Introduction An estimated 180,000 people in the UK are chronically infected with hepatitis B (HBV). NICE guidelines published in 2013 advocate changes in the management of this patient group. Recommendation toward use of peginterferon alfa-2a (PEG-IFN) as first line therapy, a reduced threshold for treatment initiation, and the monitoring of chronically infected individuals with annual elastography hold particular resource implications.

University Hospitals Bristol (UHB) serves a largely urban population of approximately 350,000, encompassing large immigrant communities, including a Somali population of approximately 10,000. UHB provides an elastography service to an additional 3 district hospitals.

Through analysis of our existing HBV patient population the resource implications of adopting 2013 NICE guidelines, in contrast to 2012 EASL guidelines, are assessed.

Methods Local HBV databases were scrutinised to identify all HBV patients attending over a one year period from november 2012. Patients defaulting follow-up during this period were excluded. A cost of treatment analysis was undertaken by reassessing each patient's treatment eligibility according to 2013 NICE guidance. Additional monitoring and clinic follow up costs were also calculated.

Results 154 patients were identified, 93 of whom were receiving antiviral nucleos (t)ide analogue treatment (24 initiated). 2 had initiated PEG-IFN. 61 were under monitoring only.

All 24 patients starting therapy met NICE criteria for PEG--IFN, the excess cost of which was £137,003 over a 1 year period. The estimated additional number of treatment clinic visits for this group is 202 (assuming an extra 8.4 visits/patient initiated). This analysis does not include increased demand for liason psychiatry and virology services. There would be 109 extra elastography appointments required for this cohort alone, amounting to a further 28 clinics a year. 3 district general hospitals currently refer patients to UHB for elastography, and this analysis does not account for the inevitable increase in such referrals.

Conclusion Implementation of 2013 NICE guidelines for management of chronic HBV represent a significant challenge to NHS resources. In addition to increased drug expenditure, markedly increased clinic capacity and specialist nurse provision will be required in our centre to facilitate increased used of PEG-IFN and to provide sufficient transient elastography for our region. Additional demands on virology and liason psychiatry services are also likely. Practical suggestions for improving efficiency and capacity, such as 'one stop' fibroscan and follow up clinics, are discussed.

Disclosure of Interest None Declared.

PTH-079 TENOFOVIR AND ENTECAVIR IN THE TREATMENT OF CHRONIC HEPATITIS B: EFFECTIVENESS AND SAFETY IN A SINGLE CENTRE EXPERIENCE

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Introduction Tenofovir and Entecavir are direct acting antivirals used in the treatment of chronic hep B infection. We describe our hospital experience of the effectiveness of these antiviral drugs in terms of HbeAg seroconversion, development of drug resistence and incidence of hepatocellular carcinoma during treatment.

Methods All patients treated with Tenofovir or Entecavir between 2010 and 2013 at Guy's and St Thomas hospital trust were identified from hospital pharmacy database. Baseline HBV DNA levels, ALT and albumin levels were recorded on three monthly intervals for upto 48 months.

Results A total of 132 patients were identified. 84 patients were on Tenofovir (17 pregnant women). Among them, 38% (n = 32) were HbeAg positive, and 26% (n = 22) were cirrhotic. The remaining 48 patients were on Entecavir. Of these, 27% (n = 13) were HbeAg positive and 31% (n = 15) were cirrhotic when treatment was started. The mean baseline HBV DNA levels for HbeAg positive patients were 7.0 log 10 IU (P = 0.0170) and 5.4 log 10 IU (P = 0.0153) for Tenofovir and Entecavir respectively. The mean baseline HBV DNA levels in cirrhotic patients were 4.6 log 10 IU and 4.7 log 10 IU for Tenefovir and Entecavir patients respectively.

Sub group analysis showed that HbeAg negative patients achieved early undetectable viral loads (mean 2.1 months on tenefovir, mean 2.8 months on entecavir). HbeAg positive patients achived undetectable viral loads relatively later (mean 11 months on Tenefovir,mean 9 months on Entecavir).

HbeAg seroconversion was achieved in 19% (n = 6) of patients on Tenofovir and 15% (n = 2) of patients on Entecavir. Treatment with both antivirals was associated with improvement in synthetic function in cirrhotic patients. Drug resistance occurred in one patient on Entecavir and none of the patients on Tenefovir. Four patients (2 patients on Tenofovir and 2 on Entecavir) developed hepatocellular carcinoma during treatment, all of whom were cirrhotic prior to treatment.

Among the 17 pregnant patients treated with Tenofovir, 10 patients were HbeAg positive. The mean pre-treatment baseline HBV DNA levels were 6.8 log 10 IU. HbeAg seroconversion was noted in 2 patients.

Conclusion Treatment of chronic hepatitis B infection with both Tenofovir and Entecavir were well tolerated. Undetectable viral loads were achieved in both groups within 12 months of starting treatment. HbeAg seroconversion was noted in 19% (n = 6) patients treated with Tenofovir and 15% (n = 2) patients treated with Entecavir. Overall there was no significant difference in the mean time to undetectable viral loads in patients treated with Tenofovir (7.5 months) and Entecavir (6.1 months).

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Disclosure of Interest None Declared.

PTH-080 RISK PROFILE FOR NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD) IN A PAEDIATRIC SPECIALIST CARE SETTING

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Introduction Non-alcoholic fatty liver disease (NAFLD) is a major cause of liver dysfunction in adults. Much less is known about this disease in children, although obesity and metabolic dysfunction are believed to be risk factors. In England the prevalence rates of obesity in children in Reception classes (age 4) and Year 6 (age 11) are 10.8% and 22.4% [1] respectively in 2012/13. In inner city populations such as those served by The Royal

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

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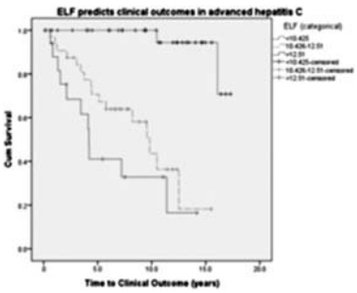
Introduction Fibrosis progression in chronic hepatitis C infection is variable. We need tools to identify those patients who will progress rapidly to offer individualised patient management. We aimed to determine the predictors of progression in an unselected cohort of patients with advanced fibrosis.

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.