G351(P) ABSTRACT WITHDRAWN

G352(P) REACH FOR THE SKY: IDENTIFYING AND MANAGING GROWTH FAILURE IN CHILDREN WITH CHRONIC RENAL INSUFFICIENCY

R McBay, R McDonald, E O'Hagan, H Gibson, R Simpson. *Paediatric Renal Department, Belfast Health and Social Care Trust, Belfast, UK*

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Background Growth retardation is well documented in children with chronic kidney disease (CKD). Figures from the UK Renal Registry indicate that 29% of children who undergo renal transplantation and 41% of children on dialysis are below the 2nd percentile for height. Short stature is associated with increased morbidity and mortality. NICE guidance recommends growth hormone as a treatment option for children with growth failure associated with chronic renal insufficiency (CRI).

Aims

- To increase recognition of growth failure in children with CRI by ensuring regular plotting of height in all patients on renal replacement therapy (RRT) and >80% of those with CKD stage 3–5.
- All eligible children with CRI and growth failure should be offered growth hormone.

Methods Data was collected in 2018 from patients on RRT or who had undergone renal transplant within the previous 5 years. Results were presented at the renal MDT meeting to improve awareness and highlight where improvements could be made. In line with BSPED and BAPN endorsed guidelines, practical changes were introduced and audited using Plan-Do-Study-Act cycles. These included ensuring patients' current notes have an up-to-date growth chart, and the introduction of a mid parental height and growth velocity monitoring proforma. A hospital guideline was designed which included a standardised referral letter to endocrinology for patients who should be considered for growth hormone.

Results The 2018 audit showed that 60% of the 15 patients on RRT or who had undergone recent renal transplantation demonstrated growth failure. Despite this, only two patients had been referred for growth hormone treatment. On re-audit, all children currently on RRT were assessed for growth hormone and referred to Endocrinology as appropriate. Regular growth monitoring improved from 60% to >80% also. The new proforma continues to highlight patients with CKD stage 3–5 meeting criteria for growth hormone and referral to endocrinology is improving as a result.

Conclusion With heightened awareness in the renal team, and a renewed focus on regular growth monitoring, children with CRI and growth failure, are being more promptly recognised and offered growth hormone in line with NICE guidance.

G353(P) PROFILE OF HAEMOLYTIC UREMIC SYNDROME FROM A TERTIARY CARE CHILDREN'S HOSPITAL IN INDIA

A Janjanam. *Paediatric Intensive Care, Royal Manchester Children's Hospital, Manchester, UK*

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Aims Haemolytic Uremic syndrome is one of the leading causes of AKI in children. Aim of this study was to review the profile of children with Haemolytic Uremic syndrome.

Methods This is a Retrospective case series of Children admitted with HUS to a tertiary Indian PICU between January 2011 and November 2016. The analysis was done as a part of my audit being a PICU core trainee then. Clinical course, aetiologies and outcomes at discharge and at 3 months follow up were noted.

Results Out of 3958 PICU admissions, 19 children had HUS (Incidence 4.8 per 1000). 9 children (47%) had D+ HUS & 10 (52%) had D- HUS. Various D- HUS aetiologies included Anti Factor H antibody (1), Severe Dengue (1), ADAMTS 13 deficiency (1), necrotising pancreatitis (1), pneumococcal empyema (1) and unknown (5). Sixteen (84%) required Renal replacement therapy. Haemodialysis was done in 10 children, peritoneal dialysis in 3 children and 3 children received Haemodialysis after initial PD. Immunotherapy was given to 5 (26%) children. This included plasmapheresis in 4(21%), steroids in 5(26%) and Rituximab in 4(21%) children. Major complications during ICU stay were seizures (52%), PRES (42%), Bleeding (31%) and secondary infections (15%). 9 out of 10 children (90%) with D-HUS had complications compared to 3 out of 9 children (33%) with D+HUS. 4 children died (mortality was 21%). Median RRT days were 8 in D+ versus 23 in D- HUS. RRT was needed in 9 (48%) children at ICU discharge. Overall main Follow up outcomes included hypertension in 85% and neurological deficits in 42%.

COMPARISON OF D+ and D- HUS

Conclusion Need for RRT was similar in both groups however Median RRT days were much longer in D- HUS. Complications and mortality were higher in D – HUS.

G354(P) EXPERIENCE OF USING ANTI-TNF INFlixIMAB IN PAEDIATRIC INFLAMMATORY BOWEL DISEASE- SINGLE TERTIARY

^{1,2}DS Hapuarachchi, ²D Belsha, ²L Jagos, ²A Fagbemi, ²A Kadir. ¹General Paediatric, West Middlesex Hospital, London, UK; ²Paediatric Gastroenterology, Royal Manchester Children's Hospital, Manchester, UK

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Background The BSPGHAN and ESPGHAN 2018 standards on management of IBD advocate optimising the use of biological therapy by correlating infliximab drug and anti-body levels with clinical presentation, and subsequently altering treatment if sub-optimal. We aimed to evaluate the infliximab practice at the Royal Manchester Children's Hospital (RMCH), United Kingdom against these recently published standards.

Methods A retrospective study was performed on patients with IBD who had infliximab drug and antibodies levels measured between Oct-2017 and Oct-2018 at RMCH. We collected data on each patient's current status including stage of disease, infliximab drug and antibody levels, and changes in management if taken. These results were divided into 3 categories for analysis according to infliximab levels: sub-therapeutic (≤ 4 ug/ml), medium therapeutic (4–7.9 ug/ml) and high therapeutic (≥ 8 ug/ml). These were then further divided into negative/low level antibodies (≤ 20 ug/ml) and high level antibodies (≥ 21 ug/ml) subgroups. Each data set was examined to check for adherence to standards.

Results During this 13 month period, 77 patients in total had their infliximab levels checked. 72(94%) of these patients were on the recommended immunosuppressant therapy of azathioprine. Many of these patients had multiple infliximab levels performed during the period generating 136 infliximab levels. Out of the total 136 levels done, 87(64%) were sub-therapeutic. 71(82%) of patients with sub-therapeutic infliximab levels showed non active disease either confirmed with normal inflammatory markers or endoscopic findings suggestive of remission. For the 87 with sub-therapeutic levels, there were 59(68%) with negative/low antibodies, 35(60%) of these cases were then managed by increasing their infliximab dose/frequency as advised by the standards. For the remaining 28(32%) in the sub-therapeutic group who had positive antibodies, 25%(7) were switched onto a different biologic as recommended by the standards. However, despite having significant levels of antibodies, 14(50%) of patients in the sub-therapeutic group had their infliximab dose/frequency increased.

Conclusions There is extensive variability in the infliximab practice for management of IBD at RMCH when comparing against the BSPGHAN/ESPGHAN standards due to being recently published, emphasising capacity for improvement.

G355(P) CAN BEDSIDE BLOOD SPOT AMMONIA TESTING BE A USEFUL TOOL FOR PREDICTING THE ADEQUACY OF PARENTERAL NUTRITION ARGININE INTAKE IN VERY PRETERM INFANTS?

^{1,2}L Burgess, ²C Premakumar, ²B Flanagan, ^{2,1}M Turner, ¹C Morgan. ¹Neonatal Intensive Care Unit, Liverpool Women's Hospital, Liverpool, UK; ²Department of Women's and Children's Health, University of Liverpool, Liverpool, UK

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Aims There has recently been renewed concern regarding the provision of early parenteral amino acids (AA) and the debate continues regarding the optimal timing and dosing of AA provision to very preterm infants (VPI). We have previously shown there is both overprovision of essential AA and underprovision of some conditionally essential AA, including arginine, in current UK neonatal parenteral nutrition (PN) formulations. The aim of this study was to assess if point of care (POC) testing of blood spot ammonia levels could be a useful tool in predicting if PN arginine intakes were sufficient and identify arginine-deficient infants.

Methods Very preterm infants, born <29 weeks' gestation and/or <1200 g were eligible for PN. Study blood samples were collected on days 3 and 10 of life. Plasma AA levels were measured using ion exchange chromatography and POC ammonia testing was conducted on a single spot of blood at the cot-side, giving a result within 5 minutes of sample collection. Daily nutritional data was collected and mean total protein and arginine intakes for the 48 hours preceding study blood sampling were calculated.

Results The study included 42 infants with a mean gestation of 27⁺⁰ weeks' and mean birth weight of 883 g. 16 control infants received standard PN only (6–8% arginine) with the remaining 26 infants receiving additional arginine (11–15%). Intervention group infants received a mean of 396 mg/kg/day arginine in the 48 hours prior to day 10 sampling versus 233 mg/kg/day arginine in the control group infants. Plasma arginine levels were significantly higher on day 10 of life in the intervention group infants (mean 71.5 v 42.0 mmol/L,

p=0.01). POC ammonia levels were significantly lower in the intervention group infants on day 3 of life (mean 41.4 v 53.0 mmol/L, p = 0.01).

Conclusions Overall, POC bloodspot ammonia levels were significantly lower in infants with higher total arginine intakes on day 3 of life. However, POC ammonia testing did not identify arginine deficiency at an individual patient level. POC ammonia testing can be a useful investigative tool in research studies optimising PN formulation.

Association of paediatric palliative medicine and

G356 SUPPORTING DOCTORS TO DELIVER PAEDIATRIC PALLIATIVE CARE ON NEONATAL UNITS: THE DEVELOPMENT OF A NEONATAL PALLIATIVE CARE CURRICULUM TO ADDRESS THE LEARNING NEEDS OF NEONATOLOGISTS IN TRAINING

¹TA Warlow, ²R Jones, ³J Griffiths. ¹All Wales Paediatric Palliative Care Team, Cardiff and Vale University Health Board, Cardiff, UK; ²Neonatal Unit, Wales Neonatal Network, Cardiff, UK; ³All Wales Paediatric Palliative Care Team, Swansea Bay University Health Board, Swansea, UK

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Background Forty percent of all child deaths occur in the neonatal period. The onus on neonatologists to identify infants requiring palliative care promptly, and deliver excellence in communication, decision making, and parallel planning is increasingly recognised. Current training curricula do not adequately reflect this pressing need, and newly qualified consultant neonatologists feel unprepared for these challenges.

Aim To assess the confidence of trainee neonatologists in delivering care to neonates with palliative care needs and their families.

To develop a locally applicable educational curriculum to structure training, governance and palliative care integration into regional neonatal units.

Method Neonatal palliative care competency domains were generated following analysis of published learning needs assessments amongst staff working on neonatal units, and current national neonatal and palliative care training curricula. Confidence in each domain was assessed by means of electronic survey of all neonatology trainees in the United Kingdom sent by email in April 2019 and again in June 2019. Results were collated and used to develop the locally applicable training curriculum.

Results Existing curricula for neonatal trainees fail to fully address the depth and breadth of competence required for newly qualified neonatologists providing palliative care. Fifteen competency domains for neonatal palliative care were generated by the study team following review of the literature. Only 8% of neonatal trainees were 'very confident' in any of the 15 domains. Most trainees felt confident identifying neonates requiring palliative care, understanding the role and scope of palliative care in their management. Trainees were underconfident in understanding legal and ethical issues, leading difficult conversations with families, and the practical management of end of life care in the context of local community services.