G392(P) PREPARING FOR PAEDIATRIC INTENSIVE CARE – THE DEVELOPMENT OF A PAEDIATRIC INTENSIVE CARE UNIT SIMULATION INDUCTION COURSE FOR TRAINEE DOCTORS

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Aims On our paediatric intensive care unit (PICU) doctors induction traditionally consisted of a series of lectures and small group work. In order to make introduction more interactive and enhance learning, we decided to set up a one day simulation based induction course.

Methods Learning needs were identified from informal survey of current trainees and PICU consultants. Four simulation scenarios were designed to encompass the learning objectives established from the learning needs survey and key competencies needed for PICU. Scenarios involved patients transferred to PICU for stabilisation, or deteriorating patients on the unit. 30 min simulations and were followed by 1 h debrief and tutorial. Tutorials focused on medical management and practicalities such how to set up a ventilator or give inotropes. Simulations ran with 2–3 trainees and 2 PICU nurses per scenario, and were set up in a cubicle with standard equipment, using high fidelity manikins. Due to anticipated inexperience, trainees were offered "time out" and "ask the audience" options during the scenarios to enable them to draw on the knowledge of their peers.

Results 10 trainees completed the simulated induction course. When asked to use a 5 point likert scale, 90–100% of trainees either agreed or strongly agreed to all but one of the 9 statements related to the course meeting learning objectives and knowledge needs. High frequency oscillation was the single area that was identified by trainees as not being covered in desired depth. Free text feedback was overall very positive. Suggestions for improvement would be to provide a specific ventilation workshop to enable this subject to be covered in greater depth, plus a written handout to supplement the day. We are waiting to see how the induction evaluates in the GMC survey, compared to traditional induction.

Conclusion We ran a pilot PICU simulation induction which was well received by trainees, and met all but one learning objective. The course could be easily adapted to address this objective and could be tried in other Paediatric Intensive Care Units.

G393(P) REDUCTION IN PRESCRIPTION ERRORS IN A NEONATAL INTENSIVE CARE UNIT: A COMPLETED AUDIT CYCLE

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Background Neonates are particularly vulnerable to harm from medication-related errors. Prescription errors are one of the most important sources of potential harm accounting for approximately two-thirds of all medication-related incidents in this population.

Aims To evaluate the impact of a package of interventions designed to improve prescribing practice by doctors and advanced neonatal practitioners (ANNPs) working in a large UK NICU.

Methods We devised an audit tool to capture data relating to the quality of prescribing across a range of neonatal drug and intravenous infusion/parenteral nutrition prescriptions. The accuracy and completeness of prescriptions were assessed against a list of agreed standards. Prescription charts were selected at random, weekly on the same day each week over a seven week period in both audits; a single individual undertook the baseline audit whereas two individuals performed the re-audit. Following the baseline audit a number of interventions were introduced and implemented including modification of prescription charts, specific improvements in education and training and anonymised publication of prescribers' error rates. Prescribing practice was re-assessed one year later after the package of interventions had been embedded into routine practice.

Results 1087 individual prescriptions were reviewed in total. During the initial audit, there were 16 errors in a total 292 prescriptions assessed giving an error rate of 5.5 per 100 prescriptions. In the re-audit, there were a total of 13 errors in 795 prescriptions examined giving an error rate of 1.64 errors per 100 prescriptions ($p = 0.003$ compared with the baseline audit). All 13 observed errors were deemed relatively minor prescribing errors and none led to any patient harm. Prescribers were not identifiable in 126 prescriptions (16%).

Conclusions Prescribing errors in neonatal practice are relatively common but rarely result in patient harm. Using a completed audit cycle, we have shown a reduction in prescribing error rates following the implementation of a range of interventions that combined to improve prescribing practice of junior doctors and ANNPs.

G394(P) INFECTION AND WHEEZE IN THE FIRST 6 MONTHS OF LIFE – AN INTERIM ANALYSIS OF THE GO-CHILD BIRTH COHORT

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Aims The aim of the GO-CHILD birth cohort study is to understand the natural history of common childhood diseases like asthma, allergies and infections and to investigate the role of gene-environmental interactions in childhood diseases that present very early in life. We wish to understand how these associations during 0–2 years relate to our previous observations on older children. We report our interim observations regarding disease phenotype at 6 months of age.

Methods GO-CHILD is a multicentre prospective birth cohort study. 2315 infants were recruited from antenatal clinics across the UK and followed up at the ages of 3, 6, 9, 12 and 24 months through postal questionnaires. The 6-month questionnaire explores infection and atopy related events in the first 6 months of life.

Results 938 participants returned the completed 6-month questionnaire. 106 (11%) infants had been admitted to the special care baby unit, of whom 41% had confirmed or suspected infections and 40% reported breathing problems. 130 (13.8%) children reported wheeze in the first 6 months of life. Among them,

124 (95%) reported this as viral-induced, 25 (19%) had more than 3 attacks of wheeze, 31 (24%) were prescribed inhalers and 20 (15.4%) reported having disturbed sleep once or more nights per week. 156 (17%) infants required hospital admission in their first 6 months of life, with 36/938 (4%) requiring more than one admission. Of the children experiencing any hospital admission, 17% received oral antibiotics, while 24% received intravenous antibiotics. 646 (69%) infants had visited the GP at least once, of whom 93 (14%) received antibiotics for probable infections. 95% of the participants returning the 6-month questionnaire were fully immunised.

Conclusion Despite the possible bias of those returning questionnaires, our interim results indicate a high prevalence of infection and wheeze during the first 6 months of life in UK infants. Approximately 14% had experienced wheeze, 14% received oral antibiotics from the GP and 17% reported being admitted to hospital. We wish to further explore the association of genetic variations and their interactions in the context of childhood infections and atopy.

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G395(P) EXPERIENCES OF PATIENTS ON LONG TERM VENTILATION TRANSFERRING TO ADULT SERVICES

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Aims Medical advances mean that more children with serious illnesses are surviving into adulthood. Recent legislation and guidelines stress the importance of delivering improved joined-up services for children undergoing transition to adult services.[1,2] A qualitative study was performed to explore the experiences of patients receiving long-term ventilation (LTV).

Methods Questionnaire-based telephone interviews were conducted with 21 patients (14 males, median age 26 years, range 14–57) on LTV or their carers. All had previously been within children's services and were now under adult respiratory care at a UK teaching hospital. The underlying causes for LTV included: Duchenne muscular dystrophy (9), other muscular dystrophies (6), congenital central hypoventilation syndrome (4) and other (2).

Results Thematic analysis of the data identified 3 main themes:

1. *Variability*: the age at which transition occurred varied (17–25), as did the option to attend combined clinics, which was only given to 3 of the 21 patients. There were discrepancies in the provision of community services, which was described as being "post-code dependent".
2. *Unfamiliarity*: patients expressed concerns about the unfamiliarity of adult doctors with their background and condition, which was often interpreted as insensitivity or lack of knowledge. They expressed frustration at having to repeat their story to numerous health care professionals.
3. *Separation of services*: care under children's services was reported as being more holistic when compared with the single organ approach in adult services. However, the thoroughness of adult physicians in patient management was appreciated.

Conclusion Our study highlights the gap that needs to be bridged between children and adult services for patients on LTV. Early transition planning should occur to alleviate the unfamiliarity commonly experienced. This should include information about adult care and the differences in service provision. The utilisation of health care passports can do much to avoid physician unfamiliarity with the patient's situation. These changes need to be uniformly adopted in order to improve patient satisfaction, care and long term outcome.

REFERENCES

1 Care Act 2014
2 Care Quality Commission. From the pond into the sea: Children's transition to adult healthcare services. June 2014

G396(P) IS INFANTILE LARYNGOMALACIA ASSOCIATED WITH EARLY ONSET ADENOTONSILLAR HYPERTROPHY: A RETROSPECTIVE PILOT STUDY

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Introduction Laryngomalacia has been associated with gastroesophageal reflux (GOR), which may cause adenotonsillar hypertrophy leading to early onset obstructive sleep apnoea (OSA). We aim to assess this proposed relationship, with adenoidectomy <4 years as our primary endpoint.

Method 78 children seen in the airway clinic at the Glasgow Royal Hospital for Sick Children during September 2009 to August 2010 with a diagnosis of infantile laryngomalacia and for whom four years of follow up data was available were included, and their medical notes analysed.

Results We found a significantly increased incidence of OSA in our cohort of 11.5%, compared to a reported population incidence of 0.7–1.8% ($p = < 0.0001$). The rate of adenoidectomy <4 years in this sample was 12.8%. We found that children who undergo adenoidectomy are more than 4x likely to also undergo a supraglottoplasty procedure than those who do not, 70% vs. 16.2% ($p = 0.0008$). Significant increase in the presence of neurodisability in the group of children who underwent an adenoidectomy was also seen, 40% vs. 2.9% ($p = < 0.002$).

Conclusion Outcomes following adenoidectomy +/- tonsillectomy are suggestive of adenotonsillar hypertrophy being the leading cause of OSA. Our results also support an emerging link between GORD and OSA, as although there are a number of causes of adenotonsillar hypertrophy there was little evidence to suggest that any of these patients could have developed hypertrophy due to alternative mechanisms. Children with more severe laryngomalacia appear to be at higher risk of developing sleep disordered breathing symptoms, and subsequently requiring adenoidectomy.

G397(P) HYPOXIC CHALLENGE TESTING – WHICH CHILDREN ARE WE ASSESSING?

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Aim Hypoxic challenge testing (HCT) is the method used to assess whether a patient with stable respiratory disease requires in-flight oxygen. A national guideline, published by British Thoracic Society in 2011, makes recommendations on which children ought to undergo HCT prior to undertaking air travel. Identified are: infants under 1 year with neonatal history of