

Conclusion The laparoscopic approach to distal pancreatectomy results in significantly lower blood loss, and shorter HDU and hospital stay compared with open surgery. The postoperative morbidity and R0 resection margin rates were comparably similar.

Competing interests None declared.

PMO-100 **OUTCOME OF MINIMALLY INVASIVE PANCREATIC NECROSECTOMY WITHOUT IRRIGATION**

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Introduction Necrotizing Pancreatitis with secondary infection of the pancreatic tissue is associated with significant morbidity and mortality. Current evidence suggests that a minimally invasive retroperitoneal necrosectomy (MIRP) is feasible, well tolerated and beneficial for the patient when compared with open surgery.

Methods A total of 16 patients who underwent MIRP from September 2007 to April 2011 were included in the study. Current minimal access techniques all recommend routine irrigation but we aim to show that comparable results can be achieved without irrigation.

Results The mean age was 52.5 years with 13 patients transferred from other centres. The aetiology was gallstones (13), alcohol (1), idiopathic (1) and hyperlipidaemia (1). The average time before 1st necrosectomy was 50.2 days. The mean number of procedures was 3.3 (range 1–7) with one patient requiring an open procedure. One patient required post-necrosectomy ICU admission. 13 patients had nasojejunal feed and four patients started with parenteral feed which was later converted to nasojejunal. Five patients developed a pancreatic fistula, three patients developed colonic fistula and two patients died. Mean inpatient stay was 82.6 days (range 31–182).

Conclusion This series suggests that doing MIRP without irrigation has results comparable to other centres carrying out routine irrigation.

Competing interests None declared.

PMO-101 **ENTERAL NUTRITION IN ACUTE PANCREATITIS: NASOGASTRIC OR NASOJEJUNAL?**

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Introduction Enteral feeding is beneficial in patients with severe acute pancreatitis. A published series suggests 100% can be fed via the nasogastric (NG) route.

Methods 146 consecutive patients (January–December 2010) admitted with acute pancreatitis (AP) were reviewed to assess the safety and tolerance of NG feed. In all severe AP patients nutrition was initially delivered via an NG tube, if they were not absorbing a nasojejunal (NJ) tube was inserted.

Results 29 patients were identified as having poor outcome. 127 (87%) patients were able to commence oral intake within 72 h of admission. 19 (13%) patients required additional enteral or parenteral nutritional support. 16 patients were commenced on NG feed but two patients needed conversion to NJ feed. Three patients were directly commenced on NJ feed but one needed conversion to parenteral feed. Only one patient had been commenced on parenteral feed prior to transfer. Need for nutritional support was a significant indicator of poor outcome; morbidity 13/19 vs 12/127 ($p < 0.0001$) and mortality 6/19 vs 1/127 ($p < 0.0001$).

Conclusion Nasogastric feeding is well tolerated in the majority (73.7%) of patients with severe AP. NG feeding should be first line, but if failing a rapid change to the NJ route instituted.

Competing interests None declared.

PMO-102 **MEMBRANOUS EXPRESSION OF SULFATASE-2 IS ASSOCIATED WITH A POORER PROGNOSIS IN PATIENTS FOLLOWING PANCREATIC CANCER RESECTION**

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Introduction Pancreatic adenocarcinomas are resistant to medical therapies and associated with a poor prognosis. Sulfatase 2 (SULF2) is one of two extracellular heparan sulphate 6-O-endosulfatases that modulate ligand activated FGF and Wnt signalling. SULF2 expression is dramatically upregulated at mRNA levels in pancreatic cancers (NCBI GEO). We have investigated SULF2 protein expression in pancreatic adenocarcinomas, in association with clinicopathological parameters.

Methods Immunohistochemistry for SULF2 was performed on archived FFPE (Formalin-Fixed paraffin Embedded) blocks from 21 resected primary pancreatic adenocarcinomas, most of which were histologically defined as ductal (19/21, 90.5%). Membranous and cytoplasmic expression of SULF2 in tumour and stromal cells were separately assessed. Additionally, immunostaining for α -Smooth Muscle Actin (a-SMA) was performed for further cell characterisation.

Results SULF2 was expressed in tumour cells in the majority of the tumours (18/21, 86%). This expression was either cytoplasmic (13/21, 61.9%), membranous (12/21, 57.1%) or both (17/21, 80.9%). Membranous positivity was found almost exclusively in tumours with low differentiated areas (11/12, $p = 0.007$). Membranous over-expression was also associated with shorter patient survival ($p = 0.011$). Spindle-shaped cells of desmoplastic tumour stroma showed strong cytoplasmic positivity in all tumours studied (21/21, 100%). These cells were also positive for a-SMA, a marker of activated pancreatic stellate cells. Non-neoplastic pancreas showed only focal positivity for SULF2; this involved mainly endothelial, and scattered epithelial cells of exocrine pancreas.

Conclusion SULF2 over-expression is common in pancreatic adenocarcinomas, in both the ductal cancer cells as well as the desmoplastic tumour stroma. Tumour cell membranous localisation and over expression is associated with a more aggressive tumour behaviour and poorer patient survival. SULF2 is a novel candidate biomarker in patients for pancreatic cancer, identifying those with a poorer prognosis, as well as those who may benefit from therapies inhibiting SULF2.

Competing interests None declared.

PMO-103 **PROGNOSTIC VALUE OF POST OPERATIVE CA19-9 IN PATIENTS UNDERGOING PANCREATODUODENECTOMY FOR PANCREATIC ADENOCARCINOMA**

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Introduction Pancreatic Adenocarcinoma accounts for over 90% of Pancreatic malignancy with overall survival being $< 5\%$ at 5 years. CA 19-9 is a commonly used tumour marker with levels in excess of 200 U/ml being 90% sensitive for pancreatic malignancy. Pre-

operative CA 19-9 has been used as a prognostic marker with higher levels being associated with poorer outcomes. The purpose of this study was to see if post operative Ca19-9 was an independent prognostic factor.

Methods A retrospective analysis of a prospectively collected database from January 2005 to December 2010. Inclusion criteria was a normal preoperative bilirubin and pre and postoperative Ca 19-9 measurements (n=76). The primary endpoint was death or recurrence of disease. Data were also analysed for TNM staging, resection margin status and overall survival.

Results 70 patients with pancreatic ductal adenocarcinoma were in the study. An elevated post operative CA19-9 (n=33) had a significantly poor mean survival of 26.8 months compared to patients with normal levels (n=37) who had a mean survival of 45.5 months (p=0.004). For patients with a postoperative value ≥ 200 U/ml (n=13) mean survival was 19.8 months compared with levels < 200 U/ml (n=57) being 43.9 months (p=0.001). A $< 75\%$ fall in post operative ca19-9 levels in comparison to preoperative levels (45 vs 25 patients) resulted in poor mean survival of 34.9 vs 45.9 months but did not reach statistical significance (p=0.218).

Conclusion In patients who have undergone pancreaticoduodenectomy for ductal adenocarcinoma having a normal postoperative Ca 19-9 is a marker for improved outcome where as a level in excess of 200 U/ml is a negative predictive factor. A $< 75\%$ fall in post operative readings of CA19-9 results in poor survival (11 months) but was not statistically significant.

Competing interests None declared.

PMO-104 THE USE OF FAECAL ELASTASE IN A DISTRICT GENERAL HOSPITAL

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Introduction Faecal elastase 1 (FE) is a proteolytic enzyme secreted by the acinar cells of the pancreas. Its determination is a highly sensitive and specific tubeless pancreatic function test. The 2003 BSG guidelines were compiled to minimise investigations and maximise positive diagnoses for patients with diarrhoea lasting more than 4 weeks.¹ We analysed the appropriate use of the faecal elastase test and its correlation with symptoms in a large district general hospital.

Methods This retrospective study included all patients who had a FE requested from April 2009 to March 2010. Data were analysed for indication, symptoms, outcome of the test, follow-up, other investigations and the use of creon.

Results Over a period of 1 year, 121 patients had a FE requested. Patient notes and laboratory information was only available for a total of 101 patients. Data were collected from these notes for further analysis. 19 patients (19%) had pancreatic insufficiency with low FE levels (ranging $< 15-144$). 82 patients had normal FE levels (> 500). In patients with a low FE levels, 12 patients had diarrhoea (63%), steatorrhoea (21%), abdominal pain (26%), weight loss (47%), alcohol history (15%), history of pancreatitis in (53%) and none of these patients had abdominal distention, flatulence or offensive stools. 58% in the low FE group had treatment with creon. A logistic regression analysis was performed on three symptoms; diarrhoea, steatorrhoea and previous history of pancreatitis. History of pancreatitis was statistically significant with an OR of 10.21, for faecal elastase insufficiency.

Conclusion In our study group we found that a previous history of pancreatitis was a strong predictor of a low faecal elastase. Though

statistically not significant, patients with diarrhoea, steatorrhoea and weight loss, do benefit from FE testing.

Competing interests None declared.

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PMO-105 PANCREATIC PSEUDOCYST MANAGEMENT: EXPERIENCE FROM A DGH CENTRE

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Introduction Pancreatic pseudocysts are complications of acute or chronic pancreatitis. Diagnosis is usually accomplished by cross sectional imaging and cyst fluid analysis will help in differentiating pseudocyst from other cystic lesions of pancreas. Most of them resolve with supportive care but intervention is required if there are persistent symptoms or develop any complications.¹ Our aim was to review the practice of pancreatic pseudocyst management in a DGH set up and to formulate a care pathway or protocol supported by good evidence base.

Methods Retrospective case notes review of patients diagnosed with pancreatic pseudocyst. Patients were identified by ICD classification based clinical coding database. Data collected includes patient demographics, aetiology of pancreatitis, size and number of cysts, diagnostic modalities used, associated symptoms and complications, indication for intervention and type of intervention used and follow-up strategy

Results 62 patients were diagnosed to have pancreatic pseudocyst in last 7 years. Median age 60 yrs (range 24-91 yrs), male to female ratio was 1.4:1. Total of 81% (n=50) had history of acute pancreatitis. Alcohol (n=32, 50%) was the commonest underlying aetiology. Abdominal pain was the commonest symptom (n=55, 89%) and 10% (n=6) were asymptomatic. CT scan was used as diagnostic modality in 90% (n=56) and USS in 74% (n=46). Total of 82% (n=51) had a single cyst where as 18% (n=11) had multiple. Average cyst size was 70 mm (range 10-270 mm). About 76% (45/59, three died) had follow-up scan and average duration of follow-up was 13 months. Of them, cyst got increased in size in 32% (n=15), decreased in size in 23% (n=11), no change in 28% (n=11) and got resolved in 17% (n=8). Total of 43% (n=23) had their symptoms resolved spontaneously without requiring any intervention. Complications were noted in 28% (n=17, CBD obstruction-7, cyst infection-6, gastric/duodenal obstruction-3 and cyst rupture in 1). About 39% (n=24) required intervention because of persistent symptoms or due to complications. Persisting pain (n=18, 29%) and increase in cyst size (n=7, 11%) were the commonest indications. In 58% (n=14) endoscopic, 33% (n=8) percutaneous and 8% (2) required surgical drainage. Of those who had intervention, 79% (n=19) required once, 17% (n=4) twice and 4% (n=1) thrice. Overall 79% (19/24) had symptoms resolved post intervention.

Conclusion Pancreatic pseudocysts were managed conservatively in more than half of the patients group. In nearly one fifth of patients spontaneous resolution of cysts were noted in follow-up scans. Those who required intervention, endoscopic method was the most common method used and many patients achieved good resolution of their symptoms.

Competing interests None declared.

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