(1.5%) who were tested for HDV serology had acute HDV co infection.

Conclusion In our hepatitis B population, we estimate that there is a 6.1% seroprevalence rate of hepatitis D and 1.5% acute hepatitis D co-infection. There is also a room for improvement in hepaitis D screening within our trust and more study is needed to identify barriers in screening and robust public health measures may be needed to follow up this population.

P195 RELATIVE ADRENAL INSUFFICIENCY AS A NOVEL PROGNOSTIC MARKER IN ADVANCED LIVER DISEASE AND REFRACTORY ASCITES

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Introduction Liver disease is a major cause of premature death in the United Kingdom. Septic shock is often the terminal event in cirrhotic patient. However even in non-septic cirrhotic patients there are cascade of physiological similarities to severe sepsis like hyperdynamic circulatory failure, low mean arterial pressure, increased cardiac output, elevated levels of proinflammatory cytokines.

Hypothalamus-pituitary–adrenal dysfunction leading to relative adrenaline insufficiency (RAI) is a well-recognised phenomenon in septic shock, although in the context of liver disease it is poorly defined. Given these pathophysiological changes, we hypothesize that RAI has important role to play in refractory ascites.

Aim The aim of the study was to assess the prevalence of RAI in advanced liver disease and refractory ascites. We further explored the relevance of RAI as a prognostic tool to predict patients outcomes with advanced liver disease and diuretic intractable ascites.

Methods We prospectively undertook short synacthen test (SST) in patients with advanced liver disease presenting with ascites and hyponatremia. Delta cortisol levels was calculated as difference between baseline serum cortisol and serum cortisol after 60 min in response to intravenous administration of 250 µg corticotrophin (synacthen). We adopted the international task force criteria of random serum total cortisol of < 276 nmol/L or delta cortisol of < 250 nmol/L to define RAI. Patients with advanced liver disease were characterised to define the prevalence of RAI. Standard prognostic markers such as Child Pugh and MELD score were also analysed.

Results A total of twelve patients with advanced liver disease presenting with ascites and hyponatremia were studied. Mean delta cortisol level was 268.5 ±153.5. There was a significant variation in response to SST within the group. Using the international task force criteria a total of 9 patients (9/12, 75%) had RAI.

Overall, the 3 month mortality amongst these patients was very high (42% mortality, 5/12). Combined rate of mortality or enrolment to transplant waiting list was 67% (8/12).

There were 8 patients in the cohort with MELD score below 19 and five of these patients (63%) had RAI. We observed that 100% of the patients with RAI in this cohort died within 3 months of the test (3/5) or enrolled to transplant list (2/5) in contrast to only 33%(1/3) of patient without RAI. Out of the remainder 4 patients with MELD score >19, all four had RAI.

Conclusion For the first time we describe high prevalence of RAI in patients with advanced liver disease. RAI may well be a previously unidentified physiological phenomenon for development of refractory ascites. Preliminary data suggests that RAI is likely to be able to predict prognosis in such patients. Further larger studies aimed at validating RAI as a prognostic marker and role of corticosteroids in selective patients to help aid treat refractory ascites and its impact on overall mortality now need to be undertaken.

Abstract P195 Table 1

Patient	Age	Etiology	MELD	Child-Pugh	RAI	Random cortisol	Post SST	Delta cortisol	Mortality / Transplant	Mortality
Patient 1	76	ALD	6	9	Y	316	490	174	Y	Y
Patient 2	64	ALD	7	8	Y	174	415	241	Y	N
Patient 3	44	ALD	8	8	Y	244	611	367	Y	Y
Patient 4	52	ALD	10	9	Y	205	452	247	Y	N
Patient 5	62	ALD	10	7	N	272	585	313	N	N
Patient 6	60	ALD	17	10	Y	344	573	229	Y	N
Patient 7	37	ALD	17	10	N	208	514	307	N	N
Patient 8	85	NASH	17	9	N	489	916	427	Y	Y
Patient 9	39	ALD	20	10	Y	414	580	166	N	N
Patient 10	72	NASH	21	12	Y	590	820	230	Y	Y
Patient 11	70	AIH	24	10	Y	386	610	224	N	N
Patient 12	50	ALD	26	13	Y	167	464	297	Y	Y

P196 OPTIMIZING NUTRITION IN PATIENTS WITH CIRRHOSIS REDUCES HOSPITAL READMISSIONS IN MEDIUM AND HIGH RISK GROUPS

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Introduction Malnutrition adversely affects prognosis in cirrhosis and is often recognized late. All cirrhotic patients should be screened for malnutrition yet this is variably performed. We evaluated assessment and management of nutrition in cirrhosis by comparing local practice to EASL guidelines, and explored patient outcomes after a focused intervention.

Method Data was collected in 2 cycles. Cycle 1 retrospectively reviewed nutritional assessment of all patients admitted to gastroenterology during Sept.-Dec. 2018 with cirrhosis. An Inpatient Nutrition Proforma (INP) was introduced to record Child-Pugh (CP), anthropometrics, dietary intake, malnutrition risk and nutrition plan. Sarcopenia was assessed in high risk patients using handgrip strength (HGS). All CP-C and BMI <18.5 were high risk. Cycle 2 prospectively audited admissions after intervention (March-June 2019). Calorie-protein

intake and HGS after intervention, readmissions and deaths were assessed at 4 months.

Results 47 and 31 patients were identified in cycle 1 and 2 respectively. A Malnutrition Universal Screening Tool (MUST) was completed in 81% of cycle 1 patients. 47% did not trigger a dietetic referral on MUST (44% medium risk and 33% high risk for malnutrition). All cycle 2 patients had a dietetic referral via the INP (26% medium risk and 71% high risk for malnutrition) and received dietary education with 77% requiring oral supplements and 10% nasogastric feeding. At follow-up cycle 2 patients met higher caloric and protein requirements (average increase by 46% and 57% respectively vs 26% and 31% in cycle 1). HGS was measured in 74% in cycle 2 and 2% in cycle 1. Average HGS was 15.9 kg (cycle 2) and improved by 9% on reassessment. There was a 12% reduction in hospital readmissions in cycle 2 compared to 7% increase in cycle 1 with similar mortality at 4 months.

Conclusion MUST inadequately identifies cirrhotic patients at risk of malnutrition. CP and BMI appear more accurate. A dedicated dietetic team and the INP enable early patient identification, thorough nutritional assessment and intervention, improving patient compliance and sarcopenia. Hospital readmission rates reduced over 4 months despite a higher proportion of high risk patients in cycle 2 vs cycle 1. 12 month follow-up data will assess mortality more accurately. Our intervention forms a platform for wider service development in this area both in the inpatient setting and beyond.

P197 THE DIAGNOSTIC BENEFIT OF ABDOMINAL ULTRASOUND SCANS IN INCIDENTALLY ABNORMAL LIVER FUNCTION TESTS

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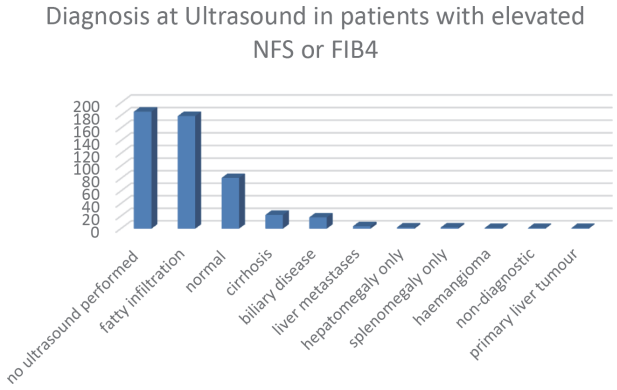
Introduction An abdominal ultrasound scan (AUSS) is widely recommended in national and international guidelines for the investigation of abnormal liver function tests (LFTs). Abnormal LFTs exist in around 20% of cases in primary care, placing significant demand on radiology services. However, the evidence for performing AUSS in patients with incidentally abnormal LFTs is weak.

Non-invasive scoring systems such as the NAFLD fibrosis score (NFS) and Fibrosis-4 index (FIB4) are used in the assessment of liver fibrosis. Abnormal results prompt referral to secondary care for further review. It is unclear whether AUSS provides additional diagnostic information in such cases.

Intelligent liver function testing (iLFT) was launched in NHS Tayside in 2018. General Practitioners (GPs) provide relevant clinical details and those with abnormal LFTs have reflex tests without further venepuncture. Non-invasive fibrosis scores are calculated automatically. Management plans with recommended outcomes are then provided: secondary care referral; primary care follow-up; or further investigations and referral criteria.

Methods A retrospective analysis was performed of all patients who had iLFT performed between August 2018 and August 2019, and who had abnormal NFS ($\geq$-1.455 for patients aged under 65; $\geq$0.12 in patients aged 65 or over) and/or FIB4 ($\geq$1.45). The result of their ultrasound was documented and its impact on their diagnostic journey recorded.



Abstract P197 Figure 1 Diagnosis at ultrasound in patients with elevated NFS and/or FIB-4

Results 497 patients had an iLFT outcome with abnormal NFS and/or FIB4.

311 (62.6%) had AUSS either prior or parallel to referral. 81 patients had a normal AUSS. 179 (57.6%) patients had simple fatty infiltration of the liver. 22 (7%) had confirmatory radiological features of cirrhosis. Overall, AUSS did not add any diagnostic information or alter the clinical pathway in 306 of the 311 patients (98.4%).

4 patients (1.3%) were diagnosed with metastatic disease and 1 patient had a primary liver tumour (neuroendocrine aetiology on subsequent biopsy). All 5 of these patients had co-existent symptoms which would have separately prompted investigations other than AUSS (iron deficiency anaemia in 4 patients, unexplained abdominal pain in 1 patient).

The diagnoses are shown in figure 1.

Conclusions AUSS can play an important role in the diagnosis of biliary disease or malignancy in the setting of symptomatic abnormal LFTs or abdominal pain, but provides little diagnostic benefit in the diagnosis of asymptomatic or incidentally abnormal LFTs. Removing routine AUSS from diagnostic pathways could save significant time and money for radiology departments and GPs, while safely ensuring malignancy is not missed.

P198 SOCIO-ECONOMIC DEPRIVATION ADVERSELY AFFECTS SURVIVAL FOLLOWING LIVER TRANSPLANTATION

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Introduction Liver transplantation is the only effective treatment for end stage liver disease. It is unclear how socio-economic deprivation affects survival in patients with severe liver disease both transplanted and not listed for transplant.

Methods All notes for adult patients assessed for liver transplantation in Scotland between January 2009 and December 2017 were reviewed. Patients with incomplete data, those who died before transplant, were listed for dual transplant or who were removed from the list were excluded (n=1045). We assessed survival using Kaplan-Meier curves to compare those transplanted to those not listed. Patients not listed as they had a hepatocellular carcinoma outside criteria, or were too well or too unwell to be listed were excluded from the relevant analyses to lower the risk of bias (n=253). We also assessed