursing staff. As pointed out by Poets et al,³ the identification of specific risk factors, and the identification of the nature and magnitude of the risk attached to particular aspects of immediate neonatal care of the infants (eg, sleeping position, position and thickness of the covers, environmental temperature, maternal experience) are not possible in the absence of detailed equivalent information from a large population of normal controls. The continued data collection in Germany³ to establish a population-based control group will be of great importance in answering these questions.

In the meantime, however, it seems appropriate, as suggested by Poets et al³ to recommend that midwives check on the infant’s condition frequently during the first 2–3 h after birth, with particular emphasis on ensuring that when in skin-to-skin contact the infant’s position is safe and the nose and mouth are not occluded. There is no reason that such close observation cannot be unobtrusive and gentle, and by involving the parents and helping them to understand and avoid potentially hazardous positions, infant well-being can be enhanced without compromising the benefits of close contact between mother and baby and the successful establishment of breast feeding.

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