

point is determined from the flow signal and controlled by the 'termination sensitivity'. As this is adjustable it seems hard to argue that the baby is in control of the inflation time, particularly without adequate monitoring. Our technique measures and shows the baby's spontaneous inspiratory time during inflation.

The use of this technique to display continuously the spontaneous respiratory pattern and compare it with the ventilator will enable the accurate detection of potentially harmful interactions between the baby and ventilator inflations - that is, spontaneous exhalation during ventilator inflation. At present this cannot be done and babies who appear to 'fight the ventilator' are often sedated or paralysed. This new technique should enable ventilators to be adjusted to reduce harmful interactions. We have shown that a regular sequence of ventilator inflations, at inflation and deflation times 'chosen' by the baby, can lead to phase-locking and more consistent synchrony. We hope to publish results of these early studies shortly.

It is clearly not possible to know how the ventilator and baby are interacting in the absence of any monitoring of the relevant signals. We believe that such monitoring is essential to improve the understanding of how babies interact with their ventilator, regardless of the mode of ventilation.

#### Interleukin-8: a potent neutrophil chemotactic factor

EDITOR.—Newborn infants, particularly those born prematurely, have an increased incidence of neutropenia. We reviewed retrospectively the results of an analysis of inflammatory mediators in the bronchoalveolar lavage fluid (BAL) of preterm infants with proved pulmonary infections in order to examine the recruitment of neutrophils into inflamed lung tissue in relation to the number of circulating neutrophils. We correlated the concentrations of interleukin-8 (IL-8), a potent neutrophil chemotactic factor,<sup>1</sup> to those of neutrophils in the BAL of eight infants who presented with either normal (5) or decreased (3) absolute neutrophil count (ANC). In all the neonates IL-8 BALF concentrations were raised (mean (SD) 5.233 (1.001) ng/ml). However, neutrophil BAL concentrations appeared to be high (mean (range) 1.5 (0.9-1.8) × 10<sup>6</sup>) in infants with normal or increased ANC (mean (range) 4586 (1512-10 280) mm<sup>3</sup>) whereas they were low (mean (range) 0.01 (0.0-0.03) × 10<sup>6</sup>) in those with decreased ANC values (mean (range) 473 (373-655) mm<sup>3</sup>). There was a significant association ( $r_s=0.78$ ,  $p<0.001$ ) between IL-8 concentrations and the total number of lavage neutrophils in infants who presented with normal or increased ANC but not in those with low counts. These data

suggest that adequate ANC values are essential for the recruitment of neutrophils into the lung. As the effects of neutrophils on bacterial removal depend on the number of neutrophils at the site of infection, treatments promptly applied to restore the number of circulating neutrophils could be useful in defending preterm infants from pulmonary infectious processes.

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1 Kunkel SL, Standiford T, Kasahara K, Strieter RM. Interleukin-8: the major neutrophil chemotactic factor in the lung. *Exp Lung Res* 1991; 17: 17-23.

## BOOK REVIEW

**The newborn infant: One brain for life.** Edited by Claudine Amiel-Tison and Ann Stewart. (Pp 307, £69.95 hardback.) INSERM, 1994. ISBN 85598-571-4.

To deliver most women of their babies normally without cerebral injury to the fetus is the central aim of all perinatal units. The editors have sought contributions to the debate regarding the balance of risk around birth from neonatal paediatricians, obstetricians, anaesthetists, experimental psychologists and a psychoanalyst.

There is much useful material here, well presented, and with a refreshingly original approach. The emphasis is on the term infant and the process surrounding his or her maturation into a fetus competent to survive the birth process unscathed. The consideration of these events from several points of view was interesting and enjoyable reading. I particularly benefited from Professor Amiel-Tison's elegant dissection of the underlying factors, with a characteristically useful section on assessing tone during the neurological examination of the infant. The section on metabolic/cardiovascular/endocrine adaptation around birth went over ground that is well trodden, but Professor Hugo Lagercrantz presented the material in a thorough, concise, and easily assimilated form.

A section on language acquisition, a topic that is rarely discussed, reminded me that the infant can classify syllables and differentiate early both his own language and his own

mother's voice. Differences between pregnancies complicated by pre-eclampsia, intra-uterine growth retardation, and the presence of another fetus were well reviewed. Some ex-cathedra statements sent me searching for confirmation, however. Can very frequent cardiocotography really prevent periventricular leucomalacia in pregnancies complicated by growth retardation?

Any strategy for reversing the upward trend in caesarean section deliveries is welcome, and several are suggested here. A decade of experience in Baudelaire Hospital, Paris is reported. The hospital delivers between 1000 and 2000 women every year and there was a reduction in the emergency caesarean section rate from 13% to 8% after a second opinion was made mandatory. This was accomplished without an apparent increase in the number of infants presenting with neurological symptoms after birth. Although this was an interesting approach, the result was not significant and the numbers were small. I was not sure that this material would have stood up to critical peer review. I mention this irritation because there seems to be an increasing tendency to use chapters in books to publish personal case series, which I would like to discourage.

Some of the contributions regarding preterm infants were brief to the point of being cryptic and could have been omitted. However, this would have meant the loss of an excellent review on the latest thoughts on the value of careful positioning to prevent muscle shortening in preterm infants. Peter Hope compared the value of alternative neurological investigations in a useful well referenced review. The last section, on medicolegal implications, was the most disappointing. The blurb on the jacket cover implied that the authors had grasped the nettle of this 'hot topic' but if you are hoping for a handy collection of material to assist you in clearing the backlog of expert witness reports piling up on your desk you will have to wait for another publication. The most frequent pregnancy complications which give rise to litigation if followed by handicap are ante-partum haemorrhage and failure to progress: no surprises here. The citations were scanty (mostly the author's own work) and the suggestion that the whole litigation crisis can be solved by a complete change in the insurance system is not going to affect the burgeoning problem in the United Kingdom.

Do not let the rather pretentious title or my small gripes put you off: for a while I admit alternative suggestions for the title prevented my concentrating on your behalf. I could not avoid mental speculation about where the emphasis should be put, and wondering what other organs (liver? heart?) could replace the brain. I hope it is clear from my review that I was glad I overcame this distraction.

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