OUTCOME OF INFANTS WITH APGAR SCORE OF ZERO AT TEN MINUTES

Historical data on the outcomes of infants who still had an Apgar score of zero at ten minutes showed almost universal death, with severe disability in the small number of survivors. Emerging data have begun to make the outcome more uncertain. The 2010 International Liaison Committee for Resuscitation Concensus on Science and Treatment Recommendations discussed this issue. At that time, one study had reported a contemporary cohort of infants some of whom were randomised to post-resuscitation hypothermia where a small number of survivors were free from severe neurologic deficits. The evidence was considered insufficient to support or refute any recommendation regarding how much time should elapse with a heart rate of <60 but >0 beats per minute before discontinuing resuscitative efforts. The conclusion of the 2010 guidance was that in a newly born baby with no detectable heart rate which remains undetectable for 10 minutes, it is appropriate to then consider stopping resuscitation. 2015 brings new evidence and new guidance. A report by Kasdorf and colleagues brings together data from 4 recent studies and a further case series from a single centre to describe the outcomes of 90 infants with an Apgar score of zero at 10 minutes who went on to receive treatment in the neonatal unit. Death occurred in 45 of the 90 infants, 22 were neurologically normal on follow up and 23 had abnormal neurodevelopmental outcome. It is important to recognise that these data describe the outcomes of infants who reached the neonatal unit alive for ongoing treatment and they are likely to be greatly outnumbered by other infants with Apgar score of zero at 10 minutes who did not get that far, so they should not be considered to represent the whole population survival outcome. Nevertheless, close to half of the survivors were normal. The resuscitation that is offered must depend on what post-resuscitation and decision making options are that is offered must depend on what post-

UMBILICAL CORD BLOOD FLOW PATTERNS DURING STABILISATION WITH AN INTACT CORD

It is now widespread practice for there to be a period of delay before the umbilical cord is clamped after birth but guidance varies as to the duration and the infants that receive the intervention. In this highly informative study Boere and colleagues measured umbilical arterial and venous flow during delayed cord clamping using Doppler ultrasound in uncomplicated term vaginal deliveries. In 10% no flow was observed. In 57% flow was observed to cease prior to clamping at a median (interquartile range) of 4 minute 34 seconds (3:03 to 7:31). In the remaining 33% flow was still present when the cord was clamped at a median 5 minutes 13 seconds. Flow was intermittent initially and increased with large breaths and stopped or reversed with crying before becoming continuous. Pulsations were commonly considered to be palpable in the cord when no arterial flow was demonstrable by ultrasound and were not therefore a reliable measure of whether flow was present. The findings suggest that a great deal more evidence will be required to optimise transition and that future guidance will need to incorporate additional factors other than just timing. See page F121

IMPACT OF RETINOPATHY OF PREMATUREITY ON OCULAR STRUCTURES AND VISUAL FUNCTIONS

This highly informative article by Fielder and colleagues measured concentrations of plasma glucose, ß-hydroxybutyrate, lactate and insulin in newborns who had remained hypoglycaemic for more than 1 hour during the first 48 hours after birth. Ketone levels were low but lactate was often plentiful. The data suggest that ketones are not likely to provide neuroprotection when there is hypoglycaemia during the first 48 hours and that lactate may be a more important cerebral fuel during this time period. An accompanying editorial by ADC Senior Editor Martin Ward-Platt discusses the biochemical processes and clinical and research implications of the study. See pages F161 and F96

HARDING AND COLLEAGUES MEASURED CONCENTRATIONS OF PLASMA GLUCOSE, ß-HYDROXYBUTYRATE, LACTATE AND INSULIN IN NEWBORN INFANTS WHO HAD REMAINED HYPOGLYCAEMIC FOR MORE THAN 1 HOUR DURING THE FIRST 48 HOURS AFTER BIRTH. KETONE LEVELS WERE LOW BUT LACTATE WAS OFTEN PLENTIFUL. THE DATA SUGGEST THAT KETONES ARE NOT LIKELY TO PROVIDE NEUROPROTECTION WHEN THERE IS HYPOGLYCAEMIA DURING THE FIRST 48 HOURS AND THAT LACTATE MAY BE A MORE IMPORTANT CEREBRAL FUEL DURING THIS TIME PERIOD. AN ACCOMPANYING EDITORIAL BY ADC SENIOR EDITOR MARTIN WARD-PLATT DISCUSSES THE BIOCHEMICAL PROCESSES ANDCLINICAL AND RESEARCH IMPLICATIONS OF THE STUDY. SEE PAGES F161 AND F96

BRACELET

The Bracelet study is an important study of the experiences and perceptions of parents whose babies died after enrollment in randomised controlled trials in the neonatal period and of the health professionals who cared for them. A detailed report is published elsewhere and this should be of interest to all who are involved in neonatal research. Embleton and Rankin summarise the study and call for further work to embed the findings in the design and conduct of future randomised controlled trials in infants and children. See page F97

BEING BABY FRIENDLY: EVIDENCE-BASED BREASTFEEDING SUPPORT

This article by Cleminson et al is an excellent educational resource for healthcare professionals who treat young infants and advise their parents and wish to improve their personal influence and that of their institution on the initiation and maintenance of breastfeeding. See page F173

REFERENCE

Highlights from this issue

Ben Stenson

Arch Dis Child Fetal Neonatal Ed 2015 100: F95
doi: 10.1136/archdischild-2015-308353

Updated information and services can be found at:
http://fn.bmj.com/content/100/2/F95

These include:

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