Results 18/58 patients were included. 13 had FIB-4 with an average score of 2.3 (0.54 - 3.74). 53% had a score >1.45 indicating intermediate to high risk of fibrosis. 11 had ELF tests with an average of 10.0 (8.2 - 10.9) suggestive of intermediate to high risk of fibrosis (score >7.7). 6 patients had a Fibroscan®, 50% had a fibrosis score of F2 - F4 (7.3 - 31.6 kpa).

At liver biopsy, we found the majority of patients (8) had no or mild fibrosis, 2 had moderate fibrosis and 1 was cirrhotic. When matching individual tests to histology 56% of FIB-4 scores correlated with histology, 32% overestimated the level of fibrosis and 12% underestimated fibrosis. 57% of ELF tests correlated with fibrosis on histology and 43% overestimated fibrosis. 66% of Fibroscans® correlated with histology and 34% underestimated fibrosis.

Conclusion Our data suggests that non-invasive fibrosis markers such as FIB-4, ELF and Fibroscan® were unreliable in diagnosing or excluding IFALD. Liver biopsy remains the gold standard in assessing the fibrosis grade. Our study was limited by small sample size and variability in the investigations each patient received. This reflects the uncertainty in how these tests should be used to identify patients at risk of developing IFALD. Further studies into these non-invasive methods are required to validate their role in the assessment of fibrosis in IFALD.

P286 HIT AND MISS? THE MONITORING OF INTESTINAL FAILURE ASSOCIATED LIVER DISEASE

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Introduction Intestinal failure associated liver disease (IFALD) is a complication in patients with intestinal failure (IF) on home parenteral nutrition (HPN). It can progress to cirrhosis requiring a combined liver-intestinal transplant which carries a higher morbidity and mortality than isolated intestinal transplant. Early assessment for liver fibrosis is essential to modify risk factors and the gold standard is by liver biopsy. The aim of this study was to determine the incidence of IFALD and review current practices and investigations of abnormal liver function tests in our regional IF centre.

Method We performed a retrospective review of all Type 2 and 3 IF patients on HPN. Those with a cholestatic derangement of liver enzymes (2 of ALP/GGT/Bili >1.5ULN for more than 6 months) were identified. Risk factors and investigations to determine the extent of liver fibrosis were reviewed.

Results A total of 71 patients on HPN were identified and 58 included. Palliative HPN patients and those on HPN for less than 6 months were excluded (Table 1 for demographics).

Of the 18 patients a non-invasive liver screen (NILS) was performed in 94%. FIB-4 was calculated in 72% with 53% of those scoring >1.45 indicating intermediate to high risk of fibrosis. 61% of patients had an ELF test with all showing intermediate to high risk of fibrosis (score >7.7). 34% had a Fibroscan® in whom 50% had a fibrosis score of F2 - F4 (7.3 - 31.6 kpa). All patients had either ultrasound or CT imaging, of which 22% showed fatty liver and 50% hepato- and/or splenomegaly suggestive of portal hypertension. 11 patients (61%) underwent a liver biopsy of whom 8 showed mild or no fibrosis, 2 moderate fibrosis and 1 cirrhosis. This patient has been assessed for a liver-intestinal transplant.

Abstract P286 Table 1 Demographics

Mean age (years)	50
Type 2 IF	12 (21%)
Type 3 IF	46 (79%)
Median duration on HPN (months)	43
Mean duration on HPN (months)	72
Short bowel	13 (72%)
Ultrashort bowel (<50 cm)	6 (33%)
Bowel out of continuity	32 (55%)
Gallbladder in situ	48 (83%)
Other liver pathology (including hepatitis C, hepatitis E)	3 (5%)
Patients with persistently deranged cholestatic liver enzymes	18 (31%)
Known IFALD	7 (12%)
Suspected IFALD	3 (5%)

Conclusion This observational data showed variation in the investigation of IFALD in our centre, particularly using non-invasive tests such as ELF, FIB-4 and Fibroscan®. Despite non-invasive markers suggesting high risk of fibrosis in 50% of patients, on liver biopsy 73% of patients with deranged LFTs had mild or no fibrosis and 17% severe fibrosis or cirrhosis. A pathway for the investigation and monitoring of deranged LFTs in patients with Type 2/3 intestinal failure on HPN is essential to ensure timely optimisation and referral for isolated intestinal transplant assessment.

P287 PLASMA CITRULLINE, A BIOMARKER FOR PARENTERAL NUTRITION DEPENDENCY IN INTESTINAL GRAFT VERSE HOST DISEASE

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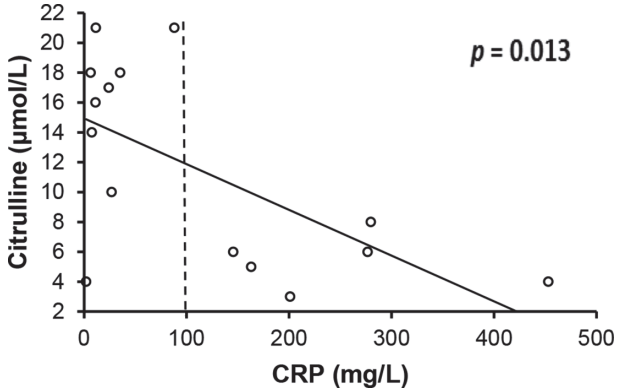
Introduction Intestinal graft versus host disease (iGvHD) is a common complication following allogeneic haemopoietic stem cell transplant. iGvHD can be suspected by clinical symptoms such as diarrhoea, malabsorption, weight loss and endoscopic findings and confirmed by histological evidence from colonic biopsies. Plasma/serum citrulline can be used as a non-invasive biomarker to assess the degree of intestinal injury, hence dependency of parenteral nutrition (PN) in iGvHD. PN dependency threshold of citrulline is considered as ≤20µmol/L.[1] C-reactive protein (CRP) and renal function can influence the plasma citrulline concentration.

Method This retrospective audit reviewed adult inpatients, who required PN for iGvHD between April 2015 and December 2019. Pathology and hospital IT systems were used to obtain relevant data. Citrulline was measured using Ion-exchange chromatography with post-column ninhydrin derivatisation and photometric detection (LoQ 2 µmol/L, CV% 5.3% at 27 µmol/L) until April 2018 and liquid chromatography tandem mass-spectrometry (LoQ 3 µmol/L, CV% 9% at 19 µmol/L) thereafter. Data analysed using Analyse-it Version 2.30 (Microsoft®) Excel 12+ software and P <0.05 was considered as statistically significant.



Abstract P287 Figure 1 Correlation between CRP and Citrulline concentration

Results In total there were 15 (10M) patients, aged 58(55–63) [median (range)] years. All had citrulline ≤21 µmol/L (10 (5–18)). Faecal calprotectin and elastase were available in 87% and 67% and were 691 (445–2022) µg/g faeces and 217 (15-384) µg/g faeces respectively. The average PN days were 41 days including PN discontinuation due to end of life/palliative care (6(40%)). All had eGFR >60 (76->90) ml/min except one patient (20 ml/min) and CRP 35 (11–201) mg/L. A significant negative correlation was observed between CRP and citrulline concentrations ($p = 0.013$). Plasma citrulline concentrations were 15 (5.4) vs. 5 (1.8) µmol/L (mean (SD)) ($p<0.001$) when CRP threshold for mild/moderate vs. severe sepsis is considered as 100 mg/L (figure 1).

Conclusion In our cohort, citrulline ~21 µmol was a strong indicator of PN dependency in iGvHD. Thus, Citrulline has a useful clinical utility in the nutritional assessment of iGvHD patients. Larger studies are required to establish threshold for citrulline in septic iGvHD patients.

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Colon and anorectum

P288 DOWNSTAGING OF RIGHT-SIDED COLORECTAL CANCER DIAGNOSED THROUGH IRON DEFICIENCY ANAEMIA

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Introduction Previous studies have suggested that iron deficiency anaemia (IDA) is an indicator of poor prognosis in colorectal cancer (CRC), but this may be due to confounding – IDA is much commoner in right-sided CRC, which tends to late presentation and therefore a worse prognosis. This study aims to determine the effect of diagnosing CRC through the detection of IDA on tumour stage - a surrogate marker of prognosis in CRC - whilst controlling for tumour side.

Methods A total of 1154 cases of CRC with adequate clinical information were identified from the MDT records of a single general hospital for 2010–2016. Histological confirmation of adenocarcinoma was available in 90%. Each case was staged on the basis of the available radiological and surgical evidence, and the route of presentation identified. Because tumour side and presentation are surrogate markers of prognosis in CRC, these variables were merged to create a new variable to reflect CRC prognosis, and analysed using binary logistic regression models.

Results A summary of the basic patient data is shown in table 1. As anticipated, most cases presenting with IDA proved to have right-sided tumours, whilst the majority of cases diagnosed through screening were left-sided.

As expected, left-sided tumours diagnosed through screening (mostly in the national bowel cancer screening programme) were significantly down-staged in comparison to those presenting with symptomatic disease – with an odds ratio for early stage disease of 2.09 (95% CI 1.4 - 3.1, P<0.001).

The key finding in this study is that right-sided tumours diagnosed following the detection of IDA also appear to be down-staged compared to those presenting with symptomatic disease – with an odds ratio for early stage disease of 2.52 (95% CI 1.6 - 3.8, P<0.0001).

Abstract P288 Table 1

	IDA	Screening	Symptomatic	Overall
Number	171	213	770	1154
Sex ratio – M/F	1.1	1.5	1.3	1.3
Age (years) – mean (sd)	77 (± 11)	68 (± 6)	73 (± 13)	72 (± 12)
Hb (g/l) – mean (sd)	88 (± 17)	133 (± 19)	122 (± 23)	119 (± 25)
Early stage (I or II) – n (%)	89 (52.0%)	127 (59.6%)	304 (39.5%)	520 (45.1%)
Right-sided – n (%)	141 (82.5%)	71 (33.3%)	243 (31.6%)	455 (39.4%)

Conclusion The findings suggest a prognostic benefit to diagnosing right-sided CRC through the detection of IDA, with a benefit comparable to that of the screening programme for left-sided CRC. This strengthens the case for a systematic approach to blood count monitoring in the population at-risk of CRC.

P289 THE EXTENT AND IMPACT OF RADIATION PROCTOPATHY: A CASE SERIES OF PELVIC RADIATION DISEASE PATIENTS

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Introduction Radiation proctopathy (RP) is a common diagnosis following pelvic radiotherapy and can lead to debilitating symptoms of rectal bleeding, bowel urgency, tenesmus and passage of rectal mucus. Current data suggest 6% of patients have severe rectal bleeding that can negatively impact on quality of life.

There are limited data on the prevalence of RP in patients following pelvic radiotherapy, its symptom profile and its management. Here we report a large case series from a tertiary pelvic radiation disease clinic.