

PO-0709 ALTERATION OF ANTIOXIDANT DEFENSE STATUS IN MACROSOMIA

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Background and aims To investigate whether the anomalies affecting the antioxidant defenses could start at birth and to check the decrease in antioxidant defenses in macrosomic newborns.

Methods Thirty macrosomic and 30 sex-matched control newborns were recruited for a retrospective case-control study at the Maternity of Tlemcen University Hospital (Algeria).

Results The serum plasma ORAC, and albumin levels were significantly decreased in macrosomic than in control newborns, yet no difference was observed after adjustment for weight. Additionally, serum concentrations of malondialdehyde and xanthine oxidase were significantly higher in macrosomic than in controls before adjustment for weight. Moreover, macrosomia was significantly associated with low levels of ORAC (OR = 4.96, 95% CI 1.2–20.55), albumin (OR = 2.25, 95% CI 0.41612.48) and with high levels of MDA (OR = 10.29, 95% CI 2.02–52.36).

Conclusions Excessive weight could be a potential factor for decreased anti-oxidative capacity and increased oxidative stress.

PO-0710 DOSING ERRORS AND CLINICAL IMPACT IN PRETERM INFANTS DUE TO FLOW RATE VARIABILITY IN MULT-INFUSION THERAPY

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Background and aims Almost all preterm infants on the NICU receive continuous intra-venous infusion therapy. Commonly, multiple pharmaceuticals are administered through one catheter (multi-infusion). Due to the mutual influence of infusion pumps, dosing errors can occur that may lead to adverse events. We designed an *in vitro* experiment to measure flow rate variability and dosing errors. Subsequently, possible clinical impact was investigated.

Methods We conducted an n = 3 experiment with 3 syringe pumps and disposables as used in our NICU. A clinically relevant medication schedule was simulated using laser dyes as substitutes for pharmaceuticals. Real-time, inline, absorption spectrometry was used to measure dye concentrations and, subsequently, analyse flow rate variability. After changing the flow rate we registered temporary dosing errors in the parallel pumps, in addition, we registered start-up delays. A one-compartment pharmacological model was used to investigate the clinical impact of these errors.

Results The significant temporary dosing errors were between 48.1% ± 12.9% and -32.5% ± 22.5% over- and under-dose respectively. Start-up delays were up to 0.71 ± 0.11 h. Our pharmacological model indicates that these dosing errors could lead to haemodynamic instability for commonly used inotropes.

Conclusions Potential clinical impact includes hypertension, hypotension and intraventricular haemorrhages. We conclude

that applying multi-infusion with currently used NICU infusion setups results in dosing errors with potential clinical impact. It is advised not to combine high-alert medication on a mutual lumen or line. In addition, it is advised to raise awareness about these phenomena.

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PO-0711 SIM: SCARY, INTIMIDATING OR MENACING OR SIM: STIMULATING, INTERACTIVE AND MEMORABLE

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Background and aims Simulation and simulated tasks have been used for the last 50 years. A Point of care study in our health-care trust identified a need for a multidisciplinary approach to support individuals in the management of low frequency, high risk events in the clinical area.

We will demonstrate that SIM can be used as a safe environment where staff can learn, develop skills and highlight areas for development and change in practice.

Methods We have a fortnightly programme in Child Health, with all sessions debriefed and evaluated by Masterclass personnel. Data was collected on all paediatric and neonatal SIM sessions from August 2013 to March 2014.

Results 271 healthcare professionals (172 doctors, 59 nurses, 4 HCA's, 3 assistant practitioners, 16 medical students, 2 student nurses, 7 midwives, and 8 others) attended 18 sessions, of which 7 were multidisciplinary. Sim sessions were carried out in 4 different departments.

Feedback was excellent with comments such as 'fantastic session, seniors emphasised how it was for learning and no-one would be judged on it, this made it more relaxed and I found it very realistic and useful. Thank You'.

Conclusions Simulations using high fidelity manikins in life like circumstances have demonstrated that staff feel this has helped their confidence and ability to cope in emergency situations. Feedback also suggests that it has given the opportunity to modify and change practice, aiming to improve standards of care and maintain patient safety.

PO-0712 THE BENEFICIAL EFFECTS OF BREASTFEEDING ON PARAMETERS OF ENDOTHELIAL DYSFUNCTION

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The purpose of this work was to investigate the association of serum asymmetric dimethylarginine (ADMA) and high sensitive C-reactive protein levels (hs-CRP) with duration of exclusive breastfeeding (BF) in children, and body composition.

Patients and methods The study group consisted of eighty eight patients aged median 12 months, (M = 42; F = 46), classified as never breastfed (NBF), or fully breastfed (BF). ADMA and hs-CRP were measured by immunoenzymatic ELISA commercial kits and expressed in µmol/L and ng/mL, respectively. Body composition analysis was performed by bioelectrical impedance (BIA).