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Introduction Alcohol is the major cause of chronic liver disease (CLD), the fifth commonest cause of death in the UK. Traditionally, liver fibrosis has been assessed using liver biopsy. The enhanced liver fibrosis (ELF) test is a validated panel of biomarkers of matrix biology. We report the performance of the ELF test in assessing liver fibrosis and predicting liver related clinical outcomes (LRO) (morbidity and mortality attributable to cirrhosis) 7 years after ascertainment in subjects with alcoholic liver disease (ALD).

Methods Serum samples were obtained at the time of liver biopsy from 81 patients with a clinical diagnosis of ALD. The ELF test was performed at a central laboratory and liver biopsies were staged by one histopathologist using the Scheuer classification. Clinical outcomes were assessed 7 years (median) after biopsy in all patients by reviewing clinical notes, routine data sources and by contacting primary care physicians. Diagnostic performance of the ELF test for detection of histological stages of liver fibrosis, and in predicting LRO was assessed by calculating the area under the receiver operator characteristic curves (AUROC).

Results Median age was 47 years. Biopsies stages were; F0: 14 subjects (17%); F1: 17 (21%); F2: 5 (6%); F3: 17 (21%); F4: 28 (35%). The ELF test demonstrated good performance in identifying fibrosis at all stages (Abstract PWE-273 table 1). ELF predicted LRO at 7 years, AUROC=0.81 (95% CI 0.71 to 0.90). An ELF score ≥9.5 was better at predicting LRO than cirrhosis on biopsy (p=0.002), correctly predicting outcomes in 84% of patients with LRO compared to 55% predicted by biopsy.

Abstract PWE-273 Table 1

Fibrosis stage	Median ELF score (IQR)	AUROC (95% CI)
0 vs 1–4	9.26 (1.05) vs 11.06 (2.66)	0.89 (0.82 to 0.96)
0,1 vs 2–4	9.47 (1.12) vs 11.47 (2.05)	0.91 (0.84 to 0.98)
0–2 vs 3,4	9.49 (0.86) vs 11.74 (2.02)	0.89 (0.82 to 0.97)
0–3 vs 4	9.85 (1.62) vs 11.75 (1.96)	0.82 (0.73 to 0.92)

Conclusion In ALD, the ELF test correlates closely with histological staging conducted by an expert liver pathologist at all stages of fibrosis and performs better than biopsy staging in predicting LRO at 7 years.

Competing interests P Trembling: None declared, J Parkes: None declared, S Tanwar: None declared, A Burt: None declared, W Rosenberg Grant/Research Support from: Siemens Healthcare Diagnostics.

PWE-274 TACE OR TAE FOR TREATMENT OF HEPATOCELLULAR CARCINOMA?

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Introduction Transarterial Chemoembolisation (TACE) and Transarterial Embolisation (TAE) are established treatments for Hepatocellular Carcinoma (HCC) though the superiority of TACE remains uncertain. The aim of this study was to evaluate and compare the efficacy of these modalities.

Methods Data for all patients undergoing a first course treatment of TACE or TAE at Addenbrooke's NHS Hospital over a 22-month period were retrospectively reviewed (n=41). All patients had radiologically and/or histologically diagnosed HCC. 23 patients underwent TACE until May 2010 and a change in policy, followed by 18 patients receiving TAE (there were no changes in selection criteria). 11 (27%) patients were bridged to liver transplantation, while 30 (73%) patients were palliative. Outcome measures included radiological response to "treatment" (1–3 TACE or TAE sessions), complications and survival. The fisher exact probability test and unpaired t-test were used for comparisons.

Results Five patients who did not undergo follow-up imaging were excluded. Overall a radiological response (partial or complete) was seen in 67% of patients. No significant difference was seen between TACE and TAE although there was a trend towards complete response in the TACE group (p=0.24) (Abstract PWE-274 table 1). Although number of lesions did not correlate with radiological response, a non-significant trend was seen in relation to size of largest lesion (median 41 mm with response vs median 33 mm with no response). No patient in the waiting list group developed clinical complications whereas 6 (20%) of the palliative group developed a significant infective complication (p=0.13). Complications appeared more common in those receiving TACE compared with TAE (25% vs 6%, p=0.15). Median survival in palliative patients was 15.1 months (6 deaths with TACE, 3 with TAE). In the waiting list group 8/11 received TAE and 10 have undergone transplant (median wait time 141 days), the remaining patient active 13 months since listing.

Abstract PWE-274 Table 1

Outcome	TAE, (n=16)	TACE, (n=20)
No response	31%	35%
Partial response	63%	45%
Complete response	6%	20%

Conclusion This study has demonstrated reasonable efficacy of TAE for the treatment of HCC with minimal complications. There may be a trend towards more complete response with TACE though accompanied by increased complications. Both treatments appear similarly efficacious in prolonging survival which was favourable when compared with historical data.[1] TAE appeared effective in bridging patients to transplant and was well tolerated.

Competing interests None declared.

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PWE-275 MULTIPLE ORGAN DYSFUNCTION SYNDROME (MODS), RATHER THAN THE NEED FOR RENAL REPLACEMENT THERAPY PER SE, DICTATES POOR PROGNOSIS IN PATIENTS WITH CIRRHOSIS ADMITTED TO ICU

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Introduction Critically ill cirrhotics admitted to ICU who receive renal replacement therapy (RRT) have a poor prognosis. It is unclear whether prognosis relates to renal dysfunction per se or whether RRT is one facet of MODS. We report the 7-year experience of outcomes and physiological disturbances in cirrhotics admitted to ICU who received RRT.

Methods We analysed physiological and biochemical variables on admission for 478 cirrhotic patients admitted to ICU, excluding those transplanted during that hospital admission. Patients were cohorted on RRT requirement (RRT^+/RRT^-) at any point during ICU admission. Outcome, organ failure scores and utilisation of organ support were recorded.

Results Of 253 RRT+ patients, 22% survived ICU and 13% survived hospital. Of 225 RRT^{-}, 81% survived ICU and 59% survived hospital (p. On day 1 of admission, RRT+ had a higher prevalence of systemic inflammatory response syndrome (76% vs 62%), Child-Pugh (12 vs 11), MELD (32 vs 17) and SOFA scores (13 vs 11) (pEven when the renal component was removed from the SOFA score (SOFAminusRENAL), RRT+ had higher scores than RRT- (9 vs 7) (p. 23% of RRT+ commenced RRT after day 3 of admission; this did not affect ICU or hospital survival compared to those that commenced RRT before day 3. RRT+ survivors required less ventilation (39% vs 93%) and vasopressors (52% vs 89%) than RRT + non-survivors and had lower Child-Pugh (12 vs 13), SOFA (12 vs 14) and SOFAminusRENAL (8 vs 10) scores (p=1 of admission. 23 patients required RRT but no other organ support, 18/23 (78%) survived to ICU discharge and 11/23 (48%) to hospital discharge.

Conclusion The extent of MODS, rather than requirement of RRT per se, dictates poor prognosis in cirrhotics needing RRT in ICU. Requirement for RRT should not preclude admission to ICU, rather, prognostication should take into account other elements of MODS; in particular a concomitant requirement for circulatory and respiratory support.

Competing interests None declared.

PWE-276 VALIDATION OF FIBROSCAN AS A SCREENING TOOL FOR CYSTIC FIBROSIS ASSOCIATED LIVER DISEASE IN AN ADULT POPULATION

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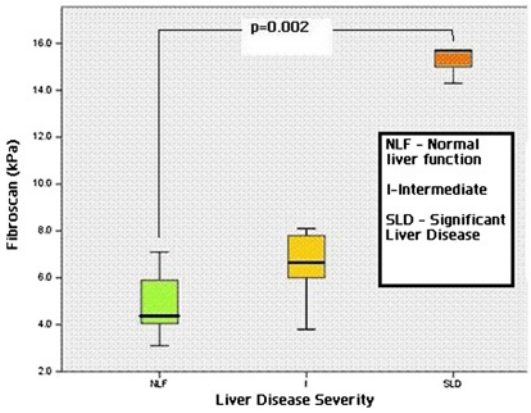
Introduction Cystic fibrosis (CF) associated liver disease affects up to 41% of CF sufferers and may progress to cirrhosis with associated complications.[1] Diagnosis is frequently made without biopsy. A recent study evaluated the use of fibroscan in diagnosis of CF associated liver disease (CFLD) in the paediatric context, however there are now many adult patients with cystic fibrosis, therefore we aimed to validate the ability of fibroscan to assess liver disease severity in an adult CF population.[2 3]

Methods We recruited a cohort of adult CF patients diagnosed in the paediatric setting with CFLD and a control cohort with CF but no clinical or biochemical evidence of liver disease. All patients were assessed for clinical, radiological or biochemical evidence of liver disease by the authors and underwent a fibroscan. Fibroscan results were correlated with clinical evidence of liver disease.

Results We recruited 20 patients, 11 with normal liver biochemistry, no clinical evidence of liver disease and normal liver ultrasound scans (NLF group) and nine with a historical diagnosis of CF associated liver disease. Six of these had abnormal liver function tests but no clinical, radiological or endoscopic evidence of cirrhosis (Intermediate—I) and three patients had significant liver disease with evidence of portal hypertension at endoscopy (SLD). Correlation of fibroscan result with clinical group was performed. The difference between the SLD group and the NLF group was significant (p=0.002) by the Mann—Witney U test. A ROC analysis suggested a cut-off of 11.2 kPa for cirrhotic CFLD as having the highest accuracy. However this requires further validation with a larger cohort of patients. There was strong correlataion of fibroscan reading with APRI score with an R^2 value of 0.757.

Conclusion Fibroscan correlates well with clinical assessment of CFLD severity in our cohort of adult CF patients and may help clarify diagnosis. We continue to recruit patients and hope to determine appropriate cut-off values for further investigation.



Abstract PWE-276 Figure 1 Fibroscan (kPa) by liver disease severity.

Competing interests None declared.

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PWE-277 FRACTURE PREVALENCE AND VITAMIN D STATUS IN PRIMARY BILIARY CIRRHOSIS: THE LEICESTERSHIRE EXPERIENCE

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Introduction Metabolic bone disease is a recognised complication in Primary Biliary Cirrhosis (PBC) and increases the risk of developing fractures. Although osteoporosis is the major contributor, Vitamin D (25- hydroxy- vitamin- D3) deficiency due to fat-soluble vitamin malabsorption is also a contributing factor for bone disease in PBC. Our objective was to assess the prevalence of fractures and vitamin D deficiency in PBC patients.

Methods Patients with diagnosed with PBC between the years 1994 and 2011 were retrospectively identified from the hepatology outpatients. Fracture data were collected from the x-ray reports in the radiology software. Biochemical data including AMA titres and Vitamin D status were retrospectively identified and entered using the pathology database. The grading for Vitamin D levels were as follows: severely deficient- 20 mg/l or >50 nmol/l. Available Bone Mineral Density (BMD) data in patients who had a Dual-emission x-ray absorptiometry (DEXA) scan was studied.

Results Among 209 patients (179 female, median age 68 years, 168 AMA positive with median AMA titre of 1 in 256) with PBC, 27 patients (12.9%, 25 females, median age 74) had sustained a fracture during their clinical course. 33 fracture episodes were identified. Femur/hip fractures were the commonest (9/33, 27%), followed by hand (5/33, 15%). DEXA scans were performed in 39 patients, with a median T score of −2.2. Vitamin D levels were available in 91 patients (44%), the levels being adequate in only 27 patients (29.6%), reflecting the magnitude of the Vitamin D status. 38 patients were insufficient (41.7%), 17 were deficient (18.6%) and 9 were severely deficient (0.09%).

Conclusion Fracture prevalence and vitamin D deficiency is high in PBC patients. Assessing Vitamin D status is a useful measure to improve bone health and reduce the burden of metabolic bone disease.