Fantoms

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After Nuffield

When the Nuffield Council on Bioethics published "*Critical care decisions in fetal and neonatal medicine: ethical issues*",[1] it challenged professional institutions to produce some sensible guidance for practitioners of fetal, intrapartum and neonatal care on the management of fetuses and neonates at the borderline of viability. Then in September we published a leading article by Ahluwalia *et al*, which posed some important questions that emerged from the Nuffield document: "*Decisions for life made in the perinatal period: who decides and on which standards?*"[2] Finally, in this month's edition we have if not all the answers at least a coherent statement of best practice that has been produced in a multi-collegiate fashion under the auspices of the British Association for Perinatal Medicine by Wilkinson *et al*. This is an important document that will, for some time to come, be a touchstone for practice; though produced in the UK it will no doubt be read with interest in Europe and beyond, and it will be compared with the guidance from the American Academy of Paediatrics in the USA. ***See page F2***

Bacteria, mycoplasmas, fungi and viruses – take your pick

This edition of *Fetal & Neonatal* is particularly strong on infections as it has material on four classes of pathogen. Modi *et al* suggest a workable definition that could be used to provide more international standardisation in relation to describing bacterial infections. This will be important epidemiologically as well as clinically, and recognises that the sensitivity of blood culture for "proving" infection is not all that good. Along with this, there are the differential effects of chorioamnionitis and funisitis: Lahra *et al* present evidence that inflammation, especially on the fetal side, may be good for the neonatal lung in term of less respiratory distress syndrome (but we must not forget that it is bad for the neonatal brain). In contrast, Oue *et al* find that exposure to pathogens at birth, especially mycoplasmas, is associated with long-term harm to the lungs in terms of bronchopulmonary dysplasia. Fungal infection is addressed in a review by Brecht *et al*, who warn that well meaning strategies to protect babies from candidal infection by using anti-fungal prophylaxis might yet have unwanted consequences in terms of selecting organisms resistant to anti-fungal agents. Finally, postnatal cytomegalovirus virus infection is discussed, again in a review, by Luck and Sharland. They conclude that postnatal infection is not always benign, but although pre-emptive treatment at a threshold of viral load may be justified, a lot of work needs to be done to find out if such a threshold exists, and if it does, what treatment might be justifiable. ***See pages F8, F13, F17 and F58***

The continuum of disadvantage

There have been many studies that have attempted to unpick the various factors that are associated with pre-term delivery, and it is well known that as with so many other conditions, premature birth is associated with social deprivation. But deprivation is a slippery concept, and Jansen *et al* have made an important contribution to this literature by trying to pin down some of the components of deprivation by focusing on maternal educational achievement and some of its covariates. They found that poor maternal educational status was associated with a two-fold increase in the risk of preterm delivery, and that much of this increase was related to a variety of other factors that included maternal body mass index and psychosocial stress. ***See page F28***

Congenital anomaly registers

In a previous Perspective in *Archives*,[3] I have banged the drum for population based congenital anomaly registers. I make no apology for doing so again, this time in relation to the paper by Savva and Morris who used Down syndrome as a marker condition to calibrate the performance of congenital anomaly registers, and found that the high performance of the regional registers contrasted with the poor ascertainment of the national congenital anomaly reporting system. Congenital anomaly remains a major cause of death and disability. Yet the existence of the registers remains precarious through uncertainties about their funding, while their importance in monitoring the potential teratogenic effects of everything from drugs, through environmental agents, to (potentially) artificial reproductive technologies, has never been greater. My competing interest: as Clinical Director of the northern Regional Maternity Survey Office, I have responsibility for the Northern Congenital Anomaly Survey (NorCAS). ***See page F23***

Oxygen tensions and oxygen saturations – again

Did you know that when a standard pulse oximeter reads 90%, this is compatible with a PaO_2 value of anything from 3 (or less) to 10 kPa? No, I thought not. Neither did I. Discerning readers may remember that in the September 2008 issue, we carried a paper by Quine and Stenson[4] on the stability of oxygenation in babies, depending on whether the babies were monitored using transcutaneous oxygen tensions or pulse oximetry. This time these authors correlate pulse oximetry values with simultaneous directly sampled arterial PO_2 values from a blood gas analyser. The relevance of this relates in part to the current trials of oxygen saturation targets (such as BOOST II), in part to the relative paucity of data on this relationship in the literature, and in part to the level of trust that we place in pulse oximetry monitoring. Indeed, their data beg the question as to whether oximetry might not be the more "correct" way to monitor oxygenation in as much as oxygen availability to the tissues is a function of its dissociation from haemoglobin, and this is related more to haemoglobin saturation than to blood oxygen tension. ***See page F51***

References

1. **Nuffield Council on Bioethics**. Critical care decisions in fetal and neonatal medicine: ethical issues. London: Nuffield Council on Bioethics, 2006.
2. **Ahluwalia J,** Lees C, Paris JJ. Decisions for life made in the perinatal period: who decides and on which standards? *Arch Dis Child Fetal Neonatal Ed* 2008;**93**:F332–5.
3. **Ward Platt M.** Evaluation of the National Congenital Anomaly System in England and Wales. *Arch Dis Child Fetal Neonatal Ed* 2005;**90**:F354.
4. **Quine D,** Stenson B J. Does the monitoring method influence stability of oxygenation in preterm infants? A randomised crossover study of saturation versus transcutaneous monitoring. *Arch Dis Child Fetal Neonatal Ed* 2008;**93**:F347–50.