Fantoms

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Vital statistics

Draper *et al*, provide a fascinating insight into the pitfalls of reading reports of neonatal outcome data that compare outcomes between different health systems. They studied this across 10 European regions, ascertaining the outcomes of all pregnancies that ended in delivery between 22+0 and 31+6 week's gestation. Differences in antenatal screening policies had a large effect through the number of terminations of pregnancy for congenital anomalies. Excluding these pregnancies and considering only those alive at the onset of labour, differences remained striking. In one region 26.5% of those less than 24 week's gestation who were alive at the onset of labour were documented as being born alive in comparison with 89.8% at the other extreme. The percentages of pregnancies resulting in an infant being admitted for neonatal intensive care at this gestation varied from 0 to 80%. Survival to discharge across all 10 regions for infants alive at the onset of labour between 24 and 27 weeks varied from 41.5 to 80%. How ever much care is taken to ensure that statistics compare like with like, it appears that policy, ethical and cultural differences begin to exert an influence before the onset of delivery, continue to operate throughout the neonatal course and remain at least as important as quality of care in determining outcome. ***See page F158***

Sudden unexpected postnatal collapse

A small number of apparently healthy term newborns who are in good condition at birth collapse suddenly and unexpectedly soon afterwards. They are often resuscitated successfully but go on to have high mortality and morbidity. Foran *et al* report 12 such cases. The median age at collapse was 75 minutes. All required cardiopulmonary resuscitation and the median post-resuscitation pH was 6.75. Collapse often occurred at the breast during or soon after the first feed and in these cases the infants followed a course suggestive of a severe hypoxic-ichaemic insult. The remaining infants appeared to have severe respiratory problems including PPHN and tended to have a better neurological outcome. No infant had metabolic disease or infection diagnosed. Others have reported this phenomenon but there is no reliable estimate of its frequency or systematic evaluation of its underlying causes. Cases that prove fatal deserve a similar intensity of evaluation to that which is now stipulated for sudden unexpected death in infancy, including a full post-mortem. A British Paediatric Surveillance Unit study of this condition starts in November 2009 and will run for 13 months. The aim is to determine the incidence of sudden unexpected postnatal collapse within 12 hours of birth and examine the range of investigations that affected infants undergo in order to inform the development of national guidelines for the investigation and management of the condition. ***See page F168***

Clinical trials

Pre-labour caesarean section at term has been associated with an increased frequency of respiratory problems and hypoglycaemia in the infant. Pedersen *et al* performed a randomised blinded trial to determine whether intramuscular adrenaline injection at birth, aimed at mimicking a part of the stress response to labour, might reduce the frequency of these problems. The adrenaline dose was sufficient to elevate heart rate and saturation but, contrary to expectation, the combined incidence of respiratory distress and hypoglycaemia was increased by the intervention (14% vs 7%, $p = 0.048$).

Attridge *et al* randomised preterm infants with PDA to a 3 dose indomethacin regimen or to a regimen where after the first dose the second and third doses were only given to infants with persistently elevated levels of B-type natriuretic peptide (BNP). Infants randomised to BNP-guided therapy received fewer doses of indomethacin and achieved a similar rate of duct closure in association with the primary course of treatment. Management of the infants beyond the initial course of treatment was not stipulated by the protocol and infants in the BNP guided group received more subsequent doses and in the end the indomethacin exposure and surgical ligation rates of the 2 groups were similar. This approach appears worthy of further investigation using protocols that govern management over a longer period as it offers the possibility of trial designs that might enable some ducts to be left alone so that we might begin to show whether there is benefit from duct closure. ***See pages F164 and F178***

Portal venous gas

Dördlemann *et al* evaluated the utility of portal venous gas (PVG) on ultrasound examination for the diagnosis of NEC. In some infants bubbles of gas can be seen flowing along the portal vein and gathered in the liver as dense echogenicities. PVG was not observed in any of 796 examinations in well infants without suspected or proven NEC. Amongst infants with clinically suspected NEC, PVG was seen in 4/28 infants with stage I disease and 9/20 with ⩾ stage II disease. However at surgery 7 of the 20 cases with ⩾ stage II disease had pathology other than NEC and none of these had PVG suggesting that PVG may have reasonable sensitivity for the diagnosis. ***See page F183***

ROP and impaired growth

Dhaliwal *et al* found that severe (⩾ stage 3) retinopathy of prematurity (ROP) was more common in infants who were small for gestation age (defined as birth weight less than 10th centile) than in appropriately grown infants. This association was apparent in a large study with more than 1400 screened infants but SGA only accounted for a modest proportion of the problem. The risk associated with impaired growth before birth is probably part of a continuum that extends throughout the period of retinal vascular development after birth because several other studies have identified poor postnatal growth as a significant independent contributor to risk and this may be one candidate variable for refining screening criteria. ***See page F193***