PWE-271 RATIO OF IL 10 OVER IL 12 IS A NOVEL SURROGATE TO EVALUATE THE SEVERITY OF NON-ALCOHOLIC STEATOHAPATITIS (NASH)—A PROSPECTIVE CLINICAL PILOT STUDY

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Introduction Non-alcoholic steatohepatitis (NASH) is a growing global epidemic progressing to cirrhosis, liver failure, HCC, warrants liver transplant. The natural history is still not well defined, inflammatory cytokines, intrahepatic immune traffic, degree of apoptosis and path of fibrogenesis are the sequel of the disease process. This study evaluates a novel inflammatory cytokines (IL 10 and IL 12) ratio to predict NAFLD to NASH and its severity index.
Methods Ninety (n=90) patients, mean age of 45 (28–54) were divided into Group A (n=30) BMI (mean) <25% with normal lipids, healthy control. Group B NAFL D (n=30) BMI >29% with NAFLD (hepatic steatosis, Waist/Hip ratio >0.9, high lipids, HOMA >1.8, mean normal ALT, AST, RBP 4, 2.5, Leptin, Adiponectin, TNF α, serum NASH score <0.8, mean fibrotic score <0.1, mean IL 10/IL 12 ratio <0.9. NASH C (n=30), BMI >30, W/H ratio >1.1, high lipids, HOMA >2.2, high AST, ALT, RBP >4.5, high leptin, low adiponectin, high TNF α, IL10/IL12 ratio >2.5. Serums NASH score >0.6, fibrotic score over 0.2. Liver biopsy in NASH group, macrovascular fat 18/30 (60%), ballooning 12/30 (40%), Mallory body 7/30 (23%), METAVIR score F2 12/30 (40%), F3 9/30 (30%), F4 3/30 (10%). Exclusion Criteria: Diabetes, viral hepatitis, autoimmune liver disease, alcohol consumption over 20 g daily, steatogenic medications including herbs.
Results

Characteristic	Group A	Group B	Group C
Serum NASH score	NA	<0.8	>0.6
Mean Fibrotic score	NA	<0.4	>0.2
Macrovascular fat	NA	NA	18/30 (60%)
Mallory body	NA	NA	7/30 (23%)
Ballooning	NA	NA	12/30 (40%)
F2	NA	NA	12/30 (40%)
F3	NA	NA	9/30 (30%)
F4	NA	NA	3/30 (10%)

Conclusion IL 10/12 ratio correlated positively with the progression of NAFLD to NASH. IL 10/12 ratio >2.5 has NASH with high steatosis and fibrotic state and elevated inflammatory cytokines. Larger study will establish the predictive index of IL10/IL 12 NASH severity and prognosis.

Competing interests None declared.

PWE-272 CONCORDANCE OF NON-INVASIVE MARKERS OF LIVER FIBROSIS IN A MIXED POPULATION OF LIVER DISEASES

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Introduction The enhanced liver fibrosis (ELF) test, a panel of liver fibrosis biomarkers, accurately assesses fibrosis in a range of chronic liver disease (CLD) aetiologies. We evaluated concordance of ELF and transient elastogrpahy (TE) in assessing fibrosis in a cohort of mixed aetiology CLD in our clinic.
Methods Patients who had undergone ELF testing and TE within 1-year for investigation of CLD were identified. Data derived thresholds for ELF were used to identify moderate fibrosis and cirrhosis with 90% sensitivity and specificity respectively. TE thresholds were based on a study of patients with mixed viral aetiology CLD with the same sensitivities/specificities.[1] Valid TE criteria: success rate ≥60%, median stiffness IQR ≤30%. ELF test was included in routine blood testing. TE was performed in 8 min on average by an experienced nurse. Concordance with ELF and TE classification was calculated. In addition patients who had undergone ELF testing or TE with liver biopsy within 2 years were identified. Histological fibrosis severity was evaluated and agreement with ELF/TE calculated.
Results Of 110 consecutive patients, 99 had ELF/TE within 1-year. Median age 50 (22–80). Aetiology: HCV 46%, HBV 25%, unknown 17%, fat 7%, PBC 1%, HBV/HCV 1%, α-1 antitrypsin deficiency 1%, normal 1%. No ELF tests failed. TE failed in 11%, and valid results obtained in 66% and ELF/TE concordance analysis based on these. Correlation between ELF and TE was 0.6. The Abstract PWE-272 table 1 shows distribution of patients for mild, moderate-severe fibrosis and cirrhosis. Agreement between ELF/TE; κ=0.18. Prediction of moderate fibrosis, κ=0.14, with 34% discrepancy. Prediction of cirrhosis, κ=0.49, with 17% discrepancy. Analysis of the notable mild TE/moderate ELF group shows a negative skew of TE (mean 4.13, median 4.30) and a positive skew of ELF (mean 8.44, median 8.37). Clinical correlation of discrepant cases for cirrhosis indicates consistency with ELF in 13% (mod TE/cirrhosis ELF), and 67% (mod ELF/cirrhosis TE). Kappas for agreement with histology for moderate fibrosis and cirrhosis were, for ELF: 0.19, 0.71 (n=16); for valid TE: 0.13, 0.79 (n=11).

Abstract PWE-272 Table 1

	TE (n)			
	<5.2 (mild)	5.2–12.8 (mod–severe)	>12.9 (cirrhosis)	Total
ELF (n)				
<7.7 (mild)	5	4	0	14%
7.7–9.8 (mod–severe)	18	19	3	61%
>9.81 (cirrhosis)	0	8	8	25%
Total	35%	48%	17%	100%

Conclusion In a cohort of mixed aetiology CLD, ELF was more reliable than TE in generating a result with a failure rate of 34% for TE. Agreement between ELF and TE increased with fibrosis severity. The mild/moderate discordance suggests a need to review thresholds. When selecting non-invasive tests for use in busy clinics failure rate of the test and time taken to obtain a result should be considered.

Competing interests P Trembling: None declared, M Cheung: None declared, S Tanwar: None declared, W Rosenberg Grant/Research Support from: Siemens Healthcare Diagnostics.

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PWE-273 ENHANCED LIVER FIBROSIS TEST ACCURATELY IDENTIFIES LIVER FIBROSIS AND PREDICTS CLINICAL OUTCOMES IN ALCOHOLIC LIVER DISEASE

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Medical Statistics, University of Southampton, Southampton, UK; [3]Faculty of Medical Sciences, Newcastle University, Newcastle, UK

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.