The remaining 3061 (76.3%) outcomes recommended primary care management.

The number of iLFT requests rose each month from launch, from 159 in November 2018 to 431 in December 2019, and these now make up over 3% of all LFT requests in Tayside.

Conclusions iLFT safely and rapidly detects patients at risk of chronic liver disease using reflex fibrosis scores and autoimmune, virology and genetic tests. Secondary care referral is recommended in only 24% of cases, and thus 76% of patients can be managed in primary care. The number of iLFT requests is rising each month. GPs initially used iLFT to investigate patients known to have abnormal LFTs, resulting in high numbers of full test cascades. iLFT is now being used as the first test, so the number cascading is falling, but still improving the diagnosis of liver disease. This ensures patients who require secondary care are seen, whilst reducing unnecessary referrals.

022 THE NATURAL HISTORY OF ADVANCED CHRONIC LIVER DISEASE DEFINED BY TRANSIENT ELASTOGRAPHY

^{1,2}Jessica Shearer*, ¹Rebecca Jones, ¹Richard Parker, ³James Ferguson, ^{1,2}Ian Rowe. ¹Leeds Teaching Hospitals NHS Trust, Leeds, UK; ²University of Leeds, Leeds Institute for Data Analytics, Leeds, UK; ³University Hospitals Birmingham NHS Trust, Birmingham, UK

10.1136/gutjnl-2020-bsgcampus.22

Introduction The clinical course of cirrhosis does not follow a predictable trajectory. Multistate models of disease progression have been adopted to assess its' natural history, mainly in cohorts with biopsy proven cirrhosis. Transient elastography (TE) is commonly used in clinical practice to diagnose liver fibrosis. The aim of this study was to assess survival and competing risk of liver and non-liver related events in a cohort of patients with advanced chronic liver disease (ACLD) defined by TE using electronic health record (EHR) data.

Method TE data was collected from St James's University Hospital in Leeds and the Queen Elizabeth Hospital in Birmingham between 2008 and 2019. Patients with a liver stiffness measurement (LSM) of >10 kPa were included. Disease and procedural coding information sent to NHS Digital and held in EHR was analysed. Validation of the coding information was done in a subset of patients using the full clinical record. Clinical events including decompensation (ascites, variceal bleeding, hepatic encephalopathy), hepatocellular carcinoma and death were identified. The cumulative incidence of these events was calculated using a competing risk regression model.

Results 2926 patients were included, 1608 with LSM $\geq$ 15 kPa. Median follow up was 38.4 months. 351 patients (12%) died and 109 patients (3.7%) received liver transplantation. Decompensation was the commonest liver event: 240 (8%) of patients had a liver event as their *first* clinical event of interest, 81 (3%) developed HCC. Cumulative incidence rates at 3 years are shown in table 1.

The cumulative incidence of liver-related morbidity and mortality increased with liver stiffness. Multivariable analysis showed that increasing age, male gender and baseline LSM were independent predictors of survival (all $p < 0.0001$). Baseline LSM was also significantly associated with liver events and development of hepatocellular carcinoma (sHR 1.03 & 102 respectively).

Abstract 022 Table 1

Cumulative incidence at 3 years follow-up

	10–15kPa n=1318	15–25kPa n=799	>25kPa n=809
Liver event	0.04	0.07	0.18
HCC	0.01	0.02	0.06
Liver transplant	0.01	0.03	0.06
Death	0.03	0.04	0.07

Conclusions Transient elastography is strongly associated with outcomes in two large contemporary cohorts of patients with ACLD. EHR data can be used to accurately define clinical progression in these patients. The outcomes described above are comparable to landmark descriptions of patients diagnosed using liver biopsy. Identification of ACLD using TE is a rational basis for a national cirrhosis registry to facilitate quality improvement and clinical trials in patients with liver disease.

023 CARVEDILOL IS ASSOCIATED WITH IMPROVED SURVIVAL IN CIRRHOTIC PATIENTS; A LONG TERM FOLLOW UP STUDY

¹Hannah McDowell*, ¹Cher Shiong Chuah, ²Adrian Stanley, ²Ewan Forrest, ¹Peter Hayes. ¹Royal Infirmary Of Edinburgh, Edinburgh, UK; ²Glasgow Royal Infirmary, Glasgow, UK

10.1136/gutjnl-2020-bsgcampus.23

Introduction Primary prophylaxis of variceal haemorrhage with non-selective betablockers (NSBB) or variceal band ligation (VBL) is now standard of care. There has been debate with regards to the safety and efficacy of NSBB however it has more recently been hypothesised that NSBB may be associated with improved survival.^{1 2} The aim of this study was to assess mortality in a cohort of patients randomised to either NSBB or VBL.

Methods We retrospectively analysed 146 patients recruited to a multi-centre RCT between 07/04/2000 and 24/06/2006 designed to assess the efficacy of VBL versus NSBB in preventing first variceal bleed.³ We used electronic records to undertake a long term follow-up (up to 20 years) of this patient group with the primary outcome of all-cause mortality and secondary end-points of liver disease-related mortality and transplant-free survival in patients within each treatment arm.

Results 146 patients were included in analysis with baseline characteristics well matched between the NSBB (n = 73) and VBL (n=73) group. Mean Child-Pugh score at inclusion was 8.01 in NSBB group and 8.31 in VBL group. 127 had died or undergone liver transplant (LT) in the follow up period. NSBB offers a significant survival advantage when all-cause mortality is assessed with median survival in NSBB group of 7.82 years (95% CI 5.54–10.16), whereas median survival in VBL group was 4.18 years (95% CI 2.91–5.46) [$p = 0.027$] as shown in figure 1. A significant survival benefit is maintained when transplant-free survival is assessed with median survival of 5.25 years (95% CI 2.54–7.96) in NSBB and 3.02 years (95% CI 2.48–3.56) in VBL group [$p=0.049$]. Significance does not extend to liver-related mortality with median survival 3.25 years (NSBB) and 2.33 years (VBL) [$p = 0.238$].

Conclusions These data suggests that NSBB offers a significant survival benefit for patients with liver cirrhosis and portal

Abstract O23 Figure 1

hypertension. The difference in all-cause and liver-related mortality suggests that this survival benefit may not be entirely liver related.

REFERENCES

1. Sinha R, Lockman KA, Mallawaarachchi N, Robertson M, Plevris JN, Hayes PC. Carvedilol use is associated with improved survival in patients with liver cirrhosis and ascites. *J Hepatol* 2017 Jul;**67**(1):40–46
2. Facciorusso, A., Roy, S., Livadas, S. et al. Nonselective Beta-Blockers Do Not Affect Survival in Cirrhotic Patients with Ascites. *Dig Dis Sci* 2018;**63**:1737–1746
3. Tripathi D, Ferguson JW, Kochar N, et al. Randomized controlled trial of carvedilol versus variceal band ligation for the prevention of first variceal bleed. *Hepatology* 2009 Sep;**50**(3):825–33

024

DURABILITY OF OBETICHOLIC ACID RESPONSE IN PBC PATIENTS WHO DID NOT ACHIEVE POISE TRIAL CRITERIA

¹Gideon Hirschfield, ^{2,3}Marco Carbone, ⁴David Jones, ^{1,5}Bettina Hansen, ⁶Andreas Kremer, ⁷Michael Trauner, ⁸Alexander Liberman, ⁸Elizabeth Smott Malecha, ⁸Leigh MacConell, ⁹Jonty Manuja*. ¹Toronto Centre for Liver Disease, Canada; ²University of Cambridge, UK; ³University of Milan Bicocca, Italy; ⁴Newcastle University, UK; ⁵IHPME, University of Toronto, Canada; ⁶Friedrich-Alexander-University Erlangen-Nürnberg, Germany; ⁷Medical University of Vienna, UK; ⁸Intercept Pharmaceuticals, USA; ⁹Intercept Pharmaceuticals, UK

10.1136/gutjnl-2020-bsgcampus.24

Introduction In clinical studies and in clinical practice, response to primary biliary cholangitis (PBC) treatment has been assessed using dichotomous biochemical response criteria. Although achieving these criteria may be associated with improved clinical outcomes, the benefit in patients (pts) with an incomplete response to treatment may be underestimated.

This analysis assessed the extent and durability of obeticholic acid (OCA) response in pts with PBC not achieving the dichotomous primary endpoint in the phase 3 POISE study through 72 months of OCA treatment.

Methods Key inclusion criteria included PBC diagnosis, alkaline phosphatase (ALP) $\geq 1.67 \times$ upper limit of normal (ULN) and/or total bilirubin $> \text{ULN}$ to $< 2 \times \text{ULN}$, and on a stable dose of—or intolerant of—ursodeoxycholic acid (UDCA). During the 12-month double-blind (DB) phase, 216 pts were randomised to daily placebo, OCA 5–10 mg, or OCA 10 mg. This analysis pooled DB placebo (OCA baseline [BL]) was open-label extension [OLE] day 0) and DB OCA pts to evaluate the efficacy and safety of up to 72 months of OCA treatment. Pts who achieved the POISE primary endpoint (ALP $< 1.67 \times \text{ULN}$, with a $\geq 15\%$ reduction from BL, and total bilirubin $\leq \text{ULN}$) 12 months from OCA BL were excluded. Values shown are mean (SD) unless otherwise specified. P values were based on paired t-tests.

Results Of the 193 pts enrolled in the OLE, 107 (55%) did not achieve the POISE criteria after 12 months of OCA treatment. Pts were 93% female, 91% Caucasian, 56 (10) years old at BL, and 91% received UDCA (15 [4] mg/kg/day). At BL, ALP was 356 (138) U/L and total bilirubin was 13 (8) $\mu\text{mol/L}$ ($> \text{ULN}$ in 18 pts [17%]). Despite not achieving the POISE criteria after 12 months of OCA, a significant and durable reduction was observed in ALP ($p < 0.01$ at all time points) through 72 months of treatment (figure 1). Total bilirubin levels remained stable and near BL values within the normal range throughout the duration of treatment. Throughout the 6-year study period, the most common adverse events were pruritus (92 pts [86%]) and fatigue (33 pts [31%]), consistent with previous reports from POISE and expected PBC symptoms.

Conclusions Despite not achieving the POISE primary endpoint, these pts showed significant and sustained biochemical improvements.

025

ALCOHOL RELATED LIVER DISEASE: DELAYED DIAGNOSIS AND MISSED OPPORTUNITIES FOR INTERVENTION

¹Miss Rebecca Elleray*, ^{2,3}Mohsen Subhani, ^{2,3}Stephen Ryder, ⁴Jane Bethea. ¹Public Health England, Nottingham, UK; ²University of Nottingham, Nottingham, UK; ³NIHR Nottingham Biomedical Research Centre at Nottingham University Hospitals NHS Trust, Nottingham, UK; ⁴Nottingham City Council, Nottingham, UK

10.1136/gutjnl-2020-bsgcampus.25

Introduction Death from alcohol related liver disease (ARLD) is preventable and increasing. Effective identification and brief

Abstract O24 Figure 1 Change from baseline in ALP and total bilirubin through 72 months of OCA treatment