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Highlights from this issue

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THE BIG HAIRY IMPORTANT PAPER: NURSE-TO-BABY RATIOS

The BHIP in this edition is the one we lead with, 'The effects of a one to one nurse to patient ratio on the mortality rate in neonatal intensive care', together with an accompanying editorial by Fenton *et al*. In spite of the paper's self-evident importance, and the fact that we commissioned the Editorial, I highlight it here because it is the best evidence (short of the randomised trial that can never be done) that mortality is related to the nurse to baby ratio. One of the authors' main insights, important in any discussion with commissioners of services, is that 1:1 nurse staffing is relatively inexpensive in relation to lives saved: they suggest an incremental cost of around £12 800 (€16 150; \$18 000) per life saved. *See page F186*

WORRYING ABOUT BLOOD PRESSURE #2

Six months ago I titled one of my Highlights 'Worrying about blood pressure'. I'm still at it. Back then we published a paper by Faust *et al*,¹ which set out to try to answer a question along the lines of 'Is there a level of blood pressure below which there is a realistic chance of harm?' In this edition we have a paper by Batton *et al* which, though also observational in approach, raises the serious issue that on balance, we might do harm by using inotropes to raise blood pressure, in at least some babies. Their important finding is that irrespective of initial blood pressure values, or their changes, it was the use of inotropes *per se* that was associated with a less good developmental outcome at 18 to 22 months in their cohort of babies <27 weeks. Of course this can be rationalised away by saying that hidden confounders must be responsible for this result, but the work raises an uncomfortable question which is why we commissioned the accompanying editorial by Barrington and Janailac. Six months ago Dempsey asked, 'When is it safe to not treat?' We might look at this the other way round and say 'When is it safe to treat?' Never were well designed randomised trials more sorely needed, but this is really difficult when 'every fool knows' that low blood pressure needs urgent treatment. *See page F188*

VALPROATE AND CLEFTS

The relationship between fetal valproate exposure and the development of orofacial clefting has been known for many years. Synthesising the published data, much of which is from population-based registries of congenital anomalies, Jackson *et al* have been able to differentiate between cases of cleft lip and palate, and isolated cleft palate, in relation to valproate exposure. It seems clear that the increased risk of orofacial clefting is mediated specifically by the increased risk of isolated cleft palate. This is an important finding because it implies that special attention should be given to palatal examination in any baby whose mother was taking valproate early in pregnancy, even if she stopped it or was switched to another anticonvulsant. The UK Medicines and Healthcare Products Regulatory Authority (MHRA) is explicit in their recent letter to all UK health professionals (8th February 2016) about the key implication: 'Valproate should not be prescribed to female children, female adolescents, women of childbearing potential or pregnant women unless other treatments are ineffective or not tolerated'. *See page F207*

VANCOMYCIN AND THE KIDNEY

Vancomycin is an important antibiotic in neonatal practice in many parts of the world. Yet it is easy to under-dose, and therefore under-treat infections, and on the other hand there has been concern about possible nephrotoxicity especially when vancomycin is prescribed alongside gentamicin. The paper by Constance *et al* provides some much needed help with this. In a very large study of over 1000 babies of less than 44 weeks' postmenstrual age, the authors' conclusion is that the potential for nephrotoxicity has probably been over-rated, regardless of whether babies received their vancomycin alongside gentamicin. As we are now encouraged to regard 10 mg/l as the minimum trough level, and consequently to prescribe higher doses than previously, this is welcome information. *See page F236*

THE FIRST BREATHS OF LIFE

I always enjoy reading something that makes me realise that I don't understand

something I thought I did. Hooper *et al*, in their review of respiratory adaptation, not only help us to look at the transition to successfully ventilating the lung as a process with three sequential steps, but also question the notion that activating epithelial sodium channels is the main means of water clearance at birth. Mechanical factors relating to alveolar distension may be much more important, and this understanding is in turn of relevance when considering the most appropriate strategies for assisting the apnoeic or very preterm infant. This review is not just for those with a geeky interest in neonatal respiratory physiology: it helps us to better understand things we observe in everyday practice, and to consider how we might improve the ways we can assist our newborn patients. *See page F266*

HISTORICAL LESSONS IN PREMATURITY AND HUMAN RIGHTS

Possibly the most uncomfortable article I have read in a long while is Michael Obladen's piece about the collusion of many paediatricians with one of the least savoury aspects of Nazi ideology, that of the elimination of the weak or disabled from society in a deluded pursuit of strength and purity. We are carrying this article in the journal because the underlying thinking and beliefs extended to babies born preterm, and Obladen contends that this stance resulted in the slow development of neonatal care in the Federal Republic of Germany when compared with other wealthy nations, both in Europe and beyond. Obladen points out that many of the respected paediatricians who colluded in some of the worst excesses of this 'cleansing' of babies and young children continued their academic work in the post war period, and thereby influenced the thinking of the next generation of paediatricians. *See page F190*

REFERENCE

- 1 Faust K, Härtel C, Preuß M, *et al*. Short-term outcome of very-low-birthweight infants with arterial hypotension in the first 24 h of life. *Arch Dis Child Fetal Neonatal Ed* 2015;100:F388–92.