derived GFR of 55 (20–115) mL/min/1.73 m^2, p<0.0001. Median PCR was 55 (36–189) compared to 17 (13–29) in the AKI and Non-AKI groups, p<0.0005. Liver disease severity scores were not significantly different between AKI groups for both CTP (p=0.86) or model for end-stage liver disease (MELD, p=0.14). Plasma cystatin C at 48 h prior to AKI predicted its subsequent development with an AUROC of 0.82 (sensitivity 86%, specificity 75%, p=0.004, cut off 1.18 mg/l). A random urine PCR of >30 predicted AKI during that hospital admission with an AUROC of 0.72 (sensitivity, 77%, specificity 63%, p=0.001). Plasma cystatin C at 48 h prior to AKI predicted death with an AUROC of 0.88 (sensitivity 100%, specificity 76%, p≤0.0001, cut off 1.18 mg/l). PCR >49 predicted the need for RRT with an AUROC of 0.85 (sensitivity 73%, specificity 86%, p≤0.0001).

Conclusion Estimated GFR using serum creatinine based equations overestimates GFR, therefore an accurate assessment requires a gold standard measure, like iohexol, in patients with advanced liver disease. Cystatin C and the widely available urine PCR measurement can be used to assess the risk of AKI. They both demonstrate potential for predicting AKI 48 h prior to onset, the need for RRT and hospital survival.

Competing interests None declared.

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PTU-019 METHADONE USE IS ASSOCIATED WITH THE DEVELOPMENT OF COMMON BILE DUCT DILATATION AMONG PATIENTS WITH HEPATITIS C: RESULTS OF A RETROSPECTIVE COHORT STUDY

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Introduction The synthetic opioid Methadone is widely used in the treatment of opioid dependence. Opioids are known to induce spasm of the sphincter of Oddi, increase common bile duct (CBD) pressures and induce bile duct dilatation. A prior study has shown methadone use to be associated with asymptomatic CBD dilatation among patients with viral hepatitis. We aimed to examine the prevalence of CBD dilatation among methadone users with hepatitis C (HCV) at first attendance and subsequent liver clinic follow-up, in comparison with a control group.

Methods Patients with chronic HCV attending our institution between 2003 and 2010 were identified from the Scottish HCV Database. Age, gender, methadone use, and CBD dilatation (≥8 mm) identified on initial and follow-up abdominal ultrasound scan (AUS) were recorded. Statistical analysis was performed using SPSS to compare methadone users, vs a control group not on methadone.

Results 618 patients were identified, 316 (51.1%) on methadone and 302 (48.9%) not. Mean age (42.3 vs 48.5, p=0.99) and gender (71.5% male vs 69.2%, p=0.53) were similar in the methadone group vs controls. CBD dilatation on initial AUS was significantly higher among the methadone group (47/316 (14.9%) vs 18/302 (6%), p=0.0003). Post cholecystectomy CBD dilatation was uncommon (4/47 (8.5%) vs 3/18 (16.6%), p=0.38). Of those with a normal initial CBD, 111/269 (41.3%) methadone patients and 115/284 (40.5%) controls had an interval scan. Over similar durations of follow-up (38.1 months vs 45 months controls, p=0.53), methadone use was associated with increased de-novo CBD dilatation (15/111 (13.5%) vs 6/115 (5.2%), p=0.03). Rates of subsequent biliary investigation (MRCP/ERCP) were low (12/62 (19.3%) and 7/24 (29.2%). An obstructive cause of biliary dilatation was infrequently found among methadone receiving patients and controls (1/12 (8.3%) vs 1/7 (14.3%), p=0.49). No obstructive biliary pathology was found among patients with normal alkaline phosphatase (ALP) in either group.

Conclusion Our study confirms the association between methadone use and CBD dilatation among patients referred for assessment of HCV. For the first time we have demonstrated an increased rate of new CBD dilatation among methadone users on longitudinal follow-up. Given that one in five patients on methadone demonstrated CBD dilatation during initial assessment or follow-up, with no alternate cause identified among those with a normal ALP, further investigation of these patients may not be necessary. Further work is required to establish and validate algorithms identifying those patients receiving methadone with CBD dilatation in whom further investigation can be safely omitted.

Competing interests None declared.

PTU-020 RIFAXAMIN IS A HIGHLY EFFICACIOUS TREATMENT FOR THE PARKINSONIAN PHENOTYPE OF HEPATIC ENCEPHALOPATHY (HE)

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Introduction Patients who develop Parkinsonian symptoms on a background of cirrhosis and portosystemic shunting (PSS) form a unique subset of so-called acquired hepatocerebral degeneration. The syndrome is entirely different from acute HE and other forms of Parkinsonism that develop in patients without liver disease and rarely responds to standard treatments for HE. Rifaxamin is a non-absorbable antibiotic which has recently been shown to be efficacious in the secondary prevention of recurrent HE and is postulated to decrease gut ammonia production and/or bacterial translocation.

Methods To prospectively evaluate the efficacy of rifaxamin 600 mg twice daily in three patients referred to the HE clinic at our institution with advanced cirrhosis, evidence of PSS and debilitating HE with extrapyramidal symptoms including resting tremor, bradykinesia, cog-wheel rigidity, drooling, loss of facial expression, shuffling gait and excessive somnolence. Each patient was evaluated independently by a hepatologist and a neurologist. Neuropsychological function testing (Trails A and B test), random venous ammonia (NH_3), EEG and MRI brain/DaTscan were performed pre- and 4 weeks post rifaxamin.

Results Patient 1 [male, age 61, α1AT, NH_3 76 μmol/l] was unable to complete Trails A/B test at baseline. On rifaxamin his severe bradykinetic rigidity syndrome, drooling and leaning to one side on walking resolved. His repeat Trails B test was in 75–90th centile for a normal healthy age-matched population. His symptoms improved further on long acting dopamine therapy. Patient 2 [female, age 64, alcohol, abstinent, NH_3 67 μmol/l] had an improved Trails A from the 10th to 50th centile, with resolution of bradykinesia, resting tremor and a dramatic reduction in her somnolence. Patient 3 [male, age 66, alcohol, abstinent, NH_3 67 μmol/l] had remarkable improvement in his asymmetric bradykinetic rigid syndrome, regained his facial expression and was mobile with assistance whereas previously he had required hoisting. None of the patients had any improvement in their ammonia level or EEG with rifaximin despite resolution of symptoms. In the first two patients MRI brain post rifaxamin showed no change (high T1 signal in the globus pallidus) and in patient 3 a DaTscan post rifaxamin still showed decreased uptake in the right corpus striatum, in spite of dramatic clinical improvements. Patient 1 has now been transplanted and his

extrapyramidal and neurocognitive symptoms have now resolved suggesting that this extrapyramidal syndrome is reversible.

Conclusion Rifaxamin is efficacious in the treatment of the Parkinsonian phenotype of HE in this small case series which appears to be independent of ammonia lowering. Larger clinical trials are now warranted.

Competing interests None declared.

PTU-021 DO ALL REGENERATIVE NODULES BECOME HEPATOCELLULAR CARCINOMA? THE OUTCOME OF 4 YEARS MRI SURVEILLANCE

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Introduction There are few epidemiological data on the longitudinal follow-up of nodular lesions in cirrhotic patients.

Methods The Royal Free Hospital database was searched for all reports of MRI scans of the liver in which the term "nodule" was used. 630 such scans were identified in 369 individual patients between 1 January 2006 and 1 January 2011. Patients were then excluded if there was <1-year follow-up (45), if hepatocellular carcinoma (HCC) was identified on the initial scan (135), if an alternative diagnosis was made (129) or if no significant arterialised lesion was reported despite previous suspicion on ultrasound scanning (31). Retrospective analysis was, therefore, performed on 29 cirrhotic patients with a diagnosis of regenerative, indeterminate or dysplastic arterialised nodules at baseline and >1 year total follow-up with MRI and alpha-fetoprotein (AFP) surveillance.

Results The median age at first scan was 55 years (range 36–73) and the most common aetiologies of cirrhosis were hepatitis C (55%), hepatitis B (10%) and alcohol (25%) with 10% other. The median follow-up period was 22 months (12–56) and the median number of scans 4 (2–10). At baseline nodules were described as indeterminate in 48%, regenerative in 45% and dysplastic in 7%. The prevalence of HCC after 1, 2, 3 and 4 years of follow-up was 5 (17%), 9 (31%), 11 (38%) and 11 (38%) respectively, with the highest incidence occurring in the first 2 years of follow-up (82% of cases). The median size of nodule at baseline in those who developed HCC was 10 mm (5–18) and it was 9 mm (5–26) in those who did not. There was no association between the description of the nodule and the likelihood of developing HCC (five arising from indeterminate and 6 from regenerative nodules) and the two nodules initially described as dysplastic did not transform to tumour. AFP results were not informative.

Conclusion 31% of lesions described as arterialised nodules when first scanned developed into HCC within 2 years and initial radiological features consistent with "regenerative" nodules are not reassuring. Patients with discrete arterialised nodules should be enrolled in enhanced surveillance programmes.

Competing interests None declared.

PTU-022 PREOPERATIVE NEUTROPHIL: LYMPHOCYTE RATIO DOES NOT PREDICT POST-OPERATIVE COMPLICATIONS FOLLOWING HEPATIC RESECTION

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Introduction Neutrophil:lymphocyte ratio (NLR) is a marker of systemic inflammation and, if high, has been shown in several studies to be correlated with adverse outcome following operative intervention in many conditions.[1–3] We attempted to test this association by analysing pre-operative NLR in all patients undergoing liver resection in our unit and attempting correlation with markers of adverse outcome in the form of post-operative complications and length of inpatient stay.

Methods Our unit is a regional tertiary referral centre for hepatic surgery undertaken for both benign and malignant disease. A database of patient demographics, radiological and histological findings and blood tests for this cohort has been prospectively maintained since 2005 and the data has been retrospectively analysed for this study. A NLR of >5 was considered elevated.

Results Between 15 July 2005 and 27 September 2011, 377 hepatic resections were performed. 62% were for colorectal carcinoma metastases, 6% for other metastases, 8% for benign disease, 7% for cholangiocarcinoma, 7% for hepatocellular carcinoma, 4% for gallbladder cancer and 2% for neuroendocrine tumours. Median patient age was 65 and 56% were male. Our median NLR was 2.5. Overall morbidity was 26%. Post-operative complications seen include bile leak 8%, liver failure 1% and post-operative death 2%. There were no intra-operative deaths. Intra-operatively, 19 % of patients required an average of 3.8 units packed cell transfusion, 6% an average of 3.7 units FFP and 2% 1.5 pool platelets. When NLR was correlated against post-operative complications, there was seen to be no association (p>0.5). Median length of inpatient stay was 8 days (range 3 to 70 days). There was also no correlation demonstrable between NLR and length of inpatient stay (p=0.23).

Conclusion Preoperative NLR does not appear to be a useful predictor of post-operative outcomes in the form of complications and post-operative hospital stay in patients undergoing liver resection.

Abstract PTU-022 Table 1

Surgical procedure	Percentage
Right hemihepatectomy	29%
Left hemihepatectomy	12%
(Partially) extended right hemihepatectomy	13%
(Partially) extended left hemihepatectomy	6%
Left lateral excision	9%
Wedge resection	24%
Excision gallbladder bed	4%
Other	3%

Competing interests None declared.

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PTU-023 LONG-TERM OUTCOMES FOLLOWING DRUG-ELUTING BEAD TRANSARTERIAL CHEMOEMBOLISATION (DEB-TACE) AS PART OF MULTIMODALITY TREATMENT FOR HEPATOCELLULAR CARCINOMA

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