Background: Clinical practice guidelines (CPGs) are essential to guide patient management, especially when evidence is emerging or unclear. The question of oxygen delivery in the resuscitation room for preterm infants is an evolving conundrum.

Method: A search of publically available databases using the terms “clinical practice guidelines”, “preterm”, “oxygen” and “resuscitation” was made, complemented by direct enquiry to consensus groups, resuscitation expert committees and direct communication with practicing clinicians.

Results: 28 guidelines from 33 countries were identified. Four guidelines provided gestation-specific recommendations (Argentina <30 weeks, Japan, Norway, International Liaison Committee on Resuscitation, ILCOR <32 weeks) while eight distinguished only between “preterm” and “term”. Eleven recommended starting preterm resuscitation with air (FiO2 0.21), five suggested FiO2 0.3. Highest starting FiO2 was 0.5 (Argentina). Only four (Portugal, Finland, Sweden and Italy) provided specific SpO2 targets for preterm infants while four others suggested that FiO2 be increased rapidly to 1.0 if heart rate persisted <60 bpm. The ILCOR did not provide SpO2 targets. All others adhered to SpO2 recommendations derived from the American Heart Association (AHA) and did not distinguish between term and preterm infants.

Conclusions: Most CPGs recommend using lower FiO2 for preterm infant resuscitation and do not distinguish between SpO2 targets for term or preterm infants. The evidence for these recommendations and their impact on clinical practice need to be assessed.

INCIDENCE, INITIAL MANAGEMENT AND FOLLOW-UP OF PERINEAL TRAUMA DURING LABOUR

Jordon Wimsett1*, Wimsett JD1
1Department of Obstetrics and Gynaecology, Hutt Valley DHB, Wellington, New Zealand

Background: There is a perception of increasing numbers of 3rd/4th degree perineal tears following vaginal deliveries at Hutt Valley DHB, which has short and long-term implications for women.

Method: A retrospective audit of all women suffering 3rd/4th degree perineal tears at Hutt Valley DHB over a twelve-month period. Women were identified from the maternity database and health records reviewed. Data were collected regarding mode of delivery, documentation, episiotomy use and management.

Results: Incidence - There were 1307 vaginal deliveries during the audit period; 1101 normal vaginal deliveries and 206 instrumental deliveries. 3rd/4th degree tears complicated 4.1% of deliveries (53 identified). We found no difference in the rates of 3rd/4th degree tears between normal vaginal and instrumental deliveries 14/206 vs. 39/1101, p-value 0.07. Primiparous women who birthed vaginally were more likely to suffer a 3rd/4th degree tear compared with multiparous women 24/562 vs. 15/745, p-value 0.0232. There was no difference in the rates of 3rd/4th degree tears with the use of episiotomy.

Initial management – 87% repaired in theatre, 98% given antibiotics, 96% given laxatives and 90.5% referred for physiotherapy.

Follow-up – 39/53 (73.5%) women received follow-up; 7 were symptomatic, most commonly faecal urgency or perineal pain.

Conclusions: 3rd/4th degree tears occurred in 4.1% of vaginal deliveries with primiparity a known risk factor. High rates of adherence to best practice initial management. Improvement needed for follow-up appointments and physiotherapy referrals.

CAN THE EFFECT OF CARBETOCIN VERSUS SYNTOCINON AS POSTPARTUM HAEMORRHAGE PROPHYLAXIS IN WOMEN UNDERGOING CAESAREAN SECTION BE PREDICTED: A MARKER STUDY.

Jemma Wohling1*, David Pena-Leal2, Nicole Edge2, Rui Wang1, Ben Mol3, Gus Dekker4
1Lyell McEwin Hospital, SA Health, the 2Lyell McEwin Hospital, SA Health (prior affiliation), the 3Robinson Research Institute, University of Adelaide, the 4Robinson Research Institute, Adelaide Medical School

Background: Postpartum haemorrhage (PPH) is the leading direct cause of maternal death worldwide, and occurs more frequently with caesarean section (CS). Carbetocin and oxytocin are both used as pharmacological prophylaxis to prevent PPH in women undergoing caesarean section. Here we evaluate if the relative treatment effect of these two uterotonics drugs can be predicted.

Method: We performed a prospective cohort study of 2499 patients in Lyell McEwin Hospital undergoing caesarean section between 1st January 2008 and 31st December 2010. There were 1467 Patients treated with 100 μg carbetocin (Duratocin® Ferring) and 1020 patients with a 10 unit bolus oxytocin (Syntocinon®). Our endpoints were PPH and the requirement of secondary uterotonics. We developed a prediction model in the women treated with oxytocin using logistic regression. We then evaluated if the predicted risk could be used as a treatment selection marker.

Results: Within 1020 women treated with bolus oxytocin, risk indicators for PPH were parity, a previous CS, maternal anaemia and birthweight (area under the ROC-curve 0.75). The model could classify women in a risk group for PPH between 2.4% to as high as 18.9%. There was no interaction between the risk classification and the treatment effect (P-value 0.29).

Conclusions: In a large cohort of women undergoing CS, the occurrence of PPH could be predicted. However, we could not identify a group of women that would specifically benefit from carbetocin or bolus oxytocin.

EFFECTIVENESS OF CARBETOCIN VERSUS SYNTOCINON AS POSTPARTUM HAEMORRHAGE PROPHYLAXIS AT CAESAREAN SECTION: A PROSPECTIVE COHORT STUDY

Jemma Wohling1*, David Pena-Leal2, Nicole Edge2, Rui Wang1, Ben Mol3, Gus Dekker4
1Lyell McEwin Hospital, SA Health, the 2Lyell McEwin Hospital, SA Health (prior affiliation), the 3Robinson Research Institute, University of Adelaide, the 4Robinson Research Institute, Adelaide Medical School

Background: Postpartum haemorrhage (PPH) is the leading direct cause of maternal death worldwide. Uterine atony is the most common cause of PPH, and pharmacological prophylaxis is...
CARE PRIOR TO AND DURING SUBSEQUENT PREGNANCIES FOLLOWING STILLBIRTH FOR IMPROVING OUTCOMES: A COCHRANE SYSTEMATIC REVIEW PROTOCOL

Aleena Wojcieszek1, Emily Shepherd2, Philippa Middleton3, Zohra S Lassi1, Trish Wilson4, Margaret M Murphy5, Alexander EP Heazell6, David Ellwood7, Vicki Flenady1

1Mater Research Institute - University of Queensland, the 2Robinson Research Institute, University of Adelaide, the 3University of Adelaide, the 4Mater Mothers’ Hospital, the 5School of Nursing and Midwifery, University College Cork, Cork, the 6Maternal and Fetal Health Research Centre, University of Manchester, Manchester, the 7School of Medicine, Griffith University & Gold Coast University Hospital, Gold Coast

Background: Stillbirth is a devastating event with enduring psychosocial consequences for families. Parents who conceive a subsequent pregnancy face an increased risk of stillbirth and other adverse outcomes in these pregnancies, and many experience profound anxiety and fear during this time. Parents who are pregnant subsequent to stillbirth comprise a small but unique group that may benefit from specialised and individualised care both clinically and psychosocially. However, there is currently a paucity of evidence to guide clinical practice.

Methods: A Cochrane systematic review assessing the effects of different interventions or models of care prior to and during subsequent pregnancies following stillbirth on maternal, fetal, neonatal and family health outcomes, and health service utilisation. Types of participants will include parents who have experienced a stillbirth of 20 weeks’ gestation or more, who are pregnant or considering attempting a subsequent pregnancy. Eligible studies will include randomised controlled trials of any single intervention, combination of interventions or tailored model of care/algorithm/guideline/protocol for improving health outcomes in pregnancies following stillbirth, compared with no intervention, standard care, or another intervention.

Results: Primary outcomes will be: stillbirth; neonatal death; adverse perinatal outcome (composite); and adverse maternal psychological effects.

Conclusions: Despite the far-reaching impacts of stillbirth on subsequent pregnancies and beyond, there is a paucity of information on care prior to and during these pregnancies to improve health outcomes. This Cochrane systematic review aims to inform clinical practice guidance for care in pregnancies subsequent to stillbirth and has been identified as a priority review topic by consumers.

COMPARISON OF ECG DETECTED AND OXIMETRY DETECTED BRADYCARDIA IN PRETERM INFANTS.

Bushra Ahmed1, Rosemary Horne2, Emma Yeomans1, Alexandra Odoi2, Stephanie Yiallourou2, Flora Wong3*

1Ritchie Centre, Hudson Institute of Medical Research, the 2Hudson Institute of Medical Research and Department of Paediatrics, Monash University, the 3Monash Newborn, Monash Children’s Hospital, the 4Hudson Institute of Medical Research/ Monash University and Monash Newborn

Background: Apnoea and bradycardia in preterm infants have been shown to be related to poor neurodevelopmental outcomes. Commonly the magnitude and frequency of bradycardia are underestimated in the neonatal unit due to the clinical settings of cardio-respiratory monitors. We evaluated the frequency, severity and duration of bradycardia in preterm infants using the lowest averaging (2 s) available on a clinical oximeter, in comparison with bradycardia detected using ECG and whether cerebral oxygenation was affected by bradycardia severity.

Methods: Nineteen preterm infants (10 M / 9 F) born between 25–33 weeks of gestation were studied for 2 hours longitudinally with a total of 80 studies being analysed. Electrocardiogram (ECG), oxygen saturation (SaO2), and cerebral tissue oxygenation index (TOI, %), were recorded. Heart rate calculated from ECG was used to determine whether the bradycardia was mild (HR fall 60-80% of the baseline), moderate (<60% of baseline) or severe (<60 bpm).

Results: A total of 614 bradycardias were scored using ECG criteria, 355 were mild, 237 moderate and 22 severe, 13% of the bradycardias detected as mild and 5% as moderate by the ECG were missed by the oximeter, all severe bradycardias were recorded. TOI dropped by 7.5%, 13.0% and 16.2% during the mild, moderate and severe bradycardias respectively.

Conclusions: This study has shown that even on the most sensitive setting of the oximeter, a significant number of bradycardias are not recorded. As even mild events are associated with clinically significant falls in cerebral oxygenation these may have important clinical implications for developmental outcomes.

EXPRESSION OF CARDIAC ADRENOCEPTORS IN THE FETAL SHEEP EXPOSED TO HYPOXIA AND DOBUTAMINE

Dana Hutchinson1, Nadine Brew2, Teresa Vu1, Nadia Hale3, David Walker2, Flora Wong1*

Abstracts