Abstracts

**ADMISSION HIGH ANION GAP IS ASSOCIATED WITH INCREASED ODDS OF HOSPITALIZATION IN OBSTETRIC PATIENTS PRESENTING WITH 1ST TRIMESTER BLEEDING TO ED**

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**Background:** 'Anion gap' (AG) calculated as difference between blood concentrations of major cation 'Sodium' and major anions 'Chloride' and 'Bicarbonate', is readily available during assessment of patients in ED. The increased gap reflects unmeasured anions in blood during critical illness such as lactate, ketones or azotemia. The anion gap may be elevated despite relatively normal clinical observations in patients. The significance of elevated AG is explored in obstetric patients presenting to ED.

**Methods:** Treatment protocols for tertiary NICUs in Australia and New Zealand were retrieved and analysed. Protocols were compared and contrasted.

**Results:** Treatment protocols for 25 out of 29 Australasian NICUs were available for analysis. In 52% of protocols, treatment was indicated when a random blood glucose level (BGL) was above 10 – 15 mmol/L. The first-line treatment option was intravenous infusion of insulin in 52% of NICUs, whereas 36% recommended a reduction in glucose-containing infusions. An insulin dose range of 0.01 – 0.1 units/kg/hour was recommended in 64% of protocols. Only 24% of protocols reported a method for insulin dose titration and 60% of protocols reported a BGL monitoring frequency.

**Conclusions:** Most NICUs have protocols for how to manage neonatal hyperglycaemia, but the level of detail is variable. This analysis shows considerable differences in clinical practice which likely reflect the lack of published consensus on the optimal management of this condition.

**MAGNESIUM SULPHATE FOR FETAL NEUROPROTECTION: A SURVEY ASSESSING THE USE AND BARRIERS TO USAGE IN TERTIARY MATERNITY HOSPITALS IN AUSTRALIA AND NEW ZEALAND IN 2017**

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**Background:** Bi-national clinical practice guidelines recommend the use of antenatal magnesium sulphate for fetal neuroprotection prior to preterm birth (<30 weeks gestation). The aims of this study were to assess current use of magnesium sulphate, to determine if use has changed since the bi-national survey in 2012, and to evaluate the enablers and barriers to use.

**Methods:** A SurveyMonkey questionnaire was sent to lead health professionals at 26 tertiary maternity hospitals in Australia and New Zealand. The survey asked at what gestational ages magnesium sulphate is given, any perceived barriers to use and if use was audited. Data were analysed using descriptive statistics with p<0.05 being significant.

**Results:** The median use of antenatal magnesium sulphate when indicated was reported as 90% (IQR 80-90%). The uptake of the use of magnesium sulphate for fetal neuroprotection has increased from 80% (IQR 53-90%) in the last survey. All respondents reported that the majority of health professionals at their hospital would use magnesium sulphate at <30 weeks gestation. The top three enablers for use were reported as information sheets for health professionals, PowerPoint presentations and posters. The main reasons why eligible women did not receive antenatal magnesium sulphate were imminent birth, being short staffed and patient declined. Use of antenatal magnesium sulphate has been audited in 47% of the hospitals.

**Conclusions:** Uptake in the use of magnesium sulphate for fetal neuroprotection has increased since the last survey in 2012. Barriers to the use of magnesium sulphate identified have institutional and consumer implications.

**THE EFFECT OF CORD CLAMPING ON HEART RATE IN INFANTS IMMEDIATELY AFTER BIRTH**

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**Background:** Heart rate (HR) is an important clinical indicator when assessing newborn infants in the delivery room with 1st trimester bleeding. The mean(SD) of Hb(g/L), HCO3⁻ and AG for predicting hospitalization was 128(9), 23.3(2.4), 55(9) and 14(2.5) respectively. A logistic regression was performed to ascertain the effects on the likelihood of hospitalization.

Only AG independently predicted the odds of hospitalization (β=0.465;SE=0.15;P=0.001). Each unit increase in AG increased the odds of hospitalization by 1.6 times. The ROC AUC of AG for predicting hospitalization was 0.8, with AG>15 having 82% sensitivity and 79% specificity in predicting hospitalization.

**Conclusions:** High AG on presentation may identify high risk Obstetric patients with 1st trimester bleeding, who may need hospitalization.