Highlights from this issue

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CANADIAN DEVELOPMENTAL OUTCOMES <29 WEEKS

The Canadian Neonatal Network (Synnes *et al*) reports the outcome of a large (3 700) cohort of babies born <29 weeks, together with the principal factors associated with neurodevelopmental impairment. Several things emerged that are of interest. Although statistically highly significant, the effect of gestational age per se was smaller, in almost every analysis, than any other factor except administration of antenatal steroids. The effect of GA was largely mediated by the usual suspects such as necrotising enterocolitis and brain injury, and the disadvantage attributable to male sex was greater than the advantages of either higher gestational age or antenatal steroids. The most striking finding was the effect of place of treatment: although the authors don't allude to it until their very last sentence, the variation in outcomes by site of care is clearly the elephant in the room. ***See page F235.***

DEVELOPMENTAL OUTCOME AND OESOPHAGEAL ATRESIA

Other than in congenital heart disease, there has been relatively little attention given to the long term developmental outcomes of congenital anomalies needing early surgical correction. But as with congenital heart disease, there is the constant difficulty of separating the effects of postnatal treatment from those of the underlying characteristics of children with anomalies, since many—perhaps all—such children have a genetic component to the aetiology of their anomaly which may also have neurodevelopmental effects. Harmsen *et al* report their follow-up of a cohort of 58 infants who had operative correction of their oesophageal atresia, mostly to 8 years. They found that their sample had normal intelligence but some gross motor difficulties, and there was an association between motor difficulty and exposure to anaesthetics. To me, these data are reassuring, given that many children with oesophageal atresia have other associated malformations. Whether the association with anaesthetic exposure is causal remains a matter of ongoing debate. ***See page F214.***

ENTEROSTOMY COMPLICATIONS

As Bethell *et al* report, colostomies and ileostomies in neonates are mostly done either in very preterm infants with necrotising enterocolitis, or in big term or near-term babies with congenital anomalies—mostly small intestinal atresias and Hirschsprung's disease. That they can have significant complications is well known, but identifying optimal strategies for stoma closure with a view to minimising complications has been challenging. This may be because there is no optimal one-size-fits-all strategy: the authors identify in their discussion the complexity of the decision making process that is undertaken for each baby in relation to weight gain, complications of parenteral feeding, size, age, and knowledge of how damaged other parts of the gut might be. Nevertheless, the authors argue in general for earlier rather than later closure, the rationale being the re-establishment of good weight gain once the stoma is closed. ***See page F230.***

OWN MOTHER'S MILK AND BPD

Most of the strategies that look promising for reducing rates of bronchopulmonary dysplasia have been subjected to randomised trials. But when it comes to 'own mother's milk' (OMM), a randomised trial is simply not possible. Patel *et al* approached the question using a prospective cohort study in which potentially confounding variables were collected systematically, so that the relation between the dose of OMM and rates of subsequent BPD could calculated independently of known confounders with reasonable confidence. In rough terms, they found that for every 10% increase in the dose of OMM there was a 10% fall in the chances of getting BPD. Short of an RCT, demonstration of a dose-response is quite powerful evidence for causation, and provides yet another incentive for all concerned to help mothers of significantly preterm babies to provide as much of their own milk as they can, for as long as possible. ***See page F256.***

ANTIBIOTICS, RESISTANCE AND INFECTIONS

When a person collects high quality data systematically (and perhaps obsessively) over a long period of time, the rest of us gain precious insights that can't be obtained in any other way. Carr *et al* report a careful audit of antibiotic use and infection rates, together with microbial resistance patterns, over a 25 year span from a single tertiary neonatal service. They showed a progressive fall in late onset infections against a background of courses of antibiotics that got shorter, and though there were increasing rates of initiation of antibiotic treatment, the average exposure to antibiotics for each baby decreased. As there is considerable evidence that more exposure to antibiotics increases morbidity and mortality, shorter courses are almost certainly a good thing. The rise in aminoglycoside and third generation cephalosporin resistance that they report is disappointing but probably reflects a worldwide trend. There is a lot to learn from close reading of this paper. ***See page F244.***

WANDERING UVCs

Ultrasound has long been known to be a useful modality for assessing umbilical venous catheter position but it remains under-used for this purpose. Franta *et al* present data showing that even after the UVC tip placement appeared to have been optimised according to appropriate X-rays, less than half of the catheters were optimally placed according to ultrasound imaging. As if this was not bad enough, half of the catheters whose positions were monitored serially drifted caudally over time. The lesson I take from this is that it would be a better use of trainees' time, and a more useful deployment of resources for risk mitigation, to teach the use of ultrasound for UVC position rather than have them learn how to ultrasound the neonatal brain. ***See page F251.***