M: 2 F) with a bimodal age distribution at presentation (≈ 25 , 58 years). Perinuclear anti neutrophil cytoplasmic antibody was seemingly specific for PSC (93.9%), as compared to non-auto-immune liver patients, and found in 23.3% of patients.

To differentiate between PSC and AIH, anti-SLA, -LC1, -Ro-52, ds-DNA and f-actin all had a PPV >95% for AIH; >85% in patients who were negative for SMA. Similarly, to distinguish PBC from PSC, AMA, anti Ro-52, -gp210 and -SP100 all have a PPV >90% for PBC; this was also true for anti-Ro52 and -SP100 in patients who were AMA-negative.

Conclusion The optimal use of immunoserology requires careful evaluation of test parameters in the population served by a liver disease programme.

PWE-080 CHANGE IN BILIRUBIN WITH OBETICHOIC ACID IN PRIMARY BILIARY CHOLANGITIS PATIENTS WITH HIGH BASELINE BILIRUBIN

¹David Shapiro*, ²Gideon Hirschfeld, ³Mitchell Shiffman, ⁴Albert Pares, ¹Elizabeth Smoot Malecha, ¹Richard Pencek, ¹Leigh MacConell. ¹Intercept Pharmaceuticals, Inc., San Diego, USA; ²University of Birmingham, Birmingham, UK; ³Liver Institute of Virginia, Newport News, USA; ⁴Hospital Clinic University of Barcelona, Barcelona, Spain

10.1136/gutjnl-2018-BSGAbstracts.222

Introduction In patients with primary biliary cholangitis (PBC), bilirubin (BILI) is a recognised marker of disease progression and a strong predictor of survival. Recently, the Global PBC Study Group reported risk with elevated BILI extends into the normal range with a cutoff of 0.67x ULN identifying patients at risk. Obeticholic acid (OCA) is indicated for treatment of PBC in patients with inadequate response or intolerance to ursodeoxycholic acid. This retrospective analysis aimed to evaluate the effect of OCA on BILI in this patient subpopulation.

Methods OCA has been evaluated in patients with PBC in one 12 month (mo) Phase 3 double-blind (DB) placebo (PBO)-controlled trial (POISE) and two 3-mo Phase 2 PBO-controlled trials (201 and 202). Patients were eligible to continue treatment in open-label extensions (OLE) with all patients receiving OCA. Patients from the Phase 2 and 3 trials with baseline (BL) total BILI (TBILI) $\geq 0.67 \times$ ULN were evaluated for change in TBILI over 12 mo in the following manner: 1) DB comparison of OCA vs PBO at 12 mo in POISE and 2) DB +OLE OCA use totaling 1 year of treatment (POISE randomised to PBO, evaluated at 12 mo OLE; Phase 2 randomised to OCA for 3 mo, evaluated at 9 mo OLE; and Phase 2 randomised to PBO, evaluated at 12 mo OLE).

Results The analysis included patients with TBILI $\geq 0.67 \times$ ULN at their OCA BL: POISE, n=51; 201, n=7; and 202, n=7. In patients with BL TBILI $\geq 0.67 \times$ ULN, TBILI increased after 12 mo of PBO treatment, and decreased after 12 mo of OCA (table 1). In the DB phase of POISE, of the 7 PBO and 9 OCA patients with abnormal TBILI at BL, 14% of PBO and 78% of OCA patients attained normal TBILI levels after 12 mo. Further, of 10 PBO and 20 OCA patients with normal TBILI at BL, 60% of PBO and 15% of OCA patients worsened to abnormal TBILI after 12 mo.

Conclusions Patients treated with OCA had a trend toward reduction of TBILI compared with those treated with PBO. These data suggest that OCA may reduce progression of patients with more advanced liver disease.

Abstract PWE-080 Table 1

12 Mo Treatment	PBO	OCA			
Phase	DB		OLE		
Study	POISE		201	202	POISE
Dose (mg)	-	5-10	10	10 or 50	10, 25, or 50
n	17	15	14	7	7
Mean (SD) change from BL in	2.6	-3.3	-4.0	-8.1	-10.1
TBILI ($\mu\text{mol/L}$)	(6.5)	(3.6)	(7.8)	(6.4)	(8.1)

OCA BL- OCA-randomised patients: if time from last DB visit to first OLE visit ≤ 30 days, mean of evaluations prior to first DB dose is used; if >30 days, last assessment prior to first dose in OLE is used; the initial OLE visit is included as a BL evaluation

- PBO-randomised patients: last assessment prior to first dose in OLE is used; initial OLE visit is included as a baseline evaluation

PWE-081 EARLY CHANGE IN ORGAN FAILURE SCORES PREDICTS SURVIVAL IN ACUTE ON CHRONIC LIVER FAILURE

Sreelakshmi Kotha*, Alexandra Zirra, Philip Berry. Guys And St Thomas' Hospital, London, UK

10.1136/gutjnl-2018-BSGAbstracts.223

Introduction Identification of patients with acute-on-chronic liver failure (ACLF) who will benefit from ongoing support on intensive care unit (ICU) remains a challenge. There is no agreed marker of futility or time-point. There has been recent consensus regarding the definition of ACLF grades, and chronic liver failure-sequential organ failure assessment (CLIF-SOFA) score has been adopted. We aimed to determine if evolution in CLIF-SOFA or other markers of disease severity can predict mortality and survival in ACLF patients admitted to ICU.

Methods Prospectively recorded data was collected on 48 ACLF patients admitted to ICU at Guy's and St Thomas' hospital, a tertiary non-transplant centre, from May 2013 – May 2016. Scores were calculated at D0, D2, D5, D7.

Results The majority were male (n=34,700.8%), mean age was 57.4 ± 10.3 years and major aetiologies were ALD (n=34,700.8%) and viral hepatitis (n=11,290.2%). The major indication for ICU admission was infection (n=29,600.4%). Mean Child-Pugh (CP) score on admission to ICU was 12 ± 2 and the mean MELD 24 ± 9 . Mortality at 7, 28 and 90 days was 16/48 (33.3%), 30/48 (62.5%), 36/48 (75%).

The best predictive model proved to be difference in CLIF-SOFA ('delta C-SOFA') scores between D2 and D5 or D7. Mean delta C-SOFA D2-D5 was -2.25 ± 1.9 and mean delta C-SOFA D2-D7 was -3.36 ± 2 for survivors compared to 0.19 ± 1.73 ($p < 0.001$) and 0 ± 2.58 ($p = 0.001$) for deceased at 90 days, with area under curve (AUC) of 0.839 and 0.835, respectively.

The mean survival time (days) for patients with improvement in delta C-SOFA between D2 and D5/D7 was 837 ± 144 and 814 ± 149 vs patients with worsening or static scores 33.8 ± 14.5 ($p < 0.001$) and 37.6 ± 18 ($p < 0.001$). The negative predictive value at D5 and D7 was 95.5% and 94.1%, respectively.

Other prognostic scores at a single time point on D7 predicted survival at D28 and D90 with AUC of: CP (0.75/0.67),

MELD (0.73/0.79), UKELD (0.79/0.84), ACLF (0.75/0.78) and CLIF-SOFA (0.75/0.83).

Conclusions The evolution in CLIF-SOFA score between D2 and D5/7 is superior to evolution in other scores and scores assessed at single time points when predicting 90 day survival. The delta C-SOFA at D5 and D7 are comparable, thus delta C-SOFA D2-D5 may be used to guide therapeutic decisions.

Abstract PWE-081 Figure 1 a) CLIF-SOFA scores; b) CLIF-SOFA score evolution

PWE-082 GENETIC VARIANTS IN CYP2D6 AND THE PROPENSITY TO CHRONIC LIVER DISEASE IN MEN CHEWING KHAT

¹Aneesh Sharma*, ²Stian MS Orlén, ^{3,4}Tekabe Abdosh Ahmed, ^{4,5}Nejib Yusuf Ismael, ^{1,6}Nega Berhe Belay, ⁷Andrew McQuillin*, ¹Marsha Yvonne Morgan*, ^{2,8}Asgeir Johannessen. ¹UCL Institute for Liver and Digestive Health, University College London, UK; ²Regional Centre for Imported and Tropical Diseases, Oslo University Hospital Ullevål, Norway; ³Department of Internal Medicine, Jugal Hospital, Harar, Ethiopia; ⁴Haramaya University College of Health and Medical Sciences, Harar, Ethiopia; ⁵Department of Internal Medicine, Hiwot Fana Specialized University Hospital, Harar, Ethiopia; ⁶Aklilu Lemma Institute of Pathobiology, Addis Ababa University, Ethiopia; ⁷Molecular Psychiatry Laboratory, Division of Psychiatry, University College London, UK; ⁸Department of Infectious Diseases, Vestfold Hospital Trust, Tønsberg, Norway

10.1136/gutjnl-2018-BSGAbstracts.224

Introduction The chewing of the leaves of *Catha edulis* (khat) is widespread in Africa, Arabia and in the wider diaspora. Khat has been implicated in the development of chronic liver disease (CLD) but the determinants of susceptibility to its toxic effects are unknown. Genetic factors may play a role. Khat is metabolised in the liver *via* cytochrome P450 CYP2D6; genetic variants associated with low or null function, which may Result in khat accumulation, are possible candidates. In addition, variants in genes known to be associated with the development of other forms of CLD *viz*: PNPLA3:rs738409; TM6SF2:rs58542926 and MBOAT7:rs641738 could be implicated.

Methods The study was undertaken in Harar, Ethiopia where khat chewing is wide-spread and the proportion of patients with 'unexplained' CLD exceeds 50%. The cases comprised of 120 khat-exposed hospital attendees (83% men) with CLD; the controls comprised of 195 khat-exposed attendees without CLD (68% men). Genotyping for single nuclear polymorphisms (SNPs) in CYP2D6 (rs1065852; rs3892097; rs28371706; rs28371725; rs59421388; rs61736512), PNPLA3:rs738409; TM6SF2:rs58542926 and MBOAT7:rs641738 was undertaken using KASPar on a

RochLightCycler480. All genetic association tests were performed in PLINK v1.07.

Results Significant associations were found, in men, between the risk of developing khat-related CLD and CYP2D6:rs3892097 ($p=0.029$; odds ratio (OR)=2.61 [95% confidence interval (CI) 1.1–6.2]) and CYP2D6:rs1065852 ($p=0.039$; OR=2.42 [95% CI 1.1–5.6]). These two SNPs are in close linkage disequilibrium ($r^2=0.8$). The associations were not significant in women. No significant associations were identified between PNPLA3:rs738409, TM6SF2:rs58542926 and MBOAT7:rs641738 and either the overall or sex-specific risk of developing khat-related CLD.

Conclusions Carriage of rs3892097 and rs1065852 in CYP2D6 is associated with an increase in the risk of developing khat-related CLD. The male specificity of this association is unexplained; more extensive exploration of CYP2D6 variants in population at risk is warranted.

PWE-083 THE SPECIFICITY OF THE ELECTROENCEPHALOGRAM FOR DIAGNOSING HEPATIC ENCEPHALOPATHY IN PATIENTS WITH CONFOUNDING COMORBIDITIES

¹Sami Hussain*, ¹Harry Zacharias, ²Clive Jackson, ¹Marsha Morgan. ¹UCL Institute for Liver and Digestive Health, University College London, UK; ²Department of Neurophysiology, Royal Free Hospital, London, UK

10.1136/gutjnl-2018-BSGAbstracts.225

Introduction Hepatic encephalopathy is a common complication of chronic liver disease; it is characterised by impairment in neuropsychiatric/neurophysiological performance. However, other chronic conditions such as renal failure, chronic pulmonary disease and diabetes are also associated with the development of metabolic encephalopathies and show similar abnormalities. Difficulties can, therefore, arise in determining the aetiology of cognitive impairment in patients with cirrhosis if they have these additional co-morbidities. The aim of this study was to evaluate the specificity of the tests used to diagnose hepatic encephalopathy in patients with cirrhosis.

Methods The study population comprised of clinically stable patients with: (i) cirrhosis ($n=52$); (ii) end-stage renal failure ($n=15$); (iii) chronic renal failure ($n=15$); and, (iv) poorly controlled type II diabetes mellitus. All participants were assessed in one sitting, under standardised conditions, with a comprehensive test battery including: electroencephalography (EEG); Critical Flicker Fusion Frequency (CFF); the Psychometric Hepatic Encephalopathy Score (PHES) test; and the computer-based Inhibitory Control Test (ICT), Stroop Test (EncephalApp) and Scan Package. Results were compared with appropriately age and sex -matched healthy volunteers ($n=53$) correcting for multiple testing.

Results Significant abnormalities were observed across all test systems in the four patient groups compared with healthy controls. However, EEG abnormalities were only observed in the patients with cirrhosis (table 1).

Conclusions The presence of co-morbidities may confound the assessment of cognitive function in patients with cirrhosis; the presence of EEG abnormalities would signal a major hepatic component.