

Results: There were differences in DR management with level III units using significantly more ventilation devices with PEEP (95% vs 88%, $P < 0.05$) and delivery room CPAP (43% vs 16%, $P < 0.0001$). Significantly more level III units commenced resuscitation in air (49% vs 30%, $P = 0.01$) and fewer used 100% oxygen (12% vs 40%, $P < 0.0001$). The use of pulse oximeters (III=23% vs II/I=12%), plastic wraps/bags (III=97% vs II/I=96%), DR surfactant (III=92% vs II/I=83%) and elective intubation of preterm infants (III=83% vs II/I=73%) were not statistically different.

Conclusions: These important data highlight significant variance of DR management for newborn infants in the UK with level III units adopting a more evidence-based practice. Furthermore, these data differ markedly from those reported in other developed countries. These discrepancies between resuscitation guidelines, DR management and poor evidence-base need urgent attention.

Funded by Action Medical Research

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OUTCOME OF LIVEBORN INFANTS WITH CONGENITAL DIAPHRAGMATIC HERNIA IN A TERTIARY NEONATAL UNIT

A. Shenvi, A.K. Ewer, S.V. Rasiah

Birmingham Women's Hospital, Birmingham Women's NHS Foundation Trust, Birmingham, UK

Background and aims: The incidence of congenital diaphragmatic hernia (CDH) is approximately 1 in 3000 with reported survival of 60-70%[1]. The aim of this study was to review management and outcome of all live born babies with CDH delivered at Birmingham Women's Hospital from January 2000-December 2009.

Methods: Retrospective case-note review of babies with CDH identified by their clinical diagnosis code. Trust audit department approval was obtained.

Results: 60 live newborns with CDH were identified. Median gestational age at birth was 39 weeks (range 33-42 weeks). The median birth weight was 2970g (range 1080-4090g). There were 35 boys (58%). 53 cases were left sided. 3 babies died in delivery suite despite active resuscitation. 18 babies died on the neonatal unit despite full intensive care. 6 were referred for ECMO(5 of these survived). 33 babies were transferred to PICU but 3 babies died before surgery (1 unknown). 29 babies had surgery and 2

died post-surgery. The 30 day surgical survival rate was 93%. 32 babies are alive to date (1 unknown).

Conclusion: In our experience, 35% of babies died in the immediate neonatal period. Transfer for ECMO has been a recent practice with 83% survival. 30 day surgical survival was 93%. However, the overall survival of a live born baby with CDH was 53%. Therefore, when counselling parents in the antenatal period, it is important to quote all figures rather than surgical survival alone.

[1] Robinson PD, Fitzgerald DA. Congenital diaphragmatic hernia. *Paediatric Respiratory Reviews* 2007;8:1526-0542

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A SURVEILLANCE STUDY OF SUDDEN UNEXPECTED POSTNATAL COLLAPSE WITHIN THE UNITED KINGDOM

J.-C. Becher¹, S.S. Bhushan², A.J. Lyon¹

¹Department of Neonatology, Royal Infirmary of Edinburgh, Edinburgh, ²Division of Neonatology, Queen Charlotte's and Chelsea Hospital, London, UK

Background: Sudden and unexpected collapse (SUPC) of a well newborn infant is a rare event which carries high risk of mortality and neurodisability. Where no underlying disorder is found there are associations with prone position, breast-feeding and primigravid status.

Objective: To ascertain the population incidence of SUPC in term infants ≤ 12 hours old and describe associated factors.

Methods: Cases were referred through the British Paediatric Surveillance system over a 13 month period. Data was collected on maternal and infant characteristics. Infants included were ≥ 37 weeks, had Apgars ≥ 8 at 5 minutes and collapsed within 12 hours.

Results: There were 44 cases reported, an incidence of 0.05/1000 live births. Twelve infants died. In 6 cases no cause was found. In 16 there was an underlying abnormality. Of the remaining 22, the clinical/pathological diagnosis was airway obstruction during breast-feeding or in prone position. In 16 (73%) of these the mother was primigravid and was unattended in all but three. In 16 (73%) the mother was sedated or receiving spinal anaesthesia. Approach to investigation of

infants was highly disparate and frequently very limited.

Conclusion: SUPC is rare event in any one centre and there is no standard approach to investigation. In those cases where collapse is not due to an underlying abnormality, breast-feeding and prone position are important associations. Guidelines for safe postnatal care of infants should include appropriate vigilance of infants particularly where mothers are primigravid or where ability to assess the baby may be impaired.

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HYPERBILIRUBINEMIA IN A COHORT OF INFANTS IN A NORMAL NEWBORN NURSERY (NNN)

I. Maksic¹, A.K. Trollebø¹, D. Bratlid^{1,2}

¹Department of Laboratory Medicine, Children's and Women's Health, Faculty of Medicine, Norwegian University of Science and Technology, ²Department of Pediatrics, St. Olavs University Hospital, Trondheim, Norway

Background and aims: Jaundice is one of the most frequent indications for diagnostic and therapeutic intervention in otherwise normal newborns. The aim of the study was to analyse the frequency, severity and treatment of hyperbilirubinemia in relation to national guidelines in infants cared for in NNN.

Methods: All infants cared for in NNN in 2008 with a measurement of serum bilirubin were included in the study. Patient data was gathered retrospectively from patient records.

Results: Bilirubin was measured in 593 jaundiced infants (16.3 % of cohort) with an average of 4.9 analyses/infant (median 4, range 1 - 25). Maximum bilirubin (TsB) was increased in moderately premature infants compared to term and post-term infants. TsB \geq 300 $\mu\text{mol/L}$ and \geq 350 $\mu\text{mol/L}$ was seen in 35.2 and 14.5 % of jaundiced infants, respectively. Six infants were diagnosed with TsB \geq 400 $\mu\text{mol/L}$, only one had blood group immunization (AB0). TsB was significantly related to older mothers and higher parity and in infants with greater weight loss. Infants born after c-section had significantly lower TsB, and no effect of gender, Apgar score, or season was found. Phototherapy (PT) was given to 50.3 % of jaundiced infants, i.e. 7.3 % of NNN cohort. 109 infants (20.3 % of jaundiced infants) were readmitted for PT, 75 of these had been discharged with increasing TsB.

Conclusions: Hyperbilirubinemia is a major problem in NNN. Early discharge and significant weight loss is a risk factor for severe hyperbilirubinemia, as well as being discharged with increasing jaundice.

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USING PLASTIC BAGS AT RESUSCITATION IMPROVES THERMOREGULATION IN BABIES BORN IN ROMANIA?

C.G. Matei¹, A.D. Conon², L. Manaila³, A.W.R. Kelsall⁴

¹Paediatrics, Addenbrookes Hospital, Cambridge, UK, ²Neonatal Unit, ³Salaj District General Hospital, Zalau, Romania, ⁴Neonatal Unit, Addenbrookes Hospital, Cambridge, UK

Background and aims: A previous audit undertaken in November 2007 showed that babies born by Caesarean Section (LSCS) in Salaj were frequently hypothermic with a temperature of $< 36^{\circ}\text{C}$ when admitted to the neonatal unit. We postulated that delivering babies into plastic bags, would improve their temperature control and potentially other outcomes in the immediate post delivery period.

Methods: We collected data prospectively in Salaj hospital in Romania between November 2009 and January 2010. Temperature on admission to the neonatal unit, duration of hospital stay and type of feeding at discharge were recorded. The frequency of other complications including hypoglycaemia, seizures and respiratory distress were noted.

Results: Over this period there were 423 births, 144 babies were born by LSCS with paediatricians in attendance, these babies were electively placed in to a polythene bag and not initially dried. The median temperature of these study babies on admission was 36°C compared to 35.8°C for babies born during the same time period in 2007. The gestational ages and weight of babies were very similar. The duration of hospital stay remained same as in 2007, median 5 days. The breast feeding percent remained very high at 89% (97% in 2007).

Conclusion: The use of polythene bags in the routine resuscitation of babies born during the winter months has improved thermoregulation. We confirm that an inexpensive intervention improves neonatal care.