Indirect estimates of pulmonary artery pressure

**LETTERS TO THE EDITOR**

**Indirect estimates of pulmonary artery pressure**

**EDITOR**—We read with interest the paper by Hamdan and Shaw showing an increase in the Doppler derived ratio of pulmonary artery pressure to right atrial pressure (RAP) in infants with ductal shunt flow (DSF).1 This finding is not new, as we have already shown that repeated synthetic surfactant replacements in RDS result in a fall of PAP, assessed directly with Doppler technique from 30 to 20 mm Hg, after surfactant injection.2

![Image](https://via.placeholder.com/150)


**CRIB and performance indicators for neonatal intensive care units (NICUs)**

**EDITOR**—We congratulate the SE Thames group on the first risk adjusted, population based study3 using CRIB (clinical risk index for babies). The study of 643 infants supports previous findings that CRIB is more accurate than the STAN score3 when comparing neonatal intensive care unit (NICU) mortality.4

Regional studies are essential, but may not be sufficiently large or representative to provide results which are clear or applicable beyond their boundaries.5 The STAN score is calculated from the PRISM (Pediatric Risk of Mortality) weight, using the Multinomial distribution.6

We agree that other indicators of performance are needed. Nosocomial septicaemia is an important outcome of neonatal care which may lead to increased mortality, costs, and length of stay.5, 6 The current approach is to define initial illness severity as measured by SNAP (score for neonatal acute physiology)7. Cerebral impairments and subsequent disabilities are not always outcomes of neonatal care, as some originate before birth.5 Comparisons of NICU performance will therefore require adjustment for the risks, estimated shortly after birth, of subsequent impairment or disability.5

Although CRIB was developed to predict death, it stratified risk according to the duration of the initial illness severity. The score was statistically significant with respect to all causes of death (value 3<32 weeks of gestation or <1501 g in birthweight more accurately than birthweight or gestation.0. Gestation may have an important role in predictive models for disability, especially if survivors of <32 weeks' gestation are included, as in the SE Thames study.7 However, we would re-emphasise our original caveat8 that much larger samples are needed for comparisons between institutions.

**William Tarnow-Mordi**

**Gareth Parry**

**Craig Gould**

**Peter Fowlie**

**Group.bmj.com**

**Department of Paediatrics, University of Turku, Kainiainygantie 4-8, 20520 Turku, Finland**


**PEKKA KÄPPÄ**

**MARKO SEPPÄNEN**

**PENTTI KERO**

**Department of Paediatrics, University of Turku, Kainiainygantie 4-8, 20520 Turku, Finland**

1-23-2-61), lower in hospitals with a paediatric intensive (relative odds 0·65; 95% CI 0·44–0·95), and was not related to size. Similar research would be valuable in a national sample of United Kingdom NICUs.5

We agree that other indicators of performance are needed. Nosocomial septicaemia is an important outcome of neonatal care which may lead to increased mortality, costs, and length of stay.5, 6 The current approach is to define initial illness severity as measured by SNAP (score for neonatal acute physiology)7. Cerebral impairments and subsequent disabilities are not always outcomes of neonatal care, as some originate before birth.5 Comparisons of NICU performance will therefore require adjustment for the risks, estimated shortly after birth, of subsequent impairment or disability.5

Although CRIB was developed to predict death, it stratified risk according to the duration of the initial illness severity. The score was statistically significant with respect to all causes of death (value 3<32 weeks of gestation or <1501 g in birthweight more accurately than birthweight or gestation.0. Gestation may have an important role in predictive models for disability, especially if survivors of <32 weeks' gestation are included, as in the SE Thames study.7 However, we would re-emphasise our original caveat8 that much larger samples are needed for comparisons between institutions.
Neonatal pulmonary arteriovenous malformation

EDITOR.—Persistent central cyanosis in a neonate with structurally normal heart on cross-sectional echocardiography presents a difficult diagnostic problem. A term neonate with central cyanosis at 30 minutes of age had an otherwise normal examination. Echocardiography in the neonatal unit revealed a normal heart, with a moderate to large sized arterial duct. Failure to improve oxygenation led to mechanical ventilation and in view of the possibility of persistent pulmonary hypertension treatment was started with prostacyclin infusion. At 72 hours of age the child was randomized to the conventional treatment limb of the Multicentre Randomised Controlled Trial of Neonatal ECMO. He was then transferred to our unit for inhaled nitric oxide therapy, but did not improve.

At 8 days of age he had a continuous murmur over the right lower chest. Colour Doppler echocardiography showed enlargement of left aurium, and a greatly increased venous return from the right lung; there was no detectable tricuspid regurgitation. Pulmonary arterial angiography showed a large pulmonary arteriovenous malformation (PAVM) involving the right middle and lower pulmonary lobes (figure). At surgery, the right middle and lower lobes were extensively infarcted, and were resected. The child remains well at follow up nine months later. The case underlines the importance of obtaining detailed and repeated colour Doppler echocardiographic assessments before considering ECMO for such neonates.

PAVMs are congenital, but they rarely present in a neonate. Typically multiple, there have been reports of single lesions.1-3 A well, term neonate who fails the hyperoxia test and has a structurally normal heart without evidence of persistent pulmonary hypertension should be investigated further for PAVM. Doppler echocardiography may occasionally help but angiography is required to confirm and demonstrate the lesion.

Transcatheter coil embolisation has been used as primary treatment,4 but surgical resection may be necessary in some infants.

K TRIVEDI
SREERAM
Heart Unit,
Children's Hospital,
Ladywood Midlandens,
Birmingham B16 8ET

Right pulmonary arteriogram (RPA) showing the AV fistula (arrow); LA = left atrium.


During this past decade medical ethics has become a major growth industry. Departments of medical ethics have blossomed in many of the major universities which have medical and/or legal departments and in some universities which have neither. Many universities involve religious leaders from one or more faiths to provide a viewpoint which is guided by the ethics of the founders of these various religions.

Although neonatology must be judged one of the outstanding success stories of medicine during this past decade, it has proved to be one of the more ethically troublesome areas of medicine. The value judgments of perinatologists have been subject to challenge not least by the perinatologists themselves. As John Lantos says in the foreword to this challenging and thought-provoking treatise: 'physicians, parents, judges, insurance company executives, politicians, journalists, philosophers and theologians have had to re-examine fundamental questions about the meaning of human community. In many contexts, and in many ways, they question whether neonatology is a dramatic success or a misguided effort.' In addition to this foreword, there is also a preface by George Cattermole and John Goheen, and an introduction by David K Stevenson and Emilé W D Young, which together give a theme to the book and urge readers of the book not to bypass these three introductory contributions as they set the scene and what the appetite for the remainder of the book. The 'meat' of the book is a series of 14 topics each of which is debated by two people. Topics include maternal-fetal conflicts, futile treatment, quality of life, epidemiological data and decision-making, withholding and withdrawing treatment and actively hastening death, organ transplantation, therapeutic and non-therapeutic research, informed consent, government regulations in the United States and the United Kingdom, together with the economics of perinatal care in both countries, paediatric nursing ethics, and religious influences on decision-making. Contributors to each of these well argued and described topics include doctors, nurses, economists, legal theorists, ethicists, and philosophers.

The importance of prenatal, perinatal, and postnatal care from a cost-health-benefit perspective is discussed in detail. In most of the debates, then, the two contributors to each topic there is no complete agreement or consensus, which serves to highlight the need to continue debate. For example, Lewit questions Harvey's economic justifications for expanded prenatal care, claiming that it is uncertain whether real cost savings would result. His reservations about the efficacy of prenatal care and his claims about the cost-effectiveness of such care must be further debated. The inevitable fact that economics can and does 'intrude' on the provision of perinatal care, and on the need to justify expenditure in relation to quality of life and quality of death issues, seem imponderables as great as the complex issues of infinity. However, the minds of those of us involved in perinatal care must try to grapple with these questions.

In your management strategies do you know how you move from probabilities to preferences? Are you sure that you understand how much your own upbringing and education influences your decision making? Are your decision-making values any better or any worse than someone brought up and educated within a different society and religious system? I would recommend this text as a well conceived, well constructed, and well argued synopsis of current debate, and we paediatricians should enter into this debate and not allow it to be 'hijacked' by 'ethicists'.

FORREST COCKBURN
Samson Gemell Chair of Child Health,
University of Aberdeen
CRIB and performance indicators for neonatal intensive care units (NICUs)

W. Tarnow-Mordi, G. Parry, C. Gould and P. Fowlie

Arch Dis Child Fetal Neonatal Ed 1996 74: F79-F80
doi: 10.1136/fn.74.1.F79-b

Updated information and services can be found at:
http://fn.bmj.com/content/74/1/F79.2.citation

These include:

Email alerting service

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/