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# P0082 / #337: BARRIERS TO DELIVERING ENTERAL NUTRITION IN PICUS: A SURVEY AND NEW QUALITY IMPROVEMENT TOOL

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## P0080 / #320

### IS A TRIAL OF NO ROUTINE GASTRIC RESIDUAL VOLUME MONITORING TO GUIDE ENTERAL FEEDING IS POSSIBLE IN UK PICUS AND NICUS?

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**AIMS & OBJECTIVES:** To determine if a trial of no routine gastric residual volume (GRV) measurement to guide feeding is feasible in UK Pediatric (PICU) and neonatal intensive care units (NICU).

**METHODS:** A mixed methods study involving surveys of practice, interviews with parents and interviews and focus groups with PICU healthcare professionals (HCP), a Delphi study, analysis of existing PICU and NICU datasets and a consensus meeting.

**RESULTS:** Surveys in both PICU and NICU showed that the practice of using GRV to guide starting and advancing enteral feeds were common: 96% PICUs and 65% NICUs. Interviews with 31 parents showed an overwhelmingly positive support for a future trial, with some concerns around delay to early identification of problems. This fear was mirrored by the HCP views. Feedback from 51 HCP showed that a trial was feasible, with junior nurses the most concerned about not being able to measure GRV. The delphi study was able to gain consensus on 12 trial outcomes for PICU and 9 for NICU, and further demonstrated trial feasibility with 97% and 91% HCP willing to randomise a child into a future trial. The two preferred primary outcome measures were: time to achieve energy targets (PICU) and time to achieve full feeds (150ml/kg) for NICU. Analysis of the national datasets revealed adequate numbers of children meeting the inclusion criteria to conduct a superiority trial with individual patient randomisation.

**CONCLUSIONS:** Two trials of GRV measurement in the UK are feasible, one in PICU and one in NICU.

## P0081 / #335

### SERUM ELECTROLYTE ABNORMALITIES AND PREDICTION OF OUTCOME IN CRITICALLY SICK CHILDREN

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**AIMS & OBJECTIVES:** To study the role of serum electrolyte abnormalities in predicting outcome in critically ill children.

**METHODS:** It was a prospective study comprising of critically ill children admitted in a PICU of a tertiary care hospital in the northern Indian state of Punjab. At the time of admission the patient's clinical picture was recorded in prefixed proforma. Venous blood sampling was obtained from each patient enrolled in the study and sent for estimation of electrolytes, calcium, magnesium, phosphorus, urea, creatinine, glucose levels

**RESULTS:** There were total 489 admissions to PICU during the study period of one year from 1 May 2015 to 30 April 2016. Out of these 237 cases met the inclusion criteria. Electrolyte abnormalities were observed in 48.5% of children. Male to female ratio was 2.4:1. Maximum patients (29.5%) were less than 1 years age. In our study majority of patients (75.9%) were discharged, with 12.6% discharged against medical advice and 11.4% died. In our study, most common electrolyte abnormality found was hypocalcemia (39.2%) followed by hypokalemia (38.4%) and hyponatremia (37.1%).

**CONCLUSIONS:** The present study showed a high incidence of electrolyte abnormalities in acutely ill children admitted to PICU. Since the specific symptoms of electrolyte abnormality often merge with the underlying disease, they remain unrecognized and contribute significantly to the morbidity and mortality besides the primary illness. Close monitoring and appropriate correction of electrolyte abnormalities will be useful in lowering mortality.

## P0082 / #337

### BARRIERS TO DELIVERING ENTERAL NUTRITION IN PICUS: A SURVEY AND NEW QUALITY IMPROVEMENT TOOL

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**AIMS & OBJECTIVES:** To develop a pediatric quality improvement instrument for enteral nutrition (EN) delivery in critically ill children and to explore the perceived barriers by pediatric intensive care healthcare professionals (HCP) (nurses, dietitians and physicians) across the world.

**METHODS:** Cross-sectional online survey to PICU HCP across the world containing 25 items

**RESULTS:** 920 pediatric intensive care professionals responded from 57 countries; 477/920 (52%) nurses, 407/920 (44%) physicians and 36/920 (4%) dietitians. Sixty-two percent had more than five years PICU experience and 49% worked in general PICUs, with 35% working in combined cardiac and general PICUs. There were also significant differences in 14 perceived barriers when comparing

continents. Across all continents, the biggest perceived barrier was enteral feeds being withheld for procedures and operating department visits, and this was the highest perceived barrier in Southern America. Other top perceived barriers were: none or not enough dietitian coverage on weekends or evenings, and not enough time dedicated to education and training on how to optimally feed patients.

**CONCLUSIONS:** This is the largest survey that has explored perceived barriers to the delivery of enteral nutrition across the world by HCP. Many perceived barriers to enteral feeding remain in PICUs internationally. These barriers relate to organisational and staff factors as well as clinical patient factors. Whether the barrier is real or not, if clinicians believe these, then this still inhibits the delivery of enteral nutrition. Further education to improve awareness of the existing evidence and facilitate the implementation of best evidence into local unit guidelines is required.

### P0083 / #367

#### HEMODIAFILTRACION VENO -ARTERIAL ABOUT A CASE

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**AIMS & OBJECTIVES:** 2 years old, Weight 7.4 kg

CRF and CIA ostium secundum 5.6mm with moderate hemodynamic repercussion. pulmonary stenosis with a 22 mmhg, probably secondary to hyperflux, receives enalapril, furosemide, calcitriol, calcium and salbutamol, beclomethasone. He has edema, distended abdomen. Exfx: Unstable, FC DE 176, TA 100/60, SAO2 DE 90%, with signs of water overload, peritoneal dialysis catheter dysfunction, DOM and intubates, milrinone EP,NE,Ad. liquids: 500 cc

Liquids eliminated: 10 cc taken to surgery for rearrangement of PD catheter, but it is dysfunctional, PD cannot be done.

Accumulated water balance of 100 ml

LEU 11,500, 78% PMN, 14% LN, HB DE 9.6, HTO 30%, BUN: 76.8, Cr: 3.61, alb: 3.57, PCR DE 300, pt 27, P: 7.7, Mg: 1.5, Chlorine: 106, PD does not work.

hemodiafiltration v-v is not possible. THE CAVHDF and is programmed like this pump flow:

50 cc / min

Ultrafiltrate: 28 cc / h

75 cc / h citrate

calcium gluconate 30 cc / h

effluent volume:

VE: 30 cc / kg / h

UL: 28 cc / h

QR: 50% = 97 cc / h

QD: 50% = 97 cc / h With all this, the patient finished coin his terpaia, I remain with erc and then he transplanted and is fine

**METHODS:** CASE REVIEW

**RESULTS:** THE USE OF CONTINUOUS ARTERIAL VENOUS HEMODIAFILTRATION IN PATIENT, WHERE PERITONEAL DIALYSIS AND HEMODIALYSIS WAS NOT POSSIBLE, THIS IS AN ALTERNATIVE EVEN

**CONCLUSIONS:** THE USE THE HDFAVC, WHERE PERITONEAL DIALYSIS AND HEMODIALYSIS WAS NOT POSSIBLE, THIS IS AN ALTERNATIVE EVEN

### P0084 / #397

#### CRITICALLY ILL INFANTS ARE MORE HYPOMETABOLIC THAN NON INFANTS

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**AIMS & OBJECTIVES:** The knowledge of the metabolic status of critically ill pediatric patients is fundamental. The assessment of energy expenditure by indirect calorimetry is the gold standard for metabolic assessment of critically ill patients since the equations for determining energy expenditure at rest did not show accuracy for the critically ill patient population. Indirect calorimetry enables proper nutritional management avoiding underfeeding and overfeeding, both harmful. This study aims to evaluate whether there is a difference in the metabolic pattern observed in children undergoing mechanical ventilation in the intensive care unit in relation to age group.

**METHODS:** Indirect calorimetry data were collected from children aged 1 month to 84 months of age in the first 72 hours of mechanical ventilation. It was evaluated if there were differences in values according to age group.

**RESULTS:** Energy expenditure and oxygen consumption results were obtained from 182 patients from 1 month to 84 months of age. A difference was observed in the mean values obtained in infants compared to older children. There was a statistically significant difference ( $p < 0.01$ ) in the median  $VO_2/m^2$  in children under 2 years (median 125; IQR 100.4-149.2;  $n = 134$ ) when compared to older children (median 151.9; IQR 135.2-178.4;  $n = 48$ ). Statistically significant differences ( $p < 0.01$ ) were also observed between the energy expenditure values of children under 2 years (median 259; IQR 184-356.5;  $n = 134$ ) and older children (median 714 (593.8-824, 8).

**Conclusions:** It was observed that infants have a more hypometabolic profile than children older than 2 years.

### P0085 / #404

#### PROFILE OF PAEDIATRIC MALIGNANCIES IN YANGON CHILDREN'S HOSPITAL: 2017-2018

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**AIMS & OBJECTIVES:** Although the incidence of paediatric malignancy is on rise, little is known about the epidemiology of pediatric cancer especially in low and middle income