manifestations of infection such as fever, rigors, and/or hypotension and a positive blood cultures obtained via CVC in the absence of other potential sources of infection. CVC were removed if severe, potentially life-threatening symptoms occurred. The incidence of CRBSI was measured as number of catheter-related episodes per 1000/catheter days.

Results A total of 58 children (26 male, aged 7.2 ± 4.6 years) were reviewed. The indications for PN were motility disorder in 44.8%, short bowel syndrome in 36.2% and enteropathy in 19%. The catheters used were single-lumen tunneled Hickmann (82/108), double-lumen (26/108), peripheral inserted central catheter (2/108) and Broviac (1/108).

Thirty-one of 58 (53.4%; 15 M, aged 5.8 ± 4.3 years) children developed 108 CRBSIs over the study period. The median (range) number of CRBSI episodes per patient was 1 (0–14). The overall catheter days was 58414 and the CRBSI rate was 1.85/1000 catheter days.

Only 23 (21.3%) catheters were removed because of life-threatening symptoms and 85 (78.7%) of catheters were salvaged and retained despite CRBSI.

By organism, 38% were gram positive, 34.2% gram negative, 21.2% polymicrobial and 6.5% fungal CRBSI. The most frequent gram positive and negative organism was *Staphylococcus aureus* (31.7%) and *Klebsiella* species (43.2%) respectively. Catheter infected with gram positive bacteria showed the highest rate of CVC salvage (gram positive 92.7%, 78.2% polymicrobial, 67.6% gram negative, 57.1% fungal infection; $P < 0.05$).

The CRBSI rate for double-lumen catheters was significantly greater than single-lumen catheters (24.1% vs 4.8%; $P < 0.0001$). Patients with a double-lumen CVC were found to be at increased risk for CRBSI development (HR 2.51; [95% CI 1.70–3.86]; $P < 0.01$).

Conclusion CVC is possible in more than three-quarters of CRBSIs in children on long-term home PN for IF. Successful salvage may depend on the species isolated. CRBSIs caused by gram positive bacteria, the most bacteria causing CRBSI, had a CVC salvage rate approaching 93%. Effective antibiotic treatment without removal of the CVC should be considered as first line treatment. A single-lumen CVC should be the catheter of first choice. Further studies to identify predictive factors of catheter removal after CRBSI are required.

P53

THE EFFECTIVENESS OF COLONIC TRANSIT STUDIES IN THE OPTIMISATION OF THE MANAGEMENT OF CHRONIC CONSTIPATION

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Introduction/Background Chronic constipation has been shown to lead to poor school performance and consequently deficiencies in education, as well as poor health-related quality of life. In children who suffer from chronic constipation, colonic transit studies (CTS) are ordered by specialist services to provide information that aids clinical management decisions.

Aim The aim of this audit was to evaluate the impact of CTS outcomes on clinical management decisions involving patients with chronic constipation. It also looked at the radiology reports of included transit studies, specifically at

whether they included the number and location of radio opaque markers. The NICE guideline 'Constipation in children and young people: diagnosis and management' and The Royal College of Radiologists audit template 'Complete reporting of colonic transit marker studies' were used to determine best practice.

Subjects and Method A retrospective audit looking at the list of patients with chronic constipation who underwent CTS at Alder Hey Children's Hospital. Working backwards from November 2019, the first 100 patients who met inclusion criteria were selected. Included patients had to best knowledge conducted CTS in full and also had a clinic letter following completion of the study. Management outcomes were grouped into 4 categories: decrease, no change to management, an increase of oral laxatives or an increase using management stronger than oral laxatives e.g. rectal medications or surgical interventions.

Results The majority of included transit studies were requested by either paediatric surgery ($n=71$) or gastroenterology ($n=20$). Only 60% of CTS reports included both the number and location of markers and 13% included neither. There was a mean of 8 days from transit study to radiology report completion. The mean transit time was 72 hours, with a range of 0–144 hours. Management outcomes were varied for both normal and slow transit. Twice as many patients with slow transit were managed with therapies stronger than oral laxatives. Patients with normal transit time were over twice as likely to have no change to their management. A transit time of >100 hours resulted in almost 80% of patients being managed with treatment stronger than oral laxatives.

Summary and Conclusion There appears to be a trend towards escalating management with intensive combination treatment regimes in patients whose CTS suggested slow transit and especially in patients with transit times greater than 100 hours. The range of the management choices used in patients with normal transit do however illustrate that clinicians within Alder Hey are making clinical decisions based upon the wider clinical picture of the patient, which fits with NICE guidance. This audit does illustrate that CTS radiology reports can be adapted to ensure each report contains the number and location of markers.

Recommendations All CTS radiology reports should include the number and location of radio opaque markers. The location of markers should be reported into 3 regions (right colon, left colon and rectosigmoid colon) as suggested. A proforma has been distributed within the Alder Hey radiology department detailing results and recommendations. A re-audit to assess the application of these recommendations is currently underway.

P54

THE GASTROINTESTINAL PRESENTATION OF PIMS-TS/ MIS-C IN A COHORT AT A TERTIARY CENTRE PAEDIATRIC CENTRE

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Introduction/Background Paediatric inflammatory multisystem syndrome temporally associated with COVID-19 (PIMS-TS) is a novel condition with poorly understood pathophysiology. Acute presentation varies, with some children acutely

Abstract P54 Figure 1

unwell in systemic shock, whereas others may have features of Kawasaki disease. This study reports on the presence of gastrointestinal (GI) symptoms and subsequent investigations in children with PIMS-TS at presentation and follow-up, in a large cohort from a tertiary/quaternary paediatric centre.

Aim The aim of this prospective observational cohort study is to characterise the gastrointestinal impact of children with PIMS-TS at presentation and at first follow-up.

Subjects and Methods Patients from one paediatric centre within the multidisciplinary PIMS-TS service were identified, meeting the following inclusion criteria: under 18 years old, satisfying RCPCH criteria for PIMS-TS, admitted during their acute presentation between 25/4/20–01/12/20. Clinical presentation, symptom profile and initial management were recorded. Investigations including biochemical and inflammatory profiles, stool calprotectin and abdominal imaging (US-Small bowel and CT- Abdomen) were documented. On discharge, GI symptoms and investigations were monitored on subsequent assessments using a standardised template.

Results 54 children were identified (35 male), with a median age of 10.3 years ($\bar{x}$ = 10.0, range 0.75–17.2y). 48/54 (94%) of children had GI symptoms on presentation to admitting hospital (abdominal pain 76%, vomiting 59%, diarrhoea 57%, nausea 35% and ascites 22%). See figure 1.

Faecal calprotectin was not a recommended investigation in the UK National PIMS-TS consensus (Delphi process), as such was only performed on 3/54 children at presentation. All of which were within normal range. Elevated ALT, AST and/or GGT were seen in 63% of children. Abdominal imaging was performed in 36/54 (67%) of total cohort. On CT abdomen 22/36 (61%) had abnormal abdominal findings (ileocolitis [5/8, 63%], hepatobiliary abnormalities [2/8, 26%]). On abdominal ultrasound (ascites [13/32, 40%], hepatobiliary abnormalities [10/32, 31%], ileocolitis [10/32, 31%], mesenteric adenitis [4/32, 13%], appendicitis [2/32, 6%]) were seen.

All patients were reviewed following discharge. On first review (mean: 54 days from discharge), there was resolution of GI symptoms in 96% of the total cohort, however 19% continued to have abnormal abdominal imaging (predominately

hepatobiliary abnormalities) and 15% had persistently raised transaminases. 23/54 (43%) children had a faecal calprotectin analysed during the follow-up period - 48% (11/23) had an elevated calprotectin >50µg/g (range 55–399).

Summary and Conclusion PIMS-TS has predominately been characterised as a rare condition that effects the cardiovascular system and/or is signified by symptoms of fever and circulatory shock. This study demonstrates the high incidence of GI symptoms at presentation. Abnormalities in transaminases and abdominal imaging and are seen in significant numbers, notably inflammation in the distal ileum and proximal colon and hepatobiliary abnormalities which persist in 19% at their first review. Increased faecal calprotectin levels seen at follow-up, suggest utility at testing at admission.

The prevalence of abdominal symptoms may aid the differentiation between Kawasaki disease and PIMS-TS. The persistence of abdominal symptoms, abnormal abdominal imaging and biochemical markers indicate follow-up is required to better understand the long-term GI implications and prognosis of this condition.

P55

THE USE OF ULTRASONOGRAPHY IN PAEDIATRIC CHRONIC ABDOMINAL PAIN – A MISUSED RESOURCE?

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Background Chronic abdominal pain (CAP) is common in school children, with 10–14% presenting to primary and secondary care. The majority of cases have no discernible organic pathology and the diagnosis is functional. Ultrasound is an inexpensive, non-invasive, painless, and radiation-free investigation which is frequently utilised in district general hospitals (DGHs) for cases of CAP. However, imaging in the absence of a clear indication can lead to delay, misdiagnosis, increased patient anxiety, and increased hospital costs.

Methods A retrospective study analysing all paediatric abdominal ultrasound requests made to the radiology department at a DGH over a one-year period. Those with a clinical indication