Conclusions Epoprostenol as the sole anti-haemostatic agent for CRRT increases mean filter life, decreases bleeding risk without increasing risk of hypotension, platelet transfusion or mortality.

O-202 PHTHALATE EXPOSURE AND CHILD DEVELOPMENT: THE POLISH MOTHER AND CHILD COHORT STUDY

[1]K Polanska, [2]D Ligocka, [1]W Sobala, [1]W Hanke. *[1]Department of Environmental Epidemiology, Nofer Institute of Occupational Medicine, Lodz, Poland; [2]Department of Toxicology and Carcinogenesis, Nofer Institute of Occupational Medicine, Lodz, Poland*

10.1136/archdischild-2014-307384.270

Background Widespread phthalate exposure has prompted investigations concerning their potential adverse health effects. The objective of this study was to evaluate the impact of pre and early postnatal phthalate exposure on child psychomotor development basing on the data from the prospective Polish Mother and Child Cohort Study (REPRO PL).
Methods Phthalate exposure was determined by measuring 11 phthalate metabolites (MEP, MiBP, MnBP, 3OH-MnBP, MBzP, MEHP, 5OH-MEHP, 5oxo-MEHP, 7OH-MiNP, 7oxo-MiNP, MnOP) in the urine collected from mothers during the third trimester of pregnancy (prenatal exposure) and from their children at 24 th month of age (postnatal exposure). The analysis was performed by HPLC-MS/MS method. Child psychomotor development was assessed at the 2 nd year of age by Bayley Scales of Infant and Toddler Development.
Results Child motor development was inversely associated with natural log concentrations (µg/g creatinine) of 3OH-MnBP (β=-2.3; 95% CI -4.0 to -0.6), 5OH-MEHP (β=-1.2; 95% CI -2.2 to -0.3), 5oxo-MEHP (β=-1.8; 95% CI -330 to -0.2) and DEHP metabolites (β=-2.2; 95% CI -3.60 to -0.8) and sum of high molecular weight phthalates (β=-2.5; 95% CI -4.1 to -0.9) in the urine collected from mothers during pregnancy after adjustment for variety of potential confounders. Additional adjustment for postnatal phthalate exposure did not change the results. Postnatal child exposure to phthalates was not associated with any of the measured scores of child psychomotor development.
Conclusions The study findings add further support to the possibility that prenatal phthalate exposure may be detrimental to child neurodevelopment and underscore the importance of policies and public health interventions to reduce such exposure.

O-203 TRIPLE-BLIND, RANDOMISED CONTROLLED TRIAL ON THE USE OF FENUGREEK (TRIGONELLA FOENUM-GRAECUM L.) FOR AUGMENTATION OF BREASTMILK VOLUME AMONG POSTPARTUM MOTHERS

C Brillante, JB Mantaring. *Pediatrics, Manila Doctors Hospital, Manila, Philippines*

10.1136/archdischild-2014-307384.271

Objective To determine the efficacy of Fenugreek supplementation on the breastmilk production of mothers on postpartum days 1 to 5.
Methods Postpartum mothers aged 18 years and above at a tertiary private hospital were eligible to participate in this randomised, triple-blind, placebo-controlled study. Randomization was computer-generated and allocation was concealed. Mothers were randomised to receive 9 capsules of 610 mg Fenugreek seeds or placebo and were instructed to take 3 capsules, 3 times per day for 5 days. Mothers recorded the time and volume of expressed breastmilk. The contents of the capsules were unknown to the investigator, participants and study personnel. Statistical analyses used were T-test and Chi-square. A p-value of <0.05 was considered significant.
Results Sixty mothers were randomised to receive Fenugreek (n = 30) or placebo (n = 30). Twenty-four were excluded due to non-compliance leaving 36 mothers included in the analysis. There is a significant difference in the mean volume production (ml/hr) in favour of the Fenugreek group on days 1 to 5 (Day1: 9.49 ± 5.43 vs 5.23 ± 5.48, p = 0.0125; Day5: 25.06 ± 12.61 vs 13.78 ± 8.57, p = 0.0046). Side effects noted are maple-like smell of urine, breast tenderness, hunger and headache but none reported any serious adverse event. Respondents were satisfied to extremely satisfied with the intake of study intervention.
Conclusion Fenugreek significantly increases the breastmilk volume produced by mothers on post-partum days 1 to 5 compared to placebo. There were no reported serious adverse events in both groups. Overall, mothers are satisfied with the intake of Fenugreek.

O-203a INHALED MAGNESIUM FOR MODERATE AND SEVERE PAEDIATRIC ASTHMA

H Abu Rasheed, K Al-Ansari. *Division of Pediatric Emergency Medicine Department of Pediatrics, Hamad Medical Corporation, Doha, Qatar*

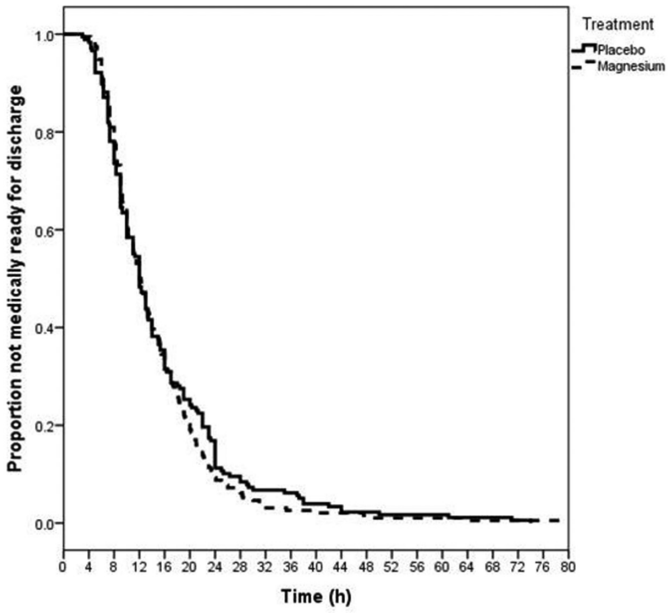
10.1136/archdischild-2014-307384.272

Background Intravenous magnesium sulfate, a rescue therapy added to combined bronchodilator and systemic steroid therapy for moderate and severe asthma, is uncommonly administered. We hypothesised that nebulized magnesium sulfate would confer benefit without undue risk.
Methods Patients aged 2 to 14 y with moderate and severe status asthmaticus (PRAM severity score >4) admitted to infirmary care were randomised double-blind to 800 mg nebulized magnesium sulfate or normal saline placebo via Aeroneb Pro and Idehaler, after intensive therapy with combined albuterol-ipratropium and intravenous methylprednisolone. Time to medical readiness for discharge was the primary outcome; sample size was chosen to detect a 10% improvement. Improvement over time in PRAM severity score and other secondary outcomes were compared for the overall group and severe asthma subset.
Results 191 magnesium sulfate and 174 placebo patients met criteria for analysis. The groups were similar with mean baseline PRAM scores >7. Blinded active therapy significantly increased blood magnesium level 2 h post-treatment 0.85 (SD 0.07) vs 0.82

12-point Pediatric Respiratory Assessment Measure (PRAM) Score

	Scoring			
Sign	0	1	2	3
Suprasternal retractions	None		Present	
Scalene muscle activity	None		Present	
Air entry	Normal	Decreased at bases	Diffusely decreased	Minimal or absent
Wheezing*	None	Expiratory only	Inspiratory and expiratory	Audible without stethoscope or silent chest with minimal air entry
Pulse oxygen saturation	95% or higher	92-94%	<92%	

Abstract O-203a Figure 1



Abstract O-203a Figure 2

(SD 0.06) mmol/L, p = 0.001). There were no important adverse effects. However, accelerated failure time analysis showed a non-significantly shortened time to medical readiness for discharge of 14% favouring the magnesium sulfate group, OR=1.14, 95% CI 0.93 to 1.40, p = 0.20. Mean times until readiness for discharge were 14.6 h [SD 9.7] vs 15.6 h [SD 11.3] for the investigational and placebo groups, respectively, p = 0.9.

Conclusions Adding nebulized magnesium sulfate to combined nebulized bronchodilator and systemic steroid therapy fails to provide evident benefit for patients with moderate or severe status asthamticus.

O-203b PAEDIATRIC MICRODOSE STUDY OF [14C] PARACETAMOL TO STUDY DRUG METABOLISM USING ACCELERATED MASS SPECTROMETRY: PROOF OF CONCEPT

[1]MG Mooij, [2]E van Duijn, [3]CA Knibbe, [2]W Vaes, [2]B Fabriek, [4]AD Windhorst, [4]NH Hendrikse, [5]LM Hanff, [5]BCP Koch, [5]PJJ M. Janssen, [1]D Tibboel, [1]S de Wildt. *[1]Department of Pediatric Surgery and Intensive Care, Erasmus University Medical Center – Sophia Children's Hospital, Rotterdam, Netherlands; [2]Innovation for Life, TNO, Zeist, Netherlands; [3]Clinical Pharmacology, Leiden Academic Center for Drug Research, Leiden, Netherlands; [4]Nuclear Medicine and PET Research, VU Medical Center, Amsterdam, Netherlands; [5]Clinical Pharmacy, Erasmus MC, Rotterdam, Netherlands*

10.1136/archdischild-2014-307384.273

Rationale Microdosing is a promising new method to obtain pharmacokinetic data in children with minimal burden and minimal risk. The use of a labelled oral microdose offers the added benefit to study intestinal and hepatic drug disposition in children already receiving an intravenous therapeutic drug dose for clinical reasons.

Objective To present pilot data of an oral [^{14}C]paracetamol (AAP) microdosing study as proof of concept for this method to study developmental pharmacokinetics in children.

Methods In an open microdose pharmacokinetic pilot study, infants (0–6 yrs of age) received a single oral [^{14}C]AAP microdose (3.3 ng/kg, 60 Bq/kg) in addition to intravenous therapeutic doses of AAP (15 mg/kg IV q6 h) prescribed by the treating physician to provide analgesia. Blood samples were taken from an indwelling catheter at multiple time points. AAP blood levels were measured by LC-MS/MS and [^{14}C]AAP and metabolites ([^{14}C]AAP-Glu and [^{14}C]AAP-4Sul) were measured by accelerator mass spectrometry.

Results Ten infants (ranging from 0.1 to 83.1 months of age) were included, one patient was excluded from PK analysis, as he vomited shortly after administration. In all 9 patients, [^{14}C]AAP and metabolites in blood samples were detectable at expected concentrations. Dose normalised [^{14}C]AAP C_{max} concentrations approached median C_{av} intravenous concentrations: median 8.41 mg/L (range 3.75 to 23.78 mg/L) and 8.87 mg/L (range 3.45 to 12.9 mg/L), respectively.

Conclusions We demonstrate the practical and ethical feasibility to use a [^{14}C]labelled microdose to study paracetamol pharmacokinetics, including metabolite disposition, in young children.

EAP – Investigators Presentations

O-204 AORTIC AND CAROTID DIMENSIONS AND INTIMA MEDIA THICKNESS IN 6-YEAR-OLD CHILDREN

[1]L Mohlkert, [2]C Pegelow Halvorsen, [3]J Hallberg, [4]A Edstedt Bonamy, [5]M Norman. *[1]Departmeny of Clinical Science Intervention and Technology, Karolinska Institutet, Stockholm, Sweden; [2]Department of Clinical Science and Education Södersjukhuset, Karolinska Institutet, Stockholm, Sweden; [3]Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden; [4]Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden; [5]Department of Clinical Science Intervention and Technology, Karolinska Institutet, Stockholm, Sweden*

10.1136/archdischild-2014-307384.274

Background and aim Preterm birth has been associated with myocardial remodelling, arrested vascular growth, higher blood pressure and ventricular hypertrophy later in life. The aim of this study was to evaluate arterial dimensions and intima media thickness in 6-year-old children born extremely preterm.

Method Children born extremely preterm (EXP; <27 weeks of gestation) in Sweden 2004 to 2007 and matched controls born at term were included. The end-diastolic diameter of the abdominal aorta (AAD) and common carotid artery (CCAD) and carotid intima media thickness (CIMT) were determined by ultrasonography. Blood pressure, weight and height were also measured.

Results EXP-children (n = 88; mean GA 25.1 w; BW 817 g) were significantly shorter than controls (mean heights 117.8 and 122.8 cm, p < 0.001). AAD was 8.8 mm in EXP and 8.9 mmin controls (n.s). CCAD was larger (5.5 mm) in EXP than in controls (5.2 mm; p < 0.01) after adjusting for body surface area (BSA). CIMT was 0.62 mm in EXP and 0.54 mm in controls (p < 0.001) adjusted for BSA. Unadjusted systolic blood pressure was 2.2 mmHg lower in EXP compared to controls (p < 0.05) but this difference disappeared after taking length into account.

Conclusion The CCAD but not the AAD was significantly wider and the carotid intima media was thicker in 6-year-old children born extremely preterm as compared to age matched controls at term.

Further vascular follow-up at older age is warranted and analyses of carotid strain using two dimensional speckle tracking are underway.