

# Fantoms

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## Neonatal encephalopathy

Neonatal encephalopathy is the subject of four interesting articles in this issue. An increasing body of research challenges the traditional view that infants with neonatal encephalopathy secondary to perinatal asphyxia who do not develop cerebral palsy escape unharmed. The subject is reviewed by de Vries and Jongmans (*see page 220*). This evidence that cognitive and memory difficulties occur in the absence of motor abnormalities indicates that many more studies with follow up well beyond early infancy are required to characterize fully the continuum of hypoxic ischaemic brain injury.

Now that cooling for hypothermia is becoming a standard of care for infants with hypoxic ischaemic encephalopathy, Malcolm Levene provides an excellent overview of some of the potential additional treatments that might be combined with hypothermia to improve the outcomes of affected infants still further (*see page 154*). Melatonin, Erythropoietin, Magnesium Sulphate, Topiramate and Xenon are discussed. With so many centres now equipped to monitor cerebral function and provide hypothermia and with improved transport networks, the infrastructure is in place to facilitate rapid progress with further trials and avoid non-evidenced creeping change in practice.

Some aEEG monitors allow recording of two channels and others one. Van Rooij *et al* (*see page 160*) made aEEG recordings in 34 newborn infants with

seizures and investigated whether the findings obtained when 2 channels were examined gave additional useful information over and above what could be learned from analysing a single channel. The channels were all recorded simultaneously. All suspected seizures were reviewed alongside the recorded raw EEG from the same channel. The single channel recording was analysed blind to the findings from the twin channel recording. In infants with unilateral or bilateral lesions, more seizures were detected with twin channel recording than with single channel recording. Amongst the 14 infants with imaging evidence of unilateral brain injury, 11 had more seizures on the affected side than the contralateral side. The authors suggest that twin channel recording should be preferred.

Evans *et al* (*see page 169*) performed simultaneous standard (s) EEG and amplitude integrated (a) EEG monitoring in 47 newborn infants who were considered clinically to require EEG monitoring because of a history of possible hypoxia or a suspicion of clinical seizures. Background activity and seizures were determined with the two forms of EEG interpreted independently. All studies lasted at least 12 hours. Seizures were identifiable on sEEG in 20 infants despite aEEG being thought to show seizures in 28. Assessments of background activity on aEEG agreed moderately with assessment from sEEG but with quite large discrepancies in individual cases. This

reinforces the value of having simultaneous raw EEG to assist in the interpretation of aEEG tracings and the need for caution in making treatment decisions on the basis of evaluation of aEEG alone.

## Outcomes after IVF

Multiple pregnancy and preterm delivery are more common among pregnancies conceived by IVF techniques than spontaneous pregnancies, leading to increased morbidity. Messerschmidt *et al* report the outcomes of liveborn preterm infants analysed according to whether or not they were conceived by IVF. After birth there was no further adverse effect apparent. *See page 225*

## Ethnicity and retinopathy of prematurity

Aralikatti *et al* analysed the retinopathy screening outcomes of 1690 preterm infants cared for over a seven year period in 2 hospitals in Birmingham, UK. They found that the odds ratios for developing severe ROP requiring treatment were significantly increased in Asian (OR 2.52) and Black (OR 2.51) infants relative to white infants. The increased risk persisted after adjustment for birthweight and gestation. *See page 174*

## Not for the faint hearted

Lily-livered readers are advised to pause before looking at this month's image in neonatal medicine. *See page 193*