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.

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

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10.1136/flgastro-2021-bspghan.64

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

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of chronic or recurrent abdominal pain were analysed to assess if there were any clinically significant findings, and the cases followed up to ascertain if there was any benefit toward management.

Results 20% of abdominal ultrasounds were requested for chronic abdominal pain. A total of 132 children had an ultrasound for CAP of which 43% were male and 56% were female, with the average age being 8 years. 83% of scans were requested by GPs. 16% were requested from paediatric outpatient clinic with half of these patients having sickle cell disease. 1.5% were requested from the paediatric emergency department.

Only 28% of all scans requested had alarm symptoms identified. Of those that had alarm symptoms, a third had a significant finding. Of those without alarm symptoms, only 2 had significant findings: splenomegaly and haemorrhagic ovarian cyst. 65% (86) of all scans were normal. 35% (46) had positive findings, the most common being mesenteric lymphadenopathy (29, 63%). 11 out of 132 (8.3%) scans performed identified a diagnostic cause of abdominal pain of which 9 had red flags. Findings included gallstones, splenomegaly, changes in the appendix, hepatosplenomegaly, haemorrhagic ovarian cyst, sclerosing cholangitis and constipation. Incidental findings included renal tract abnormalities and free fluid.

36% (47/132) of patients were seen by secondary care. 25% of patients with normal findings and 35% with mesenteric lymphadenopathy were referred to secondary care services. One patient with a normal ultrasound was subsequently diagnosed with ulcerative colitis and another with sclerosing cholangitis was diagnosed with Crohn's disease. All follow up scans (10) for mesenteric lymphadenopathy showed improvement with no further intervention. 9 patients (7%) with CAP were diagnosed with functional abdominal pain syndrome.

Conclusions The majority of ultrasound scans in our DGH were requested by primary care. Alarm symptoms in the history correlated strongly with a clinically significant abnormal finding. The data agrees with current knowledge that the majority of chronic abdominal pain has no discernible pathology and that abdominal ultrasound scans in the absence of alarm symptoms does not yield useful findings. In our population, mesenteric lymphadenopathy was found commonly and did not significantly affect the outcome for our patients but resulted in a significant number of repeat scans and referral to secondary care. Ultrasonography is a useful investigation in paediatric abdominal pain but not in the absence of alarm features. There is scope to improve the utilisation of this resource particularly within primary care.

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TWO YEAR FOLLOW UP OF CHILDREN WITH INFLAMMATORY BOWEL DISEASE (IBD) TREATED WITH VEDOLIZUMAB AND USTEKINUMAB

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10.1136/flgastro-2021-bspghan.65

Introduction In 2018, our Trust approved the use of Vedolizumab in children with Ulcerative Colitis (UC) and Ustekinumab in children with Crohn's Disease (CD). At the time, access to these drugs for children was only possible through research studies.

Aim Our aim was to assess the efficacy and safety of these novel treatments in our cohort.

Methods We conducted an observational single centre cohort study. Data was obtained from our electronic system, Cerner Millennium, and Infoflex database. Analysis was performed using SPSS.

Results 27 children were treated with Vedolizumab or Ustekinumab with 1 receiving both. All patients had failed anti-TNF medication, except 1 research patient who commenced on Vedolizumab at diagnosis. All patients underwent endoscopy prior to initiating Vedolizumab or Ustekinumab.

Clinical remission was defined as PUCAI<10 and PCDAI<10. There was a higher induction rate of remission than quoted in adult studies with similar maintenance of remission. At 2 years follow up, 55% (15/27) remained in remission, on treatment. 1/27 is currently still on Ustekinumab with mildly active CD and 1/27 had their Vedolizumab stopped due to compliance and monitoring issues. All 10 children currently receiving Vedolizumab remain in remission. 5/6 currently on Ustekinumab remain in remission. Of the 10/27 who failed treatment, 50% were primary non-responders and 50% had secondary loss of response. 9/10 required subtotal colectomy and ileostomy, while the research patient, who was anti-TNF naïve, switched to Infliximab after failing Vedolizumab.

There were no serious adverse events apart from one patient who developed eosinophilic pneumonitis, but it is unclear whether this was due to Vedolizumab or 5 ASA. Minor skin or upper respiratory tract infections were diagnosed in 5/10 patients on Ustekinumab and 1/10 patient developed *Clostridium difficile*. Adrenal insufficiency, as a result of prolonged courses of steroids, was detected in 7/27 children.

Abstract P56 Table 1 Results. *Data expressed as median (range)

	Vedolizumab	Ustekinumab
N	17	10
Median age at diagnosis (years)	9.1 (4.7 – 14.4)	7.0 (4.0 – 12.4)
Diagnosis n (M:F)	UC 12 (6:6)	CD 10 (5:5)
	IBDU 3 (2:1)	
	CD (2 - research) (1:1)	
Disease location	E4 14	L3 8
(Paris classification) n	E2 1	L2 2
	L2L4apG0 2	Upper involvement 50%
		Peri anal disease 70%
		Growth failure 70%
Length of disease prior to anti-TNF treatment (months)	4.8 (0 – 44.7)	24.3 (6.8 – 50.3)
Treatment length (months)	13.5 (2.6 – 41.2)	22.0 (7.1 – 28.1)
Follow up length (years)	4.1 (2.0 – 12.4)	8.0 (2.8 – 11.9)
Clinical Remission (%)	Week 12 76%	Week 8 50%
Note not all patients have received treatment for 52 or 104 weeks	Week 52 n=9	Week 52 n=4
	Week 104 n=2	Week 104 n=3

Conclusion In children with refractory IBD failing anti-TNF treatment, Vedolizumab and Ustekinumab are effective and safe alternatives for inducing and maintaining remission, avoiding major invasive surgery.