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

doi:10.1136/gutjnl-2011-300857a.24

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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

doi:10.1136/gutjnl-2011-300857a.25

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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[®]