

Fantoms

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Looking inside the heads of prems ...

Cranial ultrasound is a bit last century. It's a good displacement activity for restless registrars but the information it yields on premature babies seldom helps management, rarely discovers a treatable disease, and commonly creates significant (but often unjustified) anxiety among parents. It has notoriously poor sensitivity for ascertaining acute ischaemic damage. If it suddenly went, would we really miss it? Or so I thought until I read the paper from Horsch *et al*, who compared cranial ultrasound with MRI for the detection of grey and white matter damage. Crucially, they used both techniques at 40 weeks post menstrual age, and the surprising finding is that at this time they performed very similarly. From which I deduce that one of the fundamental problems of cranial ultrasound is not that the mode of imaging is inappropriate, but that we have been using it at the wrong time. If ultrasound can be as good as MRI, the implication of this paper is that it might be more useful to do routine ultrasound examinations at 40 weeks post menstrual age (or at the time of discharge home, whichever comes first, for practicality) rather than at any earlier age, if the information is to have relevance for the follow up of babies at highest risk of neurological problems. *See page 310*

... and inside the heads of term babies

Term babies have received much less intracranial attention than high-risk pre-term babies, but as Hagmann *et al* point out, 'abnormalities', or even variants of normal, are very much in the minority in such studies as currently exist. Not so in the Ugandan babies reported in this paper: radiologically significant abnormalities were found in half the babies, and the suggestion is that in this resource poor setting, the exposure of fetuses to infections and other adverse factors may be systematically different to babies in more affluent settings. This is preliminary work, so it will be important in future both to ascertain the origin of the abnormalities and their outcome. *See page 338*

Who needs resuscitation?

One of the more tedious duties of neonatal trainees can be hanging around the operating theatre 'just in case' a baby being delivered by elective caesarean section at term should need active resuscitation. The chances of needing to do a tracheal intubation were well under 1% in the study reported from Brazil by Branco de Almeida *et al*, while less than one in twenty received mask ventilation alone. Their headline finding was that babies born by elective caesarean section were significantly more likely to need advanced resuscitation than those who were normal vaginal deliveries. However the message I take from this

is that, irrespective of mode of delivery, there is no need to have some one with advanced skills present for every low risk birth. There needs to be some one present who is competent and available to undertake mask ventilation, and persons with advanced skills should be available quickly if needed. *See page 326*

It's cool to be servo controlled

In the space of a few years we have moved from therapeutic helplessness in the face of hypoxic-ischaemic encephalopathy to a position of being able to offer cooling therapy, with an enviably low number needed to treat. Like any treatment or drug, therapeutic hypothermia needs to be given promptly, in the right dose, for the right length of time, and with the minimum of side effects. Although some of these parameters remain to be defined in detail, the general principle of trying to get the level of hypothermia as consistent as possible would seem to be a sensible one. Strohm *et al* compare the performance of two systems, the Tecotherm and CritiCool, and show that the CritiCool with its servo control of the baby's temperature achieves hypothermia with less temperature variability than the Tecotherm. The letter from Ponnusamy *et al* suggests that by the end of 2009 a significant proportion of level 3 neonatal units in the UK still did not have cooling equipment. These data might help to inform purchasing decisions. *See pages 373 and 383*