

E-publication ahead of print

The publication of accepted articles online means that many are available for some time before they appear in print. This is popular with authors as they get their publication indexed far more quickly than would otherwise be the case. It is obviously important to readers too because some of this month's articles had already generated correspondence on the journal web site several months before this issue was delivered to you. There is a direct link to recent e-letters on the journal homepage.

Which PDAs should be treated?

Prophylactic treatment of patent ductus arteriosus (PDA) has not brought about substantial improvements in outcome and there has been a lot of interest recently in determining whether there are measures that might identify the ducts that should be targeted for early closure. El Khuffash *et al* provide interesting data regarding measurements of N-terminal-pro-B type natriuretic peptide (NTpBNP) and cardiac troponin T (cTnT) alongside echocardiographic measures. At 48 hours of life infants whose PDA had not closed had higher levels of these compounds than infants with closed ducts. Others have shown that these measurements may be elevated in infants with "significant" PDA. However, when the infants with open ducts were separated into two groups according to whether or not they went on to have adverse outcomes that may be viewed as potentially duct related (death or severe IVH), echocardiographic measures could not distinguish between these groups whereas both NTpBNP and cTnT appeared to do so with high sensitivity and specificity. It is possible that these measurements may identify ducts that should be targeted for closure better than haemodynamic measurements. An alternative possibility is that they are elevated for separate reasons and may even be a reflection of the developing cerebral pathology. The levels were also

elevated at 48 hours in the two infants with closed ducts who died or developed severe intraventricular haemorrhage. Further studies will help to enlarge this dataset and work out what these measurements are really telling us. *See page F407*

Continuous vancomycin infusion

Because the efficacy of vancomycin is more dependent on maintaining adequate trough levels than on achieving particular peak levels, continuous infusion may be preferable to intermittent bolus administration. Plan *et al* describe an evaluation of the drug levels achieved and the antimicrobial efficacy of continuous infusion treatment in a population of preterm infants with late-onset sepsis. Their study included 80 infants with blood cultures positive for coagulase negative staphylococcus of which 75 had a central venous line. Continuous infusion was easy to administer and usually achieved effective levels. Without a comparison group treated with bolus doses it is not possible to determine the relative efficacy of continuous infusion treatment but it is impressive that 92% of subjects in this study recovered clinically and became culture negative without removal of their central line. A simple regimen for dosing based on creatinine level is proposed. *See page F418*

Retinopathy of prematurity

Population based data from the Lothian region in Scotland from 1990–2004 show that despite significant improvements in survival amongst preterm infants during this time period there was a substantial fall in the number of infants who required treatment for retinopathy of prematurity. Others have noted similar falls. It is interesting that, as in other centres, transcutaneous oxygen tension monitoring fell out of favour in the late 1990s and was largely replaced with oxygen saturation monitoring. Although some may be concerned that saturation monitors are less reliable than transcutaneous PO₂

monitors in detecting hyperoxia, it is reassuring that their use at the saturation levels described has been associated with a decrease in severe retinopathy rather than an increase. *See page F422*

Inflammation in term infants with hypoxic respiratory failure

Woldesenbet *et al* measured pro-inflammatory cytokine levels in cord blood of term infants who developed severe hypoxic respiratory failure (HRF) and looked at their placental histology. In comparison with controls, HRF infants, particularly those considered to require nitric oxide, had markedly elevated cord blood pro-inflammatory cytokines and a high incidence of histological chorioamnionitis. *See page F413*

Reviews and leading articles

This month's reviews and leading articles are highly informative. Cristobal and Oghalai include a delightfully clear and nicely illustrated description of the physiology of hearing in their review of hearing loss in very low birth weight infants. Bose *et al* summarise the now enormous literature on the inflammatory processes underlying the development of bronchopulmonary dysplasia (BPD), again nicely illustrated. Sadly, as this literature has grown the magic bullet for BPD has moved further from our expectation. Bell deals with the uncertainties about when to transfuse preterm infants. More information is required but in the meantime there is caution against restrictive transfusion policies and support for avoiding early clamping of the umbilical cord. Pignotti gives an overview of guidelines about treatment decisions for extremely preterm infants and their mothers across Europe and Ramesh *et al* discuss the role of mask ventilation as a less invasive support method for infants and children with congenital central hypoventilation syndrome. *See pages F462, F455, F469, F404, F400*