

# **PO-0464 DID THE INTRODUCTION OF THE BHUTANI NOMOGRAM HELP REDUCE CASES OF SEVERE HYPERBILIRUBINAEMIA IN INFANTS OF UNKNOWN DIRECT COOMBS STATUS?**

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**Background and aims** Infants with severe hyperbilirubinaemia can develop kernicterus and have significant adverse outcomes.

A previous study in this hospital showed a significant number of infants presenting with an initial serum bilirubin (SBR) above exchange transfusion level.

Since that study the Bhutani Nomogram has been introduced. Our main aim was to see if the introduction of this Nomogram helped to reduce presentations with severe hyperbilirubinaemia.

**Methods** We looked at initial SBRs taken in infants  $\geq 36$  weeks gestation and  $\geq 2.5$  kgs birth weight born in 2012. We excluded infants of mothers with known antibodies as these infants may have had cord blood tested for direct Coombs status (DCT). We looked at infants whose DCT status was not known.

**Results** We compared our results to those obtained in the previous study from 2007/2008.

**Abstract PO-0464 Table 1**

	2007/2008	2012
All infants $\geq 36$ weeks $\geq 2.5$ kgs	15851	8288
Number of infants with at least 1 SBR	1644	1001
Max SBR ( $\mu\text{mol/l}$ )	673	349
Mean SBR ( $\mu\text{mol/l}$ )		
$p < 0.001$	209	173
Mean time of first SBR (Hours)		
$p < 0.001$	65.4	57.1
Infants above exchange transfusion		
$p = 0.002$	14 (0.85%)	0

There has been a significant reduction in infants reaching exchange transfusion level with no infant above this level in 2012.

**Conclusions** The Bhutani Nomogram is an effective tool in helping to reduce cases of severe hyperbilirubinaemia.

The original study performed by Bhutani *et al.* to develop this Nomogram excluded DCT positive infants. This study shows that this Nomogram is effective in a population where the DCT status is not known.

# **PO-0465 REGIONAL CEREBRAL TISSUE OXYGEN SATURATION DURING NEONATAL TRANSITION: IS THERE AN INFLUENCE OF GENDER?**

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**Objective** Gender definitely plays an important role for mortality and morbidity in preterm infants. Furthermore, recent studies have shown gender-specific differences favouring females with the use of supplemental oxygen during resuscitation. Female

preterm infants showed less oxidative stress and increased anti-oxidant activity.

Therefore, the aim of the present study was to investigate, whether there are differences due to gender in the course of regional cerebral tissue oxygen saturation (crSO<sub>2</sub>) during transition after birth.

**Material and methods** In a prospective observational study during 2009–2012, crSO<sub>2</sub> was measured using near infrared spectroscopy (NIRS) (Invos 5100 cerebral/somatic oximeter monitor; Somanetics Corp, Troy, Michigan) during the first 15 min after birth for term and preterm neonates requiring no medical support and/or supplemental oxygen. The NIRS sensor was placed on the left forehead. Peripheral oxygen saturation (SpO<sub>2</sub>) and heart rate (HR) were continuously measured by pulse oximetry. Cerebral fractional oxygen extraction (cFTOE) was calculated. Data were analysed regarding gender for all study groups (term/vaginally delivered-VD<sub>term</sub>; term/caesarean delivered-CD<sub>term</sub>; preterm/caesarean delivered-CD<sub>preterm</sub>).

**Results** Out of a total of 479 measured infants during the study period, 374 were considered for further analysis. In the group of term infants, there was a gender difference in those with cesarian delivery (CD<sub>term</sub> group, n = 268): males showed significantly higher values for SpO<sub>2</sub> (p = .009) and crSO<sub>2</sub> (p = .009); whereas no difference was seen in HR. FTOE values were lower in males, very close to significance (p = 0.055).

There was no significant difference in any parameter in vaginally delivered term infants (VD<sub>term</sub> group, n = 80), as well as in preterm infants (CD<sub>preterm</sub> group, n = 26). The power analysis showed, that in these two groups the number of infants was too small to draw significant conclusions.

**Conclusion** There was a significant difference in course of crSO<sub>2</sub> and SpO<sub>2</sub> due to gender in term infants after cesarian section delivery, male infants did show significantly higher oxygen saturation values compared to female infants.

# **PO-0466 3.5 YEAR NEURODEVELOPMENTAL OUTCOME OF PRETERM INFANTS RANDOMISED TO DELAYED CORD CLAMPING (DCC) OR MILKING OF THE CORD (MC)**

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**Background** Placental transfusion at birth either facilitated by DCC or MC has been described to reduce intraventricular haemorrhage and donor blood transfusion in preterm infants. Few studies have reported on neurodevelopmental outcomes.

**Aims** To assess neurodevelopmental outcome of ex-preterm survivors (< 33 weeks gestation) enrolled into our randomised trial of DCC (30 seconds) versus 4 times MC (Rabe Obstet and Gynecol 2011) at 3.5 years corrected age with Bayley-III examination.

**Methods** Prospective cohort study. Results were analysed by a statistician blinded to the group allocation using ANCOVA (significance level at the .05 alpha).

**Results** Bayley-III assessments were obtained in 29/ 51 survivors (56%). The MC group (9 male, 9 female) performed better on language (115 SD18 vs 105 SD23), cognitive (127 SD20 vs 120 SD27) and motor (113 SD23 vs 108 SD21) subscales than the DCC group (5 male, 6 female), which did not reach statistical significance.