ENDOSCOPIC ULTRASOUND IN THE EVALUATION OF LIVER HILAR PATHOLOGY

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Introduction Liver hilar pathology has traditionally been challenging to investigate as histological diagnosis is often difficult to obtain. The diagnostic yield of existing techniques including ERCP is suboptimal. Patients have consequently been managed in the absence of histological diagnosis, with the attendant hazards, including potential metal stent placement or unwarranted surgery in the absence of malignant disease. Up to 15% of patients with suspected biliary malignancy who undergo surgery are found to have benign disease. The utility of endoscopic ultrasound has not been established and our study aims to evaluate the role of EUS in this setting.

Methods This is a retrospective review of all patients with a hepatic hilar stricture and or mass, who were reviewed at the hepatobiliary multidisciplinary meeting between July 2006 and September 2011 and went on to have an EUS examination. Patients with presumed benign disease were followed until they underwent definitive surgery, or for 1-year with serial cross sectional imaging.

Results 95 patients with hilar lesions underwent 114 EUS examinations. 67 (70%) patients were diagnosed to have malignant disease. 58 patients had biliary tract cancer. EUS-FNA yielded a positive cytological diagnosis in 52 (78%) patients. In 15 patients EUS cytology was false negative. 28 patients were diagnosed with benign disease. Factors that predicted malignant disease at EUS examination included the presence of a bile duct associated mass lesion (p value 0.0001) and an EUS morphological diagnosis of cancer (p value 0.05). The presence of ‘pathological’ lymph nodes was not statistically significant (p value 0.79). Sensitivity in obtaining a cytological diagnosis, accuracy in defining benign and malignant disease, specificity and negative predictive value of EUS were 78%, 85%, 100%, and 66% respectively. Metal stent insertion was contemplated in at least two patients following cross sectional imaging but was abandoned after EUS confirmed the benign nature of their condition.

Conclusion In the largest series to date we report high sensitivity (80%) for EUS cytology in the diagnosis of malignant disease and accuracy (85%) in distinguishing malignant from benign disease. EUS had a significant impact on the clinical management of our patients, including prevention of potential metal stent placement in at least two patients who were eventually diagnosed with benign disease.

COMPETING INTERESTS None declared.

REFERENCE

specifically crosschecked with a separate histopathology database. Univariate and subsequent multivariate analysis were carried out for biliary and vascular invasion individually and in combination with other prognostic variables to assess their clinical significance. Survival was assessed using Kaplan–Meier plots and log rank tests for significance (p<0.05) using SPSS V.19.

**Results** 432 patients (67% male, mean age 64.5 years, range 29–86) underwent liver resection for CRLM during this time period. Primary tumours were either colonic (54%) or rectal (46%). Seventy patients (16.3%) had positive biliary invasion on tumour histopathology whereas 137 (32%) had vascular invasion. Overall 155 (36%) patients had both biliary and vascular invasion (BVI). Overall 5-year survival was 43% in this series. On univariate analysis 5-year survival in those patients with biliary invasion was 39.9% compared to 42.5% in those without biliary invasion (p=0.866). Results were similar in those patients with or without vascular invasion respectively (40.4% vs 45.2%, p=0.65). Also combined BVI failed to influence OS (39.2% vs 42.2%, p=0.856).

**Conclusion** In our series, biliary invasion of CRLM does not affect overall survival rates in patients having liver resection.

**Competing interests** None declared.

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**PWE-147**

**COLORECTAL LIVER METASTASIS (CRLM): INCREASING ROLE OF LAPAROSCOPIC LIVER RESECTION—A SINGLE UNIT COMPARATIVE ANALYSIS**

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**Introduction** Laparoscopic liver resection (LLR) is becoming increasingly used to reduce the morbidity of open liver resection. The aim of this study was to compare outcomes after LLR with that of open liver resection.

**Methods** From April 2007 onwards all patients who underwent either left lateral sectionectomy, left hemi-hepatectomy, segmentectomy or non-segmental resection for CRLM were identified from a prospectively maintained HPB database (open and LLR). Those having right hepatectomy were excluded from analysis as there were too few laparoscopic procedures for meaningful analysis.

Comparisons between groups were made in terms of complications (graded using the Clavien-Dindo classification), duration of hospital stay and overall survival (OS). Statistical analysis was performed using Fisher Exact test for categorical variables, Mann–Whitney U test for non-parametric continuous variables and overall survival (OS) plotted with Kaplan–Meier curves (SPSS V.19).

**Results** 432 patients (67% male, mean age 64.5 years, range 29–86) underwent liver resection for CRLM during this time period. During the same period 94 patients had open equivalent procedures for CRLM (including 4 conversions from a lap procedure). Female patients were more likely to have a LLR compared to open (47% females, 24% males p=0.01). Grade 3 and 4 complications were more seen in the open group (8.5% vs 4.7%), however grade 1 and 2 complications were slightly higher in the laparoscopic group (18.6% vs 17.1%). Median stay was 4 days in LLR group (range 1–23), 7 days (range 3–95) in open group, p=0.001. R1 resections were less during second era of the study in LLR and comparable to the open group. At 3 years 91% of LLR and 72% of open group were alive. OS was similar (p=0.4).

**Conclusion** Laparoscopic liver resection has shown benefits in terms of lower morbidity in our series when comparing it to equivalent open procedures. Long term follow-up will be needed to see if there is real advantage in OS and outcome.

**Competing interests** None declared.

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**PWE-148**

**BOUVERET’S SYNDROME: LEAVING NO STONE UNTURNED**

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**Introduction** Bouveret’s syndrome is a clinically distinct form of gallstone ileus caused by the formation of a fistula between the biliary tract and duodenum. Early recognition and treatment can significantly improve morbidity and mortality. We present two cases that have been successfully treated at our hospital.

**Methods** Patient A is 71-year-old lady who was referred for gastroscopy after a CT abdomen that was performed to investigate her weight loss showed deformity of the duodenal cap. The gastroscopy showed a large gallstone obstructing the pyloric opening (Abstract PWE-148 figure 1A). Endoscopic removal was unsuccessful. She then developed vomiting and abdominal pain. Blood tests showed raised inflammatory markers and liver function tests. Repeat gastroscopy showed that the gallstone had passed down the pylorus, revealing a fistula opening in the duodenum (Abstract PWE-148 figure 1B). Diagnosis was confirmed on repeat CT abdomen which showed pneumobilia and two large gallstones that had migrated to the ileum (Abstract PWE-148 figure 1C). Patient B is 87-year-old lady who presented with a 1-week history of vomiting and haematemesis. Her blood tests on admission showed raised inflammatory markers with normal liver function tests. Gastroscopy showed oesophagitis, a duodenal ulcer and obstructing gallstone. Gastrografin studies then showed that the gallstone had migrated to the proximal jejunum (Abstract PWE-148 figure 1D) and this was confirmed on CT abdomen.

**Results** Patient A was treated with a Ryle’s tube insertion for stomach decompression, intravenous fluids, antibiotics and peripheral parenteral nutrition. She underwent a laparotomy, which showed distended fluid filled small bowel, with a large 5×3 cm gallstone lodged in the ileum. An ileal enterotomy was performed and the gall stone excised. Patient B was treated with a Ryle’s tube insertion, intravenous fluids and peripheral parenteral nutrition. She underwent a laparotomy, in which a gallstone was found lodged in...