

Fantoms

Martin Ward Platt, Associate Editor

Fighting the fungus

Invasive fungal infection, mostly with *Candida* species, is a significant problem in neonatal care. There have been several trials showing that fluconazole prophylaxis can greatly reduce deaths or serious illness from *Candida* species, but no work to date that directly compares administering fluconazole to other strategies such as gut decontamination with nystatin. Fluconazole is given intravenously initially, then enterally once feeding is tolerated. Nystatin can be wiped around the mouth and put in the stomach to decontaminate the gut, and it can be used topically on the skin. There is an obvious attraction to using nystatin as no intravenous access is needed and it can be integrated into mouth care procedures, but is it as effective as fluconazole? This is the question that Aydemir *et al* set out to answer in a large head-to-head randomised controlled trial with a placebo arm. The result was that both methods of prophylaxis were found to be much more effective than placebo, and there was no difference in effectiveness between nystatin and fluconazole in preventing breakthrough infection. So it makes sense to use nystatin on grounds of safety – and cost. **See page F164**

Neonatal care is getting better . . .

Measuring the outcomes of neonatal care has always been important, but we have to be careful about what we measure, and how we make our comparisons. Two papers in this edition illustrate this beautifully. On the surface, Claas *et al*, from Holland (1996–2005) appear to show that improvements in survival have, to some extent, occurred at the expense of increasing rates of disability; while D'Amore *et al*, from East Anglia (1993–2002) conclude that improvement in survival has not been accompanied by increasing rates of disability. Can both results be true? The crucial differences are that the Dutch team report from one institution only, while the East Anglian data reflect a geographically defined population; and the crucial similarities are that both studies suffer the problem of defining their patients by a dependent variable (birth

weight) rather than an independent variable (gestational age at delivery). The mixing of variably small-for-gestational-age infants with those merely preterm, the fact that poor in-utero growth marks for congenital anomaly, the increased likelihood of obstetricians delivering a fetus with poor growth well before term and the referral bias to tertiary centres, all create heterogeneous populations that cannot meaningfully be compared. The solution is always to measure mortality and developmental outcome in geographical populations, and to report rates of each by gestational ages. **See pages F169 and F178**

. . . but what does it cost?

The economic consequences of preterm birth are important to us all, whether as families, healthcare staff or taxpayers. Petrou *et al* have provided an updated review of these consequences, and a critique of the methodological quality of the studies that address them. It is depressing to realise that less than half of the studies were based on geographical cohorts of infants, so most of the studies had significant bias. Unsurprisingly, the initial costs of hospital care are most sensitive to length of stay (largely reflecting the degree of prematurity), mortality (early death is inexpensive) and the need for surgery. On other dimensions, costs to families can be considerable, and so can costs of care in childhood, but costs in adulthood of survivors with disabilities are much less well delineated. Work of this kind is clearly a continuing project, and we would all benefit from a better understanding of the economics. We must also bear in mind the differences between costs, prices and values. The last of these rarely gets a mention. **See page F225**

. . . and are there any perverse incentives?

And so to an unexpected effect of economics. We normally regard birth weight as a robust, reliable and accurate measurement. But is it? Back in 1992, Newens *et al*¹ showed how birth

weights may not be all they appear due to rounding errors when moving between grams and pounds and ounces ('How to gain weight by looking up'). In this edition, Abler *et al* have shown that when thresholds of birth weight are used to determine reimbursement payments, by providing boundaries between different diagnosis related groups, birth weight may no longer be the robust measure that we all imagine. Their data convincingly demonstrate that a few German babies manage to lose a little birth weight, not by looking up, but by rounding down, perhaps. **See page F186**

Assessing the pump

Real time continuous monitoring of cardiac output would be a wonderful thing. Patel *et al* have investigated the new Ultrasonic Cardiac Output Monitor (USCOM) and conclude that compared with skilled intermittent Doppler measurements, USCOM does not agree very well, though aortic measurements do better than pulmonary. Part of the problem seems to be that USCOM guesstimates valve area based on the baby's weight; if there was provision for direct entry of the valve diameter from a single cross sectional measurement, this would surely be an improvement. Importantly, the absolute values of cardiac output may not be as useful as measuring changes within the baby and responses to interventions. So I suspect that potential users should not be too put off by this work. There is a lot more we need to know about this USCOM before we can say whether or not it has a place in monitoring sick babies. **See page F206**

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REFERENCE

1. Newens AJ, Jarvis SN, George R. How to gain weight by looking up. *BMJ* 1992;**305**:1576–7.