

Highlights from this issue

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The persistent duct problem

Most neonatologists are uncertain about the optimal approach to ducts that remain patent in preterm infants. The variation in practice shows that the evidence does not strongly favour a single approach. Many clinicians prefer to treat medically or surgically at some point while some treat remarkably few. William Benitz provides a thought provoking and detailed review of the evidence, pointing out that it does not show that any approach to treatment improves clinical outcomes. The issue is clouded by the fact that in most studies where selected infants were treated, the remaining infants were also treated a little later, so there is not clear evidence that leaving them untreated is associated with favourable outcome. He says that "It would be wrong to conclude that there are no very low birthweight infants who might benefit from ductal closure. Unfortunately, we do not know precisely how to identify them or when or how to treat them." He points us towards a more conservative approach pending further evidence. This variation in practice has spanned the working lives of a whole generation of neonatologists and affected the outcomes of a generation of infants. We must embrace uncertainty and conduct trials comparing targeted treatment versus expectant management, with protocols strictly limiting open label treatment and sample sizes large enough to consider meaningful longer term outcomes. Then we can consider optimal treatment regimens. Later in the issue, Barzilay *et al* describe the pharmacokinetics of oral ibuprofen in a small series of preterm infants with patent ducts. The treatment was well absorbed, generated a high area under the curve and appeared to be effective. It is very low cost and appears worthy of

wider evaluation if treatment benefits are demonstrated. *See pages F80 and F116*

ROP screening

Mandel *et al* performed a small randomised controlled trial (RCT) using inhaled nitrous oxide to modify the pain scores of infants being screened for retinopathy of prematurity (ROP). All infants were swaddled, received topical anaesthetic eye drops and oral sucrose. Inhaled nitrous oxide had no effect on pain measured by premature infant pain profile (PIPP) scores. Perhaps because of routine use of containment and sucrose the PIPP scores associated with insertion of the eyelid speculum in both groups were lower than in previous studies of analgesia for eye screening but they were still similar to those observed elsewhere in infants during heel lance. It is going to be difficult to eliminate the stress of this procedure for either participant. *See page F83*

Transfusion thresholds

The PINT (Premature Infants In Need of Transfusion) study was an RCT of low versus high haemoglobin thresholds for transfusion in extremely low birth weight preterm infants. There was no statistically significant difference in the primary outcome at 18–21 months of a composite of death, cerebral palsy, cognitive delay, severe hearing impairment or severe visual impairment. The outcome was marginally less common in infants transfused at higher haemoglobin levels. A post-hoc analysis including infants with a mental development index (<85) showed advantage to maintaining higher haemoglobin. Kamholz *et al* now provide an economic analysis from the PINT study showing that transfusing at higher haemoglobin levels was associated with

long-term cost savings in addition to the previously identified clinical benefits. We published an editorial by Bell in 2008 entitled 'When to transfuse preterm babies'¹ that reviewed data from the two large trials of different transfusion thresholds and it is still worth another read. This new information from one of the trials is a welcome addition to the evidence base. *See page F93*

Thermal care

New and colleagues report a RCT of transferring preterm infants with birthweight <1600 g from incubators into cots when they reached a weight of 1600 g or 1800 g. Infants in both groups did well. There was no disadvantage to earlier transfer. Temperature was well maintained in the group transferred at lower weight and growth was satisfactory. Weight at discharge and length of stay were similar in the two groups. Other factors must be more important in influencing length of stay. In the absence of apparent concerns there are potential social advantages to transferring infants from incubators sooner. *See page F88*

Improving antibiotic prescribing

This review article by Alison Bedford Russell and colleagues provides a wealth of information about the current epidemiology of early and late onset neonatal sepsis. They discuss factors influencing the choice of empiric antibiotic therapy, potential consequences of therapy and guiding principles for implementing an antibiotic stewardship programme. *See page F141*

REFERENCE

1. Bell EF. When to transfuse preterm babies. *Arch Dis Child Fetal Neonatal Ed* 2008; **93**:F469–73.