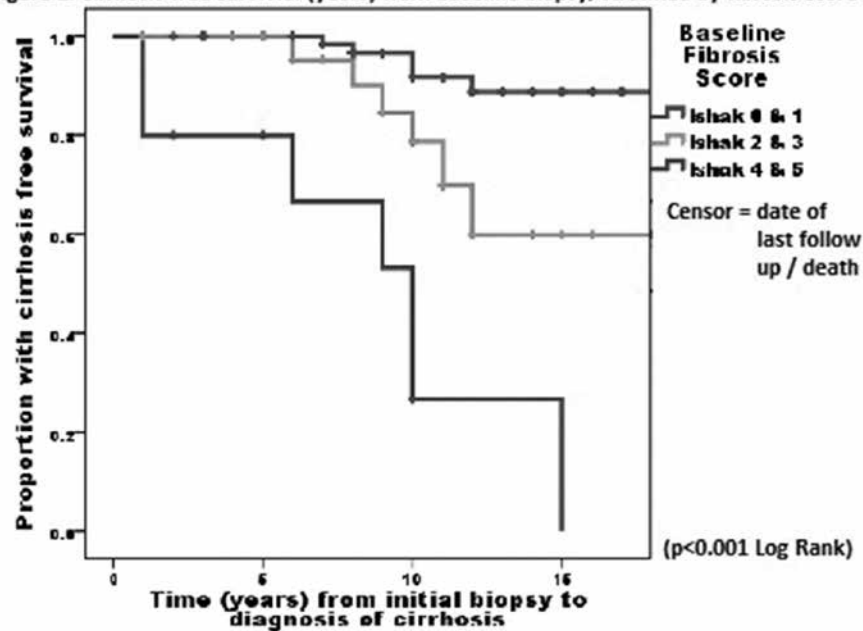Figure 1: Cirrhosis free survivial (years) from baseline biopsy, stratified by fibrosis score

Abstract PTU-119 Figure 1

Conclusion The rate of cirrhosis was similar to that expected over a 20 year period. Higher baseline fibrosis scores were associated with earlier development of cirrhosis and steatosis was a negative predictor of SVR. Overall, important prognostic information is available from initial diagnostic biopsies and may be useful in determining timing of treatment.

Disclosure of Interest None Declared

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Introduction Half of all the liver biopsies performed are to assess the severity of pathology including grading of fat, iron accumulation as well as fibrosis. Liver biopsies are invasive tests associated with sampling errors; the coefficient of variation for fibrosis measurement is 45% even with 25mm long specimens. We aimed to develop and validate non-contrast, non-breath-holding, quantitative MRI methodology to estimate the amout of fibrosis, fat and iron accumulation within the whole liver.

Methods MRI relaxation time data (T_1, T_2 and T_2^*) were acquired (over 15–20 minutes) using a novel Echo Planar Imaging technique with a respiratory-triggered (r.t.) acquisition method. ^1H MR spectra were acquired (r.t.) using a multiple echo PRESS acquisition which allowed for individual T_2 correction to the spectrum for accurate quantification of the fat fraction in a $30 \times 30 \times 30 mm^3$ voxel.

Results 115 patients (67 Training; 48 Validation cohort) with suspected chronic liver disease aged 19 to 72 years [alcoholic (13%), non-alcoholic (56%) fatty liver disease, chronic viral hepatitis (21%) and haemochromatosis (3%)] who had a liver biopsy ≥25 mm were included in the study. The diagnostic accuracy of the T_1 parameter in the detection of different histological stages of fibrosis, using receiver operator curves and areas under the curve (AUC), in the training and validation cohort are summarised in Table 1. There were also significant correlations between MR measures of fat fraction and staging of steatosis with a Spearman's correlation coefficient of 0.760 (p < 0.001) and T_2^* with hepatic iron staging with Spearman's correlation coefficient of –0.588 (p < 0.001). The T_1 relaxation time of the liver correlated with the percentage of fibrosis measured as a continous variable on morphometry within the entire study population (Pearson correlation coefficient of 0.712, p < 0.001).

Abstract PTU-120 Table 1

Fibrosis stage (0–4) detected	AUC Training	AUC Validation
Cirrhosis (stage 4 vs. 0–3)	0.91	0.83
Advanced fibrosis (stage 3/4 vs. 0/1/2)	0.81	0.78
Mild fibrosis (stage 2/3/4 vs. 0/1)	0.67	0.70

Conclusion Across a range of chronic liver diseases, MR measures of fat fraction, hepatic iron content and fibrosis of the whole liver correlate well with related histological measures.

Disclosure of Interest None Declared

Neurogastroenterology/Motility

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Introduction The vagus nerve is the primary neuroanatomical substrate within the brain gut axis (1). In humans, surrogate measures of vagal tone are most commonly evaluated using heart rate