



PREVALENCE OF BRADYCARDIA IN THE FIRST MINUTE AFTER BIRTH WITH UNCLAMPED UMBILICAL CORD

Siren Rettedal and colleagues provide fascinating data about heart rate changes after birth in infants with unclamped umbilical cords. They established ECG monitoring using a dry gel electrode device immediately after birth in newborn infants born at Stavanger Hospital, Norway. All newborns with GA \geq 28 weeks, irrespective of mode of delivery and need for resuscitation, were eligible. Late cord clamping was standard practice, but newborns considered to need resuscitation had their cords clamped and were transferred to a resuscitation room. Motion sensitive cameras captured video of the resuscitation measures. Data were obtained from 4876 newborns. The median time to cord clamping was 301 s. Median first heart rate 16 s after birth was 150 beats per minute (BPM). First heart rate was $<$ 100 BPM in 16.3% (797 infants) and $<$ 60 BPM in 0.6% (29 infants). At 60 seconds 3.7% (162 infants) and 0.06% (3 infants) had HR $<$ 100 BPM and $<$ 60 BPM respectively. A minimum of 25.1% (1184/4722) of infants had some registered HR $<$ 100 BPM during the first minute after birth. Positive pressure ventilation was provided to 6.6% (53/797) of the infants with first HR $<$ 100 bpm and to 17.9% (29/162) of the infants with HR $<$ 100 bpm at 60 seconds. Median time of start of PPV was 72 s after birth.

The finding, that 25% of infants had a heart rate $<$ 100 BPM during the first minute of life while the cord remained unclamped and that 95% of these infants did not require resuscitation is important because current resuscitation guidelines recommend initiation of PPV to infants with heart rate $<$ 100 BPM. All the infants provided with PPV in this study had inadequate breathing confirmed on video. In an accompanying editorial, Susan Niermeyer discusses the physiological mechanisms through which the placental circulation allowed the infants with bradycardia to improve spontaneously and establish breathing without PPV, and the growing evidence that delaying cord clamping

beyond 120 s benefits preterm infants. There is clearly a need for further learning regarding the optimisation of transition in term and preterm infants. It is still not rare for caregivers to clamp the cord early because of clinical assessment of heart rate suggesting bradycardia and perceived need for provision of ventilation. This study suggests that a more expectant approach, awaiting the onset of spontaneous respiration may be preferable in many cases. *See pages F371 and F346*

DEFERRED CORD CLAMPING AND POLYTHENE BAGS AT DELIVERY

Katherine Pettinger and colleagues continue the theme of deferred cord clamping in an editorial linked to the article by Dunne *et al* which appeared in our May 2024.¹ Trials show that preterm infants managed with deferred cord clamping have lower mortality but more admission hypothermia. Dunne *et al* studied in a randomised trial whether placing the preterm infants in a polythene bag before vs after deferred cord clamping influenced admission hypothermia. There was no difference between groups in this outcome. Pettinger and colleagues discuss the importance of a quality improvement approach to optimise both deferred cord clamping and thermal stability. They report that in the UK the proportion of very preterm infants ($<$ 32 weeks) who receive deferred cord clamping increased from 28.9% in 2020 to 55.4% in 2022. Some centres exceeded 75%. However, in 2022, 25 hospitals in the UK managed DCC in less than 40% of their very preterm deliveries. Cord intact stabilisation—where breathing support is administered before cord clamping—has been shown to be feasible but not yet proven to be of benefit. The data from Norway in this issue suggest that with the cord left intact for longer more of these babies may achieve their own stabilisation. *See page F344*

NEONATAL BRAIN MAGNETIC RESONANCE IMAGING: CLINICAL INDICATIONS, ACQUISITION AND REPORTING

We have recently opened to publication of selected clinical guidelines, where these have been developed with appropriate methodology and have sufficient endorsement to make them likely to influence wider practice. Topun Austin and colleagues present this MRI imaging framework for practice that was developed by the British Association of Perinatal Medicine and British Society of Neuroradiologists and has been endorsed by the British Paediatric Neurology Association and the Society of Radiographers. *See page F348*

EARLY AND EXCLUSIVE ENTERAL NUTRITION IN INFANTS BORN VERY PRETERM

Jacqueline Razzagy and colleagues report outcomes of a randomised controlled trial of feeding regimens. Preterm infants born between 28+0 and 32+6 weeks of gestation either received enteral nutrition within 36 hours of birth with maternal or donor milk starting at 60–80 mL/kg/day and then increasing over the following days by 20–30 mL/kg/day to a goal of 150 mL/kg/day or started at 20–30 mL/kg/day within the first 96 hours after birth and incremented at a similar rate. There were 102 infants in the study. Early exclusive enteral nutrition increased the number of full enteral feeding days (+2; 0–2 days; $p=0.004$), the fat-free mass-for-age z-scores at postnatal day 14 and the length-for-age z-scores at the time of hospital discharge. This promising approach to more rapid feeding is the subject of the FEED1 trial in the UK which has now randomised more than 2000 infants and will report outcomes to hospital discharge and 2 year follow-up (<https://www.feed1.ac.uk/home.aspx>). *See page F378*

REFERENCE

- Dunne EA, Ni Chathasaigh CM, Geraghty LE, *et al*. Polyethylene bags before cord clamping in very preterm infants: a randomised controlled trial. *Arch Dis Child Fetal Neonatal Ed* 2024;109:317–21.