London Hospital (RLH), these rates are even higher (12.3% to 13.2% in Reception and 22.9% to 27.3%[1] in Year 6). Our aims were to determine the prevalence of NAFLD in our specialist clinics in our unit and to identify key characteristics of children with NAFLD.

Methods Clinical records of patients who attended specialist paediatric Hepatology and Metabolic clinics at RLH in 2012 were reviewed. We recorded demographic information, serum biochemistry (abnormal ALT- females >35 U/L, males >40 U/L), liver screening tests, hepatic ultrasound results and insulin resistance (HOMA-IR) were calculated.

Results Twelve of 155 patients (8%) (7/62 Hepatology (11%), 5/93 Metabolic (5%) clinics) had evidence of hepatic steatosis on ultrasound. The mean BMI percentile in the Hepatology clinic for NAFLD patients was the 93rd (vs 63rd in non-NAFLD patients, P = 0.005), whereas all patients in the metabolic clinic (irrespective of NAFLD) had BMI above 3.5 standard deviations for age. The mean age of patients with NAFLD was similar to that of patients without NAFLD (12.5 vs. 12.1 years), and there was no significant difference in the proportion of males with NAFLD compared to children without.

All NAFLD patients had elevated ALT (mean 93, range 38–168). Nine patients with normal ALT (mean 16, range 12–23) had undergone abdominal ultrasound and none of these had signs of steatosis. The mean HOMA-IR in those with radiological evidence of steatosis was significantly greater than those with normal ultrasound (7.64 vs. 3.37, p = 0.005). Only two patients had a liver biopsy, both of which showed advanced fibrosis. Nine patients in the metabolic clinic (10%) with elevated ALT (mean 59, range 36–115) had not had a liver screen or ultrasound.

Conclusion Paediatric NAFLD is common in this setting and is associated with raised BMI and elevated insulin resistance. All patients with raised ALT, and none with normal ALT, had steatosis on ultrasound in our cohort. This highlights the importance of screening for liver disease including the use of ultrasonography in at-risk patients with abnormal liver chemistry. There is a need for an evidence-based algorithm to guide liver investigation and referral in children with deranged LFTs.

REFERENCE

1 Health and Social Care Information Centre. National Child Measurement Programme – England, 2012–13 school year [NS]. 2013; http://www.hscic.org.uk

Disclosure of Interest None Declared.

PTH-081 ENHANCED LIVER FIBROSIS (ELF) TEST PERFORMS BETTER THAN HISTOLOGICAL PARAMETERS IN PREDICTING CLINICAL OUTCOMES IN PATIENTS WITH ADVANCED FIBROSIS DUE TO CHRONIC HEPATITIS C INFECTION

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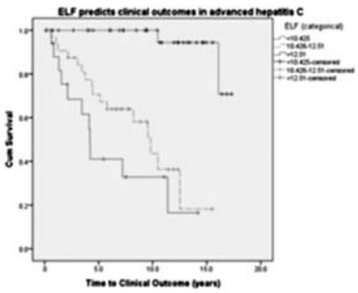
Introduction Fibrosis progression in chronic hepatitis C infection is variable. We need tools to identify those patients who will progress rapidly to offer individualised patient management. We aimed to determine the predictors of progression in an unselected cohort of patients with advanced fibrosis.

Methods The study cohort was derived from one centre of the Trent Study of Patients with Hepatitis C Virus Infection, a prospective natural history study commenced in 1991. Inclusion criteria were: a) liver biopsy before 2011 demonstrating advanced fibrosis (Ishak stage ≥3); b) no clinical outcome prior to biopsy; and c) patient did not achieve sustained viral response during follow-up. Sera collected within 6 months of the index biopsy were analysed for ELF. Biopsies were restaged using the Ishak system by one pathologist. Collagen quantification with image analysis was performed on biopsies stained with picrosirius red. A clinical outcome was defined as the first event of: ascites, encephalopathy, variceal haemorrhage, hepatocellular carcinoma, transplant or liver-related death.



Abstract PTH-081 Figure 1

Results 136 patients were identified and 87 had sera available for ELF. 29 (33.3%) patients progressed to a clinical outcome (median follow-up 7.2 years). ELF was significantly associated with progression to clinical outcomes in univariate analysis (HR 2.07 [95% CI: 1.54–2.76]; p < 0.001). In a multivariate model including liver function tests, Ishak stage and collagen quantification, only ALP and ELF remained statistically significant (ALP: HR 1.004 [95% CI: 1.001–1.007; p = 0.016], ELF: HR 1.968 [95% CI: 1.454–2.663; p < 0.001].

Conclusion Our data suggest that ELF could be used to stratify risk of subsequent progression to clinical outcomes in advanced fibrosis secondary to hepatitis C infection.

Disclosure of Interest None Declared.

PTH-082 DO SERUM MARKERS OF CELL INJURY AND DEATH HAVE POTENTIAL TO BECOME MECHANISTIC MARKERS IN NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD)?

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Introduction Degree of hepatocellular injury, necrosis/apoptosis and inflammation may be assessed by the serum markers that reflect the pathogenic process. We investigated the correlation of circulating miR-122, High Mobility Group Box-1 (HMGB1), soluble Fas (sFas) and caspase-cleaved fragment of keratin-18 (CK18) with histological changes in liver biopsy of patients with non-alcoholic fatty liver disease (NAFLD).

Methods Serum analytes were determined in two independent cohorts of patients with NAFLD (derivation cohort n = 165, validation cohort n = 101). Histological parameters were scored using Clinical Research Network system; patients with NAFLD activity scores (NAS) of ≥3 were classified as borderline non-alcoholic steatohepatitis (NASH) and ≥ 5 as definite NASH.

Abstract PTH-082 Table 1

	Borderline NASH				Definite NASH			
	Derivation		Validation		Derivation		Validation	
Analyte (* log transformed analysis)	NAS 0-2 n=50 (miR=26)	NAS 3-8 n=95 (miR=60)	NAS 0-2 n=25	NAS 3-8 n=65	NAS 0-4 n=107 (miR=64)	NAS 5-8 n=39 (miR=22)	NAS 0-4 n=62	NAS 5-8 n=28
sFas (pg/ml)	5847	6491 (p = 0.022)	5923	5653 (p=NS)	6150	6604 (p=NS)	5706	5777 (p=NS)
CK18 M30* (U/L)	132.43	182.81 (p = 0.007)	179.47	275.23 (p = 0.001)	146.55	223.36 (p = 0.001)	212.86	331.59 (p < 0.001)
CK18 M65* (U/L)	140.93	231.21 (p = 0.001)	167.92	351.4 (p < 0.001)	168.66	291.74 (p = 0.001)	239.88	422.67 (p = 0.003)
HMGB1* (ng/ml)	1.65	2.08 (p=NS)	1.70	2.42 (p = 0.003)	1.81	2.29 (p=NS)	2.02	2.63 (p = 0.028)
miR-122* (/let7d snRNA)	10.57	15.58 (p = 0.028)	7.71	12.32 (p = 0.002)	12.77	17.54 (p=NS)	9.71	13.61 (p = 0.018)

Results There were no significant differences in miR-122, HMGB1, sFas and CK18 M30 levels between those with low (0–2) and high (3–4) stage of fibrosis. Both CK18 M30 as well as CK18 M65 correlated with grades of ballooning (p = 0.003 and p = 0.001) and lobular inflammation (p = 0.006 and p = 0.001). Table 1 summarises the serum levels of all the evaluated markers in subgroups of patients classified as borderline or definite NASH when only patients with low grade fibrosis were included (derivation cohort, n = 145 and validation cohort, n = 90). Importantly, when the cut-off values for CK18 M30 (395 U/L) was used on its own, 57/86 (66%) patients with definite NASH were missed.

Conclusion Biomarkers, UKof cell injury and death in combination have a potential to detect on-going histological activity in NAFLD.

Disclosure of Interest None Declared.

PTH-083 MANAGEMENT OUTCOMES FOR PATIENTS WITH POSITIVE HEPATITIS C SEROLOGY OVER A THREE YEAR PERIOD IN YORK HOSPITAL

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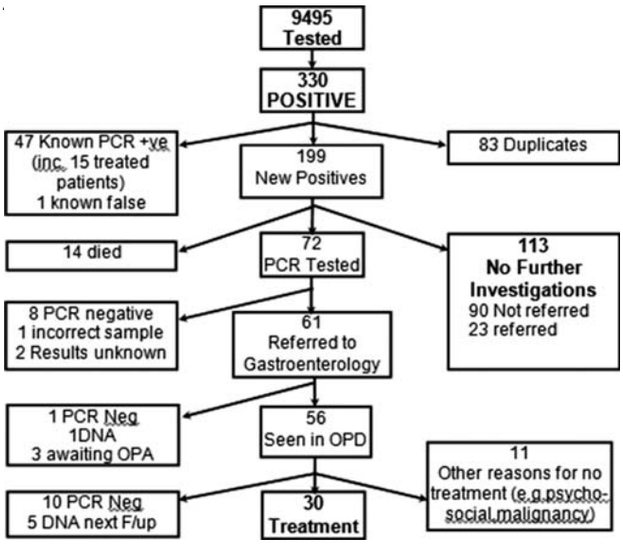
Introduction The majority of patients with Hepatitis C Virus (HCV) in England remain undiagnosed. There are an estimated 1298 patients infected with HCV in North Yorkshire,[1] but a fraction of these patients have been identified and successful treatment is rare. As part of the development process for an effective service in York, we audited existing referral patterns and outcomes for patients with a positive HCV serology test.

Methods A total of 9495 patients who had HCV serology checked from January 2009 to December 2011 were identified via the York hospital microbiology database. Retrospective collection of data was performed on all patients with positive serology test, using online patient database and patients' case notes where available. Analysis of data focused on further investigations and management of these patients.

Results Out of the 9495 patients who had HCV serology tested, 330 tested positive (199 new positives, 47 known PCR positive, 1 known false-positive and 83 duplicates). Majority of the referral sources were from primary care (37%), followed by medical services (31%), drug-dependence services (9.3%), GUM (8.1%), prison (7.3%) and obstetrics (6.9%). Intravenous drug use was the most common route of acquisition. Of the 199 new positives, 113 (57%) did not receive any further investigations. 61 (31%) patients were referred to gastroenterology and 10 patients per year successfully accessed treatment.



Abstract PTH-083 Figure 1

Conclusion This audit shows the majority of HCV positives had no further investigations and only 15% of patients received curative treatment. There was significant duplication of serology testing and only 72/ 199 (36%) underwent an HCV PCR, which is the next appropriate test. Throughout the UK a variety of initiatives are ongoing to increase public awareness of hepatitis C, and encourage testing. However, unless HCV service development improves, a positive test for HCV may have little or no consequence.

REFERENCE

1 Public Health England, Hepatitis C in the UK: 2013 report
URL: //www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317139502302

Disclosure of Interest None Declared.

PTH-084 NUTRITIONAL IMPACT OF ANTI-VIRAL THERAPY OF GENOTYPE 1 HEPATITIS C PATIENTS

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Introduction Hepatitis C Virus (HCV) is a leading cause of chronic hepatitis and liver cirrhosis, with an estimated 170 million