

Abstract PTU-070 Table 1 Analysis results of associated SNPs

Chr	SNP	Locus	Alleles (minor/major)	Minor allele frequency (cases/controls)	p Value (UK cohort)	OR UK cohort (95% CI)	OR (combined) (95% CI)	p Value (combined)
4	rs12511287	IL2/IL21	A/T	0.30/0.26	$2.9 \times 10^{-4}$	1.21 (1.09 to 1.34)	—	—
10	rs4147359*	IL2RA	A/G	0.38/0.34	$2.6 \times 10^{-4}$	1.20 (1.08 to 1.32)	1.25 (1.16 to 1.36)	$1.5 \times 10^{-8}$
10	rs706778*	IL2RA	T/C	0.44/0.39	$4.3 \times 10^{-4}$	1.19 (1.08 to 1.31)	1.24 (1.14 to 1.35)	$3.4 \times 10^{-7}$
10	rs7090530	IL2RA	C/A	0.35/0.39	$6.9 \times 10^{-4}$	0.83 (0.75 to 0.92)	—	—

\*Meta-analysis using previously published summary statistics<sup>1</sup> was performed in R statistical software package using the Metagen package.

**Conclusion** This study confirms the IL2RA and IL-2/IL-21 locus association in PSC suggesting a role of adaptive immune responses. Genetic variants at these loci are associated with autoimmune diseases. Association of PSC with variants at these loci could imply not only a shared genetic risk with other diseases but also identify the immunological pathways favouring disease development. Functional studies are now required to identify the causative gene or genes to facilitate rapid translation to the discovery of novel therapeutics.

**Competing interests** None declared.

## REFERENCE

- Melum E, et al. *Nat Genet* 2011;43:17–19.

### PTU-071 IMPROVED OUTCOMES FOLLOWING COVERED TIPSS IN PATIENTS ADMITTED TO INTENSIVE CARE FOLLOWING A VARICEAL BLEED: A SINGLE CENTRE STUDY

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C Corbett,\* D Tripathi, N Murphy, S Olliff, K Mangat. *Queen Elizabeth Hospital, Birmingham, UK*

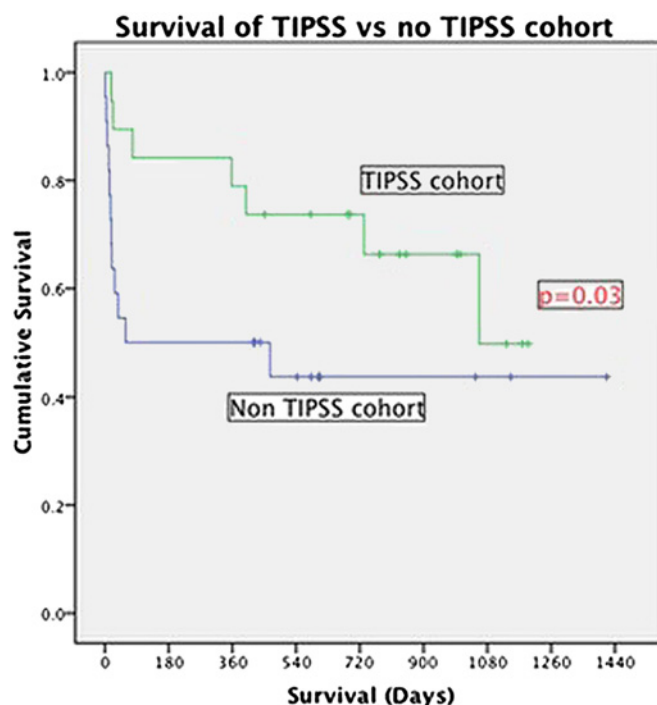
**Introduction** Variceal bleeding occurs in a third of patients with cirrhosis and varices, and accounts for 10% of all GI bleeding in the UK. The 6-week mortality of 20% is greater than that for myocardial infarction. Recent evidence suggests that early covered TIPSS can improve outcomes after variceal bleed in certain patients.

**Methods** This is a retrospective study of patients with a history of variceal bleeding admitted to intensive care unit over a 3-year period. Patients without no active bleeding or stigmata of variceal haemorrhage were excluded. Multiple factors surrounding the admission and therapy were analysed. All TIPSS procedures were performed using PTFE covered stents during the admission.

**Results** 41 patients met inclusion criteria. 56% had alcoholic liver disease, 39% and 45% had Child C and B disease respectively. Mean age was 53.7 years, and median follow-up 466 days. The mean MELD was 14.4. 18% were shocked on admission, and 83% required invasive ventilation. 91% of admissions underwent endoscopy within 24 h of admission. All patients had broad spectrum antibiotics and terlipressin during the admission. The principal endoscopic therapy was variceal band ligation (44%), with 41% undergoing balloon tamponade as 1<sup>st</sup> intervention. 86% had active bleeding at index endoscopy, with 72% having balloon tamponade placed at some point. Indication for TIPSS was salvage therapy (60%), following re-bleeding (15%) and secondary prophylaxis (25%). Overall there was 34% inpatient admission mortality. The TIPSS group (n=19) had lower mortality than the non TIPSS group (n=22) at 6 weeks (11% vs 45% p<0.05) that persisted throughout follow-up (36% vs 54%, p<0.05). Multivariate analysis revealed a MELD $\geq$ 18 and SOFA  $\geq$ 11 as significant predictors of mortality (p<0.05). Baseline characteristics were well matched between these groups. Fewer patient in the TIPSS group reached the composite end

point of rebleeding after 5 days or failure to control initial bleeding (12% vs 45%, p=0.02).

**Conclusion** This study shows that patients with recent severe variceal bleeding admitted to intensive care have significantly better outcomes following covered TIPSS insertion. These findings need to be validated in randomised controlled trials.



Abstract PTU-071 Figure 1

**Competing interests** None declared.

### PTU-072 A UK STANDARDISED CYSTIC DUCT IDENTIFICATION TECHNIQUE WILL HELP TO MITIGATE THE EFFECT OF HUMAN ERROR AND IMPROVE SYSTEMATIC TRAINING

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C Brown,\* R Radwan, A Rasheed. *Department of General Surgery, Gwent Institute for Minimal Access Surgery, Newport, UK*

**Introduction** Laparoscopic cholecystectomy is a visual discipline and biliary tract anatomy is deduced by visual clues from a displayed image on a TV Screen where errors stemming from visual illusions and misperceptions are possible and even when irregularities were identified, corrective feedback does seem to occur, which is characteristic of human thinking under firmly held assumptions lead to misidentification of the bile duct as a cystic duct and consequent misadventure. Our aim was to survey descriptive terms of cystic duct identification and compare them against the Society of the

American Gastrointestinal and Endoscopic Surgeons recommendations being the only written guidance in the literature.

**Methods** Welsh trainees and ALS members were invited to complete a online survey to select the descriptive terms that best fit their method of cystic duct identification including Calot's triangle Identified", "Calot's triangle Demonstrated", "Infundibular technique utilized" and "Critical View of safety demonstrated".

**Results** 133 surveys were completed by six clinical fellows (4.5%), 28 ST/SpRs (21.2%) and 98 consultants (74.2%). The most common descriptive terms used was "Calot's triangle demonstrated" (38.3%), followed by "Calot's triangle identified" (32.5%), "critical view of safety demonstrated" (24.2%) and lastly "infundibular technique utilized" (5%). The majority of surgeons in this survey do not seem to select the terms that are perceived to reflect "best practice" for the method of cystic duct identification during LC. It is possible that these surgeons are utilising "best practice" but did not recognise the provided terms or selected the incorrect term or used other terms that were not provided in this survey.

**Conclusion** The survey highlights the need for standardisation of image-guided surgical procedures to mitigate the effect of human error and take the outcome of such surgery a new height that was never reached in the open era. Standardisation will also permit systematic training and streamline competency testing paving the way for the transition from apprenticeship-based training to a systematic time-efficient training. In the aviation industry the initial study into human factors was controversial but is now a mandatory and cornerstone process for achieving best air transport safety. We feel there is potential for adopting a similar approach in the rapid and technologically advancing era of surgery based on "visual disciplines" to help reduce human error and thus leading to improved patient safety.

**Competing interests** None declared.

## REFERENCE

1. **Sockeel P**, Chatelain E, Massoure MP, *et al*. Surgeons can learn from pilots. *J Chir (Paris)* 2009;**146**:250–5.

## PTU-073 HEPATIC SINUSOIDAL INJURY IS ASSOCIATED WITH SHORTENED LONG-TERM SURVIVAL IN PATIENTS UNDERGOING RIGHT TRISECTIONECTOMY FOR COLORECTAL LIVER METASTASES

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C P Neal,\* C D Mann, G Garcea, E Pointen, A McGregor, M S Metcalfe, D P Berry, A R Dennison. *Department of Hepatobiliary and Pancreatic Surgery, Leicester General Hospital, Leicester, UK*

**Introduction** Recent data have suggested that oxaliplatin-associated sinusoidal injury (SI) in the non-tumour bearing liver (NTBL) may be associated with adverse long-term outcome following hepatectomy for colorectal liver metastases (CRLM), though this observation may be an epiphenomenon of associations with unfavourable tumour biology. This study aimed to assess the impact of NTBL histology upon long-term outcome in a series of consecutive patients undergoing right hepatic trisectionectomy for CRLM.

**Methods** Clinicopathological data for patients undergoing right trisectionectomy at a UK tertiary referral hepatobiliary centre between January 2002 and December 2008 were obtained from a prospectively maintained database. Blinded NTBL pathological review was conducted by two pathologists using established criteria for SI, steatosis, non-alcoholic steatohepatitis, fibrosis and cholestasis. Univariate and multivariable Cox regression analyses were performed to correlate perioperative and pathological variables with long-term overall and disease-free survival. Postoperative deaths (90-day) were excluded from long-term survival analyses.

**Results** A total of 66 consecutive patients underwent right trisectionectomy for CRLM over the study period. Preoperative oxaliplatin-based chemotherapy was used in 24 cases (36.4%, median 6 cycles, range 2–8 cycles). SI was noted in 21 cases (31.8%) and was independently associated with oxaliplatin use. 5-Year overall survival rate was 28.8%. On multivariable analysis, number of metastases resected and SI were independently associated with shortened overall survival following trisectionectomy. Number of metastases resected, perioperative blood transfusion and SI were independently associated with shortened disease-free survival following trisectionectomy. Steatosis, non-alcoholic steatohepatitis, fibrosis and cholestasis showed no association with long-term survival.

**Conclusion** Short-course oxaliplatin-associated SI is associated with adverse prognosis following right trisectionectomy for CRLM. The inclusion of traditional clinicopathological variables as covariates suggests that this finding is unlikely to simply be an epiphenomenon of associations with unfavourable tumour biology. Further studies are necessary to confirm these findings and to explore the underlying mechanism(s).

**Competing interests** None declared.

## PTU-074 ANATOMIC VS NON-ANATOMIC RESECTION OF COLORECTAL LIVER METASTASES: A COMPARISON OF SURGICAL AND ONCOLOGICAL OUTCOMES

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C P Neal,\* G Garcea, C Moreman, A McGregor, C D Mann, V Cairns, M S Metcalfe, A R Dennison. *Department of Hepatobiliary and Pancreatic Surgery, Leicester General Hospital, Leicester, UK*

**Introduction** Non-anatomic resections (NAR) for colorectal liver metastases (CRLM) have become increasingly common in an attempt to increase resection rates and to enable parenchyma-preserving resections, though some investigators have reported NAR to be associated with higher rates of resection margin positivity and poorer long-term survival than anatomic resections (AR). The aim of this study was to compare surgical outcomes, recurrence and survival in patients treated with NAR and AR.

**Methods** Patients undergoing hepatic resection for CRLM between January 2002 and December 2008 were identified from a prospectively maintained database. Patients were divided into two groups: those who underwent AR and those who underwent NAR. Patients who underwent simultaneous AR and NAR were excluded from analysis. Clinicopathological variables and perioperative outcomes, as well as long-term disease-free and overall survival were compared between the AR and NAR groups, using the  $\chi^2$  test, Mann–Whitney U test, logistic regression analysis, log-rank analysis and multivariable Cox regression analysis employing a backwards stepwise model.

**Results** Over the study period 91 patients underwent AR and 77 patients underwent NAR. Perioperative (90-day) morbidity, major morbidity and mortality occurred in 25.0%, 8.3% and 1.8% of cases respectively. There was no significant difference in rates of perioperative morbidity, major morbidity or mortality according to resection type (all  $p > 0.30$ ). There was also no difference in the incidence of positive resection margins between resection types ( $p = 0.413$ ). Overall survival was 48.5% and 36.6% at 3 and 5 years respectively, with disease-free survival of 31.4% and 25.3% at 3 and 5 years respectively. Type of resection was not associated with any significant difference in overall ( $p = 0.430$ ) or disease-free survival ( $p = 0.625$ ) following metastasectomy.

**Conclusion** AR is not superior to NAR in terms of perioperative risk, tumour clearance, time to recurrence or long-term survival following metastasectomy. NAR should remain an integral component of the surgical treatment of CRLM and may enable increasing rates of