(IDU) and HCV antibody prevalence rates reach 60–90% in those who have injected drugs. Treatment rates of injecting drug users (IDU's) with HCV are low at just 3–10% and although small studies indicate treatment of IDU's is safe and effective, data on outcomes of antiviral therapy in current injecting drug users is limited with the largest study published to date including just 31 active IDU's. It has been suggested that antiviral therapy for HCV use may reduce illicit drug use, but published data to support this is lacking.

Aim To assess the treatment outcomes and the impact of antiviral therapy on illicit drug use in injecting drug users (IDU's) treated with antiviral therapy for Hepatitis C virus (HCV) by nurses based in community addiction services in North East London. The outcomes of the first 81 patients to be treated are presented here, 48 of whom were using illicit drugs at the start of treatment making this the largest cohort of active IDU's with HCV treated with antiviral therapy that has been presented to date.

Method Methods consisted of a retrospective database analysis. Illicit drug use was quantified as 3 (heavy/daily); 2 (weekly/moderate); 1 (monthly/occasional) and 0 (previous drug use). The Wilcoxon signed rank test was used for statistical analysis.

Results 81 patients were treated over a 45-month period from September 2004 to January 2009. 50 (62%) were genotype 2/3, and 31 (38%) were genotype 1. The average age of infection with HCV was 23, of diagnosis was 39 and of treatment was 41. Compliance with treatment was 88%. 63% of patients had a sustained viral response, 18% were non-responders and 10% discontinued treatment early due to side effects. 5 patients (6%) relapsed after successful treatment. Only 1 patient (1%) has been re-infected post treatment. 48 patients (60%) were actively using illicit drugs when HCV treatment was initiated. Data on pre and post treatment intravenous heroin use, crack cocaine use and alcohol use was available in 74, 40 and 21 patients respectively. Intravenous heroin use reduced from 41/74 patients (55%) to 27/74 (36%) ($p=0.0033$) after treatment, with daily use reducing from 16/74 (22%) to 7/74 (9%) Crack cocaine use reduced from 32/40 (80%) to 21/40 (53%) ($p=0.0103$) Alcohol use reduced from 15/21 (71%) to 13/21 (62%) ($p=0.5775$).

Conclusion Nurse led provision of antiviral therapy for HCV infected injecting drug users in community based clinics is effective, with sustained viral response (SVR) rates that compare favourably with published randomised controlled trials of pegylated interferon and ribavirin.¹ High rates of compliance are seen and re-infection rates are low, so concern over compliance and re-infection should not prevent treatment of injecting drug users. This study has shown for the first time that a significant reduction in illicit drug use occurs during and after antiviral therapy demonstrating a social benefit of treatment in addition to the known health benefits.

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P22 GALL BLADDER LENGTH ON ULTRASONOGRAPHY AS A SCREENING TOOL IN IDENTIFICATION OF AUTO IMMUNE SCLEROSING CHOLANGITIS

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Introduction Autoimmune liver disease (AILD) in children encompasses Autoimmune Hepatitis (AIH), Autoimmune sclerosing Cholangitis (ASC) or, where there are features of both, overlap syndrome (OS). Differentiating between these entities requires

cholangiography. The gold standard for the diagnosis of ASC is Endoscopic Retrograde Cholangiopancreatography which is invasive. Magnetic Resonance Cholangiopancreatography can be used as an alternative but is not universally available and may require anaesthesia in young children. Anecdotally, we had found increased gall bladder (GB) length on ultrasound to be a useful marker of bile duct involvement in AILD.

Aim Our aim was to study the role of ultrasound measurement of Gall Bladder length as a screening tool for identifying ASC in children with AILD.

Method Children, under the age of 18 years at the time of presentation, diagnosed with AILD were identified from the departmental database. Cases for whom a fasting ultrasound at the time of presentation, was available on our radiology department's digital imaging system were included. Cases were categorised using established criterion into 2 groups; those with AIH and those with ASC with or without OS. A retrospective case notes review was performed on all eligible children, their ultrasound scans were reviewed by a single radiologist and GB length measured.

Results 50 cases were included. 32/50 (64%) had AIH type1 and 6/50 (12%) had AIH type2. 12/50 (24%) had ASC and 6/12 (50%) of these had OS. The average age at presentation was 10.18 years (range 1.3–16 years). The age at presentation was similar for both groups (AIH 10.1 yrs; ASC 10.2 yrs). Overall there were 22 males and 28 females but among the group with ASC there were 8 males and 4 females. The duration of symptoms before diagnosis was 5 months and was similar in both groups. The median (25th, 75th centile) GB length in children with ASC was 9.75 cm (7.2 cm, 10.6 cm) and in children with AIH was 6.8 cm (5.5 cm, 7.9 cm) [p value 0.003]. The normal GB length in children older than 1 year is up to 7 cm. GB length >7 cm was seen in 9/12 (75%) children with ASC compared to 15/38 (39.5%) of children with AIH ($p=0.04$). GB length >9 cm was seen in 7/12 (58.3%) children with ASC and 4/38 (10.5%) children with AIH ($p=0.005$).

GB length	Sensitivity (%)	Specificity (%)	+ve predictive value (%)	–ve predictive value (%)
>7 cm	75	59	38	88
<7 cm	58	90	63	87

Conclusion Summary: In AILD GB length is significantly increased in children with ASC. GB length >9 cm has 90% specificity for the diagnosis of ASC. GB length <7 cm is 88% exclusive of ASC.

Conclusion: GB length measurement is a useful screening test for ASC in children with AILD. We would recommend a further study with greater number of patients.

P23 COMPARISON OF ENHANCED LIVER FIBROSIS TEST AND TRANSIENT ELASTOGRAPHY FOR THE NON-INVASIVE ASSESSMENT OF LIVER FIBROSIS IN CHRONIC HEPATITIS B

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Introduction The enhanced liver fibrosis (ELF) test comprises a panel of biomarkers of liver fibrosis shown to accurately assess fibrosis and

Abstract P23 Table 1 ELF and TE results for selected fibrosis stages

Fibrosis stage	ELF score		TE (kPa)		p Value*
	Median (IQR)	AUROC (95% CI)	Median (IQR)	AUROC (95% CI)	
0 vs 1–6	8.1 (0.8) vs 9.3 (1.8)	0.812 (0.695 to 0.930)	5.6 (3.1) vs 8.4 (5.4)	0.798 (0.640 to 0.9257)	0.826
0–2 vs 3–6	8.4 (1.1) vs 9.9 (1.5)	0.831 (0.771 to 0.890)	6.5 (2.6) vs 10.1 (6.7)	0.865 (0.814 to 0.916)	0.306
0–4 vs 5, 6	9.0 (1.4) vs 10.6 (2.0)	0.844 (0.777 to 0.912)	7.3 (2.8) vs 15.4 (11.7)	0.946 (0.911 to 0.982)	0.003

*Significance of comparison of ELF and TE AUROC.

predict clinical outcomes in a range of chronic liver diseases. This is the first study of performance of ELF in patients with chronic hepatitis B (CHB) using a single aetiology cohort, and we compare its performance with an alternative method of assessing fibrosis, transient elastography (TE).

Aim We aimed to compare the performance of ELF with transient elastography (TE) in a cohort of patients with CHB, in the identification of liver fibrosis using liver biopsy as the reference standard.

Method 188 patients with CHB were recruited consecutively at a single Italian centre. TE, serum sampling and liver biopsy were performed on the same day. ELF tests were performed in one batch at a central laboratory using thawed samples previously stored at -20°C . Biopsies were assessed by one pathologist using the Ishak staging system. Diagnostic performance of ELF and TE for detection of histological stages of liver fibrosis was assessed and area under receiver operator characteristic curves (AUROC) calculated. Only those in whom TE was successfully performed were included. Different fibrosis levels were assessed, from any fibrosis (0 vs 1–6) to cirrhosis (0–4 vs 5, 6 and 0–5 vs 6).

Results Patients were treatment-naïve, median age was 47 years. 78% were e-antigen negative. Biopsies reported mild/moderate fibrosis (Ishak 0–1) in 21%, moderate fibrosis (2–3) 41% and severe fibrosis/cirrhosis (4–6) 38%. ELF and TE demonstrated good performance in identifying fibrosis (Abstract P23 table 1—representative fibrosis stages are shown, further data available). Both modalities showed similar performance in identifying any fibrosis and minimal fibrosis, with TE performing better in identifying moderate and severe fibrosis, and cirrhosis.

Conclusion In untreated patients with CHB with moderate and severe fibrosis or cirrhosis, TE correlated more closely with histological staging than ELF. The relatively modest performance of ELF in detecting severe fibrosis compared to previous studies may be attributable to disease aetiology or prolonged sample storage at -20°C . Further validation of TE and ELF in CHB should include analysis at the time of sampling and evaluation of the prognostic performance for clinical outcomes as well as histology.

P24 PRESENCE OF IMPAIRED BARORECEPTOR SENSITIVITY IS A POOR PROGNOSTIC MARKER IN CIRRHOSIS

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Introduction Autonomic function is essential for blood pressure control and baroreceptor sensitivity (BRS) acts as a composite marker of overall function. Both sympathetic and parasympathetic function is impaired in cirrhosis. Impaired BRS predicts death in cardiovascular diseases and chronic kidney disease.

Aim The aim of the present study was to assess the relationship between BRS and liver disease severity, systemic and portal haemodynamics and mortality in cirrhosis.

Method Prospective study of 29 cirrhotic patients. Systemic haemodynamics and BRS were assessed non-invasively using the Finometer.[®] Spontaneous BRS was calculated from the regression of pulse interval on systolic blood pressure. Portal pressure was

assessed by measurement of the hepatic venous pressure gradient (HVPG). Gastroscopy assessed variceal size and 1-year probability of bleeding according to the NIEC index.

Results 20 male (69%), median age 47 years (42–55), Child-Pugh score 6 (Class A 18, B 10, C 1) and MELD 10 (8–13). BRS was impaired in cirrhosis (median 4.2 ms/mm Hg, IQR 2.5–6.2 ms/mm Hg) but was not related to Child-Pugh score or MELD. Significant differences in BRS were seen with respect to gender (Female 2.0 ms/mm Hg vs male 5.8 ms/mm Hg, $p=0.0125$), presence of varices (present 3.8 ms/mm Hg vs absent 8.3 ms/mm Hg, $p=0.0206$), and ascites (ascites 2.0 ms/mm Hg vs no ascites 5.3 ms/mm Hg, $p=0.0433$). No significant differences in BRS were seen according to alcohol intake. A significant negative correlation was seen between BRS and age ($r=-0.46$, $p=0.0130$), heart rate ($r=-0.56$, $p=0.0015$), HVPG ($r=-0.69$, $p<0.0001$) and 1-year probability of variceal bleeding ($r=-0.43$, $p=0.0199$). Over a median follow-up of 710 days, 8/29 (27.6%) patients died with median time to death 854 days. Mortality was significantly higher in patients with HVPG greater than or equal to 10 mm Hg than without clinically significant portal hypertension ($p=0.0024$) and with a MELD score greater than or equal to 17 ($p<0.0001$). When stratified according to BRS (less than, or greater than or equal to 6 ms/mm Hg), mortality was significantly higher in patients with more severe impairment (<6 ms/mm Hg) than with preserved BRS (33% vs 12.5%, $p=0.0034$) despite no significant difference in Child-Pugh score, MELD, systemic haemodynamics, HVPG or length of follow-up. Patients with impaired BRS had significantly higher probability of variceal bleeding, and were more likely to have ascites (24% vs 0%).

Conclusion BRS is not related to liver disease severity as assessed by Child-Pugh or MELD but a significant inverse correlation exists between BRS and HVPG. Compared to patients with preserved BRS, patients with significant impairment of BRS have a higher mortality, a higher probability of variceal bleeding and are more likely to have ascites. Impairment of BRS appears to be a poor prognostic factor independent of liver disease severity or portal pressure, possibly relating to a failure to respond to the haemodynamic challenges associated with complications in cirrhosis.

P25 FRAGILITY FRACTURE RISK IN CIRRHOSIS: A COMPARISON OF THE FRACTURE RISK ASSESSMENT TOOL (FRAX[®]), BSG AND NICE GUIDELINES

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Introduction Low bone mineral density (BMD) is common in patients with chronic liver disease, and tends to be related to the severity rather than aetiology of cirrhosis. BMD alone correlates modestly with fragility fracture. The BSG recommend DXA scanning all cirrhotic patients. NICE guidelines apply only to postmenopausal women.

The FRAX[®] score is a web-based tool incorporating clinical risk factors to predict the risk of osteoporotic fracture. Risk may be estimated without BMD, and refined with DXA. Pre-BMD FRAX[®]