

cases. Candidates for Enterra had a 2-week trial of temporary stimulation, via a trans-nasal electrode that was endoscopically implanted into the gastric submucosa. Only those with good response proceeded to laparoscopic implantation of a permanent Enterra device. 50% or greater symptom-reduction was classified as a good response.

**Results** There were 71 patients (51 women, 72%), with median age 42 years (range, 14–69). The aetiology of gastroparesis was idiopathic (43 patients, 61%), diabetes (15, 21%) or post-surgical (13, 18%). At presentation, oral nutrition was supplemented by nasogastric tube feeding in seven patients, surgical jejunostomy in eight or parenterally in one (total, 16 patients; 22%). Previous intervention included endoscopic injection of Botulinum toxin (Botox) into the pylorus in 16 patients (22%), pyloroplasty in two, distal gastrectomy in one and gastrojejunostomy in one. It was decided to directly proceed with permanent Enterra in four patients. Of the remaining, 51 patients have currently completed a trial of temporary stimulation; 39 (77%) had a good response and were selected for permanent Enterra, which has been completed in 35 patients. Outcome data are currently available for 31 patients (idiopathic, 21 patients; diabetes, three; post-surgical, seven), with median follow-up period of 10 months (1–28). 22 patients (71%) had a good response to permanent Enterra; these included 14 (68%) with idiopathic, 5 (71%) with post-surgical and all three with diabetic gastroparesis.

**Conclusion** 71% of well-selected patients with intractable gastroparesis had good response to permanent gastric electrical stimulation with Enterra at follow-up up to 2 years. These data compare advantageously with reported data (>50% symptom-reduction in 54%)<sup>1</sup> and support the inclusion of a trial of temporary stimulation in the selection algorithm for permanent Enterra therapy.

**Competing interests** None declared.

## REFERENCE

1. **McCallum, et al.** Gastric electrical stimulation improves outcomes of patients with gastroparesis for up to 10 years. *Clin Gastroenterol Hepatol* 2011;**9**:314–19.

## OC-062 A COMPARATIVE STUDY OF LAPAROSCOPIC VS OPEN CYSTGASTROSTOMY FOR PANCREATIC PSEUDOCYSTS

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**Introduction** While large and persistent pancreatic pseudocysts are amenable to internal drainage by laparoscopic techniques, the benefits of this minimally invasive approach remain to be demonstrated. The aim of this study was to compare the open and laparoscopic approaches for internal drainage of large and persistent pancreatic pseudocysts.

**Methods** Patients who underwent cystgastrostomy were selected, and the demographic features, clinical characteristics and outcomes of those who had the surgery performed laparoscopically were compared to those who had open surgery. The two approaches were compared on an intention-to-treat basis. Data shown represent medians.

**Results** Between 1997 and 2010, 42 patients (15 female and 27 male) underwent 45 surgical internal drainage procedures for pancreatic pseudocysts (36 laparoscopic with two conversions to open surgery, and nine open). The laparoscopic and open groups were comparable for age (56 vs 53 years,  $p=0.448$ ), sex distribution, and size of pseudocyst (12 vs 13 cm,  $p=0.305$ ). The two approaches had comparable operating times (90 vs 75 min,  $p=0.630$ ) but laparoscopic surgery carried a significantly lower risk of postoperative

morbidity (5.8% vs 54.5%,  $p=0.001$ ) and shorter postoperative hospital stay (2 vs 10.5 days,  $p<0.001$ ). Laparoscopic surgery was also associated with a more rapid resumption of dietary intake (median 4 vs 6 days,  $p=0.065$ ). There was one death in the open group (11.1%) but none in the laparoscopic group.

**Conclusion** The laparoscopic approach to cystgastrostomy for large and persistent retrogastric pancreatic pseudocysts is associated with a smoother and more rapid recovery and a shorter hospital stay compared with open surgery.

**Competing interests** None declared.

## BASL free paper session

### OC-063 THE SEVERITY OF HEPATIC ISCHAEMIA-REPERFUSION INJURY IS ASSOCIATED WITH ACUTE KIDNEY INJURY FOLLOWING DONATION AFTER BRAIN DEATH LIVER TRANSPLANTATION

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**Introduction** Donation after Cardiac Death liver transplant recipients have an increased frequency of acute kidney injury (AKI) during the immediate post-operative period and in these patients peak peri-operative aspartate amino-transferase (AST), a surrogate marker of hepatic ischaemia-reperfusion injury (IRI), is the only variable associated with renal dysfunction (Leithead *et al Am J Transplant* 2012). This suggests that hepatic IRI may play a critical role in the pathogenesis of AKI after liver transplantation. The aim of this study was to determine if graft injury is also associated with renal dysfunction following Donation after Brain Death (DBD) liver transplantation.

**Methods** Single-centre study of 290 patients who underwent first whole DBD liver transplantation for chronic liver disease 01/2007–06/2011. Peak peri-operative serum AST was recorded as a marker of hepatic IRI. AKI was defined according to the RIFLE criteria: peak serum creatinine  $\geq 2$  times baseline.

**Results** The median peak peri-operative AST was 1307 U/l. Peak AST correlated well with the histological grading of IRI on “time zero” allograft biopsy ( $p=0.007$ ). The median peak peri-operative creatinine was 125 (IQR 91–191)  $\mu\text{mol/l}$ . The median percentage change in creatinine from baseline was +49 (IQR 12–119). 36.9% of patients developed AKI, of whom 58.9% required renal replacement therapy. Patient survival was reduced in the AKI group (AKI, 82.8%; no AKI, 95.5%, estimated 1-year survival; log rank  $p=0.001$ ). On univariate analysis peak AST correlated with both peak creatinine ( $r=0.259$ ,  $p<0.001$ ) and peak change in creatinine from baseline ( $r=0.309$ ,  $p<0.001$ ). Median peak AST was higher in AKI patients (1755 vs 1158 U/l;  $p<0.001$ ). The incidence of AKI was 25.7%, 41.0% and 75.0% for patients with a peak AST of <1500, 1500–3000 and  $\geq 3000$  U/l, respectively ( $p<0.001$ ). On multiple logistic regression analysis the variables associated with AKI were black ethnicity ( $p=0.043$ ), pre-transplant MELD ( $p=0.047$ ), pre-transplant refractory ascites ( $p=0.047$ ), intra-operative red cell concentrate requirements ( $p<0.001$ ), peri-operative sepsis ( $p<0.001$ ) and peak peri-operative AST ( $p<0.001$ ).

**Conclusion** Hepatic IRI demonstrates a strong relationship with peri-operative AKI in DBD liver transplant recipients. Hepatic IRI may therefore play an important and modifiable role in the pathogenesis of renal dysfunction in this setting.

**Competing interests** None declared.