Conclusion Incidental and unrelated findings were found in 15.6% of IBD patients undergoing MRE. Although many (43.7%) of these children required further imaging studies, only one patient from the entire cohort (1%) (massive splenomegaly) needed further investigations for a significant, previously unidentified pathology.

G49(P) REVERSAL OF CAROTID INTIMA-MEDIA THICKNESS WITH LIPID LOWERING THERAPY IN CHILDREN WITH FAMILIAL HYPERCHOLESTEROLAEMIA-CASE REPORTS OF TWO PATIENTS

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Background Children with heterozygous familial hypercholesterolaemia (FH) are known to have early asymptomatic morphological changes of the vessel wall. Measurement of the carotid intima-media thickness (CMT) is a useful marker of endothelial function and effectiveness of lipid-lowering therapy. Reversibility of CMT with statin therapy have been reported in adults. However, in children, only one RCT reports regression of CMT with statins. We report two children with FH demonstrating a significant CMT reduction following therapy.

Case1: A 16 year old male was diagnosed at 9 years with an extensive maternal history and a total cholesterol (TC) of 8.8 mmol/L, LDL-C 7.09 mmol/L. CMT at diagnosis was normal at 0.3 mm bilaterally. Rosuvastatin was commenced at 10 years of age. Serial CMT measurements over 4 years showed an increase to 0.7 mm prompting addition of Ezetimibe and an increase of Rosuvastatin to 20 mg daily. Subsequently, CMT reduced to 0.4–0.5 mm bilaterally after 13 months. CMT measurements have remained stable since. The latest profile – TC is 3.7 mmol/L, LDL-C 2.32 mmol/L.

Case 2: A 19 year old male, with a maternal history of FH, was diagnosed at 12 years of age with a TC 8.5 mmol/L and LDL-C 6.4 mmol/L. CMT was increased at 1.0 mm bilaterally at diagnosis. He was treated with Rosuvastatin (maintenance dose 20 daily). Serial CMTs were initially stable with no progression. Subsequently, 60 months after commencing statins, there was an improvement to 0.4 mm on both sides which has since remained stable. The latest profile- TC is 4.3 mmol/L, LDL-C 2.94 mmol/L.

No plaque disease was seen in either patients. CMT was measured at common carotid arteries.

Discussion CMT is a useful non-invasive method to help clinical decision making in children with FH. Serial measurements in our patients have shown that an abnormal CMT is reversible in children following lipid lowering therapy. Further trials with CMT as an outcome measure may be useful to determine the ideal age to commence statin treatment in children.

G50(P) VITAMIN D MONITORING IN COELIAC DISEASE – WHERE DO WE START?

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Aims Coeliac disease (CD) is a malabsorptive condition, which increases the risks of calcium and Vitamin D deficiencies, osteoporosis and pathological fractures when compared to the general population. Vitamin D monitoring and supplementation advice is not included in the 2013 British Society of Paediatric Gastroenterology, Hepatology and Nutrition (BSPGHAN) guideline. However NICE in 2015 has advised further research for paediatric patients. Current adult coeliac guideline advice is to monitor and supplement as required. We aim to contribute to the discussion for a consistent practice nationally for paediatric units.

Methods Retrospective casenote analysis of 40 patients with CD to assess when serum Vitamin D levels were done, and the number of patients requiring supplementation. Standardised proforma assessed blood tests and interventions within the first 12 months of diagnosis. This is because patients are deemed to be most vulnerable until their gluten free diet is fully established. Data was analysed using Excel software.

Results Patients ranged from age 13 months to 17 years at initial presentation. 17 patients (42.5%) had serum levels tested within the first year of diagnosis, but only 1 patient (2.5%) was tested at initial presentation, which was confirmed to be positive for deficiency. 6 patients (15%) required treatment, of which 5 were started in the first year of diagnosis. 1 patient (2.5%) required treatment twice, occurring at 5 and 7 years post diagnosis. 1 patient had a long bone fracture due to trauma, but with normal serum Vitamin D and bone profile levels.

Conclusions There is no current guidance on the frequency of monitoring Vitamin D levels for paediatric patients, and our practice reflects this. Monitoring serum Vitamin D levels in the first year of diagnosis is important as these patients are most vulnerable to developing mineral and vitamin deficiencies in this period. We propose that serum Vitamin D levels are checked at diagnosis, and annually thereafter.

G51(P) NUTRITIONAL RICKETS PRESENTING TO SECONDARY CARE IN CHILDREN (<16 YEARS) – A UK SURVEILLANCE STUDY

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Aims Rickets is a disease of growing children with serious short and long-term complications. Although the prevalence of rickets has been reported widely to be increasing the actual national incidence of nutritional rickets (NR) in the United Kingdom (UK) is unknown. This study aims to describe the incidence, presentation, and clinical management of children with NR in the UK and ROI.

Methods Data was collected prospectively monthly between March 2015–March 2017 from 3500 paediatricians using British Paediatric Surveillance Unit reporting methodology.

Results 130 cases met the case definition with an overall annual incidence of 5.04 cases per million children under 16 years.

London, East Midlands, West Midlands and Scotland had estimated incidences above the national incidence. Boys (91/130; 70%) were significantly more affected than girls (39/130; 30%) and the majority were of Black (44.6%) and South Asian (36.2%) ethnicity with a median age of 18 months. The commonest clinical presentations were bowed legs, swollen wrists and radiological rickets. Comorbidities included fractures (15/130; 11.5%) hypocalcaemic seizures (11/130; 8.5%), and dilated cardiomyopathy (4/130; 3%). Two children died of dilated cardiomyopathy from vitamin D deficiency. The commonest associated conditions were cows milk protein allergy (19/51; 19%;) iron deficiency (8/51; 7%) and eczema (8/51; 7%). At the time of diagnosis 77% of children were not receiving vitamin D supplements. 19 children had rickets despite being reported to be receiving appropriate supplementation. All confirmed radiological cases had either high parathyroid hormone and/or low phosphate. Following diagnosis, most clinicians initially prescribed treatment themselves, with huge variation in duration of prescriptions. In a further 10 cases, rickets was confirmed but excluded in the incidence analysis, for not meeting the case definition (specifically Vitamin D < 25 OHnmol/L), suggesting both dietary calcium deficiency and vitamin D insufficiency as role-players in the presentation of NR in the UK.

Conclusions NR continues to affect children in the UK with serious sequelae. Uptake of vitamin D supplementation remains low and constitutes a failure of current public health policy. A UK national policy focusing on vitamin D and calcium supplementation and adherence is required to eliminate this entirely preventable condition.

British Paediatric Allergy, Immunity and Infection Group

G52 NICE IN THEORY, BUT WHAT ABOUT IN PRACTICE? OUR EXPERIENCE OF THE NEW SEPSIS GUIDELINES

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Aims NICE (2016) guidance on the recognition, diagnosis and early management of sepsis aims to expedite interventions in children with 'high-risk criteria' for sepsis. Early administration of parenteral broad-spectrum antibiotics is recommended in these children, unless a senior decision-making doctor (ST4+) makes an alternative diagnosis with a separate treatment pathway. We assessed the presenting characteristics and management of children at UCLH NHS Foundation Trust (UCLH) Paediatric Emergency Department (PED) following the introduction of these guidelines. A senior decision-making doctor was available for urgent review of children at all times.

Methods We audited the notes of all children presenting to UCLH PED from 6th February to 31st May 2017 (excluding simple trauma or primarily psychosocial presentation). All notes of children with fever or suspicion of infection and one or more high-risk criterion for sepsis were identified on a daily basis, and data entered onto a specific database. High-risk criteria were as defined by NICE, and included: tachypnoea (≥ 99 th centile), tachycardia (≥ 99 th centile), additional

oxygen requirement, reduced consciousness, reduced urine output and blood lactate ≥ 2 mmol/L.

Results 4322 children presented to the PED during the time period. Of these, 216 (5.0%) met one or more high-risk criteria for sepsis. The most common clinical syndrome was viral upper respiratory infection (67 children, 31%). Severe tachycardia was the most prevalent high-risk criterion (159 children, 73%). 25 children (12%) underwent blood testing/IV access, 17 (7.8%) were administered parenteral antibiotics, six (2.8%) were administered intravenous fluid boluses, 16 (7.4%) were admitted to the ward, and one child was transferred to intensive care (in status epilepticus). One child (admitted) had a bacterial pathogen isolated from blood.

Conclusion In this single centre, only 12% of children with one or more high-risk criteria for sepsis underwent blood testing, and 7.8% of children were admitted for parenteral antibiotics. Appropriate de-escalation from the sepsis pathway prevented the admission of an additional two children per day for parenteral antibiotics for presumed sepsis. Given the small proportion of children with high-risk criteria who were deemed to require treatment for sepsis, the availability of appropriately senior decision-making doctors is essential to enable appropriate implementation of these guidelines.

G53 EPIDEMIOLOGICAL AND MICROBIOLOGICAL TRENDS IN CANDIDAEMIA IN A TERTIARY PAEDIATRIC UK HOSPITAL

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Aims To describe the demographics of patients diagnosed with candidaemia, and to explore speciation and susceptibility trends in *Candida* organisms grown in blood cultures over 15 years in a single tertiary care paediatric hospital in the UK.

Method Local laboratory records were accessed to obtain data about all positive blood cultures for *Candida* species between January 2001 and December 2015. A retrospective analysis of available electronic medical records was completed. Data was input and analysed using Microsoft Excel.

Results There were 192 episodes of candidaemia, with 23 patients having multiple episodes of candidaemia (i.e. separated by >30 days). Patient's ages ranged from 5 days to 18 years, with a mean of 5 years and 6 months. There were 85 females (44%) and 107 males (56%).

The patient's locations at the time of the candidaemia varied from the general paediatric wards (61, 32%), haematology/oncology wards (52, 27%), ICU (49, 26%), and paediatric surgical wards (30, 16%). The outcome of the patients after 30 days showed that 85 remained in hospital (44%), 81 had been discharged home (42%) and 26 had died (14%).

The two most common *Candida* species identified were *Candida albicans* (96, 50%) and *Candida parapsilosis* (56, 29%). There was a lower incidence of recognised resistant species such as *Candida lusitanae* (9, 5%), *Candida glabrata* (7, 4%), and *Candida krusei* (3, 2%) with no increase in incidence of these species seen over time.

The majority of samples (181, 94%) underwent sensitivity testing for a selection of seven common antifungal medications (amphotericin, caspofungin, fluconazole, flucytosine, itraconazole, micafungin and voriconazole). Eight samples of *Candida*