patients who may benefit from second line therapy with OCA. Such cases can be identified through simple audit of UDCA dosing and biochemical response.

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P188 THE PROGNOSTIC VALUE OF THE FRACTIONAL EXCRETION OF UREA IN PATIENTS WITH CIRRHOSIS

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Introduction The development of acute kidney injury (AKI) in cirrhosis is associated with a poor outcome. Patidar et al, 2018 proposed the fractional excretion of urea (FeUrea) to distinguish pre-renal and hepatorenal syndrome from other causes of AKI in cirrhosis. However its prognostic significance out with AKI is unknown.

Aim To assess the associations of FeUrea with liver and renal function and survival in patients with cirrhosis.

Methods Patients with cirrhosis whose urine electrolytes had been assessed in the Gastroenterology wards at Glasgow Royal Infirmary between January 2016 and August 2019 were identified retrospectively. Contemporaneous blood tests were recorded. For outcome assessment the earliest urine electrolyte sample was recorded and subsequent samples within 90 days excluded. Pearson coefficient (r) was calculated for correlation. Cox proportional-hazards regression was used for multivariate analysis of variables related to outcome, and Kaplan-Meier analysis for survival analysis.

Results In total 265 samples were analysed from 157 individuals. FeUrea correlated with markers of inflammation (CRP: r=-0.297; p<0.0001), renal function (creatinine: r=-0.193; p=0.002) and liver function (MELD: r=-0.124; p<0.04). 178 samples were suitable for outcome analysis; 29 (16.2%) had AKI at the time of assessment. 90-day survival was 41.4%, 61.4% and 70.5% for those with FeUrea <21.3%, 21.3–33.4% and >33.4% respectively (p=0.006). On multivariate analysis albumin (p=0.0002), bilirubin (p=0.04), creatinine (p=0.01), FeUrea (p=0.0001) and white cell count (WCC: p=0.02) independently predicted 28-day survival but only FeUrea (p=0.04) and WCC (p=0.02) predicted 90-day survival. MELD and presence of AKI were not independently related to outcome.

Conclusion FeUrea was associated with markers of inflammation and liver dysfunction in patients with cirrhosis. FeUrea was predictive of survival independently of MELD and AKI. The categorisation of patients by FeUrea identified those with a poor 90-day outcome.

P189 ROLE OF HIGH INTENSITY FOCUSED ULTRASOUND (HIFU) IN TREATING CANCEROUS LESIONS OF THE HEPATOBILIARY SYSTEM

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Aims High intensity focused ultrasound (HIFU) is an emerging non-invasive, targeted treatment of malignancy. This review aims to explore the efficacy, safety and optimal technical parameters of HIFU to treat cancerous lesions of the hepatobiliary system.

Methods A systematic search of the English literature was performed until December 2018, interrogating Pubmed, Embase and Cochrane Library databases. The following key-words were input in various combinations: 'HIFU', 'High intensity focussed ultrasound', 'Hepatobiliary', 'Liver', 'Cancer' and 'Carcinoma'. Extracted content included: Application type, Exposure parameters, Patient demographics, and Treatment outcomes.

Results Twenty-two articles reported on the clinical use of HIFU in 845 individuals to treat cancerous liver lesions. Nineteen series detailed the use of HIFU to treat hepatocellular carcinoma. Mean tumour size was 5.1 cm. Across all studies, HIFU resulted in complete tumour ablation in 51.68%. Data on technical parameters and the procedural structure was very heterogeneous. Eight studies described the use of HIFU alongside other modalities including TACE, RFA and PEI; 58.72% of which resulted in complete tumour ablation. Most common complications were skin burns(17.16%), local pain(5.56%) and fever(1.42%).

Conclusions HIFU is a safe and well-tolerated treatment modality for cancerous lesions of the hepatobiliary system. Combining HIFU with other ablative therapies, particularly TACE, increases the efficacy without increasing complications. Future human clinical studies are required to determine the optimal treatment parameters, better define outcomes and explore the risks and benefits of combination therapies.

P190 PROOF OF CONCEPT & NOVEL TECHNIQUE OF CELL HARVEST USING HISTOTRIPSY: IMPLICATIONS IN CELL TRANSPLANTATION

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Introduction A potential alternative to liver transplantation is allogenic hepatocyte transplantation, particularly for metabolic disorders. However, some significant hurdles mainly concerned shortage of donor organs, low cell yield as well as lack of long-standing effect needs to be overcome to widen its clinical application. Here we describe an improved technique in cell harvest and isolation.

Methods Pig livers were obtained using organ retrieval techniques and perfused with Soltran solution following a period of cold storage. Perfused livers were subjected to High-Intensity Focused Ultrasound (HIFU), and lesions were incised. Core liquified suspension was sampled and cultured in RPMI cell culture medium. Cell cultures were analysed at 1, 3 and 7 days for viability. H&E staining performed to characterise the lesions.

Results Four different livers were used, and more than 50 lesions created. HIFU created a subcapsular lesion with a core suspension of cells. Adult hepatocytes extracted from core lesion are alive at day 1 and remain alive in culture medium

for up to 1 weeks. Live-dead assay confirms cell viability with retainment of metabolic activity and morphology at 1 week. Cells also have increased in number from 0.12% live cells on day 1 to 0.45% on day 7 (P<0.0001).

Discussion HIFU has been used in treating benign and cancerous lesion has shown promising results. However, a particular modality of HIFU, boiling histotripsy, can be used to increase the yield of adult hepatocytes extraction & isolation safely. Here we report a detergent and chemical-free cell harvest technique. It can improve the quality and number of cells for transplantation. Further studies are required to asses long term effect extracted cells.

P191 USE OF A DECOMPENSATED CIRRHOSIS DISCHARGE CARE BUNDLE IMPROVES OUTCOMES IN PATIENT CARE

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Introduction Hospital readmissions are common following discharge of patients with decompensated cirrhosis (DC). In order to try and improve the quality of patient discharge and reduce readmissions we developed a decompensated cirrhosis discharge bundle (DCDB) and patient self-management toolkit. The DCDB included a checklist to ensure important aspects of care were addressed and care plans were communicated to the patient and GP. The patient toolkit included information about cirrhosis and advice to help patients 'self-manage' complications. Our aim was to assess the impact of the DCDB and toolkit on patient care.

Method Baseline (pre-bundle) patient data was collected at discharge on 3 Gastro/Liver wards from Jan-Dec 2017. A pilot of the DCDB was conducted from Nov 2018-Oct 2019 on the same wards. Medical records of patients discharged with DC were reviewed to assess care plans. Potentially preventable readmissions were those where better discharge planning could have avoided the admission e.g. emergency admission for paracentesis.

Results 147 patients were included (62% male; median age 56, [31–87]; median admission 10 days [1–103]). 73% had alcohol-related cirrhosis. Ascites was the most common presentation (41%). The table 1 shows a comparison of patient management pre-DCDB and post implementation with and without a DCDB.

Conclusion Overall usage of the DCDB improved some aspects of care, particularly management of alcohol misuse and documentation/monitoring of renal function post-discharge. Management of HE and variceal bleeding were reasonably good before the DCDB so no real change was seen in these. Completion rates for the bundle were disappointingly low. With the introduction of an electronic patient record in our Trust we plan to make completion of the bundle mandatory to improve completion rates.

Abstract P191 Table 1

	Pre-bundle	Post-DCDB implementation		
		Total	Completed	Not completed
Total (n)	61	86	23	63
Alcohol misuse	59% (36)	72% (62)	91% (21)	(65%) (41)
Alcohol team review	64% (23)	71% (44)	81% (17/21)	66% (27/41)
Thiamine prescribed	94% (34)	84% (52)	90% (19/21)	80% (33/41)
Community alcohol plan	39% (14)	44% (27)	62% (13/21)	34% (14/41)
HE related admission	49% (30)	37% (32)	30% (7)	40% (25)
Lactulose prescribed	93% (28)	88% (28)	86% (6/7)	88% (22/25)
Rifaxamin prescribed	90% (27)	80% (26)	86% (6/7)	80% (20/25)
Ascites present	74% (45)	67% (58)	70% (16)	67% (42)
Discharge creatinine documented	2% (1)	17% (10)	44% (7/16)	7% (3/42)
Plan for U&Es check after discharge	24% (11)	50% (29)	54% (9/16)	48% (20/42)
Variceal bleed	8% (5)	13% (11)	9% (2)	14% (9)
Beta-blockers, repeat OGD planned or TIPSS	100% (5)	82% (9)	100% (2/2)	78% (7/9)
Readmissions within 30 days	30% (18)	26% (22)	35% (8)	22% (14)
Potentially preventable liver related 30 day readmission	39% (7)	18% (4)	12% (1/8)	21% (3/14)

P192 FEASIBILITY OF A VERY-LOW-CALORIE DIET TO ACHIEVE 10% WEIGHT LOSS IN PATIENTS WITH ADVANCED NAFLD

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Background and Aims Non-alcoholic fatty liver disease (NAFLD) is the most common liver condition worldwide and is directly linked to chronic excess calorie consumption, lack of physical activity and overweight/obesity. In the absence of approved drugs, lifestyle modification promoting weight loss, is the primary recommended therapy for NAFLD. A weight loss goal of 10% has been recommended for patients with NAFLD as this has been shown to improve liver fat, inflammation and fibrosis. However, only 10–20% of patients achieve this level of weight reduction with standard dietary approaches. This pilot study aimed to determine whether an 8–12 week very low calorie diet (VLCD) is an acceptable therapy to achieve a target weight loss of 10% in patients with advanced NAFLD.

Method 30 patients with advanced NAFLD were recruited to an 8–12 week VLCD (~800 kcal/day) using meal replacement products (Optifast, Nestlè Health Science). Anthropometrics, blood tests (liver enzymes, lipid profile, glucose, HbA1c, insulin), liver stiffness and cardiovascular disease risk were measured at baseline and after the VLCD intervention.

Results Of the 45 patients approached to take part in this study, 30 consented to enrol. This study was fully recruited at a single site within 6 months and 27/30 retained post VLCD.

68% of patients reached the weight loss target of 10%; mean weight loss was 13 kg.

Weight loss through an 8–12 week VLCD significantly improved liver health (liver enzymes and liver stiffness), cardiovascular disease risk (blood pressure and QRISK2) and metabolic health (fasting glucose, HbA1c and insulin). BMI and body composition also improved (See table 1).

Conclusion A VLCD is a feasible way of achieving 10% weight loss in patients with advanced NAFLD. Patients were