PPP24-001

DUODENUM-PRESERVING PANCREATIC HEAD RESECTION AND RESECTION OF THE HEAD OF THE PANCREAS COMBINED WITH SEGMENTAL DUODENECTOMY

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Introduction: To estimate possibility of performance of the organ-preserving pancreatic resections as alternatives to pancreaticoduodenectomy.

Method: Thirty-one patients underwent duodenum-preserving pancreatic head resection (DPPHR) and pancreatic head resection combined with segmental duodenectomy (PHRSD). DPPHR was performed in 16 patients with a preoperative diagnosis of serous (n = 6) and mucinous (n = 5) cystadenomas, branch duct intraductal papillary mucinous tumors (n = 4), neuroendocrine adenoma (n = 1). Alimentary tract reconstruction after DPPHR was performed by pancreaticojejunostomy (Roux-en-Y) (n = 14) and pancreatogastronomy (1). Double pancreaticojejunostomy (n = 1) was performed after laparoscopic proximal pancreatectomy combined with medial pancreatectomy in multifocal IPMN-BD. Laparoscopic approach was chosen in 3 cases from all DPPHR. PHRSD was performed in 15 patients with chronic pancreatitis complicated by duodenal dystrophy. Alimentary tract reconstruction was performed in all patients by duodenumoduodenectomy combined with pancreaticojejunostomy and choledochojejunostomy (n = 8) – second option, pancreaticoduodenectomy duct-to-mucosa and choledochojejunostomy (n = 1) – third option. Choledochojejunostomy was carried out below the duodenoduodenostomy level always.

Results: No differences were noted in the mean operation time and estimated blood loss between the 2 procedures. Ischemia of duodenum didn’t note in 1 case of DPPHR. Careful attention paid to superior posterior pancreatico-duodenal artery preservation when performing DPPHR. Major postoperative complication constituted the following: bile duct stricture (n = 2) in DPPHR delayed gastric emptying (n = 2) and postoperative bleeding (n = 1) in PHRSD. Newly developed diabetes mellitus occurred in 1 patient. Exocrine pancreatic insufficiency was observed in 2 patients after PHRSD. There was no hospital or long-term mortality.

Conclusions: DPPHR is recommended first for a benign or low-grade pancreatic head lesion. PHRSD is a safe and reasonable technique appropriate for selected patients with chronic pancreatitis complicated by duodenal dystrophy. We found benign periampullary lesions could be conservatively treated with DPPHR and PHRSD, which could substitute for classic pancreaticoduodenectomy.

PPP24-002

THE NEW SCORING SYSTEM EVALUATION FOR RISK ASSESSMENT OF MALIGNANCY IN BRANCH DUCT INTARDUCTAL PAPILLARY MUCINOUS NEOPLASMS

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Introduction: Considering high incidences of malignant/invasive lesion in main duct intraductal papillary mucinous neoplasms, surgical resection is strongly recommended. On the other hand, indication of resection is still controversial in branch duct intraductal papillary mucinous neoplasm (BD-IPMN), because of the difficulty of evaluation of malignancy. The purpose of this study is to examine the characteristics of resected BD-IPMN in our institution and the selection for surgical resection.

Method: Nineteen patients having a surgical pathology specimen showing BD-IPMN were retrospectively reviewed between 1998 and 2012. Patient- and disease-specific information including demographics, presentation, diagnostic workup, operative procedures and pathology were abstracted from the patient’s medical record in a retrospective fashion.

Results: The groups were divided based on their pathology into benign in 47% (9/19), high-grade dysplasia (HGD) (including carcinoma in situ) in 21% (4/19), and invasive cancer in 32% (6/19). To evaluate malignant potential, we were scored cystic lesion size, mural nodule size and diameter of main pancreatic duct of the BD-IPMN cases as follows: cystic lesion size is <29 mm in 0 point, 30–49 mm in 1 point and ≥50 mm in 2 point. Mural nodule size is <2 mm in 0 point, 3–5 mm in 1 point and 6 mm in 2 point. Diameter of main pancreatic duct is <4 mm in 0 point, 5–8 mm in 1 point and ≥9 mm in 2 point. By summing the each point, 0–2 points is grade A, 3–4 points is grade B and 5–6 points is grade C. Eight cases of benign were included in grade A, one case of benign, 4 cases of HGD and 1 case of invasive cancer were included in grade B and 1 case of HGD and 3 cases of invasive cancer were included in grade C (the χ² test, p = 0.007).

Conclusions: Our scoring system using three independent factors may be helpful for predicting of BD-IPMN.
CONSERVATIVE TREATMENT AND PERCUTANEOUS CATHETER DRAINAGE IMPROVE OUTCOME OF NECROTIZING PANCREATITIS

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Introduction: Surgical intervention in necrotizing pancreatitis (NP) is associated with high mortality. Guidelines recommend fine needle aspiration (FNA) in patients with NP and signs of sepsis. Because infection of necrosis is considered an indication for surgery, operations are often performed early. We changed treatment toward a conservative approach with percutaneous catheter drainage (PCD) in NP, thereby reducing the rate of open surgery and mortality.

Method: Retrospectively analyzed patients who were operated on for FNA-proven infection of NP (n = 22, group 1) were compared to patients subjected to conservative treatment along with PCD in NP (n = 30, group 2) who were followed prospectively.

Results: On admission, between these 2 groups, most baseline data did not show any statistical difference, including age, gender, etiology, body mass index (BMI), C-reactive protein (CRP) level, Acute Physiologic and Chronic Health Evaluation II score (APACHE II), Balthazar computed tomography [CT] score. In group 2, all 30 patients were implemented maximum conservative treatment, 25 of 30 patients were cured by PCD (83.3%), open necrosectomy were needed for 3 patients (10.0%) and 2 dead during hospitalization (6.7%). Whereas, in group 1, surgical operation rate was 45.6% and hospital mortality 31.8%, both of the ratios were differed significantly compared with group 2, 45.6% vs 10%, p = 0.008, 31.8% vs 6.7%; p = 0.027 respectively. Furthermore, Hospital stay were significantly higher in group 1 compared with the group 2 (39 ± 13.4 vs 90 ± 18.5; p = 0.033).

Conclusions: A conservative approach with PCD as the first choice to treatment NP might decrease the rate of surgical operation and mortality compared with previous serial FNA and consecutive indication for surgery in case of proven infection. In addition, Employing PCD to treatment NP is effective and secure.

ASSOCIATION OF INTEGRIN BETA4 (ITGB4) GENE POLYMORPHISM WITH PANCREATIC ADENOCARCINOMA

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Introduction: Pancreatic cancer (PC) is a multifactorial disease. Genetic background and variations occurred in specific genes’ sequence could affect the susceptibility of individuals to PC development. The aim of our study was to determine the role of single nucleotide polymorphisms of three cancer related genes including CDKN2A, ITGB4 and IL-16 in risk of PC development.

Method: A total of 243 individuals including 104 known pancreatic ductal adenocarcinoma patients and 139 healthy controls were subjected for the study. Four selected single nucleotide polymorphisms (SNP) were genotyped using polymerase chain reaction (PCR)-restriction fragment length polymorphism (RFLP) method.

Results: The case and control groups were consisted of 104 Iranian patients (61 male and 43 female, mean age = 62.4 ± 13.4) and 139 healthy controls (75 male and 64 female, mean age = 48.4 ± 16.6) respectively. Our results showed a significant difference between genotype distribution of ITGB4 gene polymorphism (rs743554) among PC patients and healthy control subjects.

Conclusions: Integrin beta-4 also identified as CD104 (Cluster of Differentiation 104) and mediates cell-matrix and cell-cell adhesion in all cell types especially in cancerous cells. Our results suggest that ITGB4 gene rs743554 polymorphism is significantly associated with increasing risk of pancreas cancer among our population.
PPP24-006
INVASION OF THE SPLENIC ARTERY IS A PROGNOSTIC FACTOR AFTER DISTAL PANCREATECTOMY FOR PANCREATIC CANCER OF THE BODY AND TAIL
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Introduction: Survival after curative resection for pancreatic ductal adenocarcinoma (PDA) of the body and tail remains poor. In PDA of the head, infiltration to the superior mesenteric artery or vein is reported to be associated with poor prognosis, even if curative resection is performed. However, in PDA of the body and tail, the correlation between prognosis and infiltration to the splenic artery and vein has been poorly investigated. Therefore, we evaluated prognostic factors in PDA of the body and tail after curative resection.

Method: Between 1992 and 2012 in our institution, 66 patients who underwent distal pancreatectomy (DP) for PDA of the body and tail were analyzed. Clinicopathological prognostic factors for survival were evaluated. Univariate and multivariable analyses were performed.

Results: The 1-, 3-, and 5-year survival rate were 60.9%, 31.7%, and 20.1%, respectively. Invasion of the splenic artery (SA) was observed in 24 patients (36.4%). Patients with SA invasion had a significantly poor prognosis compared with those without SA invasion (median survival: 10.9 vs. 38.7 months, p = 0.001). On the other hand, splenic vein (SV) invasion did not affect prognosis. On multivariable analysis, lymph node metastases and SA invasion were independent predictors of survival.

Conclusions: SA invasion and lymph node metastasis were crucial prognostic factors in PDA of the body and tail, whereas SV invasion was not associated with poor prognosis.

PPP24-007
COULD PYLORUS RESECTION PANCREATECODUODENECTOMY AND BRAUN RECONSTRUCTION REDUCE DELAYED GASTRIC EMPTYING?
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Introduction: Some studies suggest than Pylorus Resection Pancreatecoduodenectomy (PRPD) may reduce Delayed Gastric Emptying (DGE). Braun enterenterostomy has been suggested to decrease DGE as well. We compare subsequently 3 resection/reconstruction techniques regarding its impact on DGE, and an analysis restricted by pancreatic fistula Grade B/C as a confounder factor.

Method: A before/after study was conducted in an oncologic reference institution in Colombia (South America), including consecutive Pancreatecoduodenectomies (PD), excluding antrectomy procedures. In sequential groups patients undergone to a Pylorus preserving PD (PPPD), a PRPD, and a PRPD with Braun enterenterostomy (PRPD-B) in 14, 14, and 15 patients respectively. Perioperative management was uniform during the study. Pancreatic fistula and DGE was defined and graded according to International Study Group of Pancreatic Surgery. Outcomes were incidence of DGE and postoperative day tolerating diet. A subgroup analysis was performed excluding 5 patients with Pancreatic fistula Grade B/C.

Results: No statistical differences between groups in age, sex, ASA classification, surgical time, operative bleeding, and diabetes were found. Median age was 60 years (IQR 49–65), operating time 420 minutes (IQR 365-505), intraoperative bleeding 600 mL (450–900), postoperative hospital stay 12 days (IQR 10–20) and postoperative tolerating diet was 8th day (IQR 6–18). Five patients developed Grade B/C pancreatic fistula and 48% DGE (25% Grade B/C). After exclusion of patient with pancreatic fistula Grade B/C, analysis shown DGE in 64%, 64% and 30% (p = 0.15) and a median of oral intake at 8th, 9th and 6th postoperative day (p = 0.08) in PPPD, PRPD and PRPD-B respectively.

Conclusions: A trend to earlier oral feeding and decreased incidence of DGE were found in PRPD-B, compared with PPPD and PRPD, when patients with pancreatic fistula Grade B/C were excluded. This problem deserves larger and randomized trials and exploring the role of bile reflux in DGE.

PPP24-008
INDICATIONS OF THE LIMITED OPERATION FOR INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM OF THE PANCREAS
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Introduction: Intraductal papillary mucinous neoplasm of the pancreas (IPMN) shows various pathological features from low grade dysplasia to invasive carcinoma. An accurate diagnosis and adequate surgery is mandatory for complete cure. Limited operations without systemic lymph node dissections (Partial pancreatectomy, Middle pancreatectomy, duodenum preserving pancreas head resection, laparoscopic pancreatectomy and so on) were reported but little is known about prediction for invasive IPMN and frequency of lymph node metastasis (LNM). The purpose of this study is to investigate the predictive factors for invasive IPMN to clarify the indication for the limited operation without systemic lymph node dissection.

Method: We investigated 96 patients who underwent pancreatic resection for IPMNs. Resected specimens were evaluated histopathologically with regard to the presence of mural nodules, malignant component,
lymph node involvement. The lesions were classified into non-invasive and invasive groups. Preoperative imaging findings and pathological results were compared between the 2 groups.

**Results:** Of the 97 patients, 50 had benign lesions, and 46 had malignant lesions including carcinoma in situ (n = 20), invasive carcinoma (n = 26). LNM were presented in 2 cases of invasive IPMNs. Univariate and Multivariate analysis confirmed that positive imaging findings for invasive lesion and the size of mural nodule ≥10 mm were significant predictive factors for invasive IPMNs.

**Conclusions:** Limited operation could be considered for the cases without the positive imaging findings for invasive lesion and mural nodules ≥10 mm. Conversely, standard pancreatic resection with systemic lymph node dissection would be recommended in patients with IPMNs with aforementioned factors.

**PPP24-009**

**LAPAROSCOPIC PANCREAS-SPARING SUBTOTAL DUODENECTOMY IN GASTROINTESTINAL STROMAL TUMOR OF THE DUODENUM: COMPARISON WITH OPEN SURGERY**

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**Introduction:** Although organ-preserving operation for benign and borderline duodenal tumors has been regarded as reasonable strategy, laparoscopic pancreas-sparing subtotal duodenectomy (LapPSSD) was rarely reported. The aim of this study was to compare the perioperative surgical outcomes laparoscopic approach with open surgery.

**Method:** Between March 2010 and June 2013, 7 consecutive LapPSSD for duodenal gastrointestinal stromal tumor (GIST) were performed. The demographics and surgical outcomes of LapPSSD were compared with the data-base of 7 patients who underwent open PSSD during same period. Subtotal duodenectomy was defined as distal duodenal resection of ampulla of Vater to first portion of jejunum. All patients underwent side-to-side duodenojejunostomy after subtotal duodenectomy, and jejunal limb was placed to retrocolic pattern.

**Results:** One of patients underwent LapPSSD converted to laparotomy because of mesocolic involvement by the tumor. The mean operative time was significantly longer (281.4 vs 210.0 minutes), but lesser estimated blood loss (88.6 vs 364.3 mL) and shorter length of postoperative hospital stay (7.4 vs 22.6 days) were observed in LapPSSD group compared with OpenPSSD group. The tumor size was similar (3.6 vs 4.8 cm) and tumor-free surgical resection margins were achieved in all study patients. The most frequent postoperative complication was delayed gastric emptying in both groups (3 vs 5 patients). Three patients of LapPSSD readmitted after early discharge, and 2 of them underwent re-operation for obstruction of jejunal limb. There was one recurrence in OpenPSSD group among all patients at a mean follow-up of 11.9 months.

**Conclusions:** Laparoscopic pancreas-preserving subtotal duodenectomy is technically feasible and attractive strategy in well-selected benign or borderline duodenal tumors. However, delayed gastric emptying is a major concern of postoperative complication, and it is needed to be study further for its cause and solution.

**PPP24-010**

**WHIPPLE PROCEDURE FOR PERIAMPELLARY ADENOCARCINOMA IN A LOW VOLUME DISTRICT HOSPITAL**

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**Introduction:** The only curative option for patients with pancreatic cancer is surgical resection. The potential for significant morbidity and mortality following these procedures along with short-term survival benefit has called into question the role of surgery in this disease. The purpose of this report is to review the current standards of the Whipple pancreaticoduodenectomy and show that excellent results are achievable in a low-volume, community hospital.

**Method:** The study was designed as a retrospective review of medical records of all patients who underwent pancreaticoduodenal resection for periampullary carcinoma between August 2008 and August 2013.

**Results:** There were 13 pyloric-sparing pancreaticoduodenectomies (PSPD) and 31 standard Whipple operations. Mean age for patients was 60 years. There were 10 female and 21 male patients. For the pancreatic anastomoses, 3 were pancreaticogastrostomies and 41 were pancreaticojejunostomies. Mortality was 9.1% and major complications occurred in 8 patients which included pancreatic fistula, bile leak, intra-abdominal abscesses, intra-abdominal bleeding, upper gastrointestinal bleeding, and delayed gastric emptying. Reoperation was required in only three patients. Average hospital stay was 12 days. Long-term complications were peptic ulcer disease, liver abscess and pancreatic insufficiency. Long-term survival was achieved in periampullary malignancies including pancreatic with excellent functional status.

**Conclusions:** Major pancreatic surgery can be performed safely at community hospitals with careful selection of patients. The most important prerequisite is that the surgeon be adequately trained in the procedure. It is imperative that each hospital is responsible for providing morbidity and mortality figures related to pancreatic procedures performed at their institution.

**PPP24-011**

**ENUCLEATION OF Pancreatic NEOPLASMS**

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**Introduction:** Standard resections for benign and borderline neoplasms of the pancreas are associated with a significant risk of postoperative morbidity and long-term functional impairment, whereas enucleation has
less morbidities and preserves healthy parenchyma and pancreatic function.

Method: From March 2005 to July 2013, 57 cases of enucleation for benign tumors in the pancreas were identified through retrospective review of medical records.

Results: Mean age was 51.7 years. Median tumor size was 2.5 cm (range: 0.5–8 cm). The most common indication for enucleation was pancreatic neuroendocrine tumor (18, 31.6%). A clinically significant pancreatic fistula (grade B, C) was reported in 8 patients (14%). The patients with the tumor of pancreatic head and neck had more pancreatic fistula after enucleation (6/21, 28.6%). Thirty two patients were addressed with open and twenty five with laparoscopic procedure. There were no differences of clinical outcomes between 2 groups (Age, Sex, BMI, ASA, postoperative hospital stay, new onset DM, postoperative complication). At a median follow-up of 45 months there were no new onset diabetes, recurrence and mortality.

Conclusions: Enucleation is a safe and effective procedure for the treatment of benign and borderline pancreatic neoplasms. It preserves pancreatic function and is not associated with recurrence. Even though the incidence of postoperative complications including pancreatic fistula, is acceptable, The enucleation for pancreatic head and neck tumors should be evaluated carefully to prevent postoperative complications.

PPP24-012
LAPAROSCOPIC CORPOROCAUDAL PANCREATECTOMY. SINGLE CENTER EXPERIENCE

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Introduction: Laparoscopic surgery has become the procedure of choice in selected pancreatic pathologies. The reported national experience with this technique is limited. The purpose of the present report is to show our results in laparoscopic corporo caudal pancreatectomy (LCCP).

Method: We performed a retrospective database review of patients who underwent LCCP from 2003 to date. Patient’s characteristics, indications and operative outcomes of pure LCCP are presented.

Results: Between the mentioned dates we intent 20 LCCP (Mean age 52.7; 70% female). 95% (19 cases) were pure laparoscopic procedures, 1 case was converted to open surgery (splenic vein lesion). Splenic preservation was possible in 35% (7/19) of cases. The median time of hospitalization was 8.8 ± 4.9 days. Total morbidity was 26%; a 15.8% (3/19) presented pancreatic leak, none required re-exploration. One intrabdominal collection (percutaneously treated) and 2 (10.5%) medical complications (1 pneumonia, 1 Central venous catheter related sepsis), only one patient required blood transfusion. Pathological specimens showed 6 neuroendocrine tumor, 3 Mucinous Cystic Neoplasms, 3 Adenocarcinomas, 4 Solid Pseudopapillary Neoplasms, 1 Intraductal Papillary Mucinous Neoplasms, 1 Serous Microcystic Tumor, 1 Renal Cell Metastasis. All neoplasms had negative margins. There was no mortality.

Conclusions: Due to these results, LCCP is in our experience the approach of choice in selected pancreatic tumors. Low morbidity and no mortality make it a very safe technique, leading to prompt postoperative recovery, faster laboral reinser tion and optimal aesthetic results.

PPP24-013
MIR-221/222 PROMOTE PANCREATIC CANCER PROGRESSION THROUGH TIMP-2 DEPENDENT MANNER

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Introduction: Pancreatic ductal adenocarcinoma (PDAC) is a lethal disease in nearly all patients, due to its strong aggressive ability. MicroRNAs have been investigated in the regulation of cell cycle progression, apoptosis and invasion of pancreatic cancer cells. MiR-221 and miR-222 (miR-221/222), upregulated in many other cancers, can regulate several cellular signaling pathways. However, the association of miR-221/222 with pancreatic cancer progression was not completely elucidated.

Method: The expression method of miR-221/222 between pancreatic cancer tissues compared with their nontumor counterparts was evaluated by qRT-PCR. Viability, cell cycle, apoptosis and invasion capability of pancreatic cancer cells transfected with miR-221/222 was detected by MTT assay, flow cytometer and transwell assay, respectively. To investigate the miR-221/222 target genes and their conserved sites, the TargetScan Release 5.2 was used for target prediction. Further, the target of miR-221/222 was determined by luciferase reporter and western blot assay.

Results: MiR-221/222 is upregulated in PDAC tissue and cell lines and Its change after transfection Overexpression of miR-221/222 significantly promoted pancreatic cancer cell proliferation, inhibited apoptosis and increase cell invasion. Bioinformatic analysis combining with validation experiments identified TIMP-2 is a direct target of miR-221/222.

Conclusions: These data indicate that overexpressed miR-221/222 may play an oncogenic role in pancreatic cancer progression by inhibiting TIMP-2 directly which leading to increased cell invasion.

PPP24-014
LAPAROSCOPIC ENUCLEATION FOR Pancreatic Cystic NEOPLASM

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Introduction: Pancreatic cystic neoplasm (PCN) is relatively rare with low malignant potential. Enucleation could be an alternative procedure for managing benign neoplasm of pancreas with preserving pancreatic function. The purpose of the current study was to identify practical availability of laparoscopic enucleation for...
PCN by analysis of the surgical outcomes at a single institution.

Method: Archived records of 60 patients with PCN who underwent enucleation between 1994 and 2010 were retrospectively reviewed.

Results: Laparoscopic enucleation was achieved successfully for 10 patients (90.9%). The median tumor size of the laparoscopic enucleated group was 1.2 (0.9–5) cm. Laparoscopic enucleation was performed for endocrine neoplasm in 7 patients, mucinous cystic neoplasm in 2 patients, and solid pseudopapillary neoplasm in 2 cases. All the patients had benign tumors at the final pathological report. During the median follow-up period of 31.5 months, there was no postoperative complication or perioperative mortality was observed. One case with 5 cm sized head tumor developed the liver metastasis 6 month after the primary operation.

Conclusions: Laparoscopic enucleation is a safe and feasible procedure that could become the treatment of choice for patients with small sized benign PCN. Preoperative pancreatic duct stenting by endoscopic ultrasonography could help to decrease the postoperative pancreatic fistula occurrence.

PPP24-015
TUBE GASTROSTOMY COULD NOT PREVENT DGE AFTER PANCREATICODUODENECTOMY
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Introduction: Delayed gastric emptying (DGE) is one of troublesome complications after pancreaticoduodenectomy. Tube gastrostomy introduced for the management of DGE. But there has been a little report about gastric decompression procedure can prevent DGE. This study aimed to present postoperative DGE rates between routine gastrostomy group and non-decompression group.

Method: From January 2007 to March 2013, 266 patients with pancreas resection were included in this study. Tube gastrostomy introduced in 167 patients but 99 patients were included in non-decompression group.

Results: DGE after pancreaticoduodenectomy was developed 44 patients (16.5%), employing the International Study Group of Pancreatic Surgery (ISGPS) consensus definition. Thirty six patients (21.6%) developed DGE in Tube gastrostomy group but 8 in non-decompression group.

Conclusions: This study showed that routine gastrostomy could not prevent DGE. Further investigations are needed to judge the routine gastrostomy decompression.

PPP24-016
PALLIATIVE PANCREATIC RESECTION FOR PANCREATIC DUCTAL ADENOCARCINOMA WITH DISTANT METASTASIS
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Introduction: Pancreas ductal adenocarcinoma (PDAC) with distant metastasis has very poor prognosis. It has been considered contraindication to operation. Therefore, there’s no reports about prognosis of palliative resection for stage IV PDAC. The aim of this report was to investigate the prognosis of palliative pancreatic resection and the factors related to survival for stage IV PDAC.

Method: Between 2000 and 2009, 863 patients underwent operation for PDAC in our hospital. Of them, 36 patients underwent palliative pancreatic resection. They were classified into two groups according to survival of 12 months: long (group L, n = 13) and short (group S, n = 23).

Results: The median age was 60.5 years (range, 44–78) and 24 patients (66.7%) were male. The pattern of metastasis were multiple liver (n = 13), peritoneal or omental seeding (n = 10), single liver (n = 7), multiple liver and lung (n = 2), lymph node (LN) 16 (n = 2), brain (n = 1), ovary (n = 1). Additional partial hepatectomy or radiofrequency ablation (RFA) for liver metastasis was performed in 7 single liver metastasis and 8 of 13 multiple liver metastasis. Ovary and LN 16 metastasis were also surgically removed. The median survival was 8.8 months (range 2.2–68.0). 1 and 2 year survival rate was 36.1% and 13.9%, respectively. Univariate analysis showed that group S had a tendency high CA19-9 level and regional LN metastasis. Single liver metastasis had 11.1 months survival compared to 8.5 of other metastasis. Compared to S, more in L group had postoperative adjuvant therapy (92.3% vs 72.7%).

Conclusions: Our study showed relative long survival of median 8.5 months in palliative resection of stage IV PDAC. Especially, patients who underwent surgical resection or RFA for single liver metastasis showed 11.1 months median survival. If more cases can be accumulated, surgical criteria and strategy for long-term survival may be suggested in patients with stage IV PDAC.
PPP24-017
PERCUTANEOUS TRANSPHASIC PORTAL VENOUS ANGIOPLASTY AND STENTING FOR BLEEDING JEJUNAL VARICES CAUSED BY PORTAL VEIN HYPERTENSION AFTER PANCREATECDOCUDUODENECTOMY
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Introduction: Some papers reported the successful treatment with portal vein stent for melena after pancreatec-
duodenectomy, caused by benign stenosis of main flow of portal vein and developed varices near hepatic-
jejunojunostomy. Inspection of double baloon endoscopy after treatment has not been reported yet.
Method: Our case was 65-years-old male, pancreatec-
duodenectomy was underwent for repeated pancreatitis due to IPMN of pancreas head. Minor leakage of pancreas juice was detected and portal vein was compressed by fluid collection and it was not detected by CT scan. Pathology showed benign IPMN. Three month later he came to our hospital for anemia and melena, varies around hepaticojejunojunostomy were detected. Stenosis was caused by inflammation and absorption of liquid, so we should try to do angioplasty and stent placement. Two metallic stent were placed after angioplasty by percutaneous transhepatic portal venous approach.
Results: Flow of portal vein was recovered then melena was stopped from that day. one week later, CT showed less varices around hepaticojejunojunostomy and also double baloon endoscopy showed that there was no bleeding. Anticoagulant therapy has been continued until now.
Conclusions: We report less invasive treatment for portal veins stenosis after pancreatecduodenectomy.

PPP24-018
SOLID PSEUDOPAPILLARY NEOPLASM OF THE PANCREAS, A RARE TUMOR
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Introduction: The solid pseudopapillary neoplasm (SPN) of the pancreas is a rare neoplasm. This neoplas-
m is more common in young women between the third and fourth decade of life. It may produce nonspe-
ific symptoms. Many cases are asymptomatic and diagnosed incidentally.
Method: A retrospective review of ten cases of SPN who were treated at our department between July 2006 and August 2013 was performed. The clinicopathologic characteristics and surgical treatment are described in detail.
Results: Data of 10 patients who underwent pancreate-
tomy for SPN of the pancreas was evaluated. Mean age was 33.9 years and composition of gender was 9 female and 1 male. Abdominal pain was present in 4, occasional vomiting in 1, epigastric discomfort in 1, palpable mass in 1 and no specific symptom in 3 patients. One patient had liver metastasis. The location of tumor was pancreas head in 4, pancreas tail in 5 and pancreas body in 1 patient. Pylorus preserving pancrea-
toduodenectomy was performed in 4, distal pancreate-
tomy in 5, and median pancreatectomy in 1 patient. One patient of distal pancreatectomy developed grade A pancreatic juice leakage. There was no postoperative mortality in our series.
Conclusions: Radical surgery is the treatment of choice for the SPN of the pancreas, given the facts that no other treatment have proven being effective. Only surgical treatment is curative because SPN is low grade malignant tumor.

PPP24-019
LYMPH NODE METASTASIS AS A PROGNOSTIC FACTOR IN PRIMARY DUODENAL CANCER TREATED BY PANCREATECDOCUDUODENECTOMY
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Introduction: Primary duodenal cancer (PDC) is rare malignancy but most frequently involved segment of small bowel adenocarcinoma. And the prognostic factor affecting survival with PDC patients remain contro-
versial. This study analyzed the twelve-year experience at single institution with PDC to define factors that have an impact on patient survival.
Method: We reviewed the medical records of 209 patients diagnosed with duodenal cancer from January 1995 to November 2012 retrospectively. Among them, 25 patients were found to have PDC and underwent PPPD. Clinical and pathologic data were evaluated using uni- and multivariate analyses.
Results: Nineteen patients were male and 6 were female, with a mean age of 61.5 ± 11.7 years. The median dis-
ease free survival (DFS) was 47.7 months (95% CI, 18.2–77.1) and the median overall survival (OS) was 50.1 months (95% CI, 33.6–66.5 months). And the 1-, 3-, 5 year survival rate were 90.2%, 61.2%, 22.9% respectively. The tumor location (p = 0.642), tumor size (p = 0.549), tumor grade (p = 0.769), T-stage (p = 0.828) and TNM stage (p = 0.082) were not statistically significant factor in survival. Lymph node (LN) metastasis was identified as statistically significant prognostic factor (p = 0.044). Ten patients (40%) were pN0, 8 patients (32%) were N1 and 7 patients (28%) were N2. There was no survival difference between N1 and N2 (p = 0.336). However, there was statistical significantly DFS (7.8 months, 2.8–12.7 months vs 25.3 months, 21.1–29.4 months, p = 0.019) and OS (35.6 months, 0.0–74.5 months vs 54.9 months, 12.1–97.6 months, p = 0.016) difference between LN metastasis positive
PPP24-020

PANCREATIC PSEUDOPAPILLARY TUMOUR: A RARE MISDIAGNOSED ENTITY

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Introduction: Solid pseudopapillary pancreatic tumour is a rare entity. The atypical presentation causes a delayed or misdiagnosis of these pathology. It most commonly affects the female population in the 2nd and 3rd decade of life. The presentation varies from nonspecific abdominal pain to incidental findings in asymptomatic patients. It is a low-grade malignancy that is curable by excision of the tumour. We report a case of a rare pseudopapillary pancreatic tumour diagnosed post operatively.

Method: This is a 17-years-old Malay girl with no relevant medical or surgical illness presented with right hypochondrium pain for 3 years duration. Physical examination revealed a right hypochondrium mass. Blood investigations were normal. Subsequent computed tomography revealed a cystic lesion at the right side of the duodenum or arising from the lower head of pancreas. A diagnostic hypothesis of a pancreatic cystic neoplasm was high on our list. A decision for surgical resection was made and intra operatively revealed a large cystic mass 7 cm × 9 cm appears to be originating from the head of pancreas with multiple lymph nodes enlargement. No metastatic lesion seen. The ensuing histopathology result revealed the diagnosis of solid pseudopapillary neoplasm of the pancreas.

Results: –

Conclusions: Solid pseudopapillary tumour of pancreas is a rare entity usually misdiagnosed. It affects mostly female in their 20’s and 30’s. It is a low-grade malignancy that fair very well due to the potential curable by resection.

PPP24-021

IS PANCREATIC FISTULA ASSOCIATED WITH WORSE OVERALL SURVIVAL IN PATIENTS WITH PANCREATIC CARCINOMA?

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Introduction: Pancreatic fistula (PF) is one of the leading complications after pancreatic resection pancreatic carcinoma. However, there have been few reports concerning the effect of PF on long-term outcomes. The aim of this study was to determine whether PF was associated with deterioration of long-term outcomes in patients with pancreatic carcinoma after surgical resection.

Method: Medical records of 210 patients with pancreatic carcinoma who underwent tumor resection were reviewed retrospectively. PF was defined as grade B or C PF according to the criteria of the International Surgical Group of Pancreatic Fistula. Clinicopathological factors were compared between patients with and without PF. Univariate and multivariate survival analyses were used to determine the effect of PF on long-term survival.

Results: Thirty-one patients (15%) developed postoperative PF, and 179 (85%) did not. The 31 cases of PF consisted of 27 grade B PF and 4 grade C PF. There were no differences in the use of adjuvant chemotherapy, tumor differentiation, lymph node status, surgical margin status, or UICC stage between groups. Overall 5 year survival rates for patients with and without PF were 25% and 27%, respectively. There was no significant difference in overall survival between the 2 groups (p = 0.743). Multivariate analysis demonstrated that the use of postoperative adjuvant chemotherapy (p < 0.001), tumor differentiation (p = 0.005), and lymph node metastasis (p < 0.001) were factors independently associated with overall survival.

Conclusions: These results suggested that PF was not associated with deterioration of long-term outcomes in patients with pancreatic carcinoma.

PPP24-022


Tokyo Womens Medical University, Japan

Introduction: The stapler closure is useful for distal pancreatectomy (DP) from the point of view of the complexity of the procedure because of no difference of the rate of postoperative pancreatic fistula (POPF) between staple closure and hand-sewn closure in several trials. The aim of this study was to evaluate the POPF after DP with staple closure from the point of view of the relationship between cartridge and thickness of the pancreas.

Method: A total of 107 patients who underwent DP with staple closure (ECHELON FLEX™ 60 ENDO-PATH® or ECHELON 60 ENDOPATH®) between April 2007 and August 2013 were examined retrospectively. They included 39 PDACs, 18 IPMNs, 13 MCNs, 15 pNETs, 8 SPNs, 5 SCNs and 9 others. The pancreas at the transection site was normal soft in all patients.

Results: (1) The thickness of the pancreas at the transection site was more than 20 mm in 4 patients, 16-
20 mm in 27 patients, 11–15 mm in 58 patients and less than 10 mm in 18 patients. The rates of POPF were 50%, 7%, 7% and 11%, respectively. (2) The green cartridge (closed staple height is 2.0 mm) was used in the 51 patients with an average of 15 mm (10–27) thickness of the pancreas, the gold (1.8 mm) was in the 24 patients with 16 mm (11–20), the blue (1.5 mm) was in the 20 patients with 12 mm (8–16) and the white (1.0 mm) was in the 12 patients with 9 mm (7–15). The rate of POPF was 14% of the patients with green cartridge, 0% with blue, 10% with gold and 8% with white.

**Conclusions:** The stapler cartridge should be used according to the thickness of the transection site of the pancreas to minimize the POPF after DP.

PPP24-023

**CLINICAL EFFICACY OF NEOADJUVANT CHEMORADIATION THERAPY FOR UNRESECTABLE LOCALLY ADVANCED Pancreatic Cancer**

Tokyo Medical University Hachioji Medical Center, Japangshima University, Japan

**Introduction:** Complete macroscopic resection in combination with chemoradiation therapy is the only potential treatment for pancreatic cancer. However, the clinical efficacy of neoadjuvant therapy in terms of surgical and oncological outcomes continues to be controversial. We sought to assess the results of resection after neoadjuvant chemoradiation therapy for unresectable pancreatic cancer.

**Method:** Consecutive patients undergoing neoadjuvant chemoradiation therapy from June 2010 to June 2013 were identified from a prospectively collected database. Unresectability was defined as infiltration of the celiac axis or superior mesenteric artery (>180°) in accordance with the National Comprehensive Cancer Network guidelines. All patients received a median dose of 50.4 Gy plus gemcitabine (400 mg/m²) / TS1 (40 mg/m²), and restaging was performed 4–6 weeks after completion of chemoradiation therapy. Resection rates, perioperative results, and overall survival were analyzed.

**Results:** Of 46 patients, 13 (28.3%) had received neoadjuvant chemoradiation therapy (11, pancreatic head cancer and 2, pancreatic body and tail cancer). Of these 13 patients, 6 (46.2%) underwent successful resection, whereas 7 underwent exploration only or no surgical treatment. Of the 6 patients who underwent successful resection, R0 resection was achieved in 5 (38.5%) and R1 resection was achieved in 1 (7.7%). Patients who underwent resection after chemoradiation therapy tended to have a better overall survival rate than those who did not undergo resection (1-year survival rate, 75.0% vs 42.9%, p = 0.300).

**Conclusions:** For locally advanced, unresectable pancreatic cancer, R0 or R1 resection can be achieved in almost 50% of patients who undergo surgery after neoadjuvant chemoradiation therapy. Survival rates in these patients tend to be higher than those in patients who are unable to undergo resection and similar to those in patients with initially resectable pancreatic cancer.

PPP24-024

**CLINICAL STUDIES AND TREATMENT OPTION OF Pancreatic Cancer IN ELDERLY PATIENTS OVER 80-YEARS-OLD**

Kagoshima University, Japan

**Introduction:** This study was undertaken to examine the treatment option of pancreatic cancer in patients over 80-years-old retrospectively.

**Method:** From 2006 to 2012, a total of 208 patients with pancreatic cancer who were treated in Kagoshima University Hospital analyzed in this study. 92 patients (44%) received chemotherapy, 66 patients (31%) chemoradiotherapy and 43 patients (20%) surgery. 7 patients (2%) Best supportive care (BSC). They were divided into 2 groups of over 80 (18 cases) and under 80-years-old (190 cases), the clinicopathologic factor, the treatment policy, and the prognosis were analyzed.

**Results:** No statistically significant differences were observed in sex, tumor location, tumor size, CEA, CA19-9, SUV max with FDG-PET between groups with over 80 and those with under 80, Performance status(PS) 2 and 3 patients rate is higher than PS 0 and 1 patients rate (p < 0.0001). According to medical treatment of each groups, surgery and CRT were more than the half, in aged less than 80-80-years-old and was 23% in aged over 80-years-old. 12 cases had died of disease related with cancer among 18 elder groups except for one example of cerebral hemorrhage. 11 patients were received chemotherapy including the postoperative adjuvant chemotherapy, the dosing period of the chemotherapy was 2–28 months (an average of 8.4 months), and was 2 to 6 months during the period from the last medication to death. PS0 and 1 patients had significantly better survival compared with PS2 and 3 (p = 0.0003). Compared with survival according to treatment, some treatment of an operation, a chemotherapy or CRT had a better prognosis than BSC.

**Conclusions:** In the pancreatic cancer patient of super-advanced age, it may be important to plan the impossible curative program corresponding to each consideration of ADL, physical, strength. However, adding medical treatment can contribute to the improvement in a prognosis.

PPP24-025

**PRIMARY Pancreatic TUBERCULOSIS MASQUERADING AS A Pancreatic Cancer: A CASE REPORT**

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**Introduction:** Primary pancreatic tuberculosis is a rare disease even in endemic areas for tuberculosis.
Method: We report a case of primary pancreatic tuberculosis masquerading as a pancreatic cancer.

Results: (CASE) A 48-year-old female initially presented with upper abdominal pain. Abdominal computed tomography scan and magnetic resonance imaging both showed a lobulated mass with cystic portion in the pancreatic head suggestive of carcinoma. She underwent a pylorus preserving pancreaticoduodenectomy. Histological examination of the specimen showed chronic granulomatous inflammation with extensive necrosis and there was no evidence of malignancy. Antitubercular therapy was started and she remains well after surgery.

Conclusions: Tuberculosis should be considered as a differential diagnosis in a patient with a pancreatic mass in endemic areas to avoid surgery.

PPP24-026

CLINICAL ADVANTAGES OF MINIMALLY-INVASIVE APPROACH TO PANCREATIC CANCERS: ISMETT EXPERIENCE

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Introduction: We aimed to argue that laparoscopic pancreatic resection (LPR) should have comparable or better clinical outcomes to open procedures for pancreatic cancers (PCs).

Method: In this single center retrospective study, 63 patients underwent surgical procedures for PC from January 2012 to August 2013. The main reviewed outcomes were patient age, pathology, operation time, hospital stay, postoperative complication, and 30-day or in-hospital mortality rates.

Results: In 7/63 (11.1%) cases only an explorative laparoscopy was performed and a not resectable PC was detected. In 12/63 (19%) cases a laparotomy was necessary palliative options. 45/63 (71.4%) patients (age range, 36–78 years) received a radical pancreatic resection for a neoplasm on pancreatic head in 30/45 (66.6%) cases, a distal biliary tree cancer in 8/45 (17.7%) cases and a PC of the body or the tail in 7/45 (15.5%). A LPR assisted by mini-laparotomy was performed in 18/45 (40%) patients with a pancreaticoduodenectomy in 11/18 (61.1%) cases, a splenopancreatic resection in 4/18 (22.2%) cases and body resection in 3/18 (16.6%). No mortality was recorded in LPR group of patients. There were 4/18 (22.2%) cases of delayed gastric emptying, no case of bile leakage, 3/18 (16.6%) cases of pulmonary complications. Pancreatic leakages were defined according to the International Study Group of Pancreatic Fistula classification: grade A occurred in 4/45 (8%) patients, grade B in 1/45 (2%), and grade C in 1/45 (2%) case. Of the 27/45 (60%) patients with open pancreaticoduodenectomy, 2/27 (7.4%) deaths were experienced for bowel infarction and for septic shock after pancreaticojejunostomy dehiscence. Histology showed PC (25/45), cholangiocarcinoma (11/45), pancreatic ductal neoplasm (4/45), duodenal sarcoma (1/45), neuroendocrine tumor (4/45). We did not recognized discrepancies for procedure length (308 ± 107.6 min. vs 358.7 ± 75.8 min.), nor any post-operative complications (10/18 vs 19/27 cases), positive margin of resections for PC in 2/45 cases (1 vs 1 cases) and mean number of harvested nodes (15 vs 16). Conversely, we evidenced advantages for LPR group of patients in terms of Clavien complications>IIIa (1/18 vs 6/27 cases) and hospital stay (13.1 ± 13.3 vs 18.1 ± 9.6 days).

Conclusions: In light of our experience, laparoscopic approaches for pancreatic resection has demonstrated equivalent morbidity and mortality rates to those of open techniques, resulting in decreased severe post-operative complications and shorter postoperative hospital statement.

PPP24-027

NATURAL HISTORY OF GASTROINTESTINAL FISTULAE IN ACUTE PANCREATITIS

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Introduction: Gastrointestinal tract fistulization occurs rarely in the clinical course of acute pancreatitis (AP). Hence, data is lacking regarding the natural history of these fistulae.

Method: All patients of AP with GI fistulae detected both in retrospective (2006–2009) and prospective (2010–2013) analysis were studied for demographic characteristics, clinical presentation, etiology of pancreatitis, interval between onset of pancreatitis and fistulization, diagnostic studies, treatment and outcome.

Results: GI fistulization was detected in 38 patients (mean age 39.03 ± 12.2 years; 35 males). The time duration between onset and detection of fistulae was 5.84 ± 5.2 weeks. The presentation was persistent fever (68.4%), GI bleed (50%) and pain abdomen (34.2%). Fistulae were developed spontaneously 73.7% patients, and after intervention in remaining. Fistulae were detected were detected intra-operatively in 21.1% and postoperatively in 2.6%. Fistulous communication was found in duodenum (44.7%), colon (39.5%), stomach (7.9%), small bowel (2.6%) and both colon & duodenum (5.3%). CECT abdomen raised suspicion of fistulous communication by the presence of air foci within the necrotic collection in 50% and by inflammatory involvement of the bowel 16%, while only necrosis was seen in 26.3% of patients. Out 21 patients, who underwent endoscopy, 17 (81%) had direct visualization of the fistulous communication, while 4 (19%) had edematous inflamed mucosa. Surgical intervention was done in 55.3%, conservative management in 21.1%, endoscopic in 15.8% and percutaneous intervention in 7.9%. Mortality was 31.6%. Patients who had GI bleed had significantly higher chance of developing colonic fistulae (p = 0.05) and worse outcome (p = 0.036). Sur-
gical intervention and mortality were significantly higher in colonic than upper gastrointestinal fistulae (p = 0.008 & 0.003). No correlation between the mechanism of fistula formation (spontaneous vs postintervention) and outcome was found.

**Conclusions:** Development of GI fistula in patients with acute pancreatitis is ominous and uncommon complication. Luminal bleed is presenting feature. Surgical intervention and mortality was higher with colonic fistulae.

### PPP24-028

**PANCREATICOJEJUNOSTOMY PERFORMED AT RIGHT SIDE OF SUPERIOR MESENTERIC VEIN WITH TRAUMATIC PANCREATIC NECK FRACTURE**


*Pusan National University Yangsan Hospital, Korea*

**Introduction:** Management of pancreatic injuries involving the main pancreatic duct is both variable and controversial.

**Method:** We report a case of preserving distal pancreas using pancreatoco-enterostomy after pancreatic main duct laceration.

**Results:** (CASE) A 28-year-old woman was admitted due to LUQ pain by traffic accident via ER. Abdominal CT showed a laceration of liver (grade II), hemoperitoneum, contusion of pancreatic head and body. 8 hours later, the patient complained of a whole abdominal pain and the pancreatic enzyme level was markedly elevated. And MRI showed a pancreatic body laceration, traumatic pancreatitis. We performed a diagnostic laparotomy. In the operative findings, bleeding from liver laceration was already controlled spontaneously and pancreatic body laceration was suspicious above grade III. After removal of peripancreatic necrotic tissue by CUSA, we confirmed the patency of main pancreatic duct by intraoperative pancreatography. Proximal main pancreatic duct was ligated with omental patch and distal pancreas was reconstructed with pancreatocojejunostomy. The patient discharged at 2 weeks later without complication.

**Conclusions:** Treatment should be individualized depending on the site of injury, timing of referral, presence of associated injuries, and institutional expertise.

### PPP24-029

**COMBINED ARTERIAL AND TRANSHEPATIC PORTAL ACCESS IN SUCCESSFUL TREATMENT OF COMPLICATED SPLENIC ARTERY STUMP ANEURYSM IN LIVER TRANSPLANT RECIPIENT**

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**Introduction:** The incidence of the splenic artery aneurysm reaches 17% in adults. The main risk factors are: female gender, multiparity, systemic hypertension, arteriosclerosis, vasculitis (periarteritis nodosa, lupus erythematoses), fibrolyplasia, pancreatitis, portal hypertension. Increased splenic blood flow is considered to cause the splenic artery aneurysms in portal hypertension and after liver transplantation. Arteriportal fistula is a rare complication, but leads to significant portal hypertension. The aim of the study is to present a rare case of combined endovascular treatment in liver transplant recipient with late occurrence of symptomatic splenic artery stump aneurysm.

**Method:** 54-year-old women with the medical history of splenectomy for thrombocytopenia, underwent cadaveric liver transplantation for AIH/HBV cirrhosis in 2002. Posttransplant period was uneventful. 7 years later (2009) she was admitted in emergency to the regional hospital for acute upper abdominal pain, radiating to the left shoulder, with ascites and oedema. The ruptured splenic artery stump was diagnosed and endovascular stenting of the coeliac trunk was performed. A few months later unfortunately the arterio-portal fistula has been developed, causing the portal hypertension. In March 2010 the radiological intervention-combined arterial and transhepatic portal approach and embolization allowed to close the fistula and heal the patient.

**Results:** In the follow up–repeated ultrasound examinations confirmed the diminishing in size thrombosed pseudoaneurysm, without flow in Doppler ultrasound examinations. Patient currently, without symptoms, is doing well.

**Conclusions:** Multidisciplinary approach allowed to successful treatment of rare, but life threatening complication after liver transplantation.

### PPP24-030

**VERIFICATION OF THE EFFECT OF THE MESH AFTER PANCREATICOJEJUNOSTOMY: DOES MESH PREVENT PANCREATIC FISTULA?**


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**Introduction:** The pancreaticojejunostomy remains the most challenging aspect of the pancreatoduodenectomy. The method to prevent postoperative pancreatic fistula (POPF) is a major concern that lacks consensus. Recently, some studies reported synthetic mesh decreases the rate of POPF. Therefore, prospective cohort study was performed to investigate the effectiveness of the mesh around pancreaticojejunostomy to prevent POPF.

**Method:** From January 2009 to June 2013, total 180 patients underwent pancreatoduodenectomy by one experienced surgeon in Seoul National University Hospital. Neoveil® (polyglycolic acid, Gunze, Japan) was applied around pancreaticojejunostomy in synthetic mesh group (n = 90). Control group (n = 90) with no mesh was compared with synthetic mesh group. Endo-to-side, duct-to-mucosal pancreaticojejunostomy was reinforced with out-layer continuous monofilament suture and external stent (5- or 8-Fr Silastic tube) was placed in all subjects.
PPP24-031

PANCREATOGASTROSTOMY WITH DUCT-TO-MUCOSA ANASTOMOSIS, FOLLOWING PANCREATODUODENECTOMY PERFORMED IN A LOW VOLUME CENTER

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Introduction: Pancreatic leakage was the major concern complication after pancreatoduodenectomy (PD), especially in low volume centers. The purpose of this study was to determine whether pancreatogastrostomy (PG) with duct-to-mucosa can be a safe alternative to pancreaticojejunostomy (PJ) in low volume center.

Method: A total of 35 patients who underwent PG or PJ were retrospectively analyzed for the past 12 years (2.9 cases a year), in our hospital. 16 case was underwent PG in an end-to-side and duct-to-mucosa fashion (a intraluminal lost stent), and compared with 19 case underwent PJ with duct-to-mucosa anastomosis (a extrabdominal drainage stent). In the 2 processes, no incisions of the serosa were present in the stomach or jejunum.

Results: The 2 groups were comparable for age, sex, diagnosis, stage, operation time, presence of the pancreatic fistula (PF) and other post-operative factors. In PG groups, we have never experienced PFs with grade B or C. There are no differences of clinicopathological parameters between 2 groups.

Conclusions: PG with duct-to-mucosa anastomosis appears to be a useful method of pancreatic reconstruction in low volume center.

PPP24-032

VIDEO-ASSISTED RETROPERITONEAL NECROSECTOMY AND CLOSED LAVAGE FOR SEVERE NECROTIZING PANCREATITIS-ANALYSIS OF OUTCOMES

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Introduction: Surgery for severe necrotizing pancreatitis is associated with a high rate of morbidity and mortality. We present a series of 26 patients who underwent video-assisted translumbar retroperitoneal necrosectomy and analyse their outcomes.

Method: Records of 26 patients who underwent video-assisted translumbar retroperitoneal necrosectomy and closed drainage for infected pancreatic necrosis between January 2008 and March 2012 were reviewed, retrospectively.

Results: Twenty-three out of 26 patients were males, with a mean age of 38.6 (±9.9) years. Alcohol was the aetiology in 18 patients, gall stones in 7, and in 1 it was idiopathic. The mean duration of symptoms before patients were taken up for surgery was 47.2 (±34.8) days. The mean computed tomography severity index was 7.7 (±1.2). All patients had undergone video-assisted retroperitoneal necrosectomy through a limited left lumbar incision. Post-operative lavage was given through drains placed in the retroperitoneum. Three patients required re-exploration. Eleven patients developed complications and there were 2 mortalities. The median intensive care unit (ICU) stay was 4 days (range 2–14 days). The mean post-operative hospital stay was 22.5 (±6.6) days.

Conclusions: Video-assisted retroperitoneal necrosectomy followed by closed lavage of infected pancreatic necrosis in select cases of severe acute pancreatitis was associated with a low rate of ICU stay, hospital stay and need for re-entry.

PPP24-033

TREATING PANCREATIC INCIDENTALOMAS: IS IT WORTH THE PRICE?

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Introduction: Pancreatic lesions are commonly discovered incidentally at imaging in asymptomatic patients. Pancreatic incidentalomas have, for patients, resulted in extensive investigation, and offered treatment including surgical resection. We compared the outcomes of pancreatic lesions discovered incidentally with patients who were symptomatic.

Method: This is a retrospective review of all patients who were discovered to have pancreatic lesions at the National University Hospital Singapore from 2010 to

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2012. Patients with known history of pancreatic malignancy or a single visit were excluded. We defined “Incidental” lesions as cases without symptoms of pancreatic lesions e.g. epigastric pain/mass or hepatobiliary symptoms such as jaundice, biliary colic, epigastric/right hypochondrial pain/mass. Demographics, investigations, histopathology and treatment outcomes were compared.

Results: The median age of the study population of 193 patients was 62.0 (23.0–92.0) years. 96 (49.7%) of patients presented with non-incidentally were asymptomatic and 63 (32.6%) had incidental symptoms initially unattributed to the pancreatic lesion. Majority of the lesions were diagnosed on Computed Tomography scan (symptomatic: 77 (80.2%), incidental: 75 (78.1%)). While masses were the most common, there were significantly more dilated ducts in symptomatic group (72 (75.0%), incidental: 34 (35.1%), p < 0.001). The odds of malignancy if asymptomatic was 0.309 (p = 0.006) while the odds of malignancy if incidental was 0.202 (p < 0.001).

Conclusions: Pancreatic incidentalomas should be offered surgical resection with equivalent post-op recovery but significantly better long term survival. There was significant proportion of incidental pancreatic malignancy and is worthy of aggressive surgical treatment.

PPP24-034
CHANGING EPIDEMIOLOGY AND SURVIVAL RESULTS OF PERIAMPULLARY CANCER AT A SINGLE INSTITUTION OVER THREE DECADES
Seoul National University Hospital, Korea

Introduction: Despite similar histologic appearance and adjacent anatomic location, the long-term survival of periampullary cancers following resection varies greatly among different origin sites. The aim was to investigate the epidemiologic incidence and trend of resectable periampullary cancer as well as the survival outcome after curative-intent resection.

Method: Retrospective analysis of patients that underwent surgery for periampullary cancer between 1984 and 2011 was done. Non-curative operations were excluded. Patients were divided into 4 groups of 7 years for trend investigation. Comparative and survival analyses were done.

Results: Among 1,867 operations, 1,412 were curative-intent operations. The mean age was 61 years. Male-to-female ratio was 1.5 : 1. The most common location was pancreas (459), closely followed by ampulla (454), then CBD (433) and duodenum (66). Cases steadily increased from 147 cases in 1984–1990 to 635 in 2005–2011. The proportions of location were similar throughout the periods. Resection rates of cancers at pancreas, CBD, ampulla, duodenum were 61.6%, 81.7%, 97.0%, 53.2%, respectively. That of ampullary cancer was stationary at over 95% over time, but those of other types tended to have increased. The overall median survival (MS) and the 5-year-survival rate (YSR) were 35 months and 33.9%. The best prognosis was demonstrated by ampullary cancer, followed by CBD cancer then duodenal cancer. Pancreas cancer had the worst prognosis (MS, 18 months; 5 YSR, 18.1%). Overall survival improved significantly in the last 7 years compared to previous years. However, stage migration was not observed for all types of periampullary cancer over the decades.

Conclusions: Increasing resected periampullary cancer may be due to increasing periampullary cancer patients and better resection candidate selection. Prognosis seemed to have improved in the last 7 years. Early detection and surgical techniques contribute little to this finding. More active application of adjuvant treatment may be an explanation but the actual survival results remain to be seen.

PPP24-035
VIDEO ASSISTED RETROPERITONEAL DRAINAGE FACILITATES SUBSEQUENT ABDOMINAL SURGERY
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Introduction: Video assisted retroperitoneal drainage (VARD) is a minimally invasive approach for removal of infected pancreatic necrosis. Owing to the retroperitoneal approach, the intraperitoneal cavity is not breached. We hypothesize that subsequent abdominal surgery becomes easier as there is no peritoneal breach.

Method: Retrospective evaluation of patients requiring abdominal surgery after VARD between 2011 and 2013. All patients were treated with a step up approach with initial insertion of a retroperitoneal 14 Fr percutaneous drain (Wilson Cook) under CT guidance followed by a VARD. Records were evaluated for ease of peritoneal access, presence of adhesions and additional technical difficulty peri-procedure.

Results: Three patients were subjected to subsequent abdominal surgery. Two laparoscopic cholecystectomy for gallstone pancreatitis and 1 pancreatocaudal duodenectomy for a lower bile duct cholangiocarcinoma following resolution of post ERCP severe pancreatitis. All had uneventful access to the peritoneal cavity. Flimsy intra-peritoneal adhesions were encountered in 1 cholecystectomy. No intraoperative difficulty was encountered. The laparoscopic cholecystectomy patients were discharged after 24 hours and the pancreatocaudal duodenectomy on day 10 after suture removal.

Conclusions: VARD facilitates subsequent abdominal surgery in patients with necrotizing pancreatitis by minimizing adhesions.
PPP24-036
AN ANALYSIS OF COMPLICATIONS, QUALITY OF LIFE, AND NUTRITIONAL INDICES AFTER LAPAROSCOPIC DISTAL PANCREATIC RESECTION WITH REGARDS TO SPLEEN PRESERVATION
Seoul National University Hospital, Korea

Introduction: Whether splenectomy is adverse or spleen-preservation offers significant advantages in distal pancreatic resection is unclear. The aim is to compare the early/late clinical results and the functional outcomes in terms of quality of life (QoL) and nutrition between conventional laparoscopic distal pancreatectomy (LDP) and laparoscopic spleen-preserving distal pancreatectomy (LSPDP).

Method: Clinical data and CT findings of 111 laparoscopic distal resections (79 LDP, 32 LSPDP) between 1999 and 2012 were retrospectively reviewed. QoL was assessed by EROTC QLQ-C30. BMI, and biochemical tests (protein, albumin, transferrin, prealbumin) were examined as nutritional indices. Comparative analysis was done between LDP and LSPDP.

Results: The mean follow-up was 25 months. There were no differences in demographics and operative data. The lesion size was larger in LDP (36.8 mm vs 27.2 mm, p < 0.01). MCN was the most common diagnosis in LDP and IPMN in LSPDP. Early results showed similar hospital days and infection episodes. Non-vascular complications were marginally more common in LDP owing to more fluid collections (43.0% vs 21.9%, p = 0.04). Vascular complications (varix, collaterals, spleen infarction) were more common in LSPDP (64.5% vs 26.0%, p < 0.01). Excluding some fluid collections, none required specific treatment. Late results demonstrated no differences in non-vascular results. Vascular complications were more common in LSPDP (65.6% vs 4.2%, p < 0.01). None of the vascular complications required specific treatment nor had any serious sequelae. There was no overwhelming post-splenectomy infection.

The QoL and nutritional indices showed no difference. QoL decreased at discharge and recovered from 3 months thereafter. Nutritional indices showed similar pattern.

Conclusions: LDP is associated with more fluid collections and LSPDP with more vascular complications; all with minimal clinical impact. Both methods had similar functional outcomes. Until the significance of spleen is fully understood, either LDP or LSPDP could be performed depending on the indication and the surgeon’s preference considering the similar clinical and functional results.

PPP24-037
THE IMPACT OF CIRRHOSIS ON SURGICAL OUTCOME AFTER PANCREATODUODENECTOMY
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Introduction: Cirrhosis has been considered a contraindication to major gastrointestinal surgery. Indication for cancer treatment in cirrhotic patients has expanded. The aim of this study was to elucidate surgical outcomes of pancreatoduodenectomy (PD) in patients with liver cirrhosis.

Method: We retrospectively studied all patients who underwent PD in our center between January 2002 and December 2011. Group A (patients with cirrhotic liver) and Group B (patients with non-cirrhotic liver). Preoperative demographic data, intra-operative data, and postoperative details were collected.

Results: Only 67/442 patients (15.2%) had cirrhotic liver. Intraoperative blood loss and blood transfusion were significantly more in cirrhotic (p = 0.0001). The mean surgical time in group A was significantly longer than that in group B (p = 0.0001). Wound complications (p = 0.02), internal haemorrhage (p = 0.05), pancreatic fistula (p = 0.02) and hospital mortality (p = 0.0001) were significantly higher in cirrhotic patients. Postoperative stay was significantly longer in group A (p = 0.03). The median survival was 19 months in group A and 24 months in group B. Cirrhotic patients with portal hypertension (PHT) was present in 16/67 cases (23.9%). The intraoperative blood loss and blood transfusion were significantly more in PHT (p = 0.001). Postoperative morbidity (0.07) and hospital mortality (p = 0.007) were higher in cirrhotic with PHT.

Conclusions: Patients with periampullary tumour and well-compensated chronic liver disease should routinely be considered for PD at high volume centers with expertise available to manage liver cirrhosis. PD is associated with an increased risk of postoperative morbidity in patients with liver cirrhosis, and therefore it is only recommended in patients with Child A cirrhosis without portal hypertension.

PPP24-038
UNUSUAL MIGRATION OF RINGED POLYTETRAFLUOROETHYLENE MIDDLE HEPATIC VEIN GRAFT INTO THE STOMACH IN A PATIENT UNDERGONE LIVING DONOR LIVER TRANSPLANTATION
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Introduction: Large vein allografts are suitable for middle hepatic vein (MHV) reconstruction, but their supply is often limited. We have presented that ringed polytetrafluoroethylene (PTFE) grafts combined with small allograft patches showed high patency rates comparable to those of iliac vein grafts; thus, they can be used for
MHV reconstruction when other sizable vessel allografts are not available. No serious complication related to the use of PTFE graft was reported yet.

**Method:** We recently experienced a case of unusual migration of ringed PTFE graft into the stomach among more than 300 patients who underwent living donor liver transplantation (LDLT) using a modified right lobe graft with PTFE graft.

**Results:** The patient was a 48-year-old male with hepatitis B virus-associated liver cirrhosis and model for end-stage liver disease score of 16. The patient recovered uneventfully and discharged after 2 weeks. On computed tomography follow-up at 6 months, the PTFE graft was partially buried into the stomach wall, implicating unusual migration and penetration into the stomach. The PTFE graft was occluded with partial filling of luminal air. At this time, the patient complained of any specific symptoms. Gastrofibroscopy revealed the PTFE graft was freely exposed into the gastric lumen. Laparotomy was performed and the PTFE graft was removed. The perforated gastric wall was primarily repaired. The patient recovered uneventfully.

**Conclusions:** Through this case, we suggest that it is necessary to closely monitor the PTFE graft because any unexpected complication can happen after LDLT.

**PPP24-039**

**EVALUATION OF BISAP SCORING SYSTEM IN STRATIFYING ACUTE PANCREATITIS**

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**Introduction:** Multiple risk stratification tools for acute pancreatitis have been developed, but their clinical usefulness is limited. BISAP score—a bed side index score of severity has been recently reported to be effective. The present study is an evaluation of the ability of BISAP score in identifying the patients at risk for increased morbidity and mortality in patients of Acute Pancreatitis.

**Method:** This is a Prospective analysis undertaken over the period of last 6 years from May 2008 to May 2013. All patients presenting with Acute Pancreatitis were included in the study. All patients underwent a complete hemogram, coagulation profile studies, serum calcium, RFT, LFT, Blood gas analysis within 48 hours of admission. A CECT of abdomen was performed after 4 days of onset of disease and repeated as indicated, depending upon the course of disease. All patients were managed conservatively. Their BISAP score was evaluated in all patients within 24 hours of presentation.

**Results:** 90 cases of acute pancreatitis were admitted during the study period. BISAP scores were calculated within 24 hours of presentation. 34.4% patients had BISAP score more than or equal to 3 and 65.6% had BISAP score less than 3. Mortality was 3.3% and organ failure seen in 20% and pancreatic necrosis in 15.5% of patients. Alcoholism was common etiological factor. BISAP scores of ≥3 were found to have risk of mortality.

**Conclusions:** BISAP score represents a simple way to identify patients at risk of increased mortality and the development of intermediate markers of severity within 24 hours of presentation.

**PPP24-040**

**A CASE OF PSEUDOMYXOMA PERITONEI ASSOCIATED WITH INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM OF PANCREAS WITH ACUTE ABDOMEN**

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**Introduction:** Pseudomyxoma peritonei (PMP) is rare disease, affecting 1 to 2 persons per million annually. PMP is characterized by this extensive gelatinous mucin and mucinous ascites. PMP has always been thought that cases of ovarian origin, those of appendiceal origin. Recently reported a few are associated with pancreatic intraductal papillary mucinous neoplasms (IPMN). We reported a case of pseudomyxoma peritonei associated with IPMN of pancreas with acute abdomen.

**Method:** A 89-year-old man presented upper abdominal pain as acute onset with nausea, vomiting and high grade 38.6°C body temperature. Laboratory examination revealed WBC count of 9520/µL, CRP 3.92 mg/dL. Abdominal CT scan revealed oligocystic pancreatic tail tumor following low density mass from bursa omentalis to surface of liver. MRI revealed oligocystic IPMN of pancreatic tail. Next day, laboratory examination was aggravated WBC count of 15200/µL, CRP 21.86 mg/dL. Operation was performed, full filled yellow mucosa intraperitoneum, especially in bursa omentalis, underwent removed mucus washing out and drainage only. Pancreatic IPMN resection was not performed, for risk of complications.

**Results:** The patient presented clinical and laboratory improvement. The histology of mucus was benign. The mucus culture revealed Klebsiella pneumoniae. Serum CEA was 3.3 ng/mL, CA19–9 was 3 U/mL and CA125 62.1 U/mL.

**Conclusions:** We reported a case of pseudomyxoma peritonei associated with IPMN of pancreas with acute abdomen. Main duct IMPN was recommended surgical resection, but the indication of blanch duct IPMN are more conservative. Two turns operation was thought one method of surgical treatment of the pseudomyxoma peritonei from IPMN of pancreas.
PPP24-041
LAPAROSCOPIC DISTAL PANCREATECTOMY AND SPLENECTOMY IN PATIENT WITH PANCREATICO- PLEURAL FISTULA AFTER RUPTURED PANCREATIC PSEUDOCYST
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Introduction: The pancreatico-pleural fistula is an uncommon type of pancreatic fistula complications. Pancreatico-pleural fistula is reported to occur in approximately 0.4%. These patients may need to undergo a complex multidisciplinary treatment.

Method: We present the case of a patient with pancreatico-pleural fistula. We successfully treated with laparoscopic distal pancreatectomy and splenectomy.

Results: A 50-year-old female alcoholic with known chronic pancreatitis and pseudocyst required repeated PCD over 5 years period for management of a recurrent acute pancreatitis and pseudocyst. She was admitted to the hospital with 6 weeks history of right chest pain which was progressively getting worse. She complained of some abdominal discomfort, cough and dark brownish hemoptysis. In the past medical history, she had DM, HTN, and angina. On admission, vital signs were unremarkable; physical examination revealed increased breath sounds with coarse crackle over the right lower lung fields. Abdominal examination was remarkable for mild epigastric tenderness without rebound, guarding, distention, or palpable abdominal mass. Basic laboratory studies showed leukocytosis (WBC: 14400/UL), and elevated serum amylase (>15000 U/L). Thoracic, abdominal CT and MRCP demonstrated a right pleural effusion with evidence of chronic pancreatitis and a periesophageal pseudocyst behind the tail of the pancreas where it was seen to communicate with the right pericardial area and right mediastinum. A thoracotomy incision 5 cm in diameter.

Pathologically, the tumor was diagnosed solid pseudopapillary tumor of the pancreas. The pancreas was transected by using an endolinear stapler. The resected specimen is maneuvered into a plastic bag and extracted through an additional transverse suprapubic incision 5 cm in diameter.

Conclusions: Laparoscopic distal pancreatectomy has been considered technically feasible, safe, and reproducible outcomes. It seems to exhibit several benefits of minimally invasive surgery and should be performed in carefully selected patients.

PPP24-042
A CASE OF LAPAROSCOPIC DISTAL PANCREATECTOMY FOR SOLID PSEUDOPAPILLARY TUMOR OF PANCREAS
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Introduction: Solid pseudopapillary tumor is uncommon neoplasm of the pancreas and occur mainly young woman. This tumor is low malignancy and surgical resection offers an excellent chance for long-term survival.

Method: A 52-year-old woman referred to our hospital due to a pancreatic tail tumor diagnosed at a nearby hospital. Computed tomography and urtrasonography showed a cystic tumor 3 cm in diameter with calcification in the pancreatic tail. Dynamic magnetic resonance imaging study revealed the partial staining in the tumor. Solid pseudopapillary tumor of the pancreas was suspected, and laparoscopic distal pancreatectomy and splenectomy was performed. The pancreas was transected by using an endolinear stapler. The resected specimen was maneuvered into a plastic bag and extracted through an additional transverse suprapubic incision 5 cm in diameter.

Results: Pathologically, the tumor was diagnosed solid pseudopapillary tumor and complete resection was confirmed. The post operative course was complicated by a pancreatic fistula grade B and the patient was discharged from the hospital on the 40th postoperative day. She has been followed up for 2 years without recurrence.

Conclusions: Laparoscopic distal pancreatectomy has been considered technically feasible, safe, and reproducible outcomes. It seems to exhibit several benefits of minimally invasive surgery and should be performed in carefully selected patients.

PPP24-043
COMPARISON OF OPEN WITH LAPAROSCOPIC DISTAL PANCREATECTOMY IN LOW VOLUME CENTER
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Introduction: Most data in the literature regarding laparoscopic distal pancreatectomy (LDP) originate from high-volume centers and has led some to suggest that LDP should be performed at these centers only. The aim of this retrospective review is to report our experience and assess the safety and outcomes of LDP performed in a low-volume hospital.

Method: We conducted a retrospective review of all patients who underwent open distal pancreatectomies (ODPs) and LDPs between August 2007 and June 2012. Data included type of surgery, open versus laparoscopy, demographics, operative time, blood loss, length of hospital stay, histopathologic diagnosis, postoperative complications, American Society of Anesthesiologists score, and mortality.

Results: Fifty patients with benign or low grade malignant pancreatic masses underwent distal pancreatic resection during the study period. Twenty-eight patients (56%) underwent LDP, and twenty-two patients (44%) underwent ODP. Mean patient age was 66 (range, 20–
83) for the LDP group and 62 (range, 27–75) for the ODP group. Mean operative time was 211 minutes (range, 190–342) for LDP and 240 (range, 138–228) for the ODP technique. Mean length of stay for LDP and ODP was 8 (range, 3–7) and 12 (range, 8–13), respectively. Morbidity was 25% (n = 4) in the LDP group and 36% (n = 4) in the ODP group. None of the differences between the LDP and ODP groups were statistically significant. No mortalities occurred in either group.

**Conclusions:** This study supports the idea that LDP can be safely and effectively performed in a low-volume hospital. Further data are required to make more definitive conclusions.

**PPP24-044**

**EARLY POSTOPERATIVE CT SCAN CAN HELP PREDICT DEVELOPMENT OF CLINICALLY SIGNIFICANT PANCREATIC FISTULA IN THE PATIENTS WITH GRADE A ON THIRD POSTOPERATIVE DAY AFTER PANCREATICODUODENECTOMY**

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**Introduction:** Although high concentration of drain amylase on POD3 after pancreatectoduodenectomy (PD) is defined as pancreatic fistula (PF), it is difficult to predict whether the PF will be settled as only a transient event or is the sign of clinically significant PF. We evaluated whether early postoperative CT examination at the site of pancreatic anastomosis is helpful for diagnosing latent significant PF in the patients with high drain amylase on POD3.

**Method:** We retrospectively analyzed 28 patients with amylase-rich drainage fluid on POD3 and underwent CT scan 3 to 7 days after PD. PF was defined according to ISGPF.

**Results:** In 14 patients (50%), clinically significant PF (12 grade B, 2 grade C) became evident after POD7. However, there was no significant difference in the drain amylase on POD3 between the patients in whom PF was stayed in grade A (926 ± 994 U/L) and those who developed grade B/C PF (1,728 ± 1,863 U/L) although the former was lower than the later. CT findings at the site of pancreaticojunostomy was classified into 4 types: type I (n = 2), no intervening space between the stump of remnant pancreas and jejunal wall; type II (n = 6), partly intervening low density at the anastomotic site; type III (n = 13), fully intervening low density at the anastomotic site; and type IV (n = 7), fluid collection close to the anastomosis. None of the patients of type I progressed to grade B/C PF and only one patient of type II developed grade B PF (1/6; 16.7%). Whereas, clinically significant PF developed in 10 of 13 (76.9%) patients with type III and 3 of 7 (42.9%) patients with type IV.

**Conclusions:** Conclusion: Assessment of CT imaging during early postoperative period is valuable for detecting latent grade B/C PF in the patients with high drain amylase content on POD3 after PD.

**PPP24-045**

**HYPERTHERMIC INTRAOPERATIVE INTRAPERITONEAL CHEMOTHERAPY FOR ADVANCED PANCREATIC CANCER**


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**Introduction:** Five-year survival in patients with pancreatic cancer is poor. Even though after curative resection, the rate of recurrent at distant organ and in abdominal cavity is still high. Hyperthermic intraoperative intraperitoneal chemotherapy (HIPEC) is tried for various carcinomas to control local recurrence after R0 resection. This study is designed whether HIPEC is feasible for the patients with pancreatic cancer.

**Method:** Seven patients underwent tumor resection, and HIPEC with MMC, CDDP, and 5FU, with or without GEM.

**Results:** Five patients had distal pancreatectomy and two distal pancreatectomy with celiac axis resection. The hospital mortality and morbidity rate was 0% and 57.1%, respectively. Five-year and median survival was 23% and 11 months, respectively. Two patients, whose operations were ended R2 resection, died by the tumor progression. However other patients showed no evidence of recurrence. No patient showed adverse effect by anticancer agents.

**Conclusions:** Increased morbidity and mortality from intraoperative gemcitabine was not apparent. HIPEC with potentially curative resection in combination for patients with pancreatic cancer at body and tail were feasible. Further studies with greater number of patients including with pancreatectoduodenectomy are required to confirm these findings.

**PPP24-046**

**EARLY PREDICTION OF CLINICALLY SIGNIFICANT POST-OPERATIVE PANCREATIC FISTULA FOLLOWING PANCREATICODUODENECTOMY IN PANCREATIC HEAD CANCER**

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**Introduction:** Pancreatectoduodenectomy is generally accepted as a safe and effective treatment modality in the treatment of pancreatic head cancer. However, postoperative pancreatic fistula (POPF) still remained an important complication after pancreatectoduodenectomy. We experienced relatively early presentation of POPF symptoms and elevation of peritoneal amylase level in severe POPF patients, hence we evaluated the peritoneal amylase level and systemic inflammatory response syndrome at early postoperative periods as a predictor of clinically significant POPF (POPF ≥ B).

**Method:** All patients who underwent pancreatectoduodenectomy with pancreatic head cancer in Yonsei Uni-
Results: 120 patients were finally enrolled in our study. Male were 52.6% and female were 47.4%. The mean age of the all patients was 61.9 ± 9.6-years-old. POPF occurred in 35 patients (29.2%), Grade A was 27 patients (22.5%), Grade B was 8 patients (6.7%) and Grade C was not occurred. Sensitivity, Specificity, PPV and NPV of Peritoneal amylase level and SIRS at POD 3 as prediction for POPF ≥ B were (100%, 100%), (90.8%, 83.3%), (44.4%, 29.6%) and (100%, 100%). Combination of peritoneal amylase level with SIRS at POD 3 showed highly sensitive and accurate prediction of POPF > B, sensitivity, specificity, PPV and NPV were 100%, 91.3%, 80.0% and 100%.

Conclusions: In our study, combination of peritoneal amylase level with SIRS at POD 3 predicted POPF ≥ B showing high sensitivity and specificity. We believe early prediction of severe POPF can helpful in that early drain removal can be possible for less likely expected patients and hospital days can be shortened with faster recovery protocols.

PPP24-047

A RESECTED CASE OF INTRADUCTAL TUBULOPAPILLARY NEOPLASM OF THE PANCREAS, AND THE REVIEW OF INTRADUCTAL NEOPLASMS OF THE PANCREAS EXPERIENCED IN OUR INSTITUTION

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Introduction: Intraductal tubulopapillary neoplasm (ITPN) was first reported in 2009 by Yamaguchi et al., and adopted by WHO classification 4th edition as intraductal neoplasms of the pancreas. ITPN is defined as an intraductal, grossly visible, tubule-forming epithelial neoplasm with high-grade dysplasia and ductal differentiation without overt production of mucin. According to epidemiological data, the frequency is only 3% of intraductal neoplasms of the pancreas.

Method: We report a resected case of ITPN, and review the resected cases of intraductal neoplasms of the pancreas experienced between 2000 and 2012 in our institution.

Results: First, we report a resected case of ITPN. The case pertains to a male in his sixties. Ultrasonography and CT scan revealed dilatation of the main pancreatic duct, and detected a protruded lesion within it on the pancreas head side. MRCP revealed interruption of the main pancreatic duct at the tumor site, and beaded dilatation on the pancreas body and tail side. We performed pancreaticoduodenectomy in the diagnosis of invasive ductal carcinoma. The resected specimen showed that the tumor invaginated into the main pancreatic duct, and mucin was not found grossly. Histological finding was the outgrowth of high-grade dysplastic cells, and the tumor cells partly infiltrated the stroma. Taking in the perspective of the morphological feature of tubule-forming pattern and immunohistological findings, we diagnosed the tumor with ITPN. Secondly, we describe the review of intraductal neoplasms of the pancreas. Between 2000 and 2012, we experienced 116 resected cases of intraductal neoplasms of the pancreas, and extracted only 3 cases of ITPN including one case of intraductal tubular carcinoma. The frequency of ITPN is 2.6% of intraductal neoplasms of the pancreas in our institution.

Conclusions: The frequency of ITPN in our institution is similar to previous reports. ITPN is a new concept of disease; therefore, additional accumulation of cases is critically important.

PPP24-048

HLA-A*0201 RESTRICTED KIF20A AND VEGFR1/2 EPITOPE PEPTIDE COCKTAIL VACCINATION IN PATIENTS WITH ADVANCED PANCREATIC CANCER

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Introduction: Immunotherapy for pancreatic cancer is expected to become one of the alternative treatments for this intractable disease. We previously conducted phase I/II clinical trial of HLA-A*0201 restricted antiangiogenic peptides (VEGFR1/2) vaccine therapy with gemcitabine for unresectable advanced pancreatic cancer patients who previously treated with chemotherapy. There was only one patient with severe adverse event related to this treatment. Three of 8 patients were in stable disease after two course of vaccination. One of these 3 patients survived more than 2 years (28.8 months) after initiation of this treatment.

Method: We are conducting clinical trial using vaccine cocktail containing VEGFR1/2 and KIF20A. KIF20A is a novel tumor-associated antigen which induces tumor-specific Cytotoxic T cells in HLA-A*0201-positive population. This study is prospective non-randomized, single arm phase I clinical mono-therapy trial with a fixed dose, 1 mg of each peptides for patients with advanced unresectable pancreatic cancer. Peptide cocktail with incomplete Freund’s adjuvant is administered subcutaneously every week. The primary endpoint of this study is safety.

Results: At present, three patients have been enrolled in this trial. All three patients were Stage IV and previously treated with chemotherapy. There was only one grade 3 anemia which was probably caused by progression of primary disease without a definite relation with peptide vaccine. MST of 3 patients was 3.8 months.

Conclusions: Phase I clinical mono-therapy trial using HLA-A*0201 restricted peptide KIF20A and VEGFR1/2 is currently underway to validate the safety of this treatment.
PPP24-049

PANCREATICOGASTROSTOMY THROUGH AN ANTERIOR GASTROTOMY IN PANCREATICODUODENECTOMY

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**Introduction:** Postoperative pancreatic fistula is the leading cause of death and morbidity after pancreaticoduodenectomy. However, the best reconstruction method to reduce occurrence of fistula is debated. Pancreaticogastrostomy (PG) has recently been reappraised as a more secure procedure over pancreaticojejunostomy (PJ). In this study we describe our technique of PG after PD; one layer continuous suture method through an anterior gastrotomy.

**Method:** We retrospectively analyzed early surgical outcomes in 9 consecutive patients who underwent this PG after pancreaticoduodenectomy by a single surgeon between August 2012 and August 2013. PG was completed with one layer continuous suture through the retracted anterior gastrotomy.

**Results:** The patients consisted of 4 men and 5 women, with an average age of 66.4 years (range, 53–74 years). Of the 9 patients, 6 patients had a soft and the remaining 3 had a firm pancreatic texture. The mean pancreatic duct size was 5.1 mm (2–10 mm) and the mean operating time was 391 minutes (480–720 minutes). The mean blood loss was 862.5 mL (300–2500 mL) and the mean duration of postoperative hospitalization was 21.7 days (13–28 days). There were 1 patient with abdominal fluid collection needed drainage and 3 patients with wound problem with conservative care. And delayed gastric emptying was developed in 3 patients then they recovered with conservative care. There were no operative or hospital mortality and no grade B or C pancreatic fistula occurred.

**Conclusions:** In our experience, this technique is simple to perform and it has several advantages over the conventional PG or PJ: it could be less traumatic to the pancreatic stump and more secure suture is possible due to good vision through anterior gastrotomy. However, to insist advantage of this technique, we need randomized controlled trial in large scale.

PPP24-050

USEFUL PARAMETERS FOR CONTINUOUS EVALUATION OF NUTRITIONAL AND INFLAMMATORY STATUS UNDER CHEMOTHERAPY FOR ADVANCED PANCREATIC CANCER

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**Introduction:** Nutritional and inflammatory status are suggested to be important for cancer cachexia and prognosis, and may be influenced by treatment for cancer. The aim of the present study is to identify useful parameters for continuous evaluation of nutritional and inflammatory status under chemotherapy for advanced pancreatic cancer.

**Method:** From January 2007 through September 2010, we performed chemotherapy for 41 unresectable pancreatic cancer. Their median age was 64 years, and male:female ratio was 29:12. The applied chemotherapy was the combined therapy with gemcitabine and nafamostat mesilate. (1) We investigated the prognostic factors at the following 3 points (before chemotherapy, 1 month and 3 months after starting chemotherapy) by a uni- and multi-variate analyses of their clinical data including age, albumin, tumor markers, CRP, white blood cell count (WBC), neutrophil count, lymphocyte count, and NLR (neutrophil-to-lymphocyte ratio). (2) The changes of NLR and CRP were serially compared during a period between pre-chemotherapy and 3 months after starting chemotherapy.

**Results:** (1) Uni- and multi-variate analyses showed that NLR $\leq$ 4 and CRP $\leq$ 0.4 to be independent prognostic factors ($p < 0.05$ each) at pre-chemotherapy, NLR $\leq$ 4, and CRP $\leq$ 0.4 at 1 month after chemotherapy ($p < 0.05$ each), and NLR $\leq$ 5 and CRP $\leq$ 0.4 at 3 months after chemotherapy ($p < 0.01$ each). (2) NLR and CRP varied during the 3 months after starting chemotherapy.

**Conclusions:** NLR and CRP might be useful parameters for continuous evaluation of nutritional and inflammatory status under chemotherapy for advanced pancreatic cancer.

PPP24-051

OUTCOME OF CONVERSION SURGERY FOLLOWING CHEMOTHERAPY FOR LOCALLY-ADVANCED UNRESECTABLE PANCREATIC CANCER

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**Introduction:** Recent advances in chemotherapy for pancreatic ductal adenocarcinoma (PDCA) may give opportunity with conversion surgery to patients with unresectable pancreatic cancer, which has rarely been done in the past. In this study we investigated conversion rate for surgery and outcome in patients with locally-advanced unresectable PDAC whom initial treatment with chemotherapy was administered.

**Method:** Between 2010 and 2012 we prospectively collected 19 consecutive patients with locally-advanced unresectable PDAC whom chemotherapy with gemcitabine with S1 (GS) was given as an initial anti-cancer treatment. Follow up CT was taken every 3 month. Conversion surgery is considered if primary tumor status remains RECIST-SD or better, and if R0 resection is deemed after 6 months.

**Results:** Response to the initial chemotherapy with GS during the initial 6 month was 5 PRs, 8 SDs, and 6 PDs, resulting in a response rate of 26% and a disease control rate of 68%. Conversion surgery was scheduled for 6 (32%) patients whose response was PR in 5 and SD in 1. At laparotomy, 2 cases ended up with probe
laporotomy due to peritoneal dissemination in 1, and locally far advanced disease in 1, thus 4 cases (21%) successfully achieved R0 resection. Pathologically, anti-tumor effect such as tumor necrosis with dense fibrosis and desmoplastic change was seen in all of the 4 resected specimens, but no complete response was found. Survival is favorable for patients with conversion surgery; one died of severe cholangitis without recurrence at 20 months after the initial treatment, and remaining 3 patients are alive without recurrence for 34, 27, 8 months, respectively.

Conclusions: Surgical resection remains only hope for cure for PDAC. A conversion surgery may be vital option even for initially unresectable PDAC if good response to chemotherapy is obtained.

PPP24-052
DISTAL PANCREATECTOMY WITH EN Bloc CELIAC AXIS RESECTION (DP-CAR) FOR LOCALLY UNRESECTABLE PANCREATIC BODY CANCER

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Introduction: To evaluate the prognostic impact of surgical intervention for initially-unresectable pancreatic body ductal adenocarcinomas with long-term favorable responses to the chemo (radio) therapy.

Method: Eight patients with initially-unresectable pancreatic body cancer who underwent radical surgery after a favorable response to chemo (radio) therapy for six months or longer in principle were enrolled in this study. We retrospectively reviewed the charts of these 8 patients and performed a survival analysis.

Results: Initially, the included 8 patients were unable to undergo resection for locally-advanced disease, and converted to the radical operation after the chemo (radio) therapy. The initial unresectable factors were as follows; four patients had tumor invasion to the gastroduodenal artery, 3 patients had tumor invasion to the superior mesenteric artery (SMA), and 1 patient had tumor invasion to the celiac artery. The length of preoperative therapy was 6 to 44 months (median 14). The operative procedure included resection of celiac axis initially involved by the tumor. The postoperative mortality rates were 0%. The R0 resection was achieved in seven patients (87%). The pathological treatment effect was judged by Evans grading to be grade I in four patients, and grade IIa, IIb, III and IV in 1 patient respectively. All the 7 patients who had the R0 resection are survived with disease free, however, 1 patient who was the R1 resection with SMA invasion was dead with local recurrence. Estimated overall five-year survival from the initial therapy was 87% (median follow up time 54 month, range 15–92).

Conclusions: Surgical intervention should be considered for patients with initially-unresectable pancreatic body cancers who demonstrate long-term favorable responses to chemotherapy. Large cohort prospective studies will be necessary to demonstrate the efficacy of this strategy.

PPP24-053
SURGERY TO THE EXTREME: THE CONCEPT OF “TRANSPLANT ONCOLOGY”

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Introduction: Extreme cases of abdominal pathology are a significant challenge both from the technical and tumor biological perspective. We describe 3 patients who underwent extended resections involving the pancreas under the principle of “no-touch isolation” and by using techniques derived from liver/multivisceral transplant and organ procurement.

Method: Case 1: A 69-years woman presented with massive retroperitoneal recurrence of a liposarcoma invading adjacent organs and vital vessels. After creating an axillo-femoral bypass, en-bloc resection with a Whipple procedure, concurrent right hemicolectomy and nephrectomy, and excision of the infrarenal aorta distally at the bifurcation and inferior vena cava just below the left renal vein down to the confluence was performed. Case 2: A 36-years man developed tumor thrombi in the main portal trunk and superior mesenteric vein after a Whipple procedure for a neuroendocrine tumor. We put the patient on portal bypass between the tributary of the superior mesenteric vein and right gonadal vein. The portomesenteric vein with tumor thrombi was excised and reconstructed with an autologous right femoral venous graft. Case 3: A 38-years woman suffered ruptured renal cell carcinoma of the left kidney with a tumor thrombus obstructing the left renal vein. The ruptured tumor spread beyond the kidney cranially/ventrally but was encapsulated by the pancreas and spleen. After full mobilization of the right colon and jejunum to approach the inferior vena cava, the spleen, pancreas, and left kidney were mobilized en-bloc to avoid tumor manipulation. Extended left nephrectomy with distal pancreatectomy and splenectomy was performed without exposing the tumor capsule.

Results: Major complications included postoperative bleeding and chylous ascites but no in-hospital mortalities occurred. All patients resumed normal daily life with no signs of recurrence during a follow-up period of 3–6 months.

Conclusions: The integration of surgical oncology and organ transplant, “Transplant Oncology,” has opened up new horizons in the field of surgery.

PPP24-055
THE INDIGENOUS YOUNG MAN WITH PROGRESSIVE ABDOMINAL DISTENSION

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Introduction: Pancreatic ascites was first reported in 1953. It is commonly affected in male between age 20–50-years-old. We reported a case of progressing abdominal ascites in a young healthy man.
Method and Results: This is a case of a 22-year-old gentleman with a complaint of progressive abdominal distention for the past 1 month. It was associated with intermittent epigastric discomfort, loss of weight and steatorrhoea. He had a history of recurrent pancreatitis attack for the past 2 months. On examination he was cachexic with a BMI of 21, dehydrated with a gross distended abdomen suggestive of ascites. Abdominal ultrasound revealed gross ascites fluid intraperitoneal with a normal liver and pancreas. Peritoneal tapping was done and the fluid was sent for cytology and the result came back as negative. Only the body fluid amylase was 64000 U/L. Therefore CT scan of the abdomen was done for further investigation. CT scan abdomen showed a well defined cystic lesion at the body of the pancreas measuring 4.7 × 4.9 × 5 with a continuity of this lesion with the main pancreatic duct. There is also a soft tissue density lesion within the pancreatic duct at the region of the head of pancreas. Endoscopic retrograde pancreatogram was performed, however it was unable to cannulate the pancreatic duct. Patient was underwent laparotomy with Frey Procedure. Intraoperatively there was a stone at the pancreatic head that obstructing the pancreatic duct with distal pancreatic duct dilatation. Postoperatively he was uneventful. There was no ascites fluid and he was discharge well.

Conclusions: Pancreatic ascites is an uncommon sequela of chronic pancreatitis. Its required CT scan imaging to determine the causes for the chronic pancreatitis. ERCP is recommend as a first line treatment however Frey Procedure is an option if failure in managing endoscopically.

PPP24-057
A CASE OF DUODENAL GANGLIOCYTIC PARAGANGLIOMA WITH REGIONAL LYMPH NODE METASTASIS
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1Korea University Guro Hospital, Korea; 2Korea University Ansan Hospital, Korea

Introduction: Gangliocytic paraganglioma derived from neural crest is an unusual neuroendocrine tumor having a characteristic triphasic microscopic appearance with epithelioid cells, spindle cells, and ganglion cells. It is generally considered to be a benign perampullary lesion. Therefore local excision has been recommended. However, several authors have reported a rare case of gangliocytic paraganglioma demonstrating metastatic lesion. Here, we report a case of gangliocytic paraganglioma with regional lymph node metastasis that was performed pancreaticoduodenectomy.

Method: A 41-year-old man was admitted due to hematemesis. Upon arrival, he was evaluated and underwent an esophagogastroduodenoscopy that revealed a large submucosal tumor at second portion of duodenum near ampulla of Vater. At first, the endoscopist tried endoscopic mucosal resection regarding the tumor as a gastrointestinal stromal tumor (GIST), however, he was obliged to stop the procedure due to active bleeding. Therefore the patient was referred to our department to perform operation. On exploration, there was an 1.5 cm-sized lymph node in the paraduodenal area, which was located in the border between pancreas and second portion of duodenum. The lymph node was proven to be a metastatic malignant lesion in the frozen biopsy. Therefore we decided to perform pancreaticoduodenectomy. Grossly, the mass was soft, 2.5 × 1.7 × 0.9 cm in size, well demarcated, located near the ampulla of Vater. Pathologically, the duodenal mass was a gangliocytic paraganglioma with mitotic count <1/50 HPF. The tumor invaded the duodenal wall from mucosa to muscle proper layer. The tumor was positive cellular reaction for chromogranin, synaptophysin, neurofilament by immunohistochemistry. There was one metastatic lymph node among 11 retrieved lymph nodes.
Results:
Conclusions: Radical surgery was necessary in a patient with lymph node metastasis. Close follow-up was advocated because gangliocytic paraganglioma with lymph node metastasis was considered as tumors with uncertain malignant potential.

PPP24-058
SURGERY FOR WALLED OFF PANCREATIC NECROSIS
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Introduction: Walled off pancreatic necrosis (WOPN) is a recently recognized entity and there are very few reports about its surgical management. Optimum management strategy for this condition is yet to be established.

Method: WOPN was defined as per the revised Atlanta classification, 2012. Data on patient profile, surgical management and outcome was analyzed for cases of WOPN managed in the Department of HPB Surgery, Institute of Liver and Biliary Sciences from September 2009 to June 2013.

Results: A total of 11 patients were operated upon for WOPN. The indications were persistent pain in 7 patients, weight loss in 3 patients, sepsis in 4 patients and rupture in 1 patient. Median duration of pancreatitis at the time of surgery was 56 days (range 40–180 days). Surgeries performed were open transgastric necrosectomy in 4 patients, laparoscopic transgastric necrosectomy in 3 patients, open necrosectomy with closed lesser sac lavage in 1 patient, laparoscopic necrosectomy with closed lesser sac lavage in 1 patient, transjejunal necrosectomy with cystojejunostomy in 1 patient, necrosectomy with cystojejunostomy in 1 patient. Mean blood loss was \(90\pm100\) mL and mean operating time was 271 ± 75 minutes. Median duration of postoperative stay was 10 days (range 4–60 days). There was 1 mortality due to sepsis and multiorgan dysfunction. Five patients had complications in the postoperative period among which 4 events were Clavien–Dindo grade III-V. The 2 patients who underwent necrosectomy with lesser sac drainage developed post operative pancreatic fistula. Two patients had infected pancreatic necrosis, one of whom died and the other had prolonged hospital stay.

Conclusions: WOPN is a clinic-radiological entity which can have varied presentations. Appropriate surgical management tailored to individual patient results in good outcome.

PPP24-059
EVALUATION OF DUODENAL METALLIC STENT PLACEMENT FOR PANCREATO-BILIARY CANCER
Kagoshima University, Japan

Introduction: Malignant gastric outlet obstruction (GOO) is often seen in advanced pancreato-biliary cancer patients. We estimated the utility of Self-expanding metallic stents (SEMS) for GOO.

Method: The eight consecutive patients who had GOO due to ampullary or periampullary malignant tumor were performed SEMS between January 2005 and June 2014 in our department. Average age was 65 (50–83) year-old. ECOG performance status was less than 1 for all patients. The cause of GOO was pancreas head cancer in six patients, recurrence of bile duct cancer in 1 patient and papilla of Vater cancer in 1 patient. Clinical stage (TNM classification) of seven patients were StageIII, and 1 patient was StageIIa. The esophageal type SEMS were placed in 2 patients until 2009. After 2010, Wall Flex Stent or Niti-S stents were introduced as improved type SEMS for 6 patients.

Results: The esophageal type SEMS caused duodenal stenosis by kinking of anal side of duodenum in one patient and obstructive jaundice by compression of papilla of Vater in another. After 2010, all patients who used improved type were able to drink the next day of SEMS placement, and were treated with chemotherapy or chemoradiotherapy within two weeks. There were no complication due to the SEMS treatment in this group.

Conclusions: Recent type of SEMS placement for GOO is safe and effective because of not only maintain of quality of life but also early start of multimodality treatment for cancer.

PPP24-060
EXTRA-GASTROINTESTINAL STROMAL TUMOR OF THE PANCREAS: REPORT OF A CASE
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Introduction: Gastrointestinal tumors are mesenchymal tumors that arise from the gastrointestinal tract. These tumors are mainly stomach, jejunum and ileum. In rare cases, these tumors are found in the pancreas. EGISTS of the pancreas are exceedingly rare and only eleven cases have been reported in the literature, so clinicopathologic features are not fully elucidated. Herein, We report a case of a pancreatic extragastrointestinal stromal tumor in a 64-year-old female patient together with a review of the literature.

Method: We report a case of GIST in the pancreatic head. A 64-year-old woman was referred to us for treatment of an abdominal mass detected by ultrasonographic examination. Under a preoperative diagnosis of a duodenal GIST, we performed a pylorus preserving pancreatoduodenectomy for this lesion.

Results: The laboratory examination was within normal range. On pathologic gross examination, the tumor measured 7 cm at its greatest dimension and involved the pancreatic head. The cut surface was rubbery and white. It was surrounded by a thin pseudocapsule and well demarcated, but shown to infiltrate the duodenal wall. Histopathological examination of specimen showed a cellular lesion with compressed pancreatic tissue at peripheral. Mitotic figures were 5/50 high power fielded. Immunohistochemically, neoplastic cells were positive for antibodies against C-KIT (CD117);
whereas, smooth-muscle actin, reactions with antibodies against S-100, CD34 and desmin were negative. Based on the above findings, the tumor was finally diagnosed as malignant GISTs originating from the pancreas.

**Conclusions:** Although rare, EGISTs should be considered in the differential diagnosis of the more common solid neoplasms of the pancreas.

**PPP24-061**

**THE CASE REPORT WHICH ENFORCED AN OPERATION AND CHEMOTHERAPY FOR HUGE P-NEC (PANCREATIC NEUROENDOCRINE CARCINOMA)**

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**Introduction:** P-NEC (pancreatic neuroendocrine carcinoma) can be rarely operated, because it show high grade malignancy and grow rapidly. We experienced operable huge P-NEC, we report it.

**Method:** A patient is a 40-years-old man. The chief complaint is abdominal pain and abdominal distension. We found a huge pancreas tumor in CT, and P-NEC was diagnosed by CT guide biopsy(poorly differentiated neuroendocrine carcinoma: Immunostaining: chromograninA(+) synaptophysin(−) CD56(±) c-kit(−) CD34(−) MelanA(−) Melanoma(−) CK AE1/3(+) positive rate of MIB-1 47.3% G3). We performed distal pancreatectomy, total gastrectomy and left lobectomy for operable huge P-NEC, we report it.

**Results:** But POM(post operative month) 2 we found liver metastasis and peritoneum dissemination. Therefore we started chemotherapy (CDDP + CPT11 Day1 CDDP 60/m² + CPT11 60/m² Day15 CPT11 60/m²/4w) and somatostatin analogue treatment (20 mg/4w).

**Conclusions:** We experienced a rare operable case of P-NEC (pancreatic neuroendocrine carcinoma). P-NEC has a dismal prognosis. Our case recurred after operation in two months, too. However, by chemotherapy and somatostatin analogue treatment, we was able to reduce the recurrence. We think that a combination of operation and chemotherapy improves the prognosis of P-NEC.

**PPP24-062**

**TECHNICAL ASPECTS OF TRANSVAGINAL NOTES LIVER RESECTION IN PORCINE MODEL**


Toho University, Japan

**Introduction:** NOTES (Natural orifice transluminal endoscopic surgery) liver resection is significantly limited by the technical difficulty encountered during transection of substantial liver parenchyma, with intraoperative bleeding and bile leaks. This study shows the technical aspects of transvaginal NOTES liver resection in porcine model.

**Method:** A total of 3 female porcines were underwent transvaginal NOTES liver resections. The procedures were partial and left lateral liver resections. A single 10 mm laparoscope was placed at the umbilicus. A 15 mm transvaginal trocar was placed under direct vision. The flexible endoscope and a long flexible surgical grasper were placed via the vaginal trocar. The tentative tumor and resection line were marked on the surface of liver presumptively. The edge of liver was transected partially using LCS, laparoscopic sealing device from the umbilical port. The long laparoscopic linear stapler was inserted through the side of vaginal trocar and transected left lateral lobe. The specimen was placed into the endobag and removed easily via the vaginal trocar in partial resection cases. However, the left lateral liver specimen could not remove via the vaginal trocar. Necropsy studies were performed after procedures and evaluated the hemorrhage and bile leakage.

**Results:** The transvaginal NOTES liver resection was successfully performed without hemorrhage and bile leak in all cases. Mean operative time was 110 minutes. Estimated blood loss was less than 50 mL. Mean length of specimens were 5.8 cm in diameter.

**Conclusions:** In this initial report on feasibility of transvaginal NOTES liver resection, we were able to perform the procedures with minimal blood loss. Limited trocars were made more difficult triangulation compare with the laparoscopic liver resection. Further data will be needed to determine the true safety and efficacy of clinical NOTES.

**PPP24-063**

**THE CLINICAL CHARACTERISTICS OF AUTOIMMUNE PANCREATITIS AND MIKULICZ’ S DISEASE AS IGG4-RELATED DISEASES**


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**Introduction:** IgG4-related disease is a group of recently recognized multi-organ disorders characterized by a high level of serum IgG4 and dense infiltration of IgG4-positive cells into multiple organs. Autoimmune pancreatitis (AIP) has recently been recognized as IgG4-related disease, and Mikulicz’s disease (MD) is characterized by salivary and lacrimal infiltration. Despite the fact that both AIP and MD are included in the IgG4-related disease, the clinical manifestation of AIP differs somewhat from that of MD. We analyzed the clinical features of AIP patients associated with MD.

**Method:** We analyzed data on AIP and MD patients. A total of 32 AIP patients were divided into 2 groups: those with and without MD. The clinical findings in each group were compared to determine any recognizable patterns.
Results: MD was observed in 11 AIP patients (34%). The average age of AIP patients with MD was significantly lower than in patients without MD (55.5 ± 14.5 vs 65.2 ± 8.2-years-old, p = 0.021). A significantly higher proportion of females was also noted in the group of AIP patients with MD in comparison to those without (p = 0.027). In addition, there were significant differences in not only the levels of serum IgG and IgG4 but also the site of pancreatic enlargement.

Conclusions: AIP patients with MD have distinctive clinical features, including predominance of females and onset at a young age, which clearly differ from those of AIP patients without MD.

PP24-065
MALIGNANT PERIAMPULLARY TUMORS
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Argentina

Introduction: Periampullary tumors include a wide spectrum of diseases that affect the periampullary region. Share clinical features, but differ in behavior, frequency and prognosis. But older increases the possibility of malignancy. At first may be malignant: adenocarcinoma ampullary or head of pancreas cancer (80%), cholangiocarcinoma distal, Lymphomas, neuroendocrine, duodenal cancer and neoplastic cystic.

The purpose of grouping is due to their similar clinical presentation, diagnosis and common treatment.

Method: Periampullary tumors include a wide spectrum of diseases that affect the periampullary region. Share clinical features, but differ in behavior, frequency and prognosis. But older increases the possibility of malignancy. At first may be malignant: adenocarcinoma ampullary or head of pancreas cancer (80%), cholangiocarcinoma distal, Lymphomas, neuroendocrine, duodenal cancer and neoplastic cystic. The purpose of grouping is due to their clinical.

Results: 89 patients were men and 52 women. Resection were: R1: n = 115; R1: n = 19 and R2: n = 7. Morbidity was 38%. Mortality was 3.3%. In postoperative non radical pancreaticoduodenectomy R1 and R2 a large chimeo adyuavence was used. The 2012 follow-up was: Survival rate (free disease) R0: n = 115:1 year: 87% and 5 years: 28%; R1: n = 19: 1 years 71% and 5 years: 14%, and R2: n = 7: 1 year: 55% and 5 year: 0%. (p < 0.05 R0 vs R1 in 1 and 5 years survival. Prognostic factors were determining the type and origin of the tumor, as well as tumor size (<2 cm longer survival).

Conclusions: In malignant periampullary tumors, the early diagnosis and the surgery improves the prognosis. Curative R0 resection is the most important, and adjuvant chemotherapy improves outcome in some R0 cases and in all R1 and R2 cases.

PP24-066
ORGAN SPACE INFECTION AS A SURROGATE FOR PANCREATIC FISTULA IN THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM
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2Providence Cancer Center, Portland Oregon, USA

Introduction: Postoperative Pancreatic fistula (POPF) remains the dominant cause of morbidity following major pancreatic resection. The National Surgical Quality Improvement Program (NSQIP) database has been criticized because it does not include specific data pertaining to POPF. An HPB specific dataset has been introduced in selected centers to prospectively correct this deficiency. Many authors have suggested that
organ space infection (OSI) is a surrogate for POPF. The aim of this study is to determine the sensitivity and specificity of OSI as an indicator of POPF.

**Method:** All pancreaticoduodenectomies (PD) at our institution from 2001 to 2010 were identified from the NSQIP dataset. In the 9 year study period, 204 patients underwent a PD. The NSQIP database and patient charts were abstracted for pertinent data related to organ space infection and pancreatic fistula. POPF was defined according to International Study Group on Pancreatic Fistula (ISPF) criteria, and severity of POPF was graded as A, B or C.

**Results:** 40 patients (20%) in this study group had a POPF (grade A–C). Clinically significant fistulas (grade B, C) occurred in 28 patients (14%). 19 of the 28 patients with grade B/C fistulas were characterized as having an OSI (68% sensitivity). 7 of the 176 study patients without a grade B/C fistula had an OSI (96% specificity).

**Conclusions:** There is currently an effort to institute an HPB-specific dataset within NSQIP that will include adverse events such as pancreatic fistula. In the meantime, POPF remains a clinically important problem that is not routinely captured in the database. We have shown that OSI is a specific but not a sensitive surrogate for POPF in this patient population.

**PPP24-067**

**OUR EXPERIENCE OF THE TREATMENT OF Pancreatic Neuroendocrine Tumors(P-NETS)**

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**Introduction:** P-NETs are relatively rare in 1.3% of whole pancreatic tumors. Besides, P-NETs are slow growing tumors. Diagnostic imaging make progress, and P-NETs cases accidentally. 50–90% of non-functional P-NETs are said to be a malignancy. As for the treatment, surgical resection are only radical treatments. P-NETs cause liver metastasis, lymph node metastases. The survival rates of P-NETs are good with approximately 70–80% for five years after the resection. However, the recurrence rates within 5 years are high with approximately 60–84%.

**Method:** In our Hospital, the operation cases of P-NETs increase. At first, for our policy, we perform surgical resections of P-NETs (G1, G2, Non G3). For the distant metastasis of P-NETs, we perform chemotherapy (Everolimus, Sunitinib, LAR etc). So, we perform surgical resections of the distant metastasis if surgical resections are completely cure. But, plenty of considering prognostic factors (WHO Grade, V+, Ly+, N+).

**Results:** We report several P-NET cases of the combined therapy (operation and chemotherapy) at our Hospital. In all cases, combined therapy resulted good prognosis. Chemotherapy (Everolimus, Sunitinib, LAR) resulted reduction of P-NETs and distant metastasis very well. However, many cases caused recurrence and distant metastasis, too. So, severe and regularly observations are necessary.

**Conclusions:** Aggressive surgical resections of P-NETs (G1, G2, Non G3) and chemotherapy cause good prognosis. So aggressive surgical resections of the distant metastasis if surgical resections are completely cure cause good prognosis too. We report it based on the literatures of P-NETs.

**PPP24-068**

**PERIOPERATIVE CONDITION OF PANCREATICODUODENECTOMY IN ELDERLY PATIENTS**

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T. Okumura, T. Nagata and K. Tsukada

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**Introduction:** The aging population has result in more elderly patients undergoing pancreaticoduodenectomy (PD) and recently some author reported that PD may be justified for selected elderly patients. In this study we clarify the perioperative condition of PD and reveal the risk for PD in elderly patients.

**Method:** Between October 1997 to December 2012 consecutive 123 patients underwent PD at Toyama University Hospital. We analyzed the perioperative clinicopathological data in patients with PD aged over 80 years (elderly group) compared with those in patients under 79 years (younger group).

**Results:** The elderly group consist of 16 patients (13%). Preoperative albumin level and Onodera’s prognostic nutritional index (PNI) were significantly lower in elderly patients (p < 0.001) and mean PNI in elderly group was 35.1. The percentage of preoperative biliary drainage in elderly and younger patients were 56% and 48% individually and there were no significant difference. The operative time, intraoperative blood loss and the incidence of intraoperative transfusion were not significantly different between the 2 groups. The incidence of post operative complications including SSI, pneumonia, enteritis, cholangitis, pancreatic fistula, biliary fistula, delayed gastric emptying, and intestinal ulcer did not also differ significantly between the groups, however the number of patients without complication was significantly lower in elderly group (p < 0.001). There was no operative mortality in this series. The overall survival rate did not differ significantly between the groups, however there were no patients who survived over 5 years after PD in elderly group.

**Conclusions:** We should realize the low level of the nutritional condition in elderly patient and the appropriate indication and perioperative management are necessary to safely perform PD in elderly patient.

**PPP24-069**

**DIAGNOSTIC VALUE OF 18F-FDG PET/CT IN PANCREATIC CANCER**

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**The First Affiliated Hospital of Anhui Medical University, China**

**Introduction:** To investigate the value of 18F-FDG PET/CT in assessing the diagnose of pancreatic cancer.

**Method:** We retrospectively analyzed the imaging datas of enhanced CT and 18F-FDG PET/CT of patients with pancreatic lesions and the level of serum CA19-9
was measured. The results of 18F-FDG PET/CT, enhanced CT and CA19-9 in assessing the diagnosis were compared. Diagnosis were confirmed by intraoperative findings and pathology.

Results: 41 patients were diagnosed as pancreatic cancer, and other 6 patients as benign diseases. The values of mean SUV were insignificant different between pancreatic cancer and benign diseases (p = 0.434, however the differences of the values of mean CA19-9 between pancreatic cancer and benign diseases were significantly (p < 0.001). Sensitivity, specificity and accuracy for evaluation of diagnosis were 82.9%, 83.3% and 82.9% in CA19-9, 85.3%, 33.3% and 78.7% in enhanced CT, 87.8%, 50.0% and 82.9% in combination of these 2 examinations and 90.2%, 66.6% and 87.2% in 18F-FDG PET/CT.

Conclusions: 18F-FDG PET/CT has the highest specificity and high specificity in diagnosis of pancreatic cancer.

PPP24-070
SOLID PSEUDOPAPILLARY TUMORS OF THE PANCREAS: RADIOLOGIC CHARACTERISTICS AND SURGICAL OUTCOMES
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Introduction: Pancreatic solid pseudopapillary tumor (SPT) is an uncommon neoplasm that presents more frequently in young patients and has a female predilection. SPT is associated with favorable clinical outcomes following surgical resection. The aim of this study is to characterize the clinical presentation, radiologic findings, and surgical outcomes of SPT at an academic medical center.
Method: A retrospective review was conducted on all patients at a single institution with pathologically-confirmed pancreatic SPT from 2004 through 2012. Clinicopathologic and radiologic characteristics and operative outcomes were analyzed.
Results: Eleven patients were identified who had pancreatic SPT; seven (64%) were female, four were male. The mean age at presentation was 28 (range 18–50). In four cases (36%), the diagnosis was made incidentally in an otherwise asymptomatic patient. The most common presenting symptoms were abdominal pain (45%) and nausea/vomiting (36%). No patient presented with jaundice. Computed tomography (CT) imaging was performed in all cases; biliary or pancreatic ductal dilation was absent in all cases. Body or tail lesions were more common (73%) than SPTs located in the pancreatic head. The mean tumor size was 10.5 cm (range 4–20). One patient presented with metastatic disease. Surgical resection was performed in the other 10 cases (91%); distal pancreatectomy in 7 patients, pancreaticoduodenectomy in 2, and total pancreatectomy in 1. All patients had an R0 resection. Mean length of stay following surgery was 16 days. There were no recurrences or deaths; mean follow-up time was 26 months.
Conclusions: SPT is a rare pancreatic neoplasm that occurs predominantly in young females. Abdominal pain is the most common presenting symptom. SPT rarely causes obstructive jaundice and presents with metastatic disease infrequently. Surgical resection is associated with excellent prognosis.

PPP24-071
SPONTANEOUS RUPTURE OF PRIMARY SPLENIC ANGIOSARCOMA: REPORT OF A CASE
Chonnam National University Medical School, Korea
Introduction: Primary splenic angiosarcoma is an extremely rare mesenchymal malignant tumor of vascular origin with high metastatic potential and a very poor prognosis. These aggressive mesenchymal tumor can easily be neglected and splenic rupture is the most frequently manifestation at the time of diagnosis. Herein, we report a case of spontaneous rupture of primary splenic angiosarcoma in 56-years-old woman.
Method: A 56-years-old woman visited our hospital with diffuse abdominal pain and dizziness. Physical examination revealed a palpable mass in the left upper abdominal quadrant with tenderness. CT scan demonstrated a heterogeneous, low-density signal within the splenic parenchyma, with variable degrees of contrast enhancement as well as intra-abdominal hemorrhage originating most possibly from the spleen. After initial fast fluid resuscitation, an emergency operation was performed.
Results: Laparotomy revealed a huge spleen actively bleeding, containing multiple variable sized hemorrhagic cysts. The pathologic diagnosis of the excised spleen was angiosarcoma originating from the spleen. Immunohistochemical staining was positive for CD31, CD34, and factore VIII. The Ki-67 proliferation index was more than 10%.
Conclusions: Splenic angiosarcoma should be considered one of the differential diagnoses in patients with spleen parenchymal lesions. Definitive diagnosis requires laparotomy followed by splenectomy. Herein, we report a rare case of splenic angiosarcoma.

PPP24-072
EFFICACY OF INFUSION THERAPY PREVENTING PANCREATIC FISTULA FOR PATIENTS WITH HIGH AMYLASE LEVEL IN DRAINAGE: A PROSPECTIVE STUDY IN A SINGLE CENTER
Nagasaki University, Japan
Introduction: Some reports have suggested that early removal of the drain have prevented the pancreas fistula (PF) after pancreateodudenedectomy (PD), however
high drain amylase level on postoperative day 1 (POD1) remained as the risk factor of PF. The purpose of this study was to determine the efficacy of the infusion therapy for the case of high drain amylase level on POD1 as the prospective study.

**Method:** Total 117 patients undergoing PD were enrolled. We prospectively divided into 2 groups of these patients. Group 1 (control group: n = 50): postoperative usual management was performed regardless of the drain amylase level on POD1. Group 2 (medication group: n = 67): infusion therapy using three kinds of medicine (protease inhibitor, octreotide, antibiotics) administration was introduced if drain amylase level on POD1 was over 10,000 (IU/L). The primary endpoint of this study was the incidence of PF (according to IS-GPF criteria) in respective groups, while the secondary endpoint was duration of the drain insertion especially in the high drain amylase cases.

**Results:** The incidence of PF was not statistically different between 2 groups (group 1: 20% vs group 2: 16.7%). Among the high drain amylase cases, 83% (5/6 cases) group 1 patients and 54% (6/11 cases) group 2 patients were developed PF. The duration of drain insertion were statistically shortened (36.5 days in group 1 and 18.0 days in group 2; p < 0.05).

**Conclusions:** Infusion therapy for high drain amylase level was useful to shorten the duration of drain insertion and has the possibility to prevent the PF after PD.

### PPP24-074

**LONG TERM OUTCOME AFTER SURGICAL RESECTION FOR PANCREATIC DUCTAL ADENOCARCINOMA (PDAC)**

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**Introduction:** Even though poor outcome of pancreatic ductal adenocarcinoma, only twenty percent patients were survived more than 5 years after surgery. The aim of this study was to identify clinicopathologic variables influenced the long-term survival after surgical resection.

**Method:** We reviewed the medical records 55 patients who underwent surgical exploration after diagnosed with pancreatic ductal adenocarcinoma (PDAC) between March 1989 and March 2008. 45 patients were underwent surgical resection with curative intent. We analyzed the clinicopathological variables associated with long term survival.

**Results:** The median overall survival of whole patients was 16.4 months. And the median overall survival of surgical resection group was 21.5 months, whereas surgically unresectable group was 4.7 months. (p = 0.0001) Surgical resectability and lymph node status were independent prognostic variables for overall survival. Long-term survivors showed earlier cancer stage; lower pathologic T stage, negative lymph node metastasis.

**Conclusions:** Even though pancreatic ductal adenocarcinoma (PDAC) had a poor prognosis, aggressive surgical resection is the most important treatment that could be expected for a long term survival. Further study for early detection of PDAC to long-term survival will be needed.

### PPP24-073

**PANCREATIC IPMC WITH SARCOMATOUS AND NEUROENDOCRINE COMPONENT**


Chonnam National University Medical School, Korea

**Introduction:** Undifferentiated carcinoma (carcinosarcoma) is a rare variant of a pancreatic neoplasm. Immunohistochemical diagnosis is established by reactivity of the carcinomatous and sarcomatous elements to cytokeratin and vimentin, respectively. It is different from sarcomatoid carcinoma, which shows only cytokeratin reactivity. Clinically, undifferentiated carcinoma have poor prognosis. But, because of rarity, clinicopathologic characteristics are not clear. Herein, we report a rare case of pancreatic IPMC with sarcomatous and neuroendocrine component.

**Method:** A 57-year-old woman was admitted to our hospital suffering from left flank pain. An abdominal computed tomography (CT) and magnetic resonance imaging (MRI) showed a 5 × 4 cm sized multiseptated cystic mass in pancreatic body. On esophagogastroduodenoscopy, another mass was found in duodenum. Pathologic result of it was papillary adenocarcinoma. She underwent a total pancreaticoduodenectomy.

**Results:** Histopathologic examination revealed a pancreatic intraductal papillary mucinous carcinoma (IPMC) with sarcomatous and neuroendocrine component. Immunohistochemically, it has reactivity to cytokeratin, vimentin, CK7, CD56, synaptophysin, and chromogranin. Duodenal mass was a moderately differentiated adenocarcinoma. Ten months postoperatively, no sign of recurrence was found.

**Conclusions:** We report a case of IPMC with sarcomatous and neuroendocrine component, combined with ampulla of Vater cancer.

### PPP24-075

**TARGETED KNOCKDOWN OF CLUSTERIN SENSITIZES PANCREATIC CANCER MIA-PACA-2 CELL TO GMCITABINE TREATMENT BY INACTIVATION OF NF-κB/ BCL-2**

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Tianjin Cancer Hospital, China

**Introduction:** Clusterin (CLU) is known as a multifunctional protein involved in a variety of physiological processes including lipid transport, epithelial cell differentiation, tumorigenesis, and apoptosis. Our recent study has demonstrated that knockdown of clusterin sensitizes pancreatic cancer cell lines to gemcitabine treatment. However the details of this survival mechanism remain undefined.
Method: Of the various downstream targets of CLU, we examined activation of the NF-κB transcription factor and subsequent transcriptional regulation of Bcl-2 gene in pancreatic cancer cell MIA-PaCa-2. The MIA-PaCa-2 cells were transfected with an antisense oligonucleotide (ASO) against clusterin, which led to a decreased protein level of the antiapoptotic gene Bcl-2. Furthermore, inhibition of CLU decreased the function of NF-κB, which is capable of transcriptional regulation of the Bcl-2 gene. Inhibiting this pathway increased the apoptotic effect of gemcitabine chemotherapy. Re-activated NF-κB resulted in attenuation of ASO-induced effects, followed by the bcl-2 upregulation, and bcl-2 re-inhibition resulted in attenuation of Re-activated NF-κB-induced effects. Animals injected with ASO CLU in MIA-PaCa-2 cells combined with gemcitabine treatment had fewer tumors than gemcitabine or ASO CLU alone.

Results: These findings suggest that knockdown of CLU sensitized MIA-PaCa-2 cells to gemcitabine chemotherapy through modulating NF-κB/Bcl-2 pathway.

Conclusions: These findings suggest that knockdown of CLU sensitized MIA-PaCa-2 cells to gemcitabine chemotherapy through modulating NF-κB/Bcl-2 pathway.

PP24-076
FACTORS AFFECTING OUTCOME OF PANCREATIC NECROSECTION IN SAP
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Introduction: Despite the availability of several clinical, biochemical and radiological grading systems, accurate prediction of the best treatment option and outcome after intervention remains enigmatic. The present study identifies the factors affecting the outcome in a consecutive cohort of patients undergoing open necrosectomy for severe acute pancreatitis.

Method: From January 2008 to June 2013, 24 patients (3 females and 21 males) presented with acute necrotising pancreatitis. They underwent a complete hemogram, coagulation profile studies, serum calcium, RFT, LFT, Blood gas analysis within 48 hours of admission. CECT of abdomen was done after 4 days of onset of disease and repeated when indicated. All patients were managed conservatively initially with image guided percutaneous drainage when required. Necrosectomy was deferred at least till 4 weeks. Factors studied to predict the outcome of patients with severe acute pancreatitis included APACHE II score, Organ failure, Extent of necrosis, CTSI, Extrapancreatic necrosis, PCD and timing of surgery.

Results: Of the 24 patients, 12 underwent open necrosectomy and 12 managed conservatively. 4 underwent pigtail drainage under radiological guidance prior to surgery. 3 had to undergo repeat exploration for residual collection and complications. 2 underwent USG guided PCD of residual collection. There was 1 mortality. Patients with metabolic acidosis (pH < 7.2), multiorgan failure, APACHE II score >8, higher CTSI, extrapancreatic necrosis, non-reversibility of sepsis on PCD, and early intervention had higher morbidity and mortality.

Conclusions: Multidisciplinary care with emphasis on aggressive radiological intervention before and after surgery results in acceptable outcomes in this cohort of critically ill patients. Reversal of sepsis after PCD, APACHE II score, Organ failure within first week of onset of disease, late surgical intervention after optimisation can be used for prediction of outcome after pancreatic necrosectomy in patients with SAP.

PP24-077
A CASE OF TRAUMATIC PANCREATIC INJURY WITH A PSEUDOCYST IN A CHILD TREATED WITH PERCUTANEOUS DRAINAGE
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Introduction: Surgical treatment is usually recommended in cases of traumatic main pancreatic duct injury in adults. Cases occurring in children are rare, and the treatment strategy is unclear.

Method: A 3-year-old boy was admitted to our hospital after being crushed by a drawer in his house.

Results: His general condition was good; however, he complained of mild nausea and epigastric pain. Computed tomography (CT) showed fluid collection in front of the pancreatic body, and the patient was suspected to have traumatic pancreatic injury. The next day, there were no changes on CT. On the sixth day of admission, the patient complained of abdominal distention, and CT showed a large pseudocyst. A diagnosis of main pancreatic duct injury was suspected. Emergent percutaneous drainage was performed, and the amount of discharge gradually decreased. The patient was discharged on the 15th hospital day, and the drainage tube was removed on the 30th day.

Conclusions: Depending on the patient’s general condition and grade of injury, conservative treatment may therefore be effective.

PP24-078
TOTAL PANCREATECTOMY FOR PANCREATIC DISEASE: OUR EXPERIENCE DURING 20 YEARS
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Introduction: Total pancreatectomy can be associated with significant metabolic abnormalities leading to considerable morbidity. With the availability of modern pancreatic enzyme formulations and improvements in control of diabetes mellitus, the metabolic drawbacks of total pancreatectomy have diminished. In addition, as operative techniques and peri- and postoperative management strategies have evolved, the indications for total pancreatectomy in pancreatic disease changed. As indications for total pancreatectomy have expanded, we
examine our results in patients undergoing total pancreatectomy during a 20 year period.

Method: Retrospective study of 21 patients undergoing total pancreatectomy from January 1992 to July 2012 was performed. Patient data and clinical outcomes were collected and entered into a database. Disease-free survival and overall survival were estimated using the Kaplan–Meier method.

Results: Twenty patients received total pancreatectomy for malignant disease. Among these, 2 patients underwent completion pancreatectomy for tumor recurrence after distal pancreatectomy and 4 patients for pancreatic-jejunoanastomosis leakage after pancreaticoduodenectomy. The median duration of the operative procedure was 7.1 hours. Postoperative morbidity was 28.5% (6/21). Median period of postoperative hospital stay was 21 days. Blood glucose level was well controlled by subcutaneous injection of sliding scale insulin during the postoperative period and the mean HbA1c level at 3 months after the operation was 6.2%. For patients with malignant disease, the median follow up was 19.8 months and the median disease free interval was 9.4 months. The 2-year disease free survival was 34% and the 5-year overall survival was 24.8%.

Conclusions: Total pancreatectomy could be performed safely and postoperative control of blood glucose was acceptable with effective medication. We suggest that total pancreatectomy should be considered for the treatment of pancreatic carcinoma when the patient condition permits and offers a chance of cure, although careful long-term medical care and follow up are essential.

PPP24-081
SEVERE ACUTE PANCREATITIS: PROGNOSTIC CRITERIA
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Kharkiv National Medical University, Ukraine

Introduction: The timely prognosis of course of acute pancreatitis allows correctly choosing tactics of treatment, warning development of complications.

Method: There is an analysis of treatment of 125 patients with severe acute pancreatitis. All patients were operated. In postoperative period 34 (27, 2%) patients died. Reaction of periphery blood by hematological indexes (one of these hematological indexes—the intoxication indicator—offered by us); estimation of severity of the patient’s state by the Acute Sepsis Severity Evaluation Scale; impact of parapancreatic fat injury; preoperative period at severity of the patient’s state more than 16 points lethality was 70, 59%, less than 16 points–11, 11%. Parapancreatic fat injury is revealed at 80 (64, 0%) patients. At 26 (76, 5%) patients from 34 died parapancreatic fat injury revealed. Thus parapancreatic fat injury increase lethality risk in 32, 5%. Analyze of presents of accompanying diseases shown, that patients with cachexia, obesity, inefficiency of cardiovascular system had statistically higher (p < 0.05) lethality risk.

Conclusions: The values of the indexes of peripheral blood, individual estimation of patient’s state by the Acute Sepsis Severity Evaluation Scale, presents of parapancreatic fat injuring and presents of accompanying diseases are prognostic criteria of course of severe acute pancreatitis.

PPP24-082
THE VAULE OF ENHANCED CT AND 18F-FDG PET/CT IN EVALUATION OF RESECTABILITY OF PANCREATIC CANCER
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Introduction: To investigate the value of 18F-FDG PET/CT and enhanced CT in assessing the resectability of pancreatic cancer.

Method: We retrospectively analyzed the imaging datas of 18F-FDG PET/CT and enhanced CT of patients with pancreatic cancer. The results of 18F-FDG PET/CT, enhanced CT and comprehensive analysis of these two examinations in assessing the resectability were compared. Diagnosis of pancreatic cancer and resectability were confirmed by intraoperative findings and pathology.

Results: 31 patients with pancreatic cancer underwent surgery, of which only 18 cases were successful complete resection of the tumor, and palliative operation were performed in the other 13 cases because of unresectable factors found during the operation. Resectability was designated as positive index. Sensitivity, specificity and accuracy for evaluation of unresectability were 94.4%, 15.3%, 61.2% in enhanced CT, 94.4%, 38.4%, 70.9% in 18F-FDG PET/CT, and 88.8%, 53.8%, 71.3% in combination of these 2 examinations. There was no significant difference between enhanced CT and 18F-FDG PET/CT. Combination of these 2 examinations was better than each of them signifi- cantly. With diagnostic criteria of the resectability is affirmed if both of them are positive.

Conclusions: The enhanced CT and 18F-FDG PET/CT are useful and complementary in assessing resectability of pancreatic tumor and the values of them are equal. Combination of these 2 examinations has more clinical value.
PPP24-083  IMPACT OF NEOADJUVANT CHEMORADIOThERAPY FOR BORDERLINE RESECTABLE AND NON-RESECTABLE PANCREATIC CANCER  


Kitano Hospital, The Tazuke Kofukai Medical Research Institute, Japan  

Introduction: Neoadjuvant chemoradiotherapy (NACRT) is increasingly becoming a valid treatment option for patients with locally advanced pancreatic cancer.  

Method: From January 2010 to August 2013, we had performed chemoradiography (CRT) for 12 patients with borderline resectable and non-resectable pancreatic cancer as an initial treatment in our institute. Eventually, 3 patients underwent radical pancreatic surgery after NACRT, we demonstrated the details of these 3 cases.  

We defined that borderline resectable disease [≤180° involvement of the superior mesenteric artery (SMA); short-segment encasement/abutment of the common hepatic artery (CHA); or tumor-associated deformity, abutment or short-segment occlusion of the superior mesenteric vein (SMV)/portal vein (PV) that was amenable to vascular resection and reconstruction and unresectable pancreatic cancer have wide vascular involvement more than borderline resectable cases). In this study, CRT was the radiotherapy (total 45 Gly) with S-1 oral administration (80mg/m²/day ×15 days).  

Results: The mean age of study patients was 68 years (56–74, all 3 women). Tumor was located in pancreatic head in 1 case, pancreatic body in 2 cases. The reasons of the induction of NACRT were the wide encasement of celiac trunk to CHA, wide encasement of CHA and PV trunk, and over 180° involvement of SMA plexus in each 1 case. The operations were consisted of distal pancreatectomy with combined liac axis resection, total pancreatectomy with portal venous resection, distal pancreatectomy, respectively. Pathological R0 resection was achieved in 2 cases, R1 resection in 1 case. Regarding to a postoperative complication, 1 patient had a refractory massive ascites against any conservative treatments. By introduction of cell free concentrated ascites reinfusion therapy, they were improved gradually. All patients are alive without recurrence up to the present (for 2–8 months after surgery).  

Conclusions: NACRT is a very effective treatment and may have a potential as a conversion therapy for borderline and non-resectable pancreatic cancer.

PPP24-084  SURGICAL INDICATION AND OUTCOME IN PATIENTS WITH BRANCH DUCT-INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM  


Graduate School of Medicine, Chiba University, Chiba, Japan  

Introduction: According to international consensus guideline 2012 for the management of IPMN, branch duct (BD)-IPMN with “high-risk stigma” and “worrisome features with indicated features observed by endoscopic ultrasound” should be considered for surgical resection. The aims of this study were to assess the outcome of surgical treatment for BD-IPMN and to examine potential predictors of disease progression in BD-IPMN.  

Method: Until May 2013, surgical resection was performed in 74 patients with BD-IPMN. Among them, 21 cases fulfilled the criteria of “high-risk stigma” and 29 cases conformed to the criteria of “worrisome features with indicated features observed by endoscopic ultrasound”. These 50 cases were clinicopathologically reviewed.  

Results: Pathological diagnosis was low- or intermediate-grade dysplasia in 20 cases, high-grade dysplasia in 16 cases, and an associated invasive carcinoma in 14 cases. The 1-, 3-, and 5-year survival rates were 100%, 100% and 100% in cases with low- or intermediate-grade dysplasia, 100%, 100%, and 100% in cases with high-grade dysplasia, and 93%, 61%, and 31% in cases with an associated invasive carcinoma. The large size of mural nodules (≥6 mm) and high serum level of CA19-9 (≥37 U/L) were potential predictors that showed disease progression from low- or intermediate-grade dysplasia to high-grade dysplasia/ an associated invasive carcinoma. In addition, high serum level of CA19-9 (≥75 U/L) was a potential predictor that showed disease progression from high-grade dysplasia to an associated invasive carcinoma.  

Conclusions: Although indication for resection of BD-IPMN according to international consensus guideline 2012 for the management of IPMN is appropriate in general, conservative clinical follow-up may be a possible option in some cases with no and small mural nodules and low serum level of CA19-9.
there were two metastatic lymph nodes among 20 colon and stomach (pT3) with clear resection margins. extending to outermost muscle layers of the transverse sized moderately differentiated ductal adenocarcinoma, were warranted.

Method: A 54-year male was referred for pancreatic tumor. He had taken medicine for DM but had no surgical history. Laboratory results including tumor markers were normal. CT scans showed a 4cm-sized mass with cystic portion in the pancreas tail, encasing splenic artery and vein. EUS revealed an irregular echogenic 3 cm-sized mass, extending to surrounding tissue and obliterating splenic vessels. EUS-guided FNA demonstrated malignant cells, consistent with well-differentiated adenocarcinoma. As no distant metastases were detected in PET-CT, the patient was transferred for surgery. On intraabdominal exploration, the pancreatic tumor directly invaded the stomach and transverse colon but was expected to be resected. However, multiple small metastatic nodules were encountered on mesentry and parietal peritoneum. In consideration of patient’s age, pancreatic resection (RAMPS), wedge resection of the stomach and segmental resection of the transverse colon were performed and CAPD catheter was installed for palliative IPCTx.

Results: Histopathological examination of the surgical specimen demonstrated an about 3.5 × 2.2 × 3 cm-sized moderately differentiated ductal adenocarcinoma, extending to outermost muscle layers of the transverse colon and stomach (pT3) with clear resection margins. There were two metastatic lymph nodes among 20 regional nodes. The patient recovered without significant complications and underwent palliative IPCTx with gemcitabine (1,000 mg/m²) on days 1, 8 and 15 of the 4-week cycle for a half year. No demonstrable evidence of disease progression has been detected until 8 months after surgery.

Conclusions: IPCTx could have a place in contributions to survival gain in selected patients with PDAC, however, more clinical results based on substantial cases were warranted.

PPP24-086
IS BACTIBILIA A PREDICTOR OF POOR OUTCOME OF PANCREATICODUODENECTOMY?
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Introduction: Although bile infection has been proposed to increase infective complications following pancreaticoduodenectomy, its association with infective complications and non-infective complications like pancreatic fistula is still controversial.

Method: Seventy-six patients who had undergone pancreaticoduodenectomy between July 2011 and December 2012 were included in a prospective database and their data analyzed. In all patients intraoperative bile from the bile duct was cultured. Preoperative, intraoperative, and post-operative variables were recorded and analyzed.

Results: Bile culture showed positive growth in 35 patients and negative growth in 41. Twenty patients in the positive group underwent ERCP and stenting. The patients with a positive bile culture had a higher incidence of infective complications including intra-abdominal abscess (n = 8), wound infection (n = 27), bacteremia (n = 10), and renal insufficiency (n = 9). There was no increase in the rate of non-infective complications of pancreaticoduodenectomy including pancreatic fistula (n = 7), delayed gastric emptying (n = 9), and post-operative hemorrhage (n = 3). The hospital stay was significantly prolonged in the patients with a positive bile culture (p = 0.0002).

Conclusions: Pre-operative biliary drainage is significantly associated with bile infection, and bile infection increases the overall rates of infective complications and renal insufficiency. A high incidence of complications is associated with infected bile and hence a routine intra-operative bile culture is recommended in patients undergoing pancreaticoduodenectomy. Because of its significant association with infected bile, biliary stenting should be used in strictly selected cases.
the pancreatic duct in frozen biopsy. The postoperative histopathologic examination revealed atypical ductal epithelial hyperplasia consistent with PanIN 3 and no metastatic lymph nodes. The patient suffered from delayed gastric emptying for about 2 weeks and then was discharged on POD 28. He has been enjoying a disease-free life for almost 5 years.

**Conclusions:** Surgical resection for PanIN 3 lesion has an acceptable rationale in selected cases and is expected to contribute toward reducing mortality of PDAC.

### PPP24-089

**CYSTIC TYPE DUCTAL ADENOCARCINOMA OF THE PANCREAS MIMICKING INTRADUCTAL PAPILLARY MUCINOUS CARCINOMA**

S. Jo, S. Song and W. Lee

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**Introduction:** Pancreatic ductal adenocarcinoma of cystic pattern is a rare and emerging subtype, mimicking intraductal papillary mucinous carcinoma (IPMC) and is different from cystic degeneration of ductal adenocarcinoma. We report a case of pancreaticoduodenectomy for cystic type ductal adenocarcinoma.

**Method:** A 67-year male was admitted for incidentally detected pancreatic head mass. He had no noticeable past medical history. CT scans and pancreas MRI showed a 3.8 cm-sized conglomerated tubular cystic lesion with multifocal papillary portion in pancreas head and uncinate process, suggestive of pancreatic intraductal papillary neoplasm of mixed type. ERP revealed small amount of mucin from the ampulla and irregular dilatation of the main pancreatic duct from head to body. EUS-guided FNA demonstrated no malignant cell. There being no definite distant metastasis on PET-CT, the patient was prepared for surgery. A few days before operation, acute pancreatitis with pus-like discharge from the ampulla occurred. On peritoneal exploration, no disseminated nodules were found. There were peripancreatic inflammatory change and tight adhesion between the cystic tumor and superior mesenteric vessels. On the assumption of inflammatory adhesion between them, fine dissection proceeded with difficulty and finally pancreaticoduodenectomy was successfully performed. Several enlarged regional lymph nodes were encountered.

**Results:** Histopathological examination confirmed 4 × 3 cm-sized ductal adenocarcinoma of cystic papillary pattern, different from IPMC or cystic degeneration of ductal adenocarcinoma. Profound intraluminal mucin and one metastatic regional lymph node were also reported. Resection margin of the duct showed PanIN-1 lesion and resection margin to major vessels was free of malignant cells. The patient had minor wound complication and was discharged on POD 24th. Adjuvant concomitant chemoradiation therapy was performed without any event.

**Conclusions:** Cystic type ductal adenocarcinoma of the pancreas is unique morphological pattern and should be differentiated from IPMC. Further information on this emerging pattern is warranted.

### PPP24-090

**LAPAROSCOPIC MIDDLE PANCREATECTOMY: THREE CASES IN OUR HOSPITAL**

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**Introduction:** Laparoscopic middle pancreatectomy (Lap-MP), which is performed for benign or low-grade malignancy in the pancreatic body, is a complex surgery. Here we report our procedure and clinical outcomes in 3 patients who had a serous cyst neoplasm, a solid pseudo-papillary neoplasm and a pancreatic neuroendocrine tumor.

**Method:** Five ports are placed in a semilunar row around the epigastric region. The pancreatic neck is divided using a stapler, and the stump of which is required anastomosis, is divided by HARMONIC. The midline just above the pancreas is opened to 4 cm and the specimen is removed through this incision. A wound retractor is then placed with a 5-mm trocar connected. The jejunal limb is brought in a retrocolic fashion to the left of the middle colic vessels. For pancreaticojenostomy, a modified Kakita method is employed, which is an end-to-side technique with approximation of seromuscular layer of the jejenum and full-thickness pancreas by several interrupted sutures. And a short stent tube is placed and fixed at the stump of the main pancreatic duct with a purse-string suture of the pancreatic parenchyma, and then is inserted into the jejenum through a small orifice without duct-to-mucosal anastomosis.

**Results:** The operating time was 341, 406 and 417 minutes respectively. The blood loss was small amount in each case. Although the first case had a complication with a pancreatic fistula (grade B), the patient recovered conservatively. Two others were free of complication and discharged on 9 and 11 days.

**Conclusions:** MP has higher risk of pancreatic fistula than other types of resection, because 2 cut ends are created. Recently, we have obtained comparable results of laparoscopic pancreaticoduodenectomy and distal pancreatectomy using a similar manner. Therefore, we believe that Lap-MP is feasible.

### PPP25-001

**STANDARDIZATION OF Pancreatico-Enteric ANASTOMOSIS TO REDUCE Pancreatic Fistula In Soft Pancreatic Texture After Pancreaticoduodenectomy**

H.K. Hwang, S.H. Choi, C.M. Kang, D.S. Yoon and W.J. Lee

_Yonsei University College of Medicine, Korea_

**Introduction:** Postoperative pancreatic fistula (POPF) after pancreaticoduodenectomy is still remained as unsolved complication even though operation-related mortality reduced less than 5%. Our previous policy was pancreaticogastrostomy if the pancreatic texture...
was soft. This study show changing in standardization of pancreatico-enteric anastomosis method based on significantly reduced POPF rate after changing from pancreaticogastrostomy (PG) to pancreaticojejunostomy (PJ) in soft pancreas texture.

Method: Between December 2007 and January 2013, among the patients who were underwent pancreaticoduodenectomy due to periampullary tumor, patients who had soft pancreatic texture were enrolled in this study. Only PG was done from December 2007 to February 2010 (period 1). PG or PJ was done by surgeon’s preference from March 2010 to August 2011 (period 2). Only PJ was done from September 2011 to January 2013 (period 3). The data was retrospectively analyzed. POPF definition is followed by ISGPF definition and clinical POPF is defined as grade B and grade C POPF.

Results: 141 patients had soft pancreas texture. PG was done in 73 patients and PJ in 68 patients. There were no differentiations in clinic-pathologic findings between 2 groups. Clinical POPF rate was 23.3% in all PG group and 5.0% in PJ group (p = 0.004). According to periods, clinical POPF rate was 16.7% in period 1, 25% in period 2, and 5.9% in period 3 (p = 0.043). In period 2, clinical POPF rate was 42.1% in PG group, 5.9% in PJ group.

Conclusions: Based on significantly reduced POPF rate in PJ group, duct to mucosa pancreaticojejunosotomy is being standardization method even though pancreatic texture is soft during pancreaticoduodenectomy.

PPP25-003
THE CORRELATION BETWEEN POSTOPERATIVE PANCREATIC FISTULA AND BACTERIAL INFECTION AFTER THE PANCREATEDUODENECTOMY: IMPORTANCE OF THE IVR OF THE EARLY POSTOPERATIVE PERIOD

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Sapporo Medical University, Japan

Introduction: In the recent study, a utility to remove drains early was shown after pancreateoduodenectomy (following, PD). However, because of concern of the becoming severe by the poor drainage, most surgeons hesitate to do so. We examined optimal drain withdrawal time from the viewpoint of the correlation between pancreatic fistula and bacterial infection after PD.

Method: We intended for 120 patients on whom we performed PD in our department between April 2007 and March 2012. The closed system continuance sump drains were put around the pancreaticojejunosotomy and in the foramen of Winslow. On the postoperative day (POD) 2 and 5, we obtained the drainage fluid and measured amylase levels. In this study, a diagnosis of pancreatic fistula followed the definitions of the ISGPF and more than clinically significant grade B were PF (+) group. We judged the drainage fluid that became turbid with infection and examined bacterial culture appropriately. In more than grade B, we applied IVR early and conducted drain exchange and persistent washing with the saline. We removed drains when drainage became clearing up and the fistula was completed.

Results: About pancreatic fistula, it was grade A/B/C = 10/39/4 cases. In 40 of 43 cases of the PF (+) group, enteric bacteria such as Enterobacter and Enterococcus were detected primarily. As for 25 of 40 cases, bacteria were detected within the POD 7. On the other hand, in 12 of 86 cases of the PF (−) group, bacteria were detected. In the all cases of the PF (+) group, IVR was conducted on the mean POD 9 and there was no surgery-related death.

Conclusions: In the cases of ISGFP grade B or more, infection was established in many cases within 1 week after PD. Importance of active IVR to prevent aggravation of the pancreatic fistula was suggested.
PPP25-004
OUTCOMES OF PANCREATODUODENECTOMY FOR BENIGN AND PRE-MALIGNANT LESIONS
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Academic Medical Center Amsterdam, Netherlands
Introduction: Pancreatoduodenectomy is associated with low mortality but still substantial morbidity in the treatment of patients with (suspected) malignant peripancreatic tumors. Up to 10% of suspected malignant lesions are finally diagnosed as benign disorders. However, certain patients have preoperatively proven benign or pre-malignant lesions such as chronic pancreatitis or adenoma. In this study we examined the short and long-term outcomes in patients with a benign or pre-malignant periampullary tumor after pancreatoduodenectomy.
Method: All patients who underwent pancreatoduodenectomy during 1992–2012 were prospectively registered. Patients with benign or pre-malignant diagnosis were selected. Clinicopathological data were analyzed and compared to patients with malignant lesions. Outcomes were stated as odds ratio (OR) with 95% confidence interval (CI).
Results: From the total group of patients (n = 1037) 144 were diagnosed with a benign tumor and 86 with a pre-malignant tumor. Mean age of patients with a benign tumor and patients with a pre-malignant tumor was 58 years vs 64 years in patients with malignant tumors (p < 0.001). ASA classification was lower in patients with pre-malignant tumors (p = 0.01). Jaundice was reported in 34% vs 78% in malignant lesions. Patients with benign tumors had a higher rate of hepaticojunostomy (HJ) leakage (p = 0.048). Patients with pre-malignant tumors had a higher risk of postoperative complications (OR 1.7; 95% CI 1.1–2.6). Mortality, 2% in each group, and hospital stay, 13–15 days, did not differ. 5-year survival in patients with benign or pre-malignant lesions was 93% and 92% respectively vs 9% in patients with malignant lesions.
Conclusions: Patients undergoing pancreatoduodenectomy due to a benign or pre-malignant lesion are younger, less frequently jaundiced and suffer from more postoperative complications compared to patients with malignant tumor. Mortality rates did not differ. 93% of patients have a 5-year survival after surgery. Although postoperative complications are increased in patients with benign or pre-malignant lesions, long-term survival is high.

PPP25-006
MESENCHYMAL CHONDROSARCOMA FROM PANCREAS
J. Go and C.-N. Kim
Inje University Ilsan Paik Hospital, Korea
Introduction: In worldwide, mesenchymal chondrosarcoma is a very rare and has more aggressive prognosis than other chondrosarcoma. Just 2 cases of metastatic chondrosarcomas in the pancreas have been reported in the literature.
Method: A 41-year-old man presented with a 1-month history of abdominal pain. His previous medical and familial histories were unremarkable. CT scan of the abdomen revealed an ill defined, lobulated mass that measured about 13 × 12 × 17 cm in size and it appeared as a heterogeneously low attenuated mass with numerous areas of coarse calcification. Hemipancreatectomy (involved splenectomy) and T-colectomy was done.
Results: The pathological diagnosis was extraskeletal mesenchymal chondro-sarcoma arising from the pancreas with invasion to the splenic vein.
Conclusions: Mesenchymal chondrosarcoma almost displays a lethal clinical course, as radical excision of the tumor is the optimal treatment methods.

PPP25-007
DAY CASE ENDOSCOPIC ULTRASOUND GUIDED DRAINAGE OF PANCREATIC PSEUDOCYSTS
S. Fisher, V. Banwell, K. Mason and S. Norton
Derriford Hospital, UK
Introduction: This study assessed the efficacy and safety of day case endoscopic ultrasound guided pancreatic pseudocyst drainage. Pseudocysts are a common com-
PANCREATIC ASCITES

J. Sathyanesan, R. Palaniyappan and M. Govindhan

INTRODUCTION:

Pancreatic ascites is a rare but well documented complication and should be suspected in patients with chronic alcoholism and pancreatitis presenting with ascites. The etiology is likely from a pancreatic pseudocyst leakage or due to ductal disruption. Treatment is controversial but includes conservative medical therapy or endoscopic transpapillary pancreatic duct stenting or surgery. The aim of our study is to evaluate role of pancreaticogastrostomy in the management of pancreatic ascites. The choice of pancreaticogastrostomy was guided because of shortened mesentry and gross edematous jejunum due to the chronic ascitic fluid collection from the disrupted pancreatic duct.

METHOD:

Patients with symptomatic ascites for at least 3 weeks with ascitic fluid amylase of >1000 S units/dL were included. Retrospective analysis of 22 operated cases with pancreatic ascites following failed conservative treatment were analysed. Outcome of the study was defined in terms of morbidity and leakage in early post operative period.

RESULTS:

Longitudinal pancreaticogastrostomy was done for 10 of the twenty two patients with leak from the dilated main pancreatic duct. Steatorrhea was absent in all operated cases. None had recurrence of ascites and deterioration of endocrine function.

CONCLUSIONS:

Longitudinal pancreaticogastrostomy offers an excellent viable option in patients with pancreatic ascites with dilated main pancreatic duct especially those with a subacute peritonitis causing shortened mesentry with oedematous jejunum.

PPP25-008

PANCREATICOGASTROSTOMY: AN EXCELLENT SURGICAL OPTIONS FOR PANCREATIC ASCITES

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INTRODUCTION:

Pancreatic ascites is a rare but well documented complication and should be suspected in patients with chronic alcoholism and pancreatitis presenting with ascites. The etiology is likely from a pancreatic pseudocyst leakage or due to ductal disruption. Treatment is controversial but includes conservative medical therapy or endoscopic transpapillary pancreatic duct stenting or surgery. The aim of our study is to evaluate role of pancreaticogastrostomy in the management of pancreatic ascites. The choice of pancreaticogastrostomy was guided because of shortened mesentry and gross edematous jejunum due to the chronic ascitic fluid collection from the disrupted pancreatic duct.

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CONCLUSIONS:

Longitudinal pancreaticogastrostomy offers an excellent viable option in patients with pancreatic ascites with dilated main pancreatic duct especially those with a subacute peritonitis causing shortened mesentry with oedematous jejunum.
formation and mucosal thickening. In literature it has been reported under various names including cystic dys trophy of heterotrophic pancreas, pancreatic hamartoma of duodenum, groove pancreatitis, paraduodenal wall adenomatosis & duodenal dystrophy.

Method: We present occasional alcoholic two male patients with chronic abdominal pain, dyspeptic symptoms, vomiting, GI bleeding, weight loss. Both were investigated with repeated endoscopy, MDCT and trans abdominal USG. One patient had received gastrojejunostomy and truncal vagotomy for bleeding and outlet obstruction due to chronic duodenal ulcer and other had GI bleeding due to duodenal ulcer needing hospitalisation and endotherapy. Review of old MDCT, endoscopy reports pathology of duodenal dystrophy causing duodenal obstruction, bile and pancreatic duct was diagnosed. Before pancreatectoduodenectomy, triphasic CT SCAN and GI endoscopy were done. Liver function tests, CA19-9, CEA were done. In view of triple obstruction, both patients underwent pancreaticoduodenectomy.

Results: CA19-9, CEA, Liver function tests were normal; MDCT MRCP showed duodenal pancreatic and bile duct obstruction, thickened duodenal wall, cystic changes and enlarged blood vessels pancreatic & bile ductal dilatation. GI endoscopy showed duodenal narrowing, mucosal bulges. During pancreatectoduodenectomy there was extensive fibrosis around PV, SMV & SMA. There was portal hypertension due to entrapping of SMV, SPV. Frozen pathology did not show malignancy. Postoperatively both patients relived of their symptoms, pain had disappeared, showed good weight gain and improved diabetes.

Conclusions: Identification of duodenal dystrophys a rare variant of chronic pancreatitis causing triple obstruction of duodenum, and both ducts, the pancreatectoduodenectomy is associated with relief of distressing symptoms of patients. These patients otherwise would be denied better quality life and may become crippled with nonsurgical treatment.

PPP25-012

PANCREATIC ARTERIOVENOUS MALFORMATION (P-AVM) SHOULD BE TREATED BY PANCREATIC RESECTION

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Introduction: Arteriovenous malformation (AVM) is defined as an abnormal connection between arteries and veins, bypassing the capillary system. AVM can appear in pancreas (P-AVM), though the incidence is rare. Here we show and analyze our experienced cases of P-AVM.

Method: Between June 2005 and May 2013, patients diagnosed as P-AVM and operated in our institute were retrospectively analyzed.

Results: Three patients were included. All of them were male (average age: 50). Primary symptom of all patients was epigastralgia. Two patients had a past history of pancreatitis, whereas one patient had suffered from hemorrhagic duodenal ulcer. We performed pancreatectoduodenectomy for 2 patients whose P-AVMs were located in pancreatic head, and middle pancreatectomy for 1 patient whose P-AVM was located in pancreatic body. Arterio-portal (A-P) shunt was confirmed by DSA in 2 patients. After operation, all patients were released from the symptoms without recurrence.

Conclusions: Since P-AVM causes A-P shunt which leads to tissue ischemia, pancreatic resection including the AVM is suitable treatment to cure this rare disease.
**PPP25-013**

**SURGICAL TREATMENT FOR PANCREATIC NEUROENDOCRINE TUMOR (PNET)**

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**Introduction:** Pancreatic neuroendocrine tumor (PNET) is a rare disease, and the treatment guideline for PNET is currently under construction. Here we show and analyze our PNET patients, and consider about surgical treatment for PNET.

**Method:** Between January 2004 and December 2012, patients who diagnosed as PNET and underwent operation in our institute were included. Operative procedures, histopathological findings and clinical outcomes of these patients were retrospectively reviewed. All specimens were re-classified by the WHO 2010 classification.

**Results:** Fourteen patients were included (6 males and 8 females, average age was 64.0). Twelve of them belonged to non-functioning PNET. There was 1 case each of insulinoma and gastrinoma. By the WHO 2010 classification, 9 cases were classified into NET G1, whereas 3 into NET G2 and 2 into NEC. We performed pancreaticoduodenectomy with lymph node dissection for 5 cases, distal pancreatectomy with lymph node dissection for 4 cases, middle pancreatectomy for 2 cases and tumor enucleation for 3 small PNET (NET G1) cases. Two NEC patients died of recurrence. Lymph node metastasis was found in 3 patients. One of them, the gastrinoma case, appeared to metastasize in para-aortic lymph nodes despite NET G1, though the met lesion was controlled by Everolimus.

**Conclusions:** NEC cases tend to recur even underwent pancreatic resection, including lymph node dissection, for which careful follow-up is necessary. We performed tumor enucleation for 3 patients, and this procedure should be justified by long term follow-up.

**PPP25-014**

**SWITCHING RECONSTRUCTION OF JEJUNAL LOOP IN PANCREATODUODENECTOMY FOLLOWED BY TOTAL GASTRECTOMY WITH DOUBLE-TRACT-RECONSTRUCTION**

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**Introduction:** The double tract methods of total gastrectomy by gastric cancer was a meticulous methods. In case of re-separation and reconstruction of double tract anastomosis by other metachronous cancer require meticulous procedure.

**Method:** We encountered patients with common bile duct cancer. He had been underwent total gastrectomy by gastric cancer 20 years ago and the double-tract reconstruction was performed at this operation. The bile duct cancer was located in lower part of the common bile duct whereas no lymph node and distant metastases were observed. We planned pancreaticoduodenectomy for this patient. At operation, the duodenal anastomosis and jejuno-jejunostomy of double tract was divided. Next, the proper pancreaticoduodenectomy was performed. We preserved blood flow and length of the jejunal loop as much as possible.

**Results:** The reconstruction was performed as the Child methods. The original jejunal loop with jejuno-jejunostomy of double tract was used for a loop of pancreaticojejunostomy and choledochojejunostomy. Therefore, no need for newly re-create a jejunal loop. The post operative course was uneventful and no adverse event observed relating for this switching reconstruction.

**Conclusions:** This unique method was minimum invasive and simple one for pancreaticoduodenectomy following by total gastrectomy.

**PPP25-015**


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**Introduction:** The international consensus guidelines for the management of IPMN and MCN of the pancreas were revised in 2012. The aim of this study was to evaluate the usefulness of the IPMN guidelines 2012 from the point of view of branch duct IPMN (BD-IPMN).

**Method:** According to the IPMN guidelines 2012, the definition of BD-IPMN was pancreatic cysts of more than 5 mm in diameter that communicate with the main pancreatic duct. Of 452 patients who underwent pancreatectomy for the IPMN between 1981 and 2012, 363 patients were classified into BD-IPMN and they were evaluated according to the algorithm for BD-IPMN.

**Results:** The high-risk stigmata were seen in 37% of the patients. Histopathologically, low-grade dysplasia (LG) was found in 19% of the patients, intermediate-grade dysplasia (MG) in 3%, high-grade dysplasia (HG) in 28% and an associated invasive carcinoma (Invasive) in 50%. The worrisome features were detected in 38% of the patients. LG was found in 25% of the patients, MG in 20%, HG in 40% and Invasive in 15%. In the remaining 90 patients without high-risk stigmata nor worrisome features, Invasive was not found. 36 patients had cysts more than 3 cm in diameter (LG 81%, MG 5%, HG 14%), 28 patients had cysts 2–3 cm in diameter (LG 86%, HG 14%), 20 patients had cysts 1–2 cm in diameter (LG 85%, MG 15%), 6 patients had cysts less than 1 cm in diameter.
PPP25-016
**PANCREAS DIVISUM TREATED BY PYLORUS-PRESERVING PANCREATODUODENECTOMY: A CASE REPORT**

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**Introduction:** Pancreas divisum is a rare anatomical variant, and the incidence is reported as 7% of autopsies. Most cases remain without clinical symptoms. However, some patients with pancreas divisum develop symptoms of recurrent pancreatitis. When pancreatitis occurs, the goal of management is the improvement of the dorsal pancreatic drainage. This may be achieved by endoscopic or surgical approaches. The indication and method of surgical options are not clearly determined in each clinical situation. A case of young male patient with pancreas divisum is reported, who underwent PPPD and achieved clinical improvement.

**Method:** (case report) A 29-year-old male patient admitted due to severe epigastric pain lasting for 3 months. The patient suffered from indigestion, postprandial discomfort and vomiting since childhood. The patient admitted to hospital due to epigastric pain, nausea and vomiting 5 years ago, and was managed under impression of acute pancreatitis. The imaging studies were done. Under the impression of pancreas divisum the patient underwent PPPD. The head of pancreas showed chronic inflammatory changes.

**Results:** The patient was discharged without complications. Thirty months after operation, the patient is doing well without indigestion and postprandial pain. He gained 3 kg after operation.

**Conclusions:** In this case, the ampulla was not introduced and endoscopic approach failed. Variable methods of operation are suggested by many authors. Currently PPPD is regarded as a safe and effective operation. Considering the patient age, the PPPD is selected. The long-term result is needed to be evaluated in this patient.

PPP25-017
**POSTOPERATIVE MORBIDITY AND MORTALITY OF PANCREATECTOMIES**

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**Introduction:** Pancreatic resections are procedures used in a diverse number of benign and malignant diseases of the pancreas or its surrounding structures. Our study focuses on the analyses of the surgical complications that result from these interventions with the aim of proposing preventive strategies.

**Method:** We analyzed retrospectively data from patients included in a prospective database dedicated to “pancreatic resections” in the General Surgery Department “A” Ibn Sina Hospital in Rabat, from January 2010 to December 2012 (3 years). A statistical analysis investigated the risk factors for morbidity and mortality.

**Results:** Sixty-one patients were included. In 48 (80%) patients, the pancreatectomy corresponded to duodeno-pancreatectomy. The other types of resections (20%) corresponded to 8 distal pancreatectomy and splenectomy, 2 enucleations, 1 ampullectomy, 1 distal pancreatectomy and 1 total pancreatectoduodenectomy. The severity of complications was assessed by the classification of Clavien Dindo. Severe morbidity and mortality (Grade ≥ 3b) was 20% with a mortality rate of 13% and 7% of which were of medical origin: cerebral vascular accident, myocardial infarction and respiratory complications. Statistical univariate analysis showed that the general condition of the patient, intraoperative blood loss, transfusion and duration of surgery were associated with higher morbidity.

**Conclusions:** Preoperative assessment of co morbidities, evaluation of the general condition of patients as well as standardization of perioperative care and surgical techniques should contribute to reduce postoperative morbidity and mortality of pancreatectomy in our context.

PPP25-018
**TOTAL LAPAROSCOPIC PANCREATICODUODENECTOMY: FEASIBILITY AND OUTCOME IN AN EARLY EXPERIENCE**

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**Introduction:** Laparoscopic pancreaticoduodenectomy represents one of the most advanced applications for laparoscopic surgery currently in use. In the past, the minimally invasive techniques were only used for diagnostic laparoscopy to evaluate periampullary malignancies, staging of pancreatic cancer, and palliative procedures for unresectable pancreatic cancer. Despite its first description by Gagner and Pomp in 1994, there has not been wide acceptance of the procedure to date. Our aim was to describe the feasibility and outcome of total laparoscopic pancreaticoduodenectomy (TLPD) at a single institution.

**Method:** This study included 13 patients who underwent TLPD between 5/2010 and 5/2012. Clinical variables, such operation time, blood loss, surgical technique and complication.

**Results:** There were 13 patients in this study. All of patients underwent TLPD. The mean age was 62, mean operation time: 380 minutes, mean blood loss: 150 mL. The mean hospital stay was 7.8 days. Conversion rate was 0%, pancreatic fistula was seen in one patient. Overall mortality rate was 0%.

**Conclusions:** The results of current study suggest that Laparoscopic pancreaticoduodenectomy is feasible,
safe, and effective. Experience in pancreatic resection and possession of advanced laparoscopic skills are recommended prerequisites if patients are selected properly has low mortality and acceptable rates of complications.

PPP25-020

INDICATIONS AND RESULTS OF TEMPORARY MESENTERIC-PORTAL BYPASS IN SURGERY OF THE LOCALLY ADVANCED PANCREATIC CANCER

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Introduction: Research objective. To study the results of blood flow stops in the mesenteric-portal system and using of the temporary mesenteric-portal bypass in surgery of the locally advanced pancreatic cancer with invasion of the main vessels of the mesenteric-portal system.

Method: Pancreateicoduodenectomy with resection and recovery of the main vessels of the mesenteric-portal system have been performed to 75 patients with locally advanced pancreatic cancer. R0-resections were performed «en block». To 18 patients (group 1) the total cross-clamping of the main vessels of the mesenteric-portal system was applied while the stopping of the arterial blood-flow through the superior mesenteric artery for 40 minutes were performed on the stages of the mobilization, resection and reconstruction. The technologies of the direct short temporary venous-bypass by not thrombogenic silicone canulas were used to 57 patients (group 2). Functioning of the bypass was 88.6 (46.2–154.7) minutes (28–172 minutes).

Results: Mesenteric venous thrombosis, thrombosis of the bypass system, severe liver insufficiency due to prolonged compression of the portal vein weren’t observed in both groups of the patients. Postoperative transient increase of transaminases didn’t exceed three times and were restored within 7–10 days. Cases of the thrombosis of the bypass haven’t been noted. Venous edema of the small intestine not observed during the observation period in both groups of the patients.

Conclusions: Stopping of the mesenteric-portal blood flow at the stage of resection and reconstruction of the main vessels of the mesenteric-portal system at total stopping of the arterial blood flow for more than 40 minutes does not require usage of the temporary vascular bypass, because it does not lead to the mesenteric thrombosis, ischemic intestinal edema and necrosis, acute hepatic failure in the postoperative period. Stopping of the mesenteric-portal blood flow for more than 40 minutes requires the use of temporary vascular bypass.

PPP25-021

RESULTS OF NEW METHODS OF THE PROPHYLAXIS OF THE ACUTE POSTOPERATIVE PANCREATITIS AND THEIR CLINICAL EFFICACY IN SURGICAL GASTROENTEROLOGY

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Introduction: Research objective. Evaluate the clinical results of the complex prophylaxis of the acute postoperative pancreatitis (APP) in surgical gastroenterology.

Method: The work is based on the results of the surgical treatment of the 2968 patients with various disorders of the digestive system, including peptic ulcer and duodenal ulcer, cancer of the stomach, proximal and distal pancreatic cancer, colorectal cancer and post-gastrectomy syndromes. Empirical prophylaxis of the APP has been performed in the control group of the patients (1934 patients). Different methods of the prophylaxis of the APP, such as the use of the drugs of the Leu-enkephalin (Dalargin), parapancreatic microirrigation by drug cocktail (Dalargin, Lidocaine, Dextran), permanent intravenous infusion of the Octreotide, duodenal enzyme inhibition by Trypsin, intraduodenal reversion of the pancreatic secret, introduction of the Lidocaine in the pancreatic duct and outside transnasal drainage of the pancreatic and bile ducts in the surgery of the “low” complicated duodenal ulcers were used on a specially designed scheme in the main group of the patients (1034 patients).

Results: Frequency of the complication was 12.2% in the main group versus 36.9% in the control group. The morbidity was 13.6% in the main group and 25.1% in the control group. The mortality was 1.6% in the main group and 3.5% in the control group. The postoperative hospital stay was 12.1 ± 0.4 days in the main group and 16.7 ± 0.6 days in the control group. Also, clinical efficacy of the proposed scheme of the prophylaxis of the APP was found in the main group of the patients (NNT = 3.5).

Conclusions: Using of the proposed scheme of the prophylaxis of the APP allows to significantly reducing the frequency of the complication, the morbidity, duration of postoperative hospital stay, and hospital mortality in patients after abdominal surgery.
PPP25-022
DOUBLE PANCREATICOJEJUNOSTOMY WITHOUT PANCREATIC RESECTION FOR TREATMENT OF MAIN PANCREATIC DUCT INJURY WITH PANCREATIC FISTULA: A CASE REPORT
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Introduction: We experienced surgical management in 68-years-old female patient with main pancreatic duct injury during urologic laparoscopic operation.

Method: Hepatobiliary surgeon repaired pancreatic duct which is suggested minor duct using surgical clip during initial operation to avoid laparotomy. After that, we detected the main pancreatic duct injury at pancreatic head portion. Unless conservative therapy for a month, the amount of pancreatic juice via external drain was not reduced, we decided the operation to control pancreatic fistula.

Results: We performed blunt primary repair for injured pancreas head portion and pancreas neck division. For preservation of whole pancreas, double pancreaticojejunostomy at distal and proximal stump were performed using jejunal Roux limb. The result of pancreaticojejunostomy was successful.

Conclusions: Pancreaticojejunostomy without pancreatectomy can be a treatment option in patients with main pancreatic injury to preserve pancreas volume. However, cautious and complete surveillance to detect of pancreas injury should be performed initially while treating iatrogenic pancreas injury.

PPP25-023
THE EFFECT OF MODIFIED PANCREATICOJEJUNOSTOMY FOR REDUCING THE PANCREATIC FISTULA AFTER PANCREATICODUODENECTOMY
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Introduction: Pancreatic fistula (PF) has traditionally been a source of significant morbidity and mortality after pancreaticoduodenectomy (PD). External drainage of pancreatic duct with stent and Blumgart anastomosis had reduced PF after PD in some studies. We applied compounding described 2 methods for External drainage with Blumgart method of pancreaticojejunostomy (PJ) during PD, and investigated the effectiveness of this modified PJ technique to prevent PF.

Method: Between March 2002, and March 2013, 90 patients who underwent PD were enrolled. The patients were divided into 2 groups according to pancreaticojejunostomy method. Group 1 contain patients who did not undergo modified PJ (n = 70) compared with group 2 (n = 20) those who did undergo the modified PJ technique. We compared clinical data between two groups.

Results: No differences were noted in the demographics and operation-related factors, between the 2 groups. A PF occurred in 38 of 70 patients in group 1 (54.3%) and in 2 of 20 in group 2 (10.0%). Group 2 had a significantly lower incidence of PF (P = 0.0016), and these fistulas were classified as being grade A using the International Study Group on Pancreatic Fistula Definition. Mortality in group 1 was 10.0% and no mortality in group 2.

Conclusions: External drainage with Blumgart method of PJ showed reducing high grade PF after PD.

PPP25-024
RESECTION AFTER PREOPERATIVE THERAPY FOR LOCALLY ADVANCED UNRESECTABLE PANCREATIC CANCER -SINGLE CENTER EXPERIENCE-
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Introduction: For patients with pancreatic cancer, curative treatment is only complete resection with adjuvant chemotherapy. However, many pancreatic cancer patients are unresectable cases. In this report, we were analyzed for locally advanced unresectable pancreatic cancer patients who underwent preoperative therapy in our department.

Method: From August 2010 to December 2012, 14 locally advanced unresectable pancreatic cancer patients underwent chemotherapy or chemoradiation. Main criteria of unresectable pancreatic cancer were according to the NCCN guideline. Resection rates, complication during the treatments, and survival were analyzed.

Results: Of 14 patients, 13 patients were underwent chemotherapy only, and 1 patient was underwent chemoradiation. Of 14 patients, 7 patients were underwent surgery (7/14, 50.0%). Five patients were underwent successful resection (5/14, 35.7%), whereas 2 patients were underwent exploration only. The 1- and 2-year survival rate after macroscopic resection were 80.0 and 40.0%.

Conclusions: We believe that preoperative chemotherapy or chemoradiation has potential benefits for locally advanced unresectable pancreatic cancer patients because of the associated improved resection rate and prognosis.

PPP25-025
ISOLATED PHYSIOLOGICAL RECONSTRUCTION AFTER PANCREATICODUODENECTOMY
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Introduction: Pancreatic anastomotic failure remains the most dangerous complication after pancreaticoduodenectomy despite recent improving in operation technique. Delayed gastric emptying (DGE) is the second common problems encountered postoperatively, which
not always associated with pancreatic anastomotic leak. Use of a Roux-en-Y loop for reconstruction of pancreatic drainage is a technique that has been suggested to reduce pancreatic anastomotic leak-related morbidity and mortality in patients undergoing pancreaticoduodenectomy.

**Method:** Study took place from January 2009 to January 2013 as a single center randomized controlled parallel grouped superiority surgical trial. Reconstruction of the pancreatic remnant was done using a single loop standard reconstruction (SR) in 31 patients and by an original technique - totally isolated Roux-en-Y loop's (RR) in 26 patients. The focus group were high risks patients for postoperative pancreatic fistula, with “soft” pancreatic tissue and without dilatation of the main pancreatic duct. Pancreatic fistula was defined as drainage of greater than 50 mL of amylase rich fluid on or after postoperative day 5.

**Results:** No statistically significant difference was observed in the rates of pancreatic fistula comparing to the type of reconstruction (RR, 35.5% vs SR, 38.5%; p = 0.35). The rate of interventional radiology drainage procedures was lower in RR group (RR, 12.9% vs SR, 30.8%; p = 0.033) as well as no need of reoperation (3 reoperation was performed in the SR group). There were evident decreasing of incidences of DGE in RR group (RR, 9.7% vs SR, 34.6%; p = 0.026) also as in length of postoperative hospital stay - RR (15.7 days [range, 7–30 days]) compared with those undergoing SR (30.4 days [range, 12–54 days]) P = 0.044.

**Conclusions:** Use of the alternative Roux-en-Y technique for reconstruction following the Whipple procedure may decrease the incidence of DGE and necessity of postoperative interventional radiology drainage, achieved shorter hospital stays.

**PPP25-026**

**PYLORUS PRESERVING AND ANTRECTOMISED PD AND FAST TRACK SURGERY**

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**Introduction:** The goals of fast track protocols include attenuating the surgical stress response and reducing end organ dysfunction through integrated preoperative, intraoperative, and postoperative pathways.

**Method:** In 91 patients with periampullary tumors were performed pancreaticoduodenectomies. In year 2012 all operations were pylorus preserving (56 patients) and in 2011 those were antrectomised (35 patients). The methods used include epidural or regional anaesthesia, optimal pain control, and aggressive postoperative rehabilitation, including early enteral (oral) nutrition and ambulation. Epidural catheterisation and analgesia through this catheter have been employed all patients. All patients have been started oral nutrition on postoperative first day. It has been aimed to achieve enteral feeding without any parenteral support on postoperative 3rd day. Drains were withdrawn if discharge was lower than 30 cc and amylase levels were not indicate any leakage. All patients were followed up by home enteral nutrition nurse. Glutamin and arginin included enteral nutritional support was applied to all patients. Diabetic formulas have been used for diabetic patients. Antibiotic regimens, mobilisation and nursing care were standardised. All patients were followed up in every 3 months for 5 years for malignant lesions.

**Results:** Only one patient died in 91 patients due to surgical complication. 2 patients were died because of myocardial infarction on postoperative 56th day and 27th day. In pylorus preserving (PP) and antrectomised (AP) group, re admission rate were 3.7% and 3.4% consequentially. Anastomotic leakage were seen in pp group in 3 patients and 2 patients in AP group. Average discharge day were 6.6 and 7.1 days in same manner. There was not any statistical difference between 2 groups.

**Conclusions:** Use of protocols based on fast-track concepts has been shown to reduce hospital stay, re admission rate. Mortality and morbidity rates are also almost same for antrectomised and pylorus preserving groups.

**PPP25-027**

**FAST TRACK HPB SURGERY**

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**Introduction:** Enhanced recovery, otherwise known as “fast-track” programs, are evidenced-based protocols designed to standardize medical care, improve outcomes, and lower health care costs. Fast-track protocols for surgery patients were developed to reduce physiological stress and postoperative organ dysfunction through optimization of perioperative care and recovery.

**Method:** Between 2009 and 2012 467 patients with HPB diseases were operated in the same Institute and surgeon. Procedures performed were 165 pancreaticoduodenectomies, 69 distal pancreatectomies, 22 pancreatic operations for benign etiology, 113 hepatectomies, 69 distal pancreatectomies, 22 Klatskin tumors and 50 bilioenetric diversions. Epidural catheterisation and analgesia through this catheter have been employed all patients. All patients have been started oral nutrition on postoperative first day. In pancreaticoduodenectomy patients it has been aimed to achieve enteral feeding without any parenteral support on postoperative 3rd day. Drains were withdrawn if discharge was lower than 30 cc and amylase levels were not indicate any leakage. All patients were followed up by home enteral nutrition nurse. Glutamin and arginin included enteral nutritional support was applied to all patients. Diabetic formulas have been used for diabetic patients. Antibiotic regimens, mobilisation and nursing care were standardised. All patients were followed up in every 3 months in first year for benign lesions and every 3 months for 5 years for malignant lesions.

**Results:** Average age was 56.3 + 2.3, female/male ratio was 1/1.2. Mean hospitalisation period was 6.8 days. Overall complication rate related to surgery was 7.8% and mortality rate was 4.7% in first month after surgery. Re admission rate was 5.2% and reoperation rate was 2.4%. Weight loss was less than 10% in all patients except 17 patients with pancreatic tumors.
Conclusions: Multimodal evidence-based care within the fast-track methodology significantly enhances postoperative recovery and reduces morbidity, and should therefore be more widely adopted.

PPP25-028

CLINICAL IMPACT OF PERITONEAL LAVAGE CYTOLOGY STATUS IN PANCREATIC CANCER PATIENTS

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Introduction: The clinical implications of peritoneal lavage cytology (CY) status in patients with pancreatic cancer have not been fully established. We retrospectively reviewed clinical data from 176 consecutive patients who underwent macroscopically curative resection for pancreatic cancer from 2001 to 2012.

Method: Clinical background, surgical factor, and survival curve were compared between CY positive ($n = 25$) and negative ($n = 151$).

Results: There were no significant differences in background data (neo-adjuvant therapy, rate of portal vein resection, N0 and R0, and adjuvant chemotherapy) between 2 groups. Frequency of pancreas body and tail cancer (52% vs 18%), borderline and unrespectable cancer (48% vs 30%), arterial resection (16% vs 3%) in CY positive group were significantly higher than in CY negative (p < 0.05). Surgical complete response rate (sCR), designated as R0/1 and post-resection tumor marker normalization, in CY positive was significantly lower than in CY negative (50% vs 71%, p = 0.036). The median overall survival time of CY positive had low tendency, relative to CY negative (18 vs 24 months, respectively). In comparison of primary site of metastasis after surgical resection, the rate of peritoneal metastasis in CY positive was significantly higher than in CY negative (45% vs 14%, p = 0.003).

Conclusions: Patients with CY positive had advanced stage cancer, lower sCR and higher rate of peritoneal metastasis, remaining in low tendency of survival time. Development of the adjuvant therapy to control peritoneal metastases will be necessary in future.

PPP25-029

PANCREATICOJEJUNOSTOMY USING A TECHNIQUE OF INVAGINATION ANASTOMOSIS (END-TO-SIDE ANASTOMOSIS) WITHOUT STENTING

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Introduction: We present a pancreaticojejunostomy technique of invagination anastomosis (end-to-side anastomosis).

Method: This study included 51 patients, 30 men and 21 women, average age 69 years, who underwent pancreaticoduodenectomy at our hospital. Endo-to-side pancreaticojejunostomy was performed for all patients without stenting. In the first place, the outer layer encompasses the posterior wall of the remnant pancreas and the jejunal seromuscularis separately using 4-0 nonabsorbable sutures. The inner layer encompasses the capsular parenchyma of the pancreas and the jejunum through all layers of the bowel continuously using 4-0 absorbable sutures.

Results: There was no mortality in any of the 51 patients. Postoperative pancreatic fistula was evaluated using an international study group (ISGPF) definition. 25 patients (49.0%) did not develop postoperative pancreatic fistula, and 26 patients (51.0%) developed pancreatic fistula; Grade A:23 (45.1%), Grade B:3 (5.9%), Grade C:0. 23 patients (Grade A) developed very low-output pancreatic fistula, it healed of short duration with conservative management. 3 patients (Grade B) were required to stay longer, but all of them healed with conservative therapy. None of the patients developed postoperative intra-abdominal bleeding. 4 patients developed delayed gastric emptying.

Conclusions: The incidence of fistula has been considerably decreased by the technique of invagination anastomosis (end-to-side anastomosis) without stenting.

PPP25-030

WHAT IS THE RISK FACTOR OF MALIGNANCY PRESENT IN THE BRANCHED-TYPE IPMN CASES WHICH RESECTED AFTER FOLLOW UP PERIODS?

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Introduction: International consensus guidelines for the management of IPMN of the pancreas were revised in 2012. The high-risk stigmata of malignancy present was considered to be following only three factors; (1) Obstructive jaundice in a patient with cystic lesion of the head of the pancreas, (2) Enhancing solid component within cyst, (3) Main pancreatic duct >10 mm in size. Therefore, it is expected that the IPMN cases followed up increase in the future.

Method: The aim of this study is to identify the risk factor of malignancy present in the branched-type IPMN cases which resected after follow up period. The study involved 40 patients with branched-type IPMN (BD-IPMN) who had no mural nodules at initial diagnosis, underwent resection after the follow-up periods more than three months. Data of those patients were reviewed retrospectively, and the clinicopathological factors and survival outcomes were investigated.

Results: Median follow-up period was 19 months. 17 patients of all (47.5%) were diagnosed carcinoma, remaining 23 (52.5%) were adenoma. 7 patients underwent resection without tumor enlargement after follow-up periods, all of them were diagnosed adenoma. 33 patients underwent resection because of tumor enlargement, 19 patients (57.6%) of them were carcinoma. 9 of 18 patients (50.0%) observed only cyst enlargement were diagnosed carcinoma, 2 of 4 (50.0%) observed increase in diameter of main pancreatic duct were carci-
nomina, 8 of 11 (72.7%) observed mural nodule newly were carcinoma. All 7 patients observed increase of cyst in diameter 1.5 times or more were carcinoma.

**Conclusions:** During the follow-up periods, if we identify mural nodule or increase of cyst in diameter 1.5 times or more, the malignant potential of the patients with those findings are high, surgical resection should be considered.

### PPP25-031

**A CASE OF ACINAR CELL CARCINOMA OF PANCREATIC HEAD**


Chonnam National University Medical School, Korea

**Introduction:** Acinar cell carcinoma is a rare pancreatic neoplasm. Because of its rarity, characteristics of this disease have not been fully investigated. Herein, we present a case of acinar cell carcinoma of pancreas with its image and histologic findings.

**Method:** A 60-year-old woman was referred to our hospital for evaluation of pancreatic mass found on CT scan. Abdominal CT and MRI showed a about 3cm sized well marginated non-enhancing round mass with internal bleeding in pancreatic head.

**Results:** A preoperative diagnosis of solid pseudopapillary tumor was made, and pylorus preserving pancreaticoduodenectomy was performed. At laparotomy, a 3 × 3 cm sized brown soft mass was found in pancreatic head. Microscopic findings revealed invasive acinar cell carcinoma. The patient discharged 17 days following surgery without any complications. 2 months following the surgery, multiple hepatic metastases were found on follow up CT scan.

**Conclusions:** Acinar cell carcinoma of pancreas is a rare neoplasm showing a poor prognosis. Herein, we report a case of acinar cell carcinoma of pancreas.

### PPP25-032

**MICROCYSTIC SEROUS CYSTADENOMA MIMICKING PANCREATIC MALIGNANCY**


Chonnam National University Medical School, Korea

**Introduction:** Typically, serous cystadenomas of pancreas are frequently microcystic or oligocystic. On CT scan, serous cystadenoma generally are surrounded by a fibrous capsule and contain numerous tiny cysts, which are sometimes so small that the cystic nature is difficult to appreciate, because it is below the limits of CT resolution. Herein, we present a case of serous cystadenoma mimicking pancreatic adenocarcinoma on imaging study.

**Method:** A 74-year-old woman was referred to our institution for evaluation of incidentally found pancreatic body and tail mass on CT scan. Physical examination and laboratory data including tumor markers were within the normal range. The patient had not experienced a recent weight loss of abdominal pain. Abdominal CT revealed an about 7 × 6 cm sized heterogeneously enhancing mass in pancreatic tail. And, in pancreatic body, a about 5 × 3 cm sized heterogeneously enhancing mass was found.

**Results:** A preoperative diagnosis of pancreatic adenocarcinoma of body and tail was made, and anterior radical antegrade modular pancreatosplenectomy was performed. Macroscopically, there were a 6 × 6 cm sized well marginated multicystic mass in body, and a 12 × 10 cm well capsulated multicystic mass in tail. Microscopic findings revealed microcystic serous cystadenoma.

**Conclusions:** Microcystic serous cystadenomas are sometimes difficult to differentiate from solid tumor. Herein, we present a case of microcystic serous cystadenoma mimicking pancreatic malignancy.

### PPP25-033

**MORBIDITY AND MORTALITY IN PATIENTS WITH PANCREATIC CANCER UNDERGOING CHOLECYSTOJEJUNOSTOMY**

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IHPB, Brazil

**Introduction:** Less than 30% of patients with pancreatic cancer undergo to resection surgery. The other 70% will have palliative treatments. Thus, palliative treatment is important in providing patient improvement of quality of life, mainly due to reduction of jaundice. The aim of this study is to evaluate morbidity and mortality in patients with pancreatic cancer undergoing cholecystojejunostomy.

**Method:** A retrospective review of all patients with advanced pancreatic cancer at Santa Casa in Sao Paulo from 2002 to 2013, who underwent cholecystojejunostomy. Systemic and local complications, jaundice improvement and mortality were evaluated.

**Results:** We analyzed 60 patients who underwent cholecystojejunostomy. The mean age was 60.4-years-old. Albumin level was 3.01 g/dL and direct bilirubin was 14.8 mg/dL. All patients had reduction in bilirubin levels in the postoperative period. Eight patients (13.3%) died in the first 30 days. The cause of deaths were renal injury in four patients, acute myocardial infarction in 1 patient, and other clinical causes in the remaining 3 patients.

**Conclusions:** Cholecystojejunostomy is technically a simple procedure and effective in the relief of jaundice, despite significant mortality.

### PPP25-034

**A CASE OF DISTAL PANCREATECTOMY WITH CELIAC AXIS RESECTION FOR LOCALLY ADVANCED PANCREATIC CANCER**


Chonnam National University Medical School, Korea

**Introduction:** Pancreatic body cancers often involve the celiac axis or the common hepatic artery and are therefore considered unresectable. The distal pancreatectomy...
with en bloc resection of the celiac axis may offer a chance of curative resection.

**Method:** We present a case of a 48-year-old man with pancreatic body cancer invading the celiac axis. He suffered from severe abdominal pain. The MRI scan revealed a 4 x 3 cm sized mass invading celiac axis and splenic vein in pancreatic body. There was several enlarged lymph node around aorta. The patient underwent a distal pancreateoplejectomy with en bloc resection of celiac axis. We tried to remove enlarged paraaortic lymph nodes completely, but, multiple conglomerated lymph nodes could not be removed completely. At 2 months after the operation, the patient underwent chemoradiation therapy for metastatic paraaortic lymph nodes.

**Results:** The postoperative course was uneventful. There was no ischemia-related complication of the stomach and the liver. Severe abdominal pain was subsided after operation. But, 6 months after the operation, multiple lung metastases were found, and 8 months after the operation, he died.

**Conclusions:** Distal pancreatectomy with celiac axis resection can be performed with safety and it can improve quality of life in selective patients. To clarify the long-term survival benefit, more large scaled study and long term follow up are needed.

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**PPP25-035**

**ENHANCED RECOVERY PROGRAMME FOR PANCREATICODUODENECTOMY SURGERY. EFFECT ON SURVIVAL**


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**Introduction:** Several studies have demonstrated that an enhanced recovery programme for pancreatic surgery (PD-ERP) shortens hospital stay without compromising morbidity and mortality. However to date no study has reported on the effect of PD-ERP on survival. The aim of this study was to assess the effect of the PD-ERP on post-operative complications, length of hospital stay and patient survival.

**Method:** Our unit started a multi-modal PD-ERP in May 2011. This is a retrospective study of 85 patients who have had Pancreateicoduodenectomy in the PD-ERP compared to those who have had pancreatic surgery and received standard care prior to the implementation of the PD-ERP. The outcome measures assessed were post-operative complications, length of hospital stay and long term survival. 39 patients in the PD-ERP group were compared to 46 patients in the standard care group.

**Results:** The mean age of the patients was 64 years (range 27–84 years). The male to female ratio was 47 : 38. There were no differences in terms of age, sex or post-operative complications between the groups. The mean length of hospital stay was the same in the PD-ERP group as compared to the standard care group (20.4 vs 20.8 days) statistically significant (p = 0.86). Two year survival was 48% and 45.6% in the PD-ERP and standard care groups respectively (p = 0.73).

**Conclusions:** The multi-modal enhanced recovery programme for pancreaticoduodenectomy may reduce hospital stay but does not appear to affect survival however the results of this study were inconclusive in view of the small sample size. Long term results in terms of its effect on 5 year disease free and overall survival are needed.

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**PPP25-037**

**ANNULAR PANCREAS: EXCEPTIONAL CAUSE OF NEOPLASIC JAUNDICE**

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**Introduction:** The pancreas is formed by ventral and dorsal pancreatic buds which arise from the endodermal lining of the gut. When the duodenum rotates to the right, the ventral pancreatic bud migrates dorsally and finally come and lie below the dorsal pancreatic bud. Some developmental errors in the rotation of these components may lead to annular pancreas that can mimic a pancreatic cancer.

**Method:** We report the case of 42-years-old morocan women, who was admitted for cholestatic jaundice. CT scan showed a intra and extra-biliary duct dilatation with no evidence of pancreatic mass. Endoscopic ultrasonography failed to show a pancreatic abnormality. Endoscopic duodenoscopy described a modified ampulla of vater mimicking a periampullar Tumour but no signe of malignancy on the biopsy. Multidisciplinary decision of a surgical approach was hold.

**Results:** The patient underwent a Whipple procedure with normal peroperative and postoperative outcomes. Histological examination revealed no signe of malignancy but an annular pancreas.

**Conclusions:** Surgeons should keep in mind this exceptional anomaly as differential diagnosis of biliopancreatic tumors in healty young patients with cholestatic jaundice to avoid abusive Whipple procedures.

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**PPP25-039**

**RESULTS OF A PHASE I STUDY FOR THE EVALUATION OF THE FEASIBILITY AND SAFETY OF IRREVERSIBLE ELECTROPORATION (IRE) IN PATIENTS WITH LOCALLY ADVANCED PANCREATIC CANCER**

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**Introduction:** Evaluate the safety and feasibility of the NanoKnife Low Energy Direct Current (LEDC) System (AngioDynamics Inc., Latham, New York) to treat unresectable pancreatic adenocarcinoma.

**Method:** Ten patients with cytological diagnosis of unresectable non-metastatic locally advanced pancreatic cancer (LAPC) unresponsive to continuing standard
Irreversible Electroporation (IRE) in this prospective, open-label, non-randomized, clinical trial. Patients were followed with imaging, clinical assessments, laboratory, and quality of life assessments weekly for 90 days post-IRE and then quarterly for at least 12 months if possible. Adverse events, device complaints, laboratory data, physical findings and vital signs were collected. The primary outcome was rate of procedure-related abdominal complications. Secondary endpoints included evaluation of the short-term efficacy of IRE through evaluation of imaging, clinical assessments, laboratory tumoral response, and patient quality of life.

**Results:** All procedures were technically successful. Intraoperatively, IRE was well tolerated; only one transient hypertensive intraoperative episode was reported, and this resolved spontaneously. Intra-abdominal post-operative complications were described in one patient (10%). The patient did not require any invasive treatment and responded to antibiotic therapy. Based upon the RECIST criteria (version 1.1) four patients exhibited a Partial Response (40%) at the final visit, while three patients each exhibited either Progressive Disease (30%) or Stable Disease (30%).

**Conclusions:** Pancreatic IRE requires placement of probes immediately adjacent to critical structures to deliver energy to provide desired lesion coverage and cause tumoral cell death. In this study no intraoperative or post-operative complications directly related to the energy delivered during IRE (including thrombosis, pancreatitis, duodenal bleeding, stenosis, or ulceration) were observed. Therefore, we conclude, IRE is a safe and feasible procedure in patients with LAPC and may represent an advancement in the treatment and multimodality management of this disease.

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**PPP25-040**

**PANCREATIC FISTULA AFTER PANCREATICODUODENECTOMY FOR PANCREATIC TUMOUR**

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**Introduction:** Pancreatic fistula (PF) after pancreaticoduodenectomy (PD) for pancreatic tumour is a serious complication with an incidence ranging from 10% to 30%. PF was defined by an International study group for pancreas fistula in 2005.

**Method:** Retrospective analysis of prospective collected data, pancreatic tumour patients who underwent PD between April 2004 and April 2013 at our department. The incidence of PF and mortality has been studied.

**Results:** Some 191 patients in total received PD. There were two groups of patients: group I with tumour (adenocarcinoma) and group II with chronic pancreatitis or chronic pancreatitis with tumour incidentally identified in the histological specimen of the resected pancreas. We performed 143 PDs in group I and 48 PDs in group II. The incidence of PF was 28% in group I (40 pts) and 8.3% in group II (4 pts). The overall incidence of PF was 23%. All patients with PF grade A or B were treated using conservative approach without further surgery. In the group of the 28 patients with PF grade C we performed 22 total pancreatectomies, 4 pancreas preserved operations and 2 patients were not operated on. There was an overall mortality rate of 3.7%. All 7 patients who died had PF grade C.

**Conclusions:** PF after PD is a serious complication with a mortality rate of up to 80%. PF grade A and B can heal without re-operation. PF grade C requires surgery - drainage of the abdominal cavity or total pancreatectomy (TP). TP is technically demanding procedure, if the decision to operate is made early enough and the patient is without septic shock and multiorgan failure, surgery can reduce mortality of this complication.

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**PPP25-041**

**CIRCUMDUODENAL PSEUDOCYST OF THE ANNULAR PANCREAS PRESENTING AS GASTRIC OUTLET OBSTRUCTION**

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**Introduction:** Annular pancreas in adults is a rare embryologic abnormality usually detected after development of complications. Embryology, diagnosis and treatment strategies for symptomatic adult annular pancreas remain controversial. In this paper we describe a case of annular pancreas which presented with gastric outlet obstruction due to complete circumferential pseudocyst of the annular pancreas. It was successfully treated by Pseudocyst drainage.

**Method:** A 45-year-old man presented with a history of chronic pancreatitis. Magnetic resonance cholangiopancreatography revealed ductal changes in the body and tail and a large cystic mass in the region of the pancreatic head. With a diagnosis of chronic pancreatitis with pseudocyst the patient was taken for duct drainage procedure.

**Results:** Intraoperatively it was found that there was a partial annular pancreas with ductal dilatation in the pancreas region of the body and tail. The annular pancreas had formed a circumferential pseudocyst around the Duodenum completely surrounding it starting from the antrum to the D2/D3 junction. There was compression on the duodenum due to the pseudocyst. The patient underwent lateral pancreaticojejunostomy with pseudocyst drainage and a antecolic anastomotic loop Gastrojejunostomy was done in view of the duodenal narrowing. The operative time was 180 minutes and blood loss was 150 mL. The patient did well in the post operative period and was discharged on post operative day 8 with full tolerance to oral diet.

**Conclusions:** Annular pancreas is a rare entity which comes into notice when complications develop. Circumferential Pseudocyst of the annular pancreas is a rare cause of duodenal obstruction/gastric outlet obstruction in annular pancreas. Surgical drainage with or without a gastrojejunostomy adequately cures this rare problem.
HEMOSUCCUS PANCREATICUS SECONDARY TO A FISTULA BETWEEN THE PORTAL VEIN AND PANCREATIC DUCT. A CASE REPORT
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Introduction: The aim is to report a case of Hemosuccus pancreaticus (HP) secondary to a fistula between the pancreatic duct and portal vein, something not described previously in the literature.

Method: A 55-year-old male, with a high alcohol intake (>80 g/day), was admitted to another hospital for upper gastrointestinal (GI) hemorrhage and epigastric pain. Emergency gastroscopy revealed bleeding of a papillary origin. Due to the persistence of bleeding an exploratory laparotomy was performed. Cholecystectomy, choledochotomy and exploration of the papilla were done, none of which revealed the cause of bleeding. On the 10th day postoperatively the patient was asymptomatic on discharge from hospital. A week later, he was readmitted for recurrence of the bleeding symptoms and epigastric pain with no haemodynamic repercussions. An arteriography of the coeliac trunk was carried out, which showed blood remains in the duct of Wirsung but was not able to fill it with contrast material. An MRI was performed which revealed dilatation along the whole of the pancreatic duct.

Results: Suspected with a HP the patient underwent surgery by means of a bilateral subcostal laparotomy. Exploration of the transcavity of the omentum revealed a 2 cm cystic mass in the pancreas secondary to a fistula between the portal vein and pancreatic duct. A case report was performed, which found blood remains in the duct of Wirsung but was not able to fill it with contrast material. A MR was performed which revealed dilatation along the whole of the pancreatic duct.

Conclusions: HP is rare and difficult to diagnose. Angiographic embolization and surgery are therapeutic options.

THE ROLE OF PERFORMANCE STATUS IN THE TREATMENT OF ADVANCED PANCREATIC CANCER
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Introduction: Pancreatic cancer is one of the four leading causes of cancer-related deaths in Western countries. Chemotherapy is the only therapeutic option of treatment in patients with advanced pancreatic cancer, despite its modest effect on the general survival. In these cases, the role of the treatment is palliative, to improve the quality of life. The aim of the study was to evaluate the role of PS in the treatment of patients with advanced pancreatic cancer.

Method: 45 patients with advanced pancreatic cancer were involved in the study during 5 years. These patients were diagnosed with advanced metastatic cancer at the moment of presentation, or with recidives after surgical resection of the tumor. All the patients were treated with monochemotherapy with 5-FU, in cycles every 21–28 days. We have evaluated the response to treatment after three cycles of 5-FU with CT scanning, tumor markers and clinical signs. We have excluded from the treatment the patients with very low Performance Status (PS) and severe hepatic dysfunctions.

Results: We divided the patients in two groups based on the PS values. The first group was composed of 23 patients with PS 0–1; the second group was composed of 22 patients with PS 2–3. In the first group we performed 80 cycles of treatment, in the second group 110 cycles. We have interrupted the treatment when the disease advanced under treatment, or when the side effects of the treatment where important. In the first group we had a relative response in 8 patients (30%), in the second group only in 1 patient (4.5%) p = 0.03.

Conclusions: PS is an important parameter and has an impact on the clinical course of patients undergoing chemotherapy for advanced pancreatic cancer.
nance. Future experiments should address the specific targets of the miRNAs identified in search of potential biomarkers for metastasis formation.

PPP25-045
UNUSUAL DUODENO-PANCREATECTOMY

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Introduction: Duodeno pancreatectomy has become a routine procedure in specialized center, as a standard treatment for tumour of the head of the pancreas. Its most difficulty comes from the involvement of vascular structures (superior mesenteric vein and artery). We describe through this case a difficulty relied to anatomic variation.

Method: We report a case of a 45-years-old woman, with cholestatic jaundice since 4 months and weight loss. She suffers from chronic constipation several years ago. Abdominal and lymph node exam were normal. Abdominal CT showed a tumour of the head of the pancreas with biliary dilatation and without vascular involvement or hepatic metastasis. Pulmonary CT was normal. Patient was programmed for surgery.

Results: We performed a right subcostal incision, exploration found no carcinose or hepatic metastasis, the tumour was resectable, but there was a complete common mesentery with all small bowel to the right and all the colon to the left. In this exceptional situation, facility was the absence of Treitz ligament but the difficulty was to perform the portal and superior mesenteric vein lymphadenectomy as usual in the vascular sheath. We needed to avoid any lesion of the mesenteric superior vein or proximal ileal vein because any excessive manipulation or ligation here can lead to a thrombosis wish can cause necrosis of both small bowel and colon. Whipple procedure with pancreatico-gastric anastomosis was done and associated to appendectomy.

Conclusions: Surgical complications for pancreatico-duodenectomy may not depend on number of cases performed but instead relate to the operative expertise of a surgical team.

PPP25-046
SURGICAL SKILL MAY BE MORE IMPORTANT THAN OPERATIVE VOLUME IN ENSURING COMPARABLE PERIOPERATIVE OUTCOME AFTER PANCREATICO-DUODENECTOMY

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Introduction: Evidence has shown importance of operative volume of a surgical team in ensuring better outcome after pancreatico-duodenectomy (PD). Interestingly more recent evidence suggests that the premise may not hold true if experienced surgeon(s) perform the procedure. We reviewed our operative experience as a dedicated hepatobiliary surgical unit with low-volume for PD. Our objective was to analyze whether lower volumes impairs perioperative outcomes in this patient population.

Method: We performed a retrospective cross-sectional study of pancreatico-duodenectomies performed in our surgical unit from November 2007 to August 2013.

Results: A total of 20 pancreatico-duodenectomies were performed during this time. Among these were 9 females (m : f = 1.2 : 1) and mean age of patients was 51.1(12.4) years. Most underwent drainage (ERCP n = 11, PTC n = 2) and stenting (n = 12) before surgery. Preoperative mean bilirubin was 3.17 (3.11) mg/dL and Albumin was 3.5 (0.66) gm/dL. Mean ASA was 1.5 (0.5). Mean duration of surgery was 417 (75) minutes with a mean operative blood loss of 287.5 (189.09) mL and transfusion of 0.7 (0.6) unit of packed cells. Pylorus preserving resection was performed in 80% (n = 16) with a single loop used for reconstruction in 75% (n = 15). Post operative complications included wound infection (n = 5, mean Southampton grade = 1.6 ± 1.70) hemorrhage (n = 1), conservatively managed anastomotic leak (n = 1, pancreatico-jejuno-stomy), delayed gastric emptying (n = 3) and respiratory complications (major n = 3, minor n = 4). Mean length of hospital stay was 13.2 (7.03) days. Two-thirds of tumors were ampullary (n = 15), 80% were adenocarcinomas (n = 16) and 85% were well or moderately differentiated (n = 12 and 5, respectively). R0 resection was achieved in all but one case. Mean tumor size was 29.1 (14.3) mm. Average nodes examined by pathologist was 3 (2.7) and node positive disease was found in 5 cases.

Conclusions: Surgical complications for pancreatico-duodenectomy may not depend on number of cases performed but instead relate to the operative expertise of a surgical team.

PPP25-047
A PROSPECTIVE STUDY OF SURGICAL OUTCOME AND DIFFERENCES ON HISTOPATHOLOGY IN PATIENTS WITH ALCOHOLIC AND NON ALCOHOLIC CHRONIC PANCREATITIS

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Introduction: Objective. To study outcome of surgery in alcoholic and non-alcoholic CP and differences in Histopathology of alcoholic and non-alcoholic CP.

Method: Patients: From January 2012 until September 2013, 12 patients underwent surgical treatment for chronic pancreatitis at our institution. Intervention: 9 patients were operated on according to the Frey procedure, and in 3 patients, a PPPD was performed and in 12 patients, 5 were non alcoholic CP. Study design Patient data were documented throughout the duration of the hospital stay with histopathology report. Postop-
operative follow-up data were recorded prospectively at 1, 3, and 6 months. Main outcome measures: Postoperative follow-up with postoperative pain scores and preservation of pancreatic exocrine and endocrine function and quality of life and differences in histopathology of alcoholic and non-alcoholic CP were carried out.

**Results:** During a follow-up period of 12 patients at 1, 3 and 6 months, an improvement in pain score, endocrine and exocrine function and quality of life was observed in 7 alcoholic CP patients and completely free from pain and improvement in endocrine and exocrine function were seen in 4 non alcoholic CP patients and histopathology differences in patients with non-alcoholic chronic pancreatitis, pancreatic inflammation particularly involved the ducts, commonly resulting in duct obstruction and occasionally duct destruction. None of these features was seen in alcoholic chronic pancreatitis which, however, showed pseudocysts and calcifications.

**Conclusions:** In this prospective study, non-alcoholic CP patients has better outcome after surgery then alcoholic CP and histopathologically pancreatic changes in patients with non-alcoholic chronic pancreatitis clearly differ from those with alcoholic chronic pancreatitis.

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**PPP25-048**

**PANCREATIC TUMORS ASSOCIATED WITH VON HIPPEL LINDAU SYNDROME**


**Introduction:** Von Hippel Lindau (VHL) is an inherited autosomal dominant syndrome manifested by a variety of benign and malignant tumors. Pancreatic abnormalities are common in patients with VHL disease, we present one case and literature review.

**Method:** 29-years-old male with family history of von Hippel Lindau syndrome (father and uncle), he starts 12 years ago with brain, cerebellum and spinal cord hemangioblastomas and epididymal papillary cystadenomas. Two years ago the abdominal nuclear magnetic resonance shows multiple renal cysts and 2 solid tumors in right kidney, right adrenal mass and 2 cystic lesions in pancreas, right radical nephrectomy and right adrenalectomy was performed, the pathological report was pheochromocytoma and multifocal clear cell carcinoma, the pancreatic cysts were unchanged and asymptomatic.

**Results:** 60–77% of the patients with von Hippel Lindau had lesions in the pancreas. True cysts are the most common pancreatic lesions (47–70%) and are frequently multiple. Serous cystadenomas (9–11%) are well-delineated and usually multiloculated cysts. Renal cysts represent a premalignant lesions however the pancreatic cysts in VHL do not have increased risk of pancreatic adenocarcinoma, the true cysts and serous cystadenomas are asymptomatic. The neuroendocrine tumors (10–15%) are typically nonfunctional, multiple more than 85% are benign but maybe malignant, resection is reserved for lesions greater than 3 cm, the mucinous lesions are not linked with this condition.

**Conclusions:** Pancreatic abnormalities occur in most patients with VHL syndrome. The cysts are the most common lesions, although symptoms are rare medical surgical treatment is required in selects patients with pancreatic lesions. The occurrence of neuroendocrine tumors requires careful evaluation because their potential malignancy.

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**PPP25-049**

**PRELIMINARY RESULTS USING PREOPERATIVE LONG-ACTING SOMATOSTATIN ANALOGUE IN PANCREATICODUODENECTOMY WITH PANCREATICOGASTROSTOMY**

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**Introduction:** Pancreatic fistula is a common problem after pancreaticoduodenectomy, causing major morbidity. Somatostatin and its analogues are known to have an inhibitory effect on exocrine secretion of pancreas. These drugs had been presumed to reduce the rate of pancreatic fistula. Our aim was to determine if LAR Octreotide, a potent long-acting somatostatin analogue, would decrease pancreas-related complications.

**Method:** A non randomized prospective study assessing patients undergoing pancreaticoduodenectomy for pancreatic and periampullary malignancy was conducted from March 2012 to December 2012 in a single institution. Thirty eight patients without biliary drainage, were assigned to receive a single injection of LAR Octreotide 14 days before pancreaticoduodenectomy with pancreaticogastrostomy. Patients defined having hard pancreas were excluded. Pancreatic juice and peri-pancreatic drainage fluid was collected and measured, and serum pancreatic enzymes were monitored daily. Pancreatic fistula was defined as drainage fluid of more than 10 mL in 24 hours with the amylase at least 3 times the normal serum activity 3 or 4 days postoperatively. Complications were defined by objective criteria before beginning the study.

**Results:** Fifteen patients treated with LAR Octreotide were defined as having soft pancreatic remnant and were analyzed. There was no incidence of clinical pancreatic fistula and no perioperative death. Six patients (40%) had postoperative morbidity, 2 (13%) gastric bleeding managed endoscopically, 2 (13%) wound infections, 1 (7%) pneumonia and 1 (7%) rhabdomyolysis without renal failure. Median duration of hospital stay was 9 days.

**Conclusions:** Our results suggest that LAR octreotide is useful when the pancreatic remnant is soft and when pancreaticoduodenectomy is completed by pancreaticogastrostomy. However, this is an interim analysis and the end of the study is needed for definitive conclusions. Then, the results must be compared to a randomized clinical trial to validate our findings.
PPP25-050
A PROSPECTIVE STUDY OF RISK FACTORS PREDICTING INFECTION IN ACUTE NECROTIZING PANCREATITIS
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Introduction: Severe Acute Pancreatitis (SAP) is associated with mortality rate of 10% to 25%. The mortality further increased to 40% to 70% when necrotizing pancreatitis becomes secondarily infected. Early identification of pancreatic infection may alter the management strategy.

Method: This prospective study included 22 patients of SAP in 1 1/2 years. The inclusion criteria were clinical symptoms of severe acute pancreatitis, admission within 72 hours of onset of symptoms and CT Severity index >7. Intra abdominal pressure and abdominal perfusion pressure were measured from 1 to 7th day of admission. Estimation of D-dimer and serum endotoxin levels were performed on 1, 4, & 7th day of admission and APACHE II score was calculated daily.

Results: Five patients succumb from SIRS within 2–5 days of admission. Nine of the remaining 17 patients (52.94%) later developed pancreatic infection. Five of nine infected patients presented with abdominal lump compared to 1/8 non infected cases. APACHE II score of 12.83 was significantly higher in infected than 4.69 in non infected group of patients (p 0.001). Endotoxin level showed rising trend in infected group on all 3 days. The mean Endotoxin level in infected group was significantly high than non infected patients on day 4 (0.287080 IU/mL vs 0.116483 IU/mL p 0.021) and day 7 (0.08950279 IU/mL vs 0.0954700 IU/mL p 0.004). On multivariate analysis the factors showing statistically significant difference for developing infections were: APACHEII at admission, serum endotoxin on day 4 and 7 of admission and presence of abdominal lump at admission. There was no difference in intra abdominal & abdominal perfusion pressure and D dimer levels in both groups.

Conclusions: Presence of abdominal lump and APACHE II score (>12.3) at presentation and high serum endotoxin levels within 4–7 days of severe acute pancreatitis predicts pancreatic infection in patients of acute necrotizing pancreatitis.

PPP25-051
EARLY EXPERIENCE OF THE LATERAL APPROACH FOR LAPAROSCOPIC SPLENIC PRESERVING DISTAL PANCREATECTOMY
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Introduction: Laparoscopic distal pancreatectomy has been accepted as one of the surgical approach for neoplasm involving the body and tail of the pancreas. Complete splenic preserving technique is the preferred choice because the significant role of the spleen in the immune system of the body particularly young patient. We are describing our experience in lateral approach for laparoscopic distal pancreatectomy with complete preservation of the spleen.

This is to assess our early experience in performing lateral approach laparoscopic total splenic preserving distal pancreatectomy (LA-TSPDP). The evaluation will include feasibility of performing the procedure and the surgical outcome.

Method: This is a retrospective study of prospective data performed at UKMMC. Fifteen (n = 15) patients underwent LA-TSPDP during the study period. The surgical technique of LA-TSPDP will be described.

Results: All the patients had a successful laparoscopic operation. Two patients (n = 2) required a completion of splenectomy. The mean operating time was 100 minutes. There were no major post operative complications. Most of the patients were discharged within the specified hospital stay.

Conclusions: LA-TSPDP is a feasible approach. The technique allows the preservation of the spleen hence maintaining the patient immune response. The laparoscopic approach also reduced post operative pain, early mobilization and reduced hospital stay as compared to the open distal pancreatectomy.

PPP25-052
HEMORRHAGE COMPLICATING THE COURSE OF SEVERE ACUTE PANCREATITIS
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Introduction: Course of severe acute pancreatitis (SAP) can be complicated by hemorrhage, which is associated with poor outcome.

Method: 183 patients (mean age 39.6 ± 13, M : F 2.6 : 1) of SAP were evaluated prospectively (n = 86) and retrospectively (n = 97) for haemorrhagic complications. Hemorrhagic complications were categorised based upon the site (luminal or intra-abdominal), timing (occurring prior to or after an intervention) and severity (minor or major).

Results: 24 (13.1%) patients had haemorrhagic complications; 12 intra-abdominal and 12 intraluminal. 13 had a major and 11 had minor bleed. 16 patients bleed before & 8 after intervention (radiological 3, surgical 5). The mean duration of pancreatitis prior to bleed was 27 ± 27.2 days. Predictors of bleed on univariate analysis were male sex (p = 0.014), organ failure (p = 0.008), venous thrombosis (p = 0.033), infective necrosis (0.001) and systemic sepsis (0.037). On multivariate analysis infected necrosis (p = 0.015, OR 5.55) was significant factor. Radiological drainage was associated with decreased risk of bleeding (45.8% vs 54.4%; p = 0.000). Need for surgery (50% vs 12.6%, p = 0.003), intensive care stay (7.4 ± 7.9 vs 5.4 ± 5.2 days; p = 0.001) and mortality (41.7% vs 10.7%; p = 0.000) were significantly higher in bleeders.
7/12 of major bleeders had pseudoaneurysms. 7/12 intra-abdominal bleeders required surgical intervention. 4/12 with luminal bleed had hollow viscus erosion, all of which required surgery. CT severity index and surgical intervention were significantly associated with intra-abdominal bleed. Organ failure, presence of pseudoaneurysm and surgical intervention were associated with major bleed. No significant factor could be identified for post-intervention bleed.

Conclusions: Hemorrhage in SAP indicates severe disease. Infection predisposes to hemorrhage. Luminal bleed may be indicative of erosion into the adjacent viscera. Pseudoaneurysms were associated with major bleeding. Bleeding occurring after intervention have similar course as those without.

Conclusions: The anacrine and endocrine gland of pancreas occurs pathology changes when liver cirrhosis. It may be one of the reasons for descending digestive function and glycometabolism abnormality. But the certain mechanism is to be investigated deeply.

PPP25-054
THE PANCREAS HISTOLOGY CHANGES IN LIVER CIRRHOSIS AND PORTAL HYPERTENSION
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Introduction: Liver cirrhosis often affect the digestive function and metabolism of glucose, induce impaired glucose tolerance even hepatogenous diabetes. The pancreas histology changes of cirrhotic patient may have contact with the digestive symptom and impaired glucose metabolism.

Method: Some pancreatic tail tissue residual often can be find at hilum of surgical removed spleen. We examined the pancreatic tail tissue that was taken from in splenectomy in our hospital from March, 2005 to March, 2006. The patients with cirrhosis were divided to Child A, B, C Class and portal vein pressure (PVP) high, middle, low class according to the standardization of hepatic functional classification and PVP level. We observed pancreatic tissue, islet cells, B cells in light microscope and electron microscope.

Results: Pancreatic tissue with portal hypertension appears fibrous degeneration and hydropisia in anacrine gland. With the rising of PVP, the fibering makes more serious. Fiber trabs can be seen in mesenchymal obviously. Mitochondria swelling and cristae disappear in acinar cells. The cell population grows downwards along with the rising of PVP (control: 188 ± 6.5, low PVP: 165 ± 14, middle PVP: 138 ± 1.1, high PVP: 121 ± 11.1, p < 0.05). No marked changes in endocrine of low PVP and middle PVP patients. Langerhans islets appear depauperate in endocrine of high PVP patients. The A cell population in low PVP patients (32.5 ± 3.5) and middle PVP patients (29.0 ± 6.0) has no significant deviation compared with health adult (29.8 ± 5.0) (p > 0.05). High PVP patient (21.8 ± 3.5) is lower than health adult obviously (p < 0.05). The B cell population in low PVP patients (82.5 ± 10.6) and middle PVP patients (81.6 ± 5.7) has no significant deviation compared with health adult (84.8 ± 5.3) (p > 0.05). High PVP patients (74.5 ± 5.2) are lower than health adult obviously (p < 0.05).

PPP25-056
PREDICTOR OF ESOPHAGEAL VARICES IN PATIENTS WITH CIRRHOSIS
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Introduction: Gold standard for diagnosing esophageal varices is upper gastrointestinal endoscopy. However, various non invasive markers have been studied to predict esophageal varices in cirrhotic patients. The aim of this study was to find out any significance of ratios of
left and right lobe of liver with albumin as predictors of esophageal varices and compare both.

Method: All patients diagnosed to have clinical cirrhosis were included while patients with portal vein thrombosis, history of shunt surgery, inferior vein thrombosis were excluded. Routine investigations included complete blood counts, bilirubin, alanine and aspartate transaminases, gamma glutamyl transferase, alkaline phosphatase, serum albumin, prothrombin time, and ultrasound abdomen with right and left liver lobe diameter measurements in the midclavicular line. Endoscopy was done to document presence of varices. The correlation between the calculated ratios and presence or absence of esophageal varices were estimated.

Results: One hundred and eleven subjects (80 males), mean age 40.3 years, were studied. Esophageal varices were seen in 68 (61.3%) patients; Child-Pugh class A accounted for 41.4%, class B 48.8%, and class C 12.6% cases of varices. The mean value of right lobe diameter/albumin ratio was 5.1 ± 1.9 in patients with varices versus 4.2 ± 1.6 in patients without varices (p = 0.023). The mean value of left lobe diameter albumin ratio was 2.4 ± 0.9 in patients with varices versus 1.9 ± 0.6 in patients without varices (p < 0.001). Areas under ROC curves were 0.377 and 0.69 respectively.

Conclusions: The left lobe diameter/albumin ratio is a better predictor of esophageal varices than right lobe diameter/albumin ratio in patients with liver cirrhosis.

PPP25-057
LONG-TERM SURVIVORS AFTER PANCREATICODUODENECTOMY FOR PANCREATIC ADENOCARCINOMA: ARE THEY DIFFERENT?
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Introduction: Although considerable progress has been made in cancer survival rates over the past decades, 5-year survival for pancreatic adenocarcinoma has hardly changed, rising from 3% in 1975 to 6% in 2012. Several studies have analyzed prognostic factors, with controversial results and case reports of survivors beyond 5 years still remain anecdotal. The purpose of this study was to identify factors associated with long-term survival (≥5 years) in pancreatic adenocarcinoma.

Method: Data regarding all consecutive patients who underwent surgical resection for pancreatic head ductal adenocarcinoma from 1996 to 2007 in 2 academic centers were collected prospectively. Sociodemographic, clinical and pathological parameters were retrospectively reviewed. Long-term survivors were matched for age, gender and tumor stage to patients operated during the same period with survival <5 years. Univariate analyses were performed to identify independent factors predictive of long-term survival. P-values ≤0.15 in univariate analysis were considered significant and entered in a regression model. Statistical significance was accepted at p-value ≤0.05 in multivariate analysis.

Results: 273 patients underwent surgical resection. 42 patients with survival ≥5 years were identified (median 85 months, range 60–177). Among these patients, 45% had a tumor size >30 mm, 50% had positive lymph nodes and 19% had positive margins. The median survival in the control group was 25 months. In univariate analysis, portal vein resection, lymph node ratio, surgical complications, pancreatic fistula and biliary leakage were considered significant (p = 0.023, 0.02, 0.024, 0.10 and 0.12, respectively). However, multivariate analysis failed to identify independent factors associated with long-term survival.

Conclusions: Only surgical resection offers a chance for long-term survival in patients with pancreatic ductal adenocarcinoma and should be attempted even in case of poor prognostic factors. However, the tumor molecular and genetic signature seems to be the most important factor responsible for a more indolent behavior and thus a longer survival.

PPP25-058
LONG TERM OUTCOME OF PORTOMESENTERIC VEIN INVASION AND PROGNOSTIC FACTORS IN PANCREAS HEAD ADENOCARCINOMA
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Introduction: The purpose of this study was to clarify the postoperative prognosis of pancreatic head cancer with portal vein (PV) or superior mesenteric vein (SMV) pathologic invasion.

Method: From May 1995 through December 2009, preoperative, intraoperative, and postoperative data from 276 patients who underwent pancreaticoduodenectomy for pancreas ductal adenocarcinoma were reviewed retrospectively. The long-term prognosis was compared between patients with a pathologic PV-SMV invasion and those without invasion.

Results: Fourty-six patients (16.7%) underwent PV-SMV resection during pancreaticoduodenectomy. Pathologic PV-SMV invasion was observed in 30 (65.2%). Postoperative severe morbidity (Grade 3 or 4) was similar for patients with and without PV-SMV resection (8.7% with vs 7.0% without p = 0.754). The mortality rate was 2.2% with PV-SMV resection and 0.9% without PV-SMV resection (p = 0.423). No significant difference in overall survival was seen between patients with and without pathologic PV-SMV invasion (median survival, 13 vs 16 months; p = 0.663). Tumor differentiation, R status, tumor size and type of operation were revealed as independent prognostic factors.

Conclusions: 34.8% of patients who underwent PV-SMV resection had no pathologic invasion. And PV-SMV resection did not increase the rate of severe complications and mortality. Furthermore, the prognosis for patients with pathologic PV-SMV invasion may be nearly the same as patients with no invasion. So, PV-SMV resection with reconstruction should be considered in pancreatic head cancer patients with suspected PV-SMV invasion.
PORTAL-SUPERIOR MESENTERIC VEIN RESECTION AND RECONSTRUCTION FOR CHOLANGIOCARCINOMA AND PANCREATIC CANCER: CLASSIFICATION, RISK ANALYSIS AND OUTCOME

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Introduction: Advanced intrahepatic cholangiocarcinoma, hilar cholangiocarcinoma and pancreatic cancer can invade the portal vein (PV), superior mesenteric vein (SMV), and splenic vein (SV), which was previously considered as a contraindication to operation. Currently a growing number of portal-superior mesenteric vein resection and reconstruction (PSRR) is used. PSRR varies with resection locations and to date no classification system for PSRR has been reported. Here, we propose a classification system for PSRR and report the morbidity and outcome of patients.

Method: Patients who had intrahepatic cholangiocarcinoma, hilar cholangiocarcinoma, pancreatic cancer and 1 patient with chronic pancreatic inflammation underwent PSRR from February 2010 to May 2013. We collected all patients with similar diseases but without PSRR as controls. We also classified the PSRR into 3 types and 5 subtypes (Ia, Ib, Ic, II and III) based on our clinical experience and anatomy of the PV-SMV. The associations among PSRR type, post-operative mortality, morbidity, hospital stay, pre- and intra-operation traits as well as survival were analyzed.

Results: Forty-seven patients with PSRR and 92 patients without PSRR were included. Patients underwent PSRR had similar overall morbidity compared with those without PSRR (51.1% vs 42.4%). Long-term outcome showed no significance in each type of malignancy. Long anastomotic time attributes to higher mortality (p = 0.034) and higher grade of complications (p = 0.0013). PSRR types were not significant associated with anastomotic time (p = 0.39), though subtype Ic seemed extremely tricky and time-consuming in some cases. Different PSRR types do not have significant difference in morbidity (p = 0.64) but subtype Ic has higher grade of complications (p = 0.0012).

Conclusions: PSRR is safe and benefit for patients with vascular invasion of malignancies. The new classification system for PSRR may be valuable for hepato-pancreato-biliary surgeon training, and along with creato-biliary surgeon training, and along with our clinical experience and anatomy of the PV-SMV.

PPP25-060
COMPARE BISAP SCORE WITH IMRIE’S IN PREDICTING COMPLICATIONS, NEED FOR OPERATION, PROLONGED HOSPITAL STAY AND MORTALITY FOR ACUTE PANCREATITIS IN CHINESE

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Introduction: It was to compare BISAP with Imrie’s scores in predicting various clinical outcomes in Chinese patients with acute pancreatitis.

Method: This retrospective study retrieved 483 records of Chinese patients admitted for acute pancreatitis from 01/01/2010 to 31/12/2012. The scores were calculated within 24 hours after admission. Area under curve (AUC) of receiver operating characteristic (ROC) curves was used to compare predictive accuracy of the 2 scoring systems.

Results: Patients aged from 18 to 101 (median 64), of whom 261 (54.0%) were male. CT scan showed pancreatic necrosis in 29/145 patients (3.9%). 29 patients (6.0%) needed ICU organ support. Length of stay was from 1 to 194 days (median: 6, interquartile range: 5). 13 patients (2.7%) needed operations, 25 (5.2%) died. AUC and (95% CI, P value) for BISAP and Imrie’s scores in predicting mortality were 0.854(0.778–0.930, p < 0.0001), prolonged hospital stay (LOS ≥ 11 days) : 0.700(0.642–0.758, p).

Conclusions: BISAP score could be a simpler alternative to Imrie’s in predicting mortality, organ failure and prolonged length of stay but not pancreatic necrosis. Both could not predict need for operation.

PPP25-061
PREDICTORS OF THE PRESENCE OF CONCOMITANT CARCINOMA IN INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM OF THE Pancreas

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Introduction: Concomitant carcinoma is common in intraductal papillary mucinous neoplasm (IPMN). It is not well known that the risk factors for high grade dysplasia, non-invasive and invasive intraductal papillary mucinous carcinoma (IPMC). The aim of this study is to determine the predictors of concomitant carcinoma in IPMN.

Method: From September 1994 to April 2013, we retrospectively reviewed the data of 277 patients who underwent pancreatic resection for IPMN. We evaluated personal characteristics, morphologic and pathologic features of IPMN and analyzed predictors of concomitant carcinoma.

Results: Of the 277 patients, 67 patients (24%) were diagnosed with IPMC, 21 patients (7.5%) were high grade dysplasia or non-invasive carcinoma and 189
patients (68.5%) were low or moderate grade dysplasia. Among 88 patients with concomitant cancer, 35 cases (40%) were main duct type, 28 (32%) cases were branch duct type and 25 (28%) cases were combined type. The tumor size more than 3.0 cm (p = 0.041, 95% CI 1.022–2.863) and main pancreatic duct size more than 0.5 cm (p = 0.016, 95% CI 1.145–3.702) were significant predictors of concomitant carcinoma in pancreatic IPMN.

Conclusions: If the size of IPMN is more than 3.0 cm or main pancreatic duct size is more than 0.5 cm, concomitant carcinoma is highly suggestive. Therefore before surgical resection we should consider about these findings.

PPP25-063
CYSTIC NEOPLASMS OF THE PANCREAS: 10 YEAR EXPERIENCE AND EVIDENCE BASED MODEL FOR DIAGNOSIS AND MANAGEMENT
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Introduction: The approach to cystic neoplasms of the pancreas is contentious due to its variable clinicopathological outcomes. Although individual management options have been described, a decision making model integrating all clinical and imaging modalities has not been well accepted. This study aimed to determine the clinicopathological features associated with malignancy in cystic neoplasms of the pancreas and to develop a predictive model of malignant potential.

Method: Retrospective analysis of prospectively collated database of 120 consecutive patients diagnosed with a cystic pancreatic neoplasm between 2001 and 2011. Results: Benign cysts accounted for the majority of those resected (n = 88, 73.3%), while the remaining 32 cysts were malignant. Computed tomography (CT) had a sensitivity and specificity of 64.3% and 72.2% for detecting malignancy in comparison with 84.9% and 89.3%, respectively, for magnetic resonance imaging (MRI). The clinicopathological features associated with malignancy included older age (p < 0.01), presence of symptoms (p = 0.03), dilatation of the pancreatic duct (p < 0.01) or the common bile duct (p = 0.05), presence of solid component (p = 0.04), lymphadenopathy (p = 0.02) and high CEA levels (p = 0.01). In a subset of 54 patients who were given a clear preoperative diagnosis on the basis of radiological imaging, the overall sensitivity and specificity were 88.2% and 86.5%, respectively. Endoscopic ultrasonography significantly improved the diagnostic accuracy (p < 0.01) whilst CT did not (p > 0.05).

Conclusions: This study confirms the limitations in the preoperative diagnoses of pancreatic cysts. Multiple diagnostic modalities allied with clinical characteristics are necessary in order to determine appropriate management. Malignancy should be suspected in older, symptomatic patients presenting with ductal dilatation, solid components or lymphadenopathy.

PPP25-064
PROGNOSTIC FACTORS IN 170 CASES RESECTED OF PANCREATIC EXOCRINE CANCER: 10 YEARS EXPERIENCE
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Introduction: The aim is to present a serie of 170 patients with pancreatic resection in 10-years of experience, analyzing postoperative morbidity and mortality,
histological features and prognostic factors influencing survival at 3 and 5 years, respectively.

**Method:** In the last 10 years we have 398 patients diagnosed with pancreatic cancer, and 170 of them have been resected. The ratio of patients with surgical resection from 2001 to 2006 was 56.1%, rising to 90.1% in the last 5 years (p < 0.01). Mean age: 62 ± 11.7 years with a male predominance (58.7%). In 85% of cases, the tumor was located in the pancreatic head. The surgical procedure was: cephalic duodenopancreatectomy (56.7%), distal pancreatectomy (15%) and total duodenopancreatectomy in 23.3%, respectively. In the histological study we found 131 cases of pancreatic ductal adenocarcinoma, 22 cases mucinous adenocarcinoma, 9 cases IPMN and other histologic variants in 8 cases. There was lymphovascular infiltration in 33.1% and perineural infiltration in 52.2%. In histological differentiation we found 21.3% of poorly differentiated tumors and 9.6% more differentiated. In resection margins, there was 64.7% R0 vs 35.3% R1, respectively.

**Results:** Postoperative morbidity was 20.6% (35 patients) and postoperative mortality was 5.9% (10 patients). In 22 cases (12.9%) a second surgery was performed. The principal causes of this were hemopto- toneum and biliopancreatic dehiscence. The survival at 3 and 5 years was 65% and 50% in mucinous cancer, while it was 55% and 15% in adenocarcinomas, respectively. With univariate and multivariate analysis, predictors of survival are tumor size, vascular invasion, lymphatic invasion, margins R1 and the cellular differentiation.

**Conclusions:** In our experience, there is significant increase resectability in patients with surgery in the last 5 years. There is not surgical mortality; there is 20.6% of morbidity and 5.9% of mortality during the first month.

**PPP25-065**

**POSTOPERATIVE LABORATORY PARAMETERS AFTER PANCREATICODUODENECTOMY—CAN THEY PREDICT COMPLICATIONS? A PROSPECTIVE STUDY**

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**Introduction:** Pancreaticoduodenectomy (PD) is a procedure fraught with high morbidity. Early diagnosis of complications helps reduce morbidity. We investigated whether serial postoperative estimations of serum and drain fluid amylase along with other routine tests following PD could predict the development of complications.

**Method:** Prospective study on all consecutive patients undergoing PD from September 2011 to December 2012. All patients underwent serum amylase (SA) and drain fluid amylase (DFA) routinely on day 1, 3, 5 and 7 postoperatively in addition to hematological, liver and renal function tests as warranted by the clinical scenario. Appropriate imaging (sonography/CT scanning/DSA) was obtained when warranted.

**Results:** 56 patients underwent PD during the study period. The postoperative morbidity was 51% (n = 29) and mortality was 14% (n = 8). Patients with morbidity had a significantly higher serum amylase level than those without morbidity on post operative day one (POD1) (386.5 ± 48.9 vs 205 ± 64.9 IU/L). A drain fluid amylase level ≥263 or more IU/L on POD1 predicted the occurrence of morbidity with 80% sensitivity and 77% specificity. On univariate analysis the factors which predicted the occurrence of morbidity were high DFA on day 1, 3, 5 and 7 and a serially rising total leukocyte count (TLC). A rising serum creatinine and TLC, decreasing serum albumin and platelet levels and high DFA on POD7 were associated with an increased risk of mortality. However, on multivariate analysis there was no factor which could predict morbidity while a rising creatinine and TLC levels were significantly associated with increased risk of mortality.

**Conclusions:** DFA on day 1 and 7 remain a good predictor of post operative complications following PD. Serially decreasing albumin and platelet levels are associated with increased risk of death. These simple tests may help better triage in vulnerable patients and effect early aggressive management.

**PPP25-066**

**THE COMPARISON OF BLUMGART ANASTOMOSIS METHOD WITH TRADITIONAL DUCTOMUCOSAL METHOD RESULT IN POST PANCREATICODUODENECTOMY RECONSTRUCTION**

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**Introduction:** The most important factor that responsible for morbidity and mortality in peri-ampullary site tumor surgery is leakage in pancreatic anastomosis. Recent studies show an approximately 10% leakage rate in which several alternative surgical techniques have been developed and still being developing to reduce it. The aim of this study is to compare the postoperative results of BA technique with traditional ducto-mucosal (DM) anastomosis.

**Method:** 73 patients went under pancreaticoduodenectomy surgery between April 2008 and August 2013. Pancreaticojejunostomy was carried out via BA technique in 38 patients and traditional DM anastomosis technique was performed in 35 patients. Age, gender, anastomosis leak, type of leak, pathologic diagnosis, morbidity, mortality and duration of stay in hospital were inspected retrospectively. The pancreatic anastomosis leakage and the resulting complications and mortality were compared.

**Results:** The primary diagnosis, age and gender features in both groups were similar. Pancreatic leakage in BA and DM group were observed to be 10.5% and 31%, respectively (p < 0.05). Three patients had grade A, 1 patient had grade B fistula and in BA group. Four patients had grade A, seven patients had grade B fistula.
las in DM group (p > 0.05). Neither of the groups had patients with grade C fistula. General complications rate were 27.8% in BA, and 48.5% in DM group (p < 0.05). Perioperative mortality was observed in one patient in BA group and three patients in DM group. The causes of mortality were determined as thromboembolism and myocardial infarction. The mean time of discharge were 8 and 15 days in BA and the other group, respectively (p < 0.05).

Conclusions: Blumgart anastomosis can be performed to be a safe method to be used in post pancreaticoduodenectomy reconstruction in terms of reduction in pancreatic Anastomosis leakage and complications associated with fistulas.

PPP25-067
IS ENDOSCOPIC ULTRASOUND (EUS) A POWERFUL TOOL IN DIAGNOSING PATIENTS WITH SUSPECTED PANCREATIC TUMOUR
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Introduction: Endoscopic ultrasound (EUS) has been gaining more attention in diagnosing pancreatic tumour. Is it really that powerful?

Method: Retrospective review of EUS performed from 1st July 2010 to 31st March 2013 for suspected pancreatic tumour in 27 patients.

Results: 28 EUS procedures were done to 27 patients with suspected pancreatic tumour aged from 18–76 years (mean: 54.8). Male to female ratio was 7 to 3. All of them were referred to EUS because of a pancreatic lesion shown by imaging studies. Pathological examination of specimen retrieved by either fine needle aspiration cytology or core biopsy was done. The results were shown as definite type of pathology, atypical, suspicious and benign. In this study, quantity insufficient (QI) was treated as no-yield, the first three results were treated as positive, while benign was treated as negative. Apart from 1 patient who was “QI” defaulted follow-up after 1 month, all were followed-up regularly (ranged from 3 to 34, mean: 13.8 months). 10 patients died despite treatment with mean survival of 9.6 months after EUS. Yield of the test was 24/28 (86%). There were 17 test-positive patients, but one was treated as false-positive because of contradicting results of tumour markers and clinical course. There were 7 patients with negative results but three were treated as false-negative because of worsening clinical course and imaging studies. Thus sensitivity, specificity, positive predictive and negative predictive values were 84%, 80%, 94% and 57% respectively.

Conclusions: Although EUS seemed to be a fairly useful test in diagnosing pancreatic tumour, it assumed attending doctors treat atypical and suspicious results as positive which was not without risks of over-diagnosis especially if the test was the sole mean the doctors rely on. Also patients with no-yield still faced the dilemma of exposing the challenge of another test or stress of unsolved diagnostic problem.

PPP25-068
TNF-α, IL-6 AND IL-8 CYTOKINES IN RELATION TO TNF-α-308 G/A POLYMORPHISM IN POSTOPERATIVE SEPSIS
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Introduction: Early recognition of postoperative sepsis remains problematic. We investigated association of TNF-a-308 G/A polymorphism and serum level of cytokine TNF-a, IL-6 and IL-8 with the development of sepsis following major gastrointestinal surgery.

Method: 239 patients undergoing major elective gastrointestinal surgery were enrolled. Blood sample were drawn and genomic DNA was isolated. TNF-a-308 G/A polymorphism was studied using PCR-RFLP method. All patients were followed for 1 month following surgery for any evidence of sepsis. Serum cytokine TNF-a, IL-6 and IL-8 levels were measured pre and postoperatively by ELISA. Genotypes and cytokine levels were related to the occurrence of sepsis if any.

Results: 19.66% (n = 47) patients developed postoperative sepsis. Overall mortality was 3.34% (n = 8). The allele frequencies of G and A were 0.67 and 0.33 in patients with postoperative sepsis and 0.84 and 0.16 in patients without postoperative sepsis. Development of postoperative sepsis was significantly (p = 0.002) higher in patients homozygous for the allele AA as compared to other genotypes. When compared with patients carrying at least one G allele (GG homozygous and GA heterozygous genotype), the AA homozygous genotype was associated with an OR of 4.17 (p = 0.003; 95% CI = 1.5 to 11.48) for the development of sepsis. Compared with the homozygous GG genotype, the OR for the homozygous AA genotype was 5.18 (p = 0.0008; 95% CI = 1.82 to 14.76). In patients with postoperative sepsis, significantly increased level of TNF-a (p = 0.03) and IL-6 (p = 0.008) cytokine was observed in the AA homozygous genotype subgroup as compared to other genotypes.

Conclusions: TNF-a-308 G/A polymorphism is significantly associated with the development of postoperative sepsis with increased expression of cytokine TNF-α and IL-6.

PPP25-069
LONG TERM OUTCOMES OF PATIENTS AFTER PANCREATICODUODENECTOMY IN BENIGN AND PREMALIGNANT CONDITIONS
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Introduction: The incidence of pancreaticoduodenectomy (PD) performed for benign and premalignant conditions is rising. The long term outcomes of PD for benign conditions is not well documented. Our aim was to identify the long term outcomes and quality of life
(QoL) for patients who undergo PD for benign or premalignant conditions.

**Method:** Our study is a retrospective case series in a single institution. Patients underwent open PD from 2000 to 2010 for benign and premalignant conditions were included. Clinical records up to 3 years post-surgery were assessed to identify patients who required long term dietary, pancreatic enzyme, vitamin and iron supplements. Weight-gain, development of anaemia, Diabetes-mellitus and other complications during the follow-up were also recorded. Phone interview with patients was done using the EORTC QLQ-C30 version 3.0 questionnaire to assess their quality of life.

**Results:** 16 patients (12.1% out-of total 132 patients who underwent PD) with 7 males and 9 females with mean age of 56 years (range 38–80) were included. Common histology findings were IPMN (5), ampullary adenoma (3), solid-pseudopapillary neoplasm (2) and serous-cystadenoma (2). One patient had PD for trauma related injury. 5(31.2%) patients required pancreatic-enzyme supplements, 3(18.7%) patients developed anaemia, 2(12.5%) of them required iron and 1 (6.2%) required VitaminB12 supplements. 5(31.2%) patients had weight-loss ≥ 7 kg during 6–24 months post-operatively and 4 of them required dietary supplements. All patients were alive at 3-years follow-up and none of them developed Diabetes-mellitus. The results for global health, emotional and social functioning scales were superior to the reference values available in literature for “all cancers”.

**Conclusions:** Patients who undergo PD for benign or premalignant conditions can have nutritional (43.7%), pancreatic enzyme (31.2%) or hormone deficiency. Follow up protocols with multidisciplinary care is required for these patients.

**PPP25-071**

**THE INDICATIONS AND OUTCOME OF PANCREATECTOMY FOR CYSTIC NEOPLASMS IN CHINA: THE ANALYSIS OF A 16-YEAR EXPERIENCE FROM A SINGLE HIGH-VOLUME ACADEMIC INSTITUTION**

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**Introduction:** The widespread use of abdominal imaging in China in the past decade has resulted in the dramatic increase in the identification of pancreatic cystic neoplasms (PCNs). However, very few Chinese studies concerning surgical treatment of PCNs have been reported. We aim to report the experience of clinicopathological features and surgical management patients of PCNs resected at a single institution in China.

**Method:** The medical charts of patients pathologically proven to have these PCNs, who had underwent operation at the Second Affiliated Hospital of Zhejiang University Medical College between January 1st 1997 and June 31st 2013, were retrospectively reviewed and analyzed.

**Results:** We included 111 patients, 17 (15.3%) with IPMNs, 20 (18.0%) with MCNs, 39 (35.1%) patients with SCNs and 35 (31.5%) with SPNs. The neoplasms were incidentally found in 49 (44.1%) patients; the overall accuracy of preoperative diagnosis was 74.8% (highest at 85.0% in the MCN group). The postoperative morbidity was 45.0% (50/111); pancreatic fistula (33/111, 29.7%) was the most common complication. However, operative mortality was low (1/111). The proportion of malignant neoplasms was 24.3% (9/37) in mucin producing neoplasms. Elevated CA19-9 or CEA were independently associated with malignancy. The overall survival rate was 96.4%, with a median follow-up period of 35.67 months.

**Conclusions:** The proportion of PCNs varies with that reported in Western countries, SPN is more prevalent than their counterparts. Accurate preoperative differential diagnosis of these PCNs is still difficult. It is strongly recommended that patients with elevated CA19-9 or CEA levels undergo surgical resection.

**PPP25-072**

**CENTRAL PANCREATECTOMY – SAFE SURGERY FOR MIDDLE SEGMENT PANCREATIC PATHOLOGY**

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**Introduction:** Pancreatic pathologies in the neck and body when treated by pancreatoduodenectomy or distal pancreatectomy result in a significant loss of normal pancreatic parenchyma and impairment of exocrine and endocrine function. In Central pancreatectomy, only the affected middle segment is removed, preserving the normal pancreatic parenchyma on either side, the spleen and it also maintains the enteric continuity. We aim to assess the safety & effectiveness of central pancreatectomy in pancreatic neck & body lesions.

**Method:** 21 patients underwent central pancreatectomy between 2004 to 2013 august. 11 patients had serous cystadenoma, 4 patients neuroendocrine tumor (NET), solid cystic pseudopapillary tumour of the pancreas (SCPT)-2. One patient each of IPMN, focal chronic pancreatitis, post trauma and Inflammatory myofibroblastic tumour of the pancreas. In 15 patients the proximal end was transected with a linear stapler and edges oversewn, and the distal stump was anastomosed to roux en y- jejunal loop. Six patients underwent Pancreaticogastrostomy. All patients were followed up for exocrine and endocrine insufficiency.

**Results:** 17 patients had uneventful recovery. 4/21(20%) patients had pancreatic fistula 3 patients had post operative grade A fistula and 1 patient had grade B fistula. Preoperative Diabetes Mellitus in 4 patients did not worsen during follow up. None of the patients had exocrine or endocrine insufficiency on mean follow up of 40 months (10–100 months) as assessed by fecal elastase and fasting blood sugar levels. Mean operative time, blood loss, length of segment excised were 137 minutes, 100 mL & 3.5 cms respectively.Mean stay was 7 days.

**Conclusions:** Central Pancreatectomy is a feasible and safe option for patients with benign tumors /trauma/ lesions of low malignant potential in the neck/body of the pancreas preventing the loss of exocrine and endocrine functions.
SIGNIFICANCE OF M2-POLARIZED TUMOR-ASSOCIATED MACROPHAGE INFILTRATION OF REGIONAL LYMPH NODES IN P0 PANCREATIC CANCER

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Introduction: Tumor-associated macrophages (TAMs) are reportedly involved in lymphangiogenesis in primary tumors, playing a crucial role in lymphatic metastasis. Further, nodal lymphangiogenesis precedes and promotes regional lymph node (RLN) metastasis. We investigate the relationship of M2-polarized TAM infiltration of the RLNs, nodal lymphangiogenesis, and occult nodal involvement in pN0 pancreatic cancer.

Method: Hematoxylin and eosin (H&E)-stained primary tumor and regional LN specimens from 40 patients diagnosed with pN0 pancreatic cancer according to the pathological TNM classification were assessed. To evaluate lymphangiogenesis, lymphatic vessel density (LVD) was measured by using D2-40 antibody. CD163 and cytokeratin AE1/AE3 antibodies were used to detect M2-polarized TAMs and isolated tumor cell (ITCs) in the RLNs, respectively.

Results: The nodal LVD had a strong association with the M2-polarized TAM density in the RLNs (p < 0.0001). Most of these TAMs expressed vascular endothelial growth factor-C (VEGF-C). Furthermore, in the RLNs, the M2-polarized TAM density was significantly associated with the incidence of ITCs (p = 0.0477).

Conclusions: M2-polarized TAM infiltration of RLNs is significantly associated with nodal lymphangiogenesis and occult nodal involvement in pN0 pancreatic cancer. Node-infiltrating M2-polarized TAMs may facilitate nodal lymphangiogenesis via the production of VEGF-C and thus promote RLN metastasis.

ANTIAPOPTOTIC AND CELL CYCLE REGULATORY PROTEINS IN ASSOCIATION WITH Ki67 IN PANCREATIC CANCER

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Introduction: Pancreatic ductal carcinoma (PDAC) is one of the most aggressive cancers. Mutations or epigenetic alterations in the tumour suppressor or cell cycle regulatory genes readjust cellular homeostasis and ability of apoptosis (Lang et al., 1998; Angela et al., 2013). p53, p21, p27, cyclinD1 and bcl-2 are analysed as predictors of radiosensitivity and chemosensitivity (Fu et al., 1998; Westphal et al., 2003; Wang et al., 2012). The aim of this study was to determine the expression of bcl-2 and cell cycle regulatory proteins and correlation with Ki67 in PDAC.

Method: Sixty-nine retrospective consecutive cases of surgically treated PDAC were characterised by patient’s age, tumour TNM, stage, histological grade (G1-3), resection margins (R0-1). Expression of bcl-2, p53, p21, p27, cyclinD1 and Ki-57 was detected by immunohistochemistry (IHC). Descriptive statistics was performed by SPSS, version 20. The study was approved by Committee of Ethics.

Results: The mean age was 63.7 years [95% confidence interval CI: 61.1–66.3]. The most frequent tumour characteristics were: size >2 cm: 92.3% [83.0–97.6]; T3: 94.1% [86.8–98.2]; N1: 68.7% [57.1–78.8]; stage IA: 26.9% [17.3–38.1]; stage IB: 64.2% [52.5–74.9]; G2: 58.8% [47.1–69.9]; R1: 56.9% [44.9–68.4]. The main IHC data are presented as percentage of positive cases; range and mean count of positive cells (%): bcl-2 showed no expression, p53 72.3% [60.8–82.1], 0–97, 33.2 [25.3–40.8]; p21–97.0 [90.9–99.5], 0–65, 25.7 [21.6–30.0]; p27–100 [95.8–100], 6–82, 36.2 [32.2–40.3]; cyclinD1–81.2 [70.9–89.1], 0–65, 20.9 [17.0–24.7]; Ki-67–100 [95.8–100]; 1–65, 22.0 [18.5–25.9]. Correlation was found between p3 and p21 (p = 0.002), p53 and p27 (p = 0.002), cyclinD1 and p21 (p = 0.03).

Conclusions: Pancreatic cancer is characterized by aggressive growth. Bcl-2 was not found in PDAC tissues. The expression of the analysed cell cycle regulatory proteins p53, p21 and cyclinD1 is frequently affected in pancreatic carcinogenesis suggesting possible benefit from targeted treatment. Upregulated cell cycle proteins do not correlate with proliferation activity, but mutual association between p53, p27 and p21 is present.
2 patients (11%) of group 1 and 16 patients of group 2 (13%) experienced recurrence ($p = 0.993$). In T1 ampulla of Vater cancer patients, lymph node metastases rate was significantly high when the cell differentiation is moderately or poorly differentiated type ($p = 0.015$).

**Conclusions:** Transduodenal ampullectomy might be a substitution for the treatment of ampulla of Vater cancer in selected patients.

**PPP25-076**

**A CASE OF AUTOIMMUNE PANCREATITIS WITH PANIN-III LESION**

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**Introduction:** Autoimmune pancreatitis (AIP), representing 2% of chronic pancreatitis, is characterised by chronic inflammation, irregular narrowing of pancreatic ducts and systemic fibroinflammatory disease. AIP is classified into lymphoplasmacytic sclerosing pancreatitis, type I and idiopathic duct-centric chronic pancreatitis, type 2 (Paik et al., 2013). Elevated levels of IgG4 are found in 63% of type 1 cases versus 23% in type 2, the abdominal pain–41% versus 68%, diffuse swelling of the pancreas–40% versus 25% (Kamisawa et al., 2011). PanIN lesions are present in 82% of AIP (both types) and correlate with elevated risk of malignancy (Gupta et al., 2013).

**Method:** The clinical, radiological, surgical and morphological data are reported to discuss the differential diagnosis between autoimmune pancreatitis and tumour.

**Results:** A 62-year-old man had 15 month history of epigastric discomfort. The initial episodes resolved spontaneously. One year later, recurrent episodes became associated with epigastric pain, provoked by diet mistakes. The pain worsened, attaining constant character. The patient was urgently admitted to the hospital. Computed tomography was suggestive of pancreatic head tumour. Surgical treatment was scheduled. By objective examination, no pathology was found. The blood tests demonstrated elevated number of leucocytes–9.8 × 10⁹/L [laboratory reference interval 4.5–8.5 × 10⁹/L], potassium–5.9 mmol/L [3.5–5.1 mmol/L], total protein–114 g/L [68–83 g/L]. Patient underwent pylorus-sparing pancreaticoduodenectomy. Grossly, grey area in the pancreatic head was found, measuring 2.5 × 3 × 1.1 cm. Histologically, periductal and perivenous lymphoplasmacytic infiltration was associated with presence of eosinophils, dense fibrosis, star-like lumens of peripheral ducts, lymphoid follicles and few ducts with PanIN-III lesion. Fibrosis and weak lymphoplasmacytic infiltration was detected in common bile duct. Postoperative recovery was uneventful. Patient was discharged on 9th postoperative day providing further recommendations.

**Conclusions:** The AIP is characterized by unspecific clinical and radiological findings. AIP can be associated with involvement of extrapancreatic tissues and development of carcinoma in situ.

**PPP25-078**

**THERAPEUTIC STRATEGY IN PATIENTS WITH POSTPANCREATECTOMY HEMORRHAGE: A SINGLE CENTER EXPERIENCE IN 25 PATIENTS**


**Kobe University, Japan**

**Introduction:** The management of postpancreatectomy hemorrhage (PPH) is an important issue because it remains a serious complication with a high rate of mortality.

**Method:** We reviewed our prospective database to analyze the rate, management and outcome of PPH at Kobe University Hospital between 2003 and 2012.

**Results:** Pancreatic surgeries were performed in 466 patients. The surgical procedures were as follows: pancreateoduodenectomy, 315; distal pancreatectomy, 133; total pancreatectomy, 12; central pancreatectomy, 12. Thirty-one PPHs were totally developed in 25 of 466 patients (5.4%). The overall mortality rate was 1.1% (5/466). Sentinel bleeding heralding a PPH was observed in 12 of the 25 patients (48%). A diagnostic angiography was performed in 18 of the 25 patients (72%) following multidetector CT imaging. The bleeding site of visceral artery determined following angiography or relaparotomy was mainly as follows: hepatic artery (HA), 5; gastroduodenal artery, 5; superior mesenteric artery (SMA), 5; splenic artery, 4; portal vein (PV), 1. The first-line treatment of the 25 patients was as follows: IVR, 12 (48%); surgery, 7 (28%); observation, 5 (28%); none, 1 (4%). Eleven of the 12 patients (92%) who underwent IVR were rescued. Although minor complications occurred in 3 of the 5 patients who performed embolization of common HA, all the patients were eventually recovered. Four of the 7 patients who underwent relaparotomy were resuscitated, and SMA bypass grafting was attempted in a patient with the ruptured SMA-trunk. Twenty of the 25 patients (80%) were totally rescued. The ISGPS-grading of PPH was as follows: Grade A, 1 (4%); Grade B, 10 (40%); Grade C, 14 (56%).

**Conclusions:** We recommend IVR as first-line treatment of PPH. It is required for the implementation of TAE to maintain the blood flow of SMA- and PV-trunk. In case of the failure of IVR or uncontrolled hemodynamic, surgical treatment should be attempted.
PPP25-079
SHORT TERM OUTCOMES FOR MEDIUM-VOLUME PANCREATECDUODENECTOMY SURGEONS CAN BE EQUIVALENT TO HIGH VOLUME CENTRES, WHEN PERFORMED CONCURRENTLY WITH AN OVERALL HIGH VOLUME OF COMPLEX HPB CASES
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Introduction: The study aim was to compare the short-term outcomes for pancreaticoduodenectomy (PD) for a surgeon performing medium-volume PD but an overall high-volume complex HPB caseload with outcomes from high-volume PD centres.

Method: A retrospective case-note review was performed for all patients undergoing PD between 2007 and July 2013 including baseline data, work-up, operative outcomes, pathology and follow up. A literature review was performed to assess current high-volume centre outcomes.

Results: 68 patients underwent PD, median age 63 years. Pathology: 33 pancreatic adenocarcinoma (PDAC), 11 ampullary/duodenal ca, 7 cholangiocarcinoma, 9 NET, 3 IPMN and 5 other. 22 points underwent portal vein resection (PVR) (18 lateral, 4 end-end/graft) including 18 of the 33 PD for PDAC. Mean lymph node yield was 15. There were 8 positive margins in total, 6 were PVRs, however the portal vein margin was not the positive margin in these cases. R1 margin rate: PDAC 6/33 (PVR 4/18, non-PVR 2/15, p = 0.6), Cholangiocarcinoma 2/7, ampullary and duodenal ca 0/11 and NET 0/9. No 30-day mortality. Median length of stay 11 days. Overall complication rate 35% (13% Clavien class III/IV). There were 2 ISGPF-A pancreatic fistula.

Conclusions: Short-term outcomes for PD by a medium-volume surgeon were comparable to benchmarks from high-volume centres. The surgeon has a complex HPB caseload, including over 350 liver resections over the same time period. This series demonstrates that surgeons with a medium PD caseload, but a high overall complex HPB caseload, can perform PD and PVR safely with an equivalent outcome to high-volume centres. We believe the skillset maintained with a concurrent high volume of liver resections is beneficial for performing PVR with low morbidity and R1 margin rate. Total complex HPB caseload should be considered when rationalizing the performance of PD according to unit and surgeon volume.

PPP25-080
A NOVEL TECHNIQUE OF PANCREATECDUODENECTOMY AFTER SEVERE ACUTE PANCREATITIS USING WATER DRIPPING BIPOLAR CAUTERY
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Introduction: Pancreatoduodenectomy (PD) represents one of the most challenging operation of the gastrointestinal surgery. Moreover, extremely high level technique is required with PD after severe acute pancreatitis (SAP). Several technical variations have been proposed in an effort to minimize intra and postoperative complication rates. Severe adhesion and disorientation are risks of PD after SAP. We utilize bipolar cautery in the situation of exfoliation and to divide tissues expressly influenced by SAP.

Method: We use a bipolar cautery with an infusion line to bring water (saline) droplets down the inner surface of 1 arm of the tweezers through an opening about 1.5 cm proximal to its tip. The power of bipolar cautery is adjusted to 150 Malis. This setting is higher than usual for cutting stiff parenchima because of pancreatitis, and it can exfoliate sharply. Bipolar forceps with a fine tip can be used for performing delicate work. Bipolar cautery is also effective for stopping the oozing from tissues. Complete hemostasis provides a dry surgical field and can find right direction to dissection.

Results: Case) A 43-year-old man who was diagnosed IPMC after SAP (Japanese criteria for SAP diagnosis classify this case as Grade 2 SAP). We performed SSSPPD 7 months after SAP using a modified method with bipolar cautery. The operative time was 662 minutes, and the hemorrhagic volume was 790 mL. Transfusion was not required. Postoperative course was stable and no complication was observed.

Conclusions: This modified method using bipolar forceps with dripped saline is a safe procedure and useful for PD after SAP.

PPP25-081
PANCREATEIC JUICE OUTPUT AND AMYLASE LEVEL IN THE DRAINAGE FLUID AFTER PANCREATECDUODENECTOMY IN RELATION TO LEAKAGE
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Introduction: (Aim) The objective of this study was to clarify the relationship between the consistency of the pancreas and pancreatic anastomotic leakage.

Method: Sixty two patients who underwent proximal pancreatectomy with pancreaticoenterostomy were reviewed with regard to the consistency of the pancreas, size of the main pancreatic duct, post-operative pancreatic juice output, and pancreatic leakage after partial pancreatectoduodenectomy. The pancreatic parenchyma was classified as having soft, intermediate and hard consistency (group 1, 2, and 3 respectively). Monitoring the output of pancreatic juice and amylase level in the drainage fluid after operation for the purpose of detecting of dehiscence of pancreaticoenterostomy.

Results: The mean pancreatic juice output during a period of 10 days (postoperative days 5 to 14) was 2446 ± 27 cc in group 1 (n = 26), 846 ± 13.5 cc in group 2 (n = 19) and 460 ± 8.1cc in group 3 (n = 17). Anastomotic leakage occurred in 4 (15%) patients in group 1, 3 (15%) in group 2 and none in group 3. In patients with leakage abrupt decrease or fluctuating out-
put of pancreatic juice occurred and amylase level in the drainage fluid was more than 10000U/L POD7.

Conclusions: Patients with a pancreatic parenchyma with an intermediate or normal consistency produced more pancreatic juice and had a higher leak rate. Monitoring the output of pancreatic juice and amylase level in the drainage fluid after operation may provide a clue to the detection of dehiscence of pancreaticoenterostomy.

PPP25-082
MULTIORGAN RESECTION FOR THE SURGICAL TREATMENT OF A LOCALLY ADVANCED ACINAR CELL CARCINOMA OF THE PANCREAS, CASE REPORT
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Introduction: Acinar Cell Carcinoma of the pancreas, accounts only 1% of all pancreatic neoplasms, predominates in male patients (3:1) and has a bimodal age distribution (childhood and the second peak in older adults, with a mean age of 56 years). Patients present with nonspecific signs or symptoms (abdominal pain, weight loss, abdominal mass, jaundice) and, in 10–15% of the cases, the characteristic Schmid triad, subcutaneous fat necrosis, polyartralgia and eosinophilia, due lipase hypersecretion.

Method: We presente the case of a 53-years-old male, which initiated their illness 1 month earlier with abdominal pain, weight loss of 13 kg, and fatigue. During physical exam, a mass of 12 cm was palpated in the upper left quadrant, fixed, causing pain on palpation, no jaundice or hepatomegaly was noted. With the endoscopic ultrasound was identified the presence of splenic vein thrombosis and gastric variceal veins, the mass was not in contact with the mesenteric vessels and neither with the celiac trunk.

Results: A distal pancreatectomy, splenectomy and total gastrectomy was performed, the reported operative findings were: a 20 × 20 cm tumor originated in the pancreatic tail, with firm adhesions to spleen and gastric body, and after a 10 days of hospital stay, the patient was discharged. The pathology report was: acinar cells carcinoma with invasion to pancreatic capsule and to peripancreatic tissues, lymphatic and venous invasion, metastasis to 4/30 lymphatic nodes. Adjuvant treatment was given 5FU + leucovorin and radiotherapy, and after a follow up of 16 months the patient is alive and disease free.

Conclusions: Acinar cell carcinoma of the pancreas, have a better prognosis and behavior than the most common ductal adenocarcinoma, the surgery remains as the cornerstone of the treatment, as this case clearly exemplifies, an adequate resection of a locally advanced neoplasm, and adjuvant therapy can assure a long term survival.

PPP25-083
COMPARISON OF RESULTS BETWEEN PYLORUS-PRESERVING PANCREATICODUODENECTOMY AND STANDART WHIPPLE PROCEDURE
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Introduction: The aim of this study was to investigate the surgical procedures for periampullary tumors, clinical features and postoperative morbidity - mortality in operative interventions for patients with resectable tumors.

Method: The patients operated in Gaziantep University Hospital between January 2005 and April 2013 with the diagnosis of periampullary tumor were retrospectively analyzed.

Results: During the 8-year period 268 patients were operated with the diagnosis of periampullary tumor. Two hundred and four of the patients (76.1%) had jaundice and 88 of patients (32.8%) had weight loss. Upper gastrointestinal endoscopy and imaging radiologic imaging tests (CT, MRCP, US, etc.) were used for diagnosis and staging. In 63 cases (25.3%) with obstructive jaundice, stents were placed by ERCP preoperatively.

Pancreaticoduodenectomy were performed in 150 patients (55.97%) with resectable patients and palliative surgical interventions and biopsy were performed for patients with unresectable tumors. Pilor preserving pancreaticoduodenectomy (PPPDP) were performed on 47 of the patients (31.3%) with resectable tumors and standard Whipple procedure were performed for the other patients with resectable tumors. Pathological diagnoses were adenocarcinoma for 140 patients, noroendocrine tumor for two patients, GIST for 2 patients, dysplasia for 2 patients, non-Hodgkin Lymphoma for one patient.

In terms of postoperative complications, the incidence of surgical site infection was 30 (20%), the incidence of delayed gastric emptying was 21(14%), incidence of pancreatic fistula was 5(3.3%), incidence of biliary fistula was 3 (2%). There were four perioperative mortalities.

Conclusions: Pancreaticoduodenectomy may be a curative treatment for early stages of the periampullary tumors but this procedure is risky and complex surgical intervention. Currently, the number of the Pilor preserving pancreaticoduodenectomy is increasing as an alternative to standard Whipple procedure SWPD. This type of pancreaticoduodenectomy procedures suggests PPPD is a faster procedure with less blood loss, higher survival and lower mortality rates compared with SWPD in experienced centers.
PPP25-084
CLINOPATHOLOGICAL CORRELATION IN PANCREATODUODENECTOMY WITH MIZUMOTO JAPANESE RECONSTRUCTION IN MEXICO. 20 YEARS EXPERIENCE
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Introduction: Pancreatic cancer is the fifth most common in the West, with an incidence of 9 per 100,000 inhabitants. 20% of patients survive 1 year after diagnosis and survival at 5 years is only 3%. The procedure is the cephalic pancreatectoduodenectomy, described by Whipple in 1935, with multiple modifications, nowadays. We perform the modifications made by Mizumoto in Mie University, Japan in 1979.
Objective: Clinicopathological correlation, results and evolution according to the stage.
Method: A retrospective study of patients operated from January 1991 to December 2011 with pancreatic cancer, reconstruction with Mizumoto technique, evolution, complications and results as well as survival with Kaplan–Meier.
Results: All patients underwent extended pancreatectoduodenectomy with double Braun omega reconstruction. Two patients developed biliary fistula, there were two deaths, 1 for myocardial infarction and other acute respiratory failure secondary to chronic obstructive pulmonary disease, pancreatic fistula for none present. A patient with ampulla of Vater carcinoma has now 13 years of survival without chemotherapy or radiotherapy.
Conclusions: The extended pancreatectoduodenectomy with double Braun omega is a safe surgery with regard to pancreatic and biliary fistula successfully performed by surgeons experienced in liver, pancreas and biliary tract surgery.

PPP25-085
USE OF SUPERFICIAL FEMORAL VEIN FOR VENOUS RECONSTRUCTION DURING PANCREATICODUODENECTOMY: A CASE REPORT
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Introduction: Patients with pancreatic tumors may have portal vein (PV) and/or superior mesenteric vein (SMV) invasion. Venous resections and reconstructions of PV and/or SMV in course of pancreaticoduodenectomy are becoming a common practice and many surgical options have been described. The ideal graft for such reconstructions is to be defined and there is limited data regarding the usage of deep extremity veins for portomesenteric reconstruction. In such cases, lower extremity veins can provide an autogenous conduit for PV/SMV reconstruction.
Method: 63-year-old man with pancreatic carcinoma invading the PV and SMV was successfully treated by en bloc PV and SMV resection combined with pancreatectoduodenectomy. Splenic vein was tied and not reconstructed. A 10 cm of superficial femoral vein was harvested from the right lower extremity after preoperative doppler mapping confirmed its patency and healthy venous system in the ipsilateral extremity. Graft was interposed between PV and SMV in the same orientation with its native position.
Results: Operation time was 492 minutes with portal clamp time was 42 minutes. Postoperative Doppler Ultrasound follow up revealed patent hepatopetal portal flow. Patient recovered uneventfully with no evidence of venous insufficiency in the donor lower extremity and discharged on daily low molecular weight heparin treatment.
Conclusions: The superficial femoral vein provides a good alternative for PV/SMV replacement because it has customizable length, a well-matched diameter, and there is a low risk of clinical venous insufficiency after unilateral resection.

PPP25-086
HISTOLOGICAL SURPRISES IN PANCREATICODUODENECTOMY - A CASE SERIES
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Introduction: Pancreatectoduodenectomy, an operation with significant morbidity is done for malignant lesions of the pancreatic head and periampullary region. However in clinical practice one encounters benign conditions and borderline malignant lesions which pose diagnostic and therapeutic dilemma. Herein we report our experience of pancreaticoduodenectomy done for atypical lesions (non adenocarcinomatous lesions).
Method: Case Report. Case 1: 50 years female with history of recurrent jaundice, fever, rigors, USG, CECT abdomen - dilated IHBR, 2 × 2 cm papillary growth in ampulla. Endoscopic biopsy tubulovillous adenoma. Case 2: 50 years female known chronic calcific pancreatitis, admitted with pain abdomen.CECT abdomen-atrophic pancreas, dilated pancreatic duct and ductal calculi.CA19.9 elevated. EUS chronic calcific pancreatitis, intraductal mucinous lesion. Case 3: 45 years female chronic pain abdomen. CECT well defined cystic lesion in head of pancreas. Case 4: 62 years male jaundice.CECT homogenously enhancing soft tissue lesion in ampullary region. ERCP and biopsy inconclusive. Case 5: 50 years female with pain abdomen and jaundice.CECT, MRCP - ill defined mass lesion in distal CBD with dilatation. EUC dilated CBD.1.1 × 0.9 cm hypoechoic mass distal CBD infiltrating ampulla. Biopsy inconclusive.
All the above patients underwent Whipple’s procedure.
Results: In our series the ampullary tubulovillous adenoma had carcinomatous element and reported as adenocarcinoma in the specimen. A long standing chronic
calcific pancreatitis was diagnosed with intra ductal papillary mucinous neoplasm on frozen section (lesion in head). Pancreatic head mass was an endocrine tumor, ampullary tumor was a solid pseudopapillary tumor. The suspected distal CBD tumor was a heterotrophic pancreatic tissue. All the above mentioned patients underwent classical whipple operation after maximum workup. Their post operative period and 1 year follow up uneventful.

Conclusions: The decision to perform pancreaticoduodenectomy for non-malignant or borderline malignant lesions must be preceeded by appropriate imaging modalities with justified indication only in experienced centers.

PPP25-087

CLINICAL ANALYSIS AND SHORT TERM POSTOPERATIVE OUTCOME OF PANCREATICODUODENECTOMY - A UNIVERSITY HOSPITAL EXPERIENCE

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Introduction: Among the various indications for pancreatic resection, cancer has been the most intensely researched and the most meticulously documented. Surgery for pancreatic cancer is considered as one of the most complicated and technically challenging surgical procedures through ages and pancreaticoduodenectomy is the most well studied pancreatic surgical procedure. We in our institute studied the clinical outcome of patients who underwent pancreaticoduodenectomy during the period August 2010 to January 2013.

Method: The aim of the study was to perform a prospective clinical analysis and study the short term postoperative outcome of patients who underwent pancreaticoduodenectomy in the department of Surgical Gastroenterology, Sri Ramachandra Medical College (August 2010–January 2013) with a designed proforma. Inclusion criteria: All operable candidates. Exclusion criteria: Patients with metastatic diseases and in whom palliative procedure was done.

Results: A total of 54 patients were included in the study. 38 males (70.4%) and 16 females (29.6%) respectively. Mean age group 52.14, range 30–81 years. The most common presenting complaint was jaundice (83.3%). The most common diagnosis was periampullary carcinoma (63%) followed by carcinoma pancreas (29.6%). Carcinoma neck, carcinoma duodenum, intra ductal papillary mucinous neoplasm (IPMN) and carcinoma of hepatic flexure invading duodenum were 1.9% respectively. Three cases were benign. 52 (96.3%) patients underwent classical pancreaticoduodenectomy, one patient (1.85%) underwent enbloc radical right hemicolectomy with pancreaticoduodenectomy (PD) and one patient (1.85%) underwent PD with neck resection. All patients underwent end to side pancreaticojejunostomy. The overall mortality rate was 3(5.6%) (cause reactionary hemorrhage in two, postop renal in one) and morbidity 26(48.1%) in our series. The most common complication was pancreaticojejunostomy leak (13%) but all managed effectively.

Conclusions: A proper pre operative workup, through knowledge of anatomy and dedicated postoperative care is required in making pancreaticoduodenectomy a successful surgery.

PPP25-088

FAST-TRACK SURGERY PROGRAM AFTER TOTAL LAPAROSCOPIC PANCREATICODUODENECTOMY. INITIAL EXPERIENCE

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Introduction: Fast-Track surgery associates with swift recovery after surgical procedure. Fast-Track and enhanced recovery after surgery (ERAS) programs are the gold standard for colon and rectal cancer patients. There is still not enough evidence based data to prove or contradict fast-track protocol after pancreaticoduodenectomy. Fast-Track after laparoscopic pancreaticoduodenectomy even less surveyed.

Method: Three patients with cancer of the pancreatic head and periampularea zone who underwent total laparoscopic pancreaticoduodenectomies were treated using fast-track protocol. Main items of fast-track protocol were: remove nasogastric tube the next day after surgery, first oral water take the next day after surgery, first oral food take 3 days after surgery, early mobilization the first day after surgery, only 2 drain tubes were used. Left drain is pancreaticojejunostomy zone, right drain is hepaticojejunostomy zone.

Results: Nasogastric tube was removed on the next day after surgery (n=3); first oral water take on the next day after surgery (n=3); First food take (soft meal) on the third day after surgery (n=3). First patient: left drain was removed on the fifth day; right drain–on the sixth day. Second patient: right drain–on the third day; left drain–on the sixth day. Third patient: left drain–on the third day; right drain–on the forth day. All 3 patients were discharged on the 7 day after surgery.

Conclusions: Fast-Track protocol safe and effective for pancreatic cancer patient after laparoscopic pancreaticoduodenectomy. Well managed and randomized studies are needed. Short-term and long-term results and cost-efficiency should be evaluated to prove fast-track program.
PPP25-090

LAPAROSCOPIC DISTAL PANCREATECTOMY WITH SPLENIC PRESERVATION FOR THE SURGICAL TREATMENT OF PANCREATIC NEUROENDOCRINE TUMOURS: AN EFFICIENT AND SAFE PROCEDURE IN DIFFICULT TIMES

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Introduction: Pancreatic neuroendocrine tumours (PNETs) represent a diverse group of neoplasms for which surgery is the only curative modality. These interventions have been traditionally carried out by open approach. We present three consecutive cases of non-functioning neuroendocrine tumours of the pancreatic body/tail treated by laparoscopic distal pancreatectomy with lymphadenectomy and splenic preservation.

Method: Three laparoscopic left pancreatectomies with splenic preservation for the removal of PNETs were performed consecutively over a period of 1 year. Four trocars were used. Parenchymal sectioning was performed with a stapler. In all cases, a non-suction drain was left in place. The ISGPF recommendations were followed during the diagnosis and classification of post-operative fistula. The 30-day postoperative morbidity and mortality was assessed.

Results: Three patients were operated. All tumours were non-functioning. Mean operative time was 183 minutes. Mean operative blood loss was 150 cc. The average post-operative stay was 6.7 days. The 30-day morbidity and mortality were both 0%.

Conclusions: The technical difficulty of performing a laparoscopic left pancreatectomy (LLP) does not make it the technique of choice in most medical centres even though it is safe and oncologically adequate. Adequate quality criteria set the morbidity rate at 39.8% and the mortality rate at 3%. In our series of interventions, both rates were 0% at 30 days post-operative. The duration of the average post-operative stay is lower than that cited in the literature and lower than with conventional surgery, which implies savings achieved in terms of average stay, taking into account that this approach also promotes early resumption of a patient’s normal activities.

Our results support LLP with splenic preservation as a safe and efficient approach for the treatment of PNETs if carried out by groups with expertise in laparoscopic pancreatic surgery - although these conclusions are derived from a limited number of cases, given the rarity of these tumours.

PPP25-089

PANCREAS-PRESERVING DUODENAL RESECTION TOGETHER WITH EARLY DIAGNOSIS IS THE OPTIMAL APPROACH FOR PARADUODENAL PANCREATITIS TREATMENT. EXPERIENCE OF 62 CASES OF CYSTIC DUODENAL DYSTROPHY TREATMENT

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Introduction: Background: The term “paraduodenal pancreatitis (PP)” was proposed as an umbrella for cystic dystrophy in heterotopic pancreas (duodenal dystrophy), paraduodenal cyst and groove pancreatitis, by reasoning that these conditions mimic pancreatic head tumors and share certain histological evidences. It is still unclear what organ “paraduodenal pancreatitis” originates of.

Objective: To assess the results of different types of treatment for “paraduodenal pancreatitis”.


Results: Preoperative diagnosis was correct in all the cases except one, when cystic tumor of the pancreatic head was suspected (1.9%). Patients were presented with abdominal pain (100%), weight loss (76%), vomiting (30%) and jaundice (18%). CT, MRI and endoUS were the most useful diagnostic modalities. Ten patients were treated conservatively, 26 underwent pancreateico-duodenectomies (PD), pancreateico- and cystoenterostomies (8), Nakao procedures (4), duodenum-preserving pancreatic head (DPPH) resections (5), and 9 pancreas-preserving duodenal resections (PPDR). No mortality. Full pain control was achieved after PPRDs in 83%, PDs in 85%, and after PPDR resections and draining procedures in 18% of cases. Diabetes mellitus developed thrice after PD.

Conclusions: 1. The diagnosis of paraduodenal pancreatitis can be confidently determined by modern methods prior to surgery; 2. Early diagnosis makes pancreas-preserving duodenal resection the treatment of choice for PP; 3. PD is the main surgical option for PP treatment at present; 4. The effectiveness of PPDR provides compelling proof that “paraduodenal pancreatitis” is an entity of duodenal origin distinct from tumors and orthotopic pancreatitis.
PPP26-001

PANCREATIC NECROSIS CONFIGURATION DETERMINES LOCAL COMPLICATIONS DEVELOPMENT AND THE CHOICE OF TREATMENT APPROACH IN ACUTE PANCREATITIS

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Introduction: To study retroperitoneal lesions according to pancreatic necrosis characteristics and to develop treatment approaches.

Method: 127 acute pancreatitis patients underwent contrast-enhanced CT. Pancreatic necrosis configuration evaluated according to location, volume, depth and viable pancreatic parenchyma distally to necrosis (VP). Retroperitoneal lesions assessed according to Balthazar’s criteria and concept of interfascial planes (Ishikawa K et al.). Patients were divided into 3 groups: first group (61 patients) with preserved VP, second group (22 patients) with pancreatic tail necrosis, third group (44 patients) with interstitial pancreatitis.

Results: Widespread parapancreatitis (WP) developed in 31 (51%) patients of first group. Correlations between WP and VP volume \((r = 0.7, p < 0.001)\), WP and necrosis depth \((r = 0.45, p < 0.05)\) were found. Infection appeared in 17 (28%) patients. Percutaneous puncture (PP) of fluid collections (FC) performed in 12 (19.6%) surgery in-32 (52%) patients. 14 (22.9%) - died. In survivors PP (first step) performed in sterile stage on 6.7 ± 1 days, who consequently died - on 11 ± 2 days of disease onset. WP with infection developed in 4 (18%) patients of the second group. PP performed in 6 (27%), surgery - in 5 (23%), died - 1 (4.5%). In the third group WP (dominated infiltrates) noticed in 13 (29%) patients, infection - in 3 (7%). Conservative management was effective in 34 (78%) patients, PP - in 5 (11%), surgery - in 5 (11%). 1 patient died.

Conclusions: Configuration of the pancreatic necrosis is an important criterion which determines the choice of treatment in acute pancreatitis. Deep (exceeding 50%) pancreatic necrosis with VP leads to the internal pancreatic fistula, WP, and is an indication for early PP of the sterile FC and surgery in the second step of management.

PPP26-002

A SAFE SURGICAL TECHNIQUE FOR UNCINCATE PROCESS RESECTION DURING PANCREATICODUODENECTOMY USING A SELECTIVE ARTERY OR VEIN FIRST APPROACH AND COMBINED BLOOD FLOW BLOCKAGE OF THE MESOUNCINATE: A SINGLE-C

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Introduction: Integrated resection of the pancreatic uncinate process is the most difficult step in radical pancreaticoduodenectomy (RPD) to achieve curative resection (R0). Here we developed a selective artery or vein first approach with combined blood flow blockage of the pancreatic mesouncinate.

Method: From March 2005 to May 2012, a total of 582 patients underwent selective artery or vein first RPD according to whether the portal vein (PV) and superior mesenteric vein (SMV) were invaded by the tumor. Clinical data of patients were reviewed.

Results: Among the 582 patients, 454 and 128 underwent pancreaticoduodenectomy with the SMV first approach and superior mesenteric artery (SMA) first approach, respectively. 102 (17.5%) cases were classified R1 resections and 480 (82.5%) as R0 resections. The median operative time was 4.2 hour (3.7–7 hour). The median intraoperative blood loss was 450 mL. The complication included postoperative bleeding, postoperative pancreatic fistula, biliary fistula, delayed gastric emptying, and abdominal abscess with total rate of 15.7%. Seven (1.2%) patients died.

Conclusions: The selective artery or vein first approach with combined blood flow blockage is safe and useful for integrated radical resection of the uncinate process for patients with peripancreatic malignant tumors.

PPP26-003

A MODIFIED ROUX-EN-Y RECONSTRUCTION AFTER PANCREATICODUODENECTOMY

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Introduction: Postoperative pancreatic fistula remains the most common and potential lethal complications of pancreaticoduodenectomy (PD). It contributes significantly to prolonged hospitalization and mortality. This study presents a new technical modification by Roux-en-Y reconstruction aiming to decrease the incidence of morbidity, which isolate the biliary Anastomosis from the pancreatic and gastric or jejunal anastomoses, and evaluates its safety and feasibility.

Method: A retrospective review of patients who underwent PD for peripancreatic malignancies by using this modified technique from January 2011 to June 2012 was conducted. The indications, surgical procedures, intra-operative data and outcomes of these patients were collected and statistically analyzed.

Results: This technique was applied in 171 patients, including 92 cases underwent pancreaticogastrostomy and 79 cases underwent pancreateicojejunostomy. The median duration of surgery was 4.0h (range 3.1–6.9). The median blood loss was 530 mL (range 200–2000), 69 patients needed transfusion and the median blood transfusion was 430 mL (range 200–1400). The median hospital stay was 14 days (range 11–38). Operative mortality was zero and overall mortality occurred in 31 patients (18.1%), included upper gastrointestinal bleeding (n = 4), biliary fistula (n = 3), pulmonary infection (n = 2), delayed gastric emptying (n = 6), abdominal abscess (n = 4). Only 4 patients (2.3%) had pancreatic
fistula (2 in grade A and 2 in grade B) and no patient had grade C. None of the patients developed bile reflux gastritis.

**Conclusions:** The modified Roux-en-Y reconstruction with isolating the biliary anastomosis from the pancreatic and gastric or jejunal anastomoses is a safe, reliable and favorable technique. It merits further investigation in future randomized controlled trials.

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**PPP26-004**

**EXTENDED WHIPPLE’S WITH VASCULAR RESECTIONS: A FIRST SINGLE CENTER REPORT FROM PAKISTAN**


**Shifa International Hospital, Islamabad, Pakistan**

**Introduction:** Whipple’s procedure is the standard treatment for resectable pancreatic head tumors. However, the role of extended lymphadenectomy and vascular resections remains controversial.

**Method:** All patients undergoing Whipple’s operation with extended lymphadenectomy for localized pancreatic cancer from January 2011 to June 2013 were included. A prospectively maintained data was retrospectively analyzed. Patient’s demographic, operative details, postoperative complications and survival were analyzed on SPSS version 18.

**Results:** A total of 48 patients’ underwent Whipple’s operation with extended lymphadenectomy. Mean patient age was 56.03 ± 13.26 years. Vascular involvement was noted in 11 (23%) patients. Among these portal vein (PV) was involved in 9 (18.7%), common hepatic artery (CHA) in 1 (2.08%) and replaced right hepatic artery (RHA) in 2 patients (4.16%). Vascular reconstructions were performed in all of these patients. Portal vein resection and primary anastomosis was performed in 4 (8.3%), PV reconstruction with PTFE graft in 3 (6.25%) and lateral venoplasty in 1 (2.08%). Two (4.16%) patients with involvement of replaced RHA required resection and reconstruction with gastroduodenal artery. One patient (2.08%) with involvement of CHA was resected and reconstructed with aortic conduit. Mean number of harvested lymph nodes were 26.78 ± 13.33. Mean duration of surgery was 7.94 ± 1.27 (range: 4–11) hours. Mean hospital stay was 9.73 ± 2.75 (range: 6–21) days. Postoperative complications were observed in 9 (18%) patients. Of these 4 (8.3%) required intervention and 5 (10.04%) were managed conservatively. In hospital mortality was 1 (2.08%). Five (10.04%) patients died with systemic recurrence at mean of 9.2 (range: 5–15) months. Median survival among those who underwent vascular resection was 15 months (range: 2–18). Thirty seven patients (77%) are alive at median follow up of 14 months (range: 1–28) months.

**Conclusions:** Whipple’s with extended lymphadenectomy and vascular resections can be performed safely without additional morbidity. In selected patients vascular resections can provide reasonable survival.

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**PPP26-005**

**PANCREATIC METASTASIS FROM COLON CARCINOMA: CASE REPORT**

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**Introduction:** The pancreas is an uncommon location for metastases from other primary cancers; lesions from colorectal cancer account for 1.7% of all metastases. The role of surgery in these patients is not yet clear, even though pancreatic resection is considered for isolated pancreatic metastases. The interval between colorectal surgery and pancreatic metastasis is usually short, and an interval of more than 5 years is exceptional.

**Method:** We present a patient previously operated for a colonic adenocarcinoma and metachronous liver metastases who developed a tumour of the pancreas during the follow-up, 7 years after colon resection. To our knowledge, this is the first reported case of pancreatic resection after colon and liver resections.

**Results:** Case Report. On March 2005, an adenocarcinoma of the left colon was diagnosed in a 67-year-old male; he received left hemicolectomy (pT3N1,G2) followed by adjuvant chemotherapy. In June 2006 metachronous colorectal liver metastases were diagnosed and the patient underwent right hepatectomy. In October 2008 liver metastases recurred and he received subsegmentectomy S3 followed by FOLFOX based chemotherapy. He was regularly monitored with CT scans of the chest and abdomen, tumour markers and colonoscopy. In January 2012 a CT scan showed a lesion of 26 × 18 mm in diameter of the tail of the pancreas, confirmed by subsequent 18-fluorodeoxyglucose positron emission tomography. Colonoscopy was negative for recurrence of the primary disease. A ultrasonography-guided distal spleno-pancreatectomy was performed. The patient was discharged on 16th postoperative day after a low-flow pancreatic fistula treated conservatively. Histological examination of the surgical specimen demonstrated a metastatic adenocarcinoma of colorectal origin.

**Conclusions:** Colorectal metastases to the pancreas are rare, but should be suspected in patients followed for colorectal malignancies. Pancreatic resection can be suggested in selected patients, but it should be deserved to experienced centers, especially in case of iterative abdominal surgery before pancreatic resection.

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**PPP26-006**

**THE ROLE OF INTERVENTIONAL TECHNIQUES IN SURGICAL PANCREATOLOGY**

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**Introduction:** Objective: Our research is directed on investigation in future randomized controlled trials.

The pancreas is an uncommon location for metastases from other primary cancers; lesions from colorectal cancer account for 1.7% of all metastases. The role of surgery in these patients is not yet clear, even though pancreatic resection is considered for isolated pancreatic metastases. The interval between colorectal surgery and pancreatic metastasis is usually short, and an interval of more than 5 years is exceptional.

**Method:** We present a patient previously operated for a colonic adenocarcinoma and metachronous liver metastases who developed a tumour of the pancreas during the follow-up, 7 years after colon resection. To our knowledge, this is the first reported case of pancreatic resection after colon and liver resections.

**Results:** Case Report. On March 2005, an adenocarcinoma of the left colon was diagnosed in a 67-year-old male; he received left hemicolectomy (pT3N1,G2) followed by adjuvant chemotherapy. In June 2006 metachronous colorectal liver metastases were diagnosed and the patient underwent right hepatectomy. In October 2008 liver metastases recurred and he received subsegmentectomy S3 followed by FOLFOX based chemotherapy. He was regularly monitored with CT scans of the chest and abdomen, tumour markers and colonoscopy. In January 2012 a CT scan showed a lesion of 26 × 18 mm in diameter of the tail of the pancreas, confirmed by subsequent 18-fluorodeoxyglucose positron emission tomography. Colonoscopy was negative for recurrence of the primary disease. A ultrasonography-guided distal spleno-pancreatectomy was performed. The patient was discharged on 16th postoperative day after a low-flow pancreatic fistula treated conservatively. Histological examination of the surgical specimen demonstrated a metastatic adenocarcinoma of colorectal origin.

**Conclusions:** Colorectal metastases to the pancreas are rare, but should be suspected in patients followed for colorectal malignancies. Pancreatic resection can be suggested in selected patients, but it should be deserved to experienced centers, especially in case of iterative abdominal surgery before pancreatic resection.
Summary Background Data: The amount of pancreatic diseases grows inexorably, quite often accompanied such threatening complications as obstructive jaundice or hemorrhage - as from pancreatobiliary vessels aneurysm or from the vessels of disintegrating tumor. Majority from such patients are unresectable because of their critical condition. Huge amount of patients with unresectable pancreatic cancer needs palliative operations to treat complications of main disease.

**Method:** 130 patients cases with the diseases of pancreas in a period from 2009 to 2013. They were selected due to next options: pancreatic surgery was impossible because of such complications as a obstructive jaundice, hemorrhage. Also were selected patients with pancreatic surgery complications such as obstructive jaundice because of anastomosis stricture and patients with unresectable pancreatic cancer.

**Results:** All interventions were directed in the first place to stabilize the condition of the patients, and afterwards to perform a pancreatic surgery or palliative treatment. The next interventions were performed: biliary duct draining (20), draining of biliodigestive anastomoses stricture with stent implanting (4), embolizations of pancreatobiliary vessels (29), and chemoembolization of pancreatic tumor (17). Palliative interventions consisted in draining of biliary duct with stent implanting (12), several courses of embolization (46).

**Conclusions:** Due to interventions became possible to perform pancreas surgery at 66 patients, avoid second surgery involvement on 4 patients, successfully perform palliative treatment and stabilize condition of 60 patients pancre.

**PPP26-007**

**OUTCOME OF SURGERY FOR CHRONIC PANCREATITIS**

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**Introduction:** Debilitating abdominal pain remains the most common presentation of chronic pancreatitis and the treatment remains challenging. This study analyzed the outcome of surgery in patients with chronic pancreatitis.

**Method:** Retrospective reviewed details of patients undergoing surgery for chronic pancreatitis between January 2002 and June 2012 at Division of Surgical Gastroenterology, PGIMER, Chandigarh. Total of 60 patients were admitted for surgery, however, surgery was not performed in 5 due to medical reasons. Indications for surgery was pain in 51 patients, gastric outlet obstruction in 2 and bleeding in 2 patients.

**Results:** 38/60 were males and mean age was 37 (SD ± 12.94). 47 patients were on oral and 10 patients were on intravenous analgesics while 3 did not require regular analgesics. 10 patients had diabetes mellitus and 11 had steatorrhea preoperatively. 39 patients underwent Frey’s procedure while Whipple’s procedure was done in 6 and Izbicki’s procedure was done in two. LPJ was done in two while bipolar ligation and distal pancreatectomy with splenectomy (for splenic artery pseudo aneurysm) was done in another two. Roux-en-y cystojejunostomy performed in 2. Three patients underwent reoperations for poor pain control; 2 patient with LPJ done previously underwent Frey’s procedure after 2 years while one patient who had undergone Frey’s procedure underwent Whipple’s procedure after 4 years.

After a mean follow up of 23.9 months ± SE 23.6 months (median: 13 months; range 1–84 months); 54% of patients reported excellent pain relief; 20% patients reported good pain relief and 11.4% patients had fair pain relief (on regular oral painkillers). Two patients developed new onset diabetes controlled by diet and medications, while in 4 patients diabetes worsened. 5 patients had new onset steatorrhea which was transient in all.

**Conclusions:** Tailored surgery for chronic pancreatitis has excellent benefit in pain relief without significant increase in functional abnormalities.

**PPP26-008**

**ROBOT-ASSISTED LAPAROSCOPIC PANCREATODUODENECTOMY**

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**Introduction:** We performed pancreatoduodenectomy (PD) using the da Vinci surgical system (da Vinci PD) and compared it with conventional laparoscopic PD (LAP-PD) and laparotomic PD in order to determine whether da Vinci PD was a minimally invasive procedure.

**Method:** We recorded the durations of operations, durations of pancreateojunostomies, bleeding volumes, durations of hospitalizations, and postoperative complications in 10 patients who underwent da Vinci PD, 5 patients who underwent conventional LAP-PD, and 10 patients who underwent usual laparotomic PD at around the same time. Pancreateojunostomy was performed by pancreatic duct-to-jejunal mucosa anastomosis; choledochojunostomy, by a continuous suture or knotted suture; and gastrojejunostomy, by an automatic anastomosis device.

**Results:** Duration of operation: da Vinci PD, 773 ± 129 minutes; LAP-PD, 506 ± 53 minutes; and laparotomic PD, 470 ± 91 minutes (p < 0.05). Duration of pancreateojunostomy: da Vinci PD, 85 ± 46 minutes; LAP-PD, 82 ± 35 minutes; and laparotomy PD, 26 ± 6 minutes (p < 0.05). Bleeding volume: da Vinci PD, 144 ± 77 mL; LAP-PD, 268 ± 88 mL; and laparotomic PD, 570 ± 82 mL (p < 0.05). Duration of hospitalization: da Vinci PD, 26 ± 13 days (p < 0.05); LAP-PD, 42 ± 37 days; and laparotomic PD, 41 ± 14 days. Postoperative complications: grade-A pancreatic juice leakage occurred in 1 patient of the da Vinci PD group; grade-A, grade-B, and grade-C pancreatic juice leakage occurred in 1 patient each of the LAP-PD group; and grade-A and grade-B pancreatic juice leakage occurred in 2 and 1 patients of the laparotomic PD patients, respectively.
Conclusions: Robot-assisted surgery using the da Vinci surgical system is very useful for performing fine and safe lymph node dissection, pancreateojunostomy, and choledochojunostomy, and is a minimally invasive procedure compared with laparotomic PD.

PPPP26-009

PANCREATIC TRAUMA: KING’S COLLEGE HOSPITAL EXPERIENCE

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Introduction: Pancreatic trauma (PT) is uncommon and data regarding outcomes are scarce. Poor outcomes have been associated with grade of the injury, associated injuries, delayed transfer to specialist centre and surgical management. We retrospectively reviewed the King’s College Hospital experience with pancreatic trauma over 7 years hypothesizing that pancreatic resection in a tertiary referral centre does not adversely affect morbidity and mortality after pancreatic injury.

Method: Ten patients with an average age of 26.5 years (SD ± 6.2) were admitted to King’s College Hospital from 2006 to 2013 and retrospectively analysed. Each PT was graded from I (lowest) to V (highest) according to the American Association for the Surgery of Trauma grading system (J Trauma, 1994) Main outcomes measured were delayed transfer >24 hours, success of non-operative management, PT-related complications, length of hospital stay and mortality.

Results: Eight patients (80%) had a blunt and 2 (20%) a penetrating pancreatic injury. The majority of PTs were grades III-IV 7 (70%). Other organ injuries were present in 5 (50%) cases. Average time to transfer was 2.7 days (SD ± 4.2). 5 exploratory laparotomies were performed and in 3 (60%) patients with grade III-IV trauma a pancreatic resection was performed (p = 0.02). In this subgroup PT was associated to other organ injuries (p = 0.03) and complete transection of the pancreas (p = 0.08). No trauma related mortality was observed. Adverse outcomes did not differ in the laparotomy group as compared to the non-operative group. Hospital stay was of 21.5 (SD ± 22.9) and 22.8 (SD ± 9.9) days (p = 0.29), respectively.

Conclusions: In the present study, surgical exploration was performed in 5 patients with grade III-IV PT and preoperatively imaging signs of complete pancreatic transection. No differences were observed with those treated conservatively. The present experience shows that patients early treated in a tertiary referral centre may benefit of laparotomy and pancreatic resection after PT.

PPPP26-010

BINDING PANCREATEO JEJUNOSTOMY (BPJ) REDUCE PANCREATIC FISTULA RATES AFTER PANCREATEO DUODENECTOMY, A COMPARATIVE STUDY WITH CONVENTIONAL MUCOSA TO MUCOSA PJ

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Introduction: Pancreatic fistula is an important factor responsible for the considerable morbidity associated with pancreaticoduodenectomy Many techniques have been proposed for the reconstruction of pancreatic digestive continuity to prevent fistula formation. Peng’s technique of pancreatico jejunal anastomosis has been claimed to achieve zero rate of pancreatic fistula.

Method: A prospective, non-randomized study was conducted to evaluate this new anastomosis technique and compared with the conventional duct to mucosa pancreatico jejunal anastomosis. A total of forty three patients of peri ampullary/pancreatic carcinoma, neuro endocrine tumors and cholangio carcinoma were included in the study. Binding pancreatico jejunostomy (PJ) technique as described by Peng’s et al. was performed on 22 patients (Group A) and conventional mucosa to mucosa PJ was contemplated in another 21 patients (Group B).

Results: There was no significant difference in patient demographics, pancreatic consistency and pancreatic duct diameter between 2 groups. Pylorus preserving Pancreateo duodenectomy and standard pancreato duodenectomy was done in 8 and 14 patients respectively of group A patients. Two patients developed pancreatic fistula (9.0%). One due to avoidable technical reason (high conc. of carbolic acid) and the other patient had chronic liver disease he developed post operative hepatic encephalopathy, massive ascites leading to PJ leak. He succumbed after two weeks of surgery. The morbidity was 44.4% and mortality was 4.54% (1/ 22).

In group B patients, Pylorus preserving Pancreateo duodenectomy and standard pancreato duodenectomy was done in 7 and 14 patients respectively of. Five patients developed pancreatic fistula (23.8%) (Grade B = 2, C = 3). The morbidity was 38.6%. Mortality was 0%.

Conclusions: Binding PJ is associated with lower frequency of pancreatic fistula as compared to conventional PJ. There was no significant difference in morbidity and mortality in 2 groups.

PPPP26-011

THE INCIDENCE OF TRUE DUODENAL CARCINOMAS

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Introduction: Primary duodenal carcinoma (PDC) is a rare GI tumor, but recent epidemiological data suggest a rising trend in duodenal adenocarcinomas. The difficult distinction between PDC and other types of carcinoma (e.g. within the periampullary region) is reflected in the scarce literature on the incidence of true PDC.
This study tried to establish the incidence of true PDC based on data from a well defined geographical area.

Method: Based on data from a national pathology database all patients with true PDC from 1997 to 2012 within the Region of Southern Denmark were re-evaluated. Only patients where the surgeon and the pathologist agreed on the tumor being classified as originating from the duodenum were included. The WHO and the Danish (2010) incidence rates for true PDC were calculated and compared with the literature.

Results: Seventy-one patients (43 M, 28 F) with a mean age of 67 years (range 35–87) met the criteria for true PDC in the Region of Southern Denmark. Using the Danish population in 2010 as standard an incidence rate of 5.89 per 1,000,000 person-years was calculated. The corresponding WHO incidence rate was 3.5 per 1,000,000 person-years. These figures were comparable to other Scandinavian data, whereas larger variations were seen in data from other European and US institutions.

Conclusions: Based on data from a well defined geographical area with a complete monitoring of all registered true PDCs we found an incidence rate of approximately 6 per 1,000,000 person-years. This was consistent with other Scandinavian data, but variations seen in the international literature in general may be explained by different study populations.

PPP26-012

COMPLETE AND NEAR COMPLETE PATHOLOGIC RESPONSE FOLLOWING CHEMOTHERAPY AND RADIATION IN 6 PATIENTS WITH ADVANCED PANCREATIC ADENOCARCINOMA

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Introduction: Despite the fact that many patients with advanced pancreatic adenocarcinoma receive chemotherapy and radiation in attempt to downsize tumors to resectability, pathologic complete responses in resected specimens are rare. We report 6 patients with some similar characteristics who had pathologic complete or near complete responses after preoperative chemoradiation.

Method: Medical records were reviewed from 6 resected patients with biopsy-proven, locally advanced or metastatic pancreatic adenocarcinoma who exhibited complete pathologic responses following chemoradiation.

Results: Patients (4 females, 2 males) were relatively young and non-obese with a mean age of 53.5 (41–65) and BMI of 25.0 (18.2–28.7). All patients had “border-line” or non-resectable disease based on imaging. All underwent radiation and chemotherapy. While there was not a consistent chemotherapy regimen, 5/6 received an oxaliplatin containing regimen. One patient had complete radiographic resolution, two had resolution of metastatic deposits, and the remainder had either partial or no measurable responses by RECIST criteria. Of the 4 patients with initially elevated CA19-9, levels fell from a mean of 3585 IU before chemoradiation to 34 IU prior to surgery. Operations tended to be difficult (4 patients required SMV reconstructions, mean EBL was 1135cc, mean operative time was 7.5 hours). Pathologic evaluation revealed a complete response in 3 patients, while the remaining 3 patients had <1 mm sized deposits. 17–28 lymph nodes (median 21) were recovered in the specimens, all of which were negative. Post-operative follow-up interval varies from 6 to 29 months (median 17.5 months). 4 patients are alive without recurrence, and 2 had disease recurrence 5 and 7 months after surgery.

Conclusions: Complete and near complete pathologic responses following chemoradiation therapy are rare in pancreatic adenocarcinoma. This case series yields some interesting similarities among these patients, who tended to be younger and non-obese. Larger case series are needed to confirm these observations.

PPP26-013

ANAPLASTIC CARCINOMA WITH OSTEOCLAST-LIKE GINAT CELLS OF THE PANCREAS

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Introduction: Anaplastic carcinoma (undifferentiated) of pancreas is a rare neoplasm. Less than 50 cases have been reported in the literature. The pathogenesis is still controversial. We report a case of anaplastic carcinoma with osteoclast-like giant cells was diagnosed according to the results of immunohistopathology.

Method: Case: a 74-year-old woman presented with epigastric pain for the past day. She had no other medical history, the physical examination revealed tenderness in the right upper quadrant and epigastric area. Laboratory findings demonstrated elevated amylase and lipase levels (443/1293 U/L).

CT scan showed a 3 cm sized mass on pancreas body, no lymphnode metastasis, ascites, metastasis was demonstrated on MRI. We performed a laparoscopic distal pancreatectomy and the patient discharged on POD 7 without complication. An immunohistochemical stain showed positive staining for vimentin, P53, CD68, SMA and focal positive by Pan-CK, EMA, CK7. The tumor was diagnosed as an anaplastic carcinoma with osteoclast-like giant cells. The patient was received 1-cycle chemotherapy, and doing well 2 month after surgery.

Results:

Conclusions:

PPP26-014

SPLLEN PRESERVING LAPAROSCOPIC DISTAL PANCREATECTOMY

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Introduction: Splenectomy has been associated with postoperative infections, thrombocytosis, thrombosis, and hypogammaglobulinemia. For benign pancreas
lesions, spleen preservation during distal pancreatectomy is rarely performed and the feasibility of routine spleen preservation has not been well described.

**Method:** All patients presenting to a single surgeon (MAM) with benign appearing pancreas tail lesions from June 2007–April 2013 were considered for laparoscopic spleen preserving distal pancreatectomy. Laparoscopy was performed with a high-definition camera. We collected data on blood loss, operative time, hospital length of stay, and mortality.

**Results:** We identified 55 candidates for spleen preserving laparoscopic distal pancreatectomy. Spleen preservation was achieved in 69.1% (38/55). Splenectomy was performed in 30.9% (17/55) of patients (12 for technical reasons and 5 for malignancy on frozen section). Spleen preservation was associated with decreased blood loss and operative time compared to splenectomy (mean = 183 vs 779 cc, p < 0.001; mean = 207 vs 269 minutes, p = 0.02, respectively). Hospital length of stay was similar for spleen preservation and splenectomy (mean = 5.3 vs 6.9 days, respectively). There was no mortality in either group.

**Conclusions:** We describe the feasibility and safety of performing spleen preservation with laparoscopic distal pancreatectomy. The magnification of high-definition laparoscopy may enable increased rates of spleen preservation compared to the traditional open approach.

**PPP26-015**

**LAPAROSCOPIC WHIPPLE: FEASIBILITY AND OUTCOMES**

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**Introduction:** Laparoscopy has been applied to many intra-abdominal operations resulting in improved outcomes. We describe a series of laparoscopic Whipple procedures.

**Method:** We conducted a retrospective review of laparoscopic Whipple candidates presenting to two surgeons (MAM, BHE) over a 3-year period (2010–2013). Candidacy was based on a clearly resectable mass in the head of the pancreas without vessel involvement. Data were collected on patient demographics, operative time, estimated blood loss (EBL), postoperative bile and pancreatic leak, delayed gastric emptying (DGE), surgical site infection (SSI), hospital length of stay (LOS), and mortality.

**Results:** We performed 44 laparoscopic Whipple procedures. Mean operative time was 393 minutes (range = 210–665 minutes). The initial 22 cases had longer operative time compared to the last 22 cases (418 vs. 369 minutes). Conversion to open took place in 3 patients. Median EBL was 200cc (range = 20–4500cc). Asymptomatic pancreatic leak occurred in 5 patients and asymptomatic bile leak occurred in 2 patients; all were managed with external drainage. DGE occurred in 3 patients. 1 patient developed an SSI. Median hospital LOS was 9 days (range = 5–68 days). 60 day mortality was zero.

**Conclusions:** In this series of laparoscopic Whipple procedures, we observed high feasibility with reasonable operative time and good patient outcomes.

**PPP26-016**

**IMAGING OF PANCREATIC TRAUMA. MAGNETIC RESONANCE CHOLANGIOPANCREATOGRAPHY (MRCP) CAN BE CONSIDERED ALL WHAT WE NEED?**

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**Introduction:** Pancreatic injury is a rare entity and is associated with increased mortality and morbidity. The aim of our study is to evaluate the utility of magnetic resonance cholangiopancreatography (MRCP) in the diagnosis of pancreatic injuries and the pancreatic-specific complications and its impact upon treatment options.

**Method:** In this study 12 patients with suspected pancreatic injury were included. All the patients were hemodynamically stable. The MRCP findings were correlated with results of computed tomography, endoscopic retrograde cholangiopancreatograms, operative findings and with clinical and laboratory data.

**Results:** All the patients suffered from blunt abdominal trauma. Pancreatic duct injuries were detected in 5 patients. In 2 patients the computed tomography failed to reveal pancreatic duct injury. The computed tomography findings in 4 cases were pancreatic laceration and in 4 only peripancreatic fluid without any other direct sign. Data obtained by the MRCPs were used to guide treatment options in all patients. Disruption of the pancreatic duct is treated surgically in 2 patients and by therapeutic endoscopy with stent placement in the rest 3 patients.

**Conclusions:** MRCP as a noninvasive diagnostic modality plays a crucial role in detection of pancreatic duct trauma and pancreas-specific complications and provides adequate information which influence the treatment decision making.

**PPP26-017**

**SAFETY AND EFFICACY OF A TARGETED ENHANCED RECOVERY PATHWAY AFTER PANCREATICODUODENECTOMY**


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**Introduction:** Early oral intake and early drain removal are key elements of enhanced recovery pathways in gastrointestinal surgery. However, such measures are not common practice after pancreaticoduodenectomy (PD), due to concerns about their potential impact on integrity of the pancreatic anastomosis. The aim of this
study was to compare the outcome of patients who underwent PD before and after introduction of a targeted enhanced recovery pathway (ERP), stratifying patients on the basis of drain fluid amylase (DFA) on the first postoperative day (POD).

**Method:** 99 consecutive patients who underwent PD (Sept 2011 to May 2013) were included. Pre-ERP (N = 65), patients were allowed sips of water only until POD5, when free oral fluids and light diet were commenced if DFA ≤ 300 U/L, and surgical drains were removed on POD6. Post-ERP (N = 34), low risk patients (DFA ≤ 300 U/L) were managed according to an enhanced recovery protocol, which included free oral fluids on POD1, removal of nasogastric tube and light diet on POD2, and drain removal on POD3. Morbidity, mortality, length of hospital stay and 30-day readmission rates were compared between groups.

**Results:** 24/34 (71%) post-ERP patients were classified as low risk on POD1, and 18/24 (75%) successfully completed the enhanced recovery protocol. There was no difference in pancreatic fistula rate (20% vs. 15%, p = NS) or hospital mortality (6% vs. 6%, p = NS) before and after ERP. Surgical site infections were less common after ERP (54% vs. 29%, p = 0.05), and median length of hospital stay was shorter in the post-ERP group (10 vs. 8 days, p = 0.035). 30-day readmission rates were similar between groups (13% vs. 9%, p = NS).

**Conclusions:** Early oral intake and early drain removal can be safely implemented in low risk patients after pancreatico-duodenectomy, and these measures are associated with fewer surgical site infections and shorter hospital stays without an increase in hospital readmission.

**PPP26-018**

**ANOMALOUS RIGHT HEPATIC ARTERIAL ANATOMY DISCOVERED DURING WHIPPLE’S PANCREATICO DUODENECTOMY**


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**Introduction:** A number of variations in hepatic arterial anatomy have been described. Knowledge of these anomalous arterial supplies is especially important in hepatopancreatobiliary surgery in order to avoid unnecessary potentially disastrous complications. Few case reports described this condition in the literature. We present here, about our experiences of Anomalous Right Hepatic arterial anatomy discovered during pancreato-duodenectomy (PD) and methods to avoid injury to anomalous right hepatic artery.

**Method:** This is a retrospective data collected from the case files of Whipple’s pancreato-duodenectomy done in Osmania General Hospital, Hyderabad from 2010 to 2013. Triphasic CT abdomen with pancreatic protocol was done in all patients. CT films were reviewed for Anomalous Right Hepatic Artery (ARHA) in all cases. All underwent classical PD operation. After opening the abdomen, the right margin of hepato duodenal ligament was palpated for ARHA before starting of hepato duodenal ligament dissection during whipples procedure.

**Results:** 82 Whipple’s PD records were reviewed for ARHA. The ARHA anatomy was noted in 8 patients (6 males and 2 females). Right accessory hepatic artery was present in 2 patients. Right replaced hepatic artery from SMA was noted in 6 patients. Tumor etiology was cholangiocarcinoma in 1, ampullary carcinoma in 2 and carcinoma head of pancreas in 5 patients. In 1 case tumor involved the artery. The ARHA was dissected and preserved in 7 cases. PG was done in 1 case and PJ (duct to mucosa) was done in 7 patients. No operative mortality. 1 case had pancreatic leak. 2 patients had delayed gastric emptying.

**Conclusions:** Preservation of the blood supply to the liver and biliary tree is important after PD to prevent biliary fistula and hepatic ischaemia. Always try to avoid injury to anomalous right hepatic artery by critical assessment of preoperative CT abdomen and make protocol to anticipate and look for ARHA during surgery.

**PPP26-019**

**THE MANAGEMENT AND PROGNOSIS OF TRUE DUODENAL CARCINOMAS**

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**Introduction:** Primary duodenal carcinoma (PDC) is a rare GI tumor. The difficult distinction between PDC and other types of carcinoma (e.g. within the periampullary region) is reflected in the scarce literature on true duodenal carcinomas. However, this distinction may be important in relation to the overall prognosis as well as in the choice of adjuvant or palliative treatment strategies. This study evaluated the management and prognosis of patients with true PDC within a well defined geographical area.

**Method:** Retrospective analysis of all patients diagnosed with true PDC from 1997 to 2012 within the Region of Southern Denmark. Only patients where the surgeon and the pathologist agreed on the tumor being classified as originating from the duodenum were included.

**Results:** Seventy-one patients (43 M, 28 F) with a mean age of 67 years (range 35–87) met the criteria for true PDC. An adenocarcinoma was found in 62 (87%) of the patients, mucinous adenocarcinoma in 5 patients (7%), carcinoma in 3 patients (4%) and signet ring cell carcinoma in 1 patient (1%). Intended curative resection was performed in 28 patients (39%) (22 Whipples procedures and 6 local resections), and all but one patient had negative resection margins, but 13 patients (46%) had lymph node metastasis. Twenty-nine (67%) of the palliative treated patients had single (24) or double by-pass procedure (5). The median and 5 year survival for the resected patients were 23 months (CI 7–44) and 27% (CI 10–44). The median survival in the palliative group was 5 months (CI 2–11), and none of the patients were alive after 3 years.

**Conclusions:** Approximately 40% of the patients with true PDC within a geographical completely monitored
area could be resected, but the prognosis resembled that of ductal pancreatic adenocarcinoma with a median survival of only 23 months.

PPP26-020

POPULATION-BASED PATTERNS OF CARE AND OUTCOMES OF PANCREATIC CANCER IN NOVA SCOTIA

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Introduction: Pancreatic cancer (PC) is a common gastrointestinal malignancy, and there are limited population-based studies examining the quality of treatment and its impact on survival and resource utilization.

Method: This population-based cohort study included all patients identified with PC in Nova Scotia between April 2001 and March 2010. Identification of the cohort was obtained through the Nova Scotia Cancer Registry and subsequently linked with administrative databases for demographic data and resource utilization. The primary aim of this study was to analyze the treatment patterns and overall outcomes of patients diagnosed with PC over a period of 10 years. Secondary outcomes were utilization of oncology services and their impact on survival.

Results: A total of 1161 patients were included. Among 279 patients (24.0%) who presented with locoregional disease, 165 (14.2%) underwent surgical resection with curative intent. Palliative surgery was performed on 246 (25.2%) patients. Of those who were resected with curative intent, 98 patients (60.1%) were referred to medical oncology, whereas among patients who did not undergo resection, 361 patients (37.4%) were referred for palliative chemotherapy. The all-cause 1- and 5-year survivals were 58.9% and 17.6% for resected patients, and 10.3% and 1.5% for unresected patients. The PC-specific 1- and 5-year survivals were 62.9% and 23.3% for resected patients, and 13.3% and 3.1% for unresected patients.

Conclusions: Resection rates and overall survival of PC patients in Nova Scotia are comparable to outcomes reported in the current scientific literature despite their limited access to adjuvant therapies. The rationale and clinical implications of these findings are currently the aim of further research.

PPP26-021

THE CHOICE OF PANCREATEO-DIGESTIVE ANASTOMOSIS AFTER PANCREATECTOMY

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Introduction: Postoperative pancreatic fistula rate after pancreatectomy remains high even in the large surgical centers. The aim of this study was to compare different types of pancreatic anastomosis with regard to postoperative pancreatic fistula and other complications.

Method: From August 2007 to July 2013 in Moscow Pirogov’s state hospital #1 HPB Department were treated 609 patients with periampullary tumors. We performed 145 pancreatectomies: 47 pancreatojejunostomies (PJ) and 47 pancreaticojejunostomies with internal pancreatic drain, when the condition of the pancreatic stump was unsatisfactorily. Since 2010, for the purpose to decrease postoperative pancreatic fistula rate we began forming pancreatogastrostomies (PG) (n = 49). Pancreatic anastomosis failure preventing methods were every time the same. The ISGPS definitions were employed for analysis. Occurrence of postoperative pancreatic fistula, postpancreatectomy hemorrhage, delayed gastric emptying, reoperation, and mortality were evaluated. Comparing operative time and overall hospital stay was also carried out. Another complications rate was evaluated using Clavien-Dindo classification.

Results: Pancreatogastrostomy has showed less cases of postoperative pancreatic fistulae (PG vs PJ, 18.4% vs 29.8%), but more intraluminal hemorrhage (PG vs PJ, 12.2% vs 8.5%) and more delayed gastric emptying (PG vs PJ, 18.3% vs 10.6%). PG general complications (Clavien-Dindo classification) rate was comparable with PJ (I grade: 14.7% vs 16.3%, grade II: 18.45 vs 21.2%, grade III: 12.2% vs 12.7%, grade IV: 2% vs 2.2%, grade V: 0% vs 2.2%).

Conclusions: Performing pancreatogastrostomy is better method for patients with unsatisfactory conditions of the pancreas and makes possible to decrease postoperative complications.

PPP26-022

THE INFLUENCE OF FACTORS ON RECURRENCE AFTER CURATIVE RESECTION FOR AMPULLA OF VATER CANCER

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Introduction: Although patients with ampullary carcinoma (AC) have improved survival compared to patients with pancreatic adenocarcinoma, up to 40% of patients develop recurrent disease. The aims of this study were to identify those factors that affect recurrence after curative resection.

Method: The medical records of patients that underwent pancreatoduodenectomy for ampullary carcinoma from February 1999 to December 2012 at our institute were retrospectively reviewed. Fifty four patients received radical resection for ampulla of Vater carcinoma. Six patients were excluded because of incomplete clinicopathologic data. Finally, 48 patients were reviewed and analyzed to assess predictors of tumor recurrence.

Results: There were one perioperative death (2.1%). Mean age was 62 years (50% male). Median survival time (MST) was 29.2 months for all patients. Among the 48 patients, 24 patients (50%) experienced recurrent disease. The mean length of time to recurrence was 310.5 ± 279.3 days, and the most common sites of recurrence were the intra-abdominal organs: liver and loco-regional lymph nodes. The 3- and 5-year disease-free survival rates were 50.1% and 42%, respectively, and overall survival rates were 69.9% and 58%, espec-
HEALTH ECONOMICAL ASPECTS ON PANCREATIC FISTULA FORMATION FOLLOWING PANCREATIC SURGERY

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Introduction: Pancreatic resections still represent one of the major procedures in abdominal surgery, mostly performed due to suspicion of underlying malignancy where it provides the opportunity of extended survival. Despite improvements in perioperative mortality following pancreatic surgery, morbidity still remains high and postoperative development of pancreatic fistula remains one of the major problems. The present study aimed at evaluating health economical aspects of pancreatic fistula formation.

Method: 430 patients undergoing pancreatic resection at the Dept of Surgery in Lund, Sweden, were investigated. 115 patients (26.7%) developed a pancreatic fistula according to the ISGFPF criteria where a majority (16%) had a grade A fistula, 7% grade B, and 3% grade C fistula. Effects on length of stay, outcome and in-hospital costs were evaluated.

Results: Formation of a pancreatic postoperative fistula significantly increased length of hospital stay to 13 days (grade A) and 29 days (p < 0.01) for grades B and C. Postoperative pancreatic fistula grades B and C significantly increased postoperative costs (60% increase; p < 0.01, from 20 800 to 32,900 EUR) and were associated with delayed gastric emptying, abscess formation, postoperative bleeding and wound infection. Overall, on multivariate analysis of predictor of hospital costs, pancreatic fistula grades B and C, deep infections/abscess formation, wound infection, delayed gastric emptying and postoperative bleeding all were significant predictors.

Conclusions: The development of postoperative pancreatic fistulas following pancreatic resection (both Whipple and tail resection) is associated with a significant increase in postoperative hospital stay (grades B and C) and associated costs (60% increase). As this represents the major cause of postoperative morbidity following pancreatic resection, further efforts to decrease the fistula rate is warranted.

ACUTE PANCREATITIS AS A RARE PRESENTATION OF RENAL CELL CARCINOMA

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Introduction: Association between acute pancreatitis and renal cell carcinoma are uncommon. Pancreatitis occurring as a presentation of metastatic renal cell carcinoma or as a paraneoplastic phenomenon had been reported. Although various cases had been reported associating the two conditions, such presentation remained rare and few in literature.

Method: We report a case of a 45-year-old man who presents to our institution with acute pancreatitis and subsequently found to have renal cell carcinoma. A comprehensive literature search and review was made following this rare dual presentation.

Results: A patient with no known medical illness presented with a sudden onset of severe epigastric pain for 1 day which radiates to the back and aggravated by food intake. Examination was unremarkable other than an elevated blood pressure. Serum amylase was raised at 1700 IU/L with an IMRIE score of 1 and no other evidence of end organ damage. Ultrasonography of the abdomen incidentally revealed a left renal mass and computer tomography (CT) scan showed features of left renal cell carcinoma. No other cause of pancreatitis was found. Acute pancreatitis was treated and he was discharged well. There were no recurrence of pancreatitis. He was later electively admitted for a partial left nephrectomy where histopathological examination (HPE) confirmed the diagnosis of a renal cell carcinoma.

Conclusions: Acute pancreatitis can be a presentation of renal cell carcinoma albeit uncommon. Few cases of acute pancreatitis associated with renal cell carcinoma have been reported where the cause of the pancreatitis is attributed to metastases, paraneoplastic phenomenon or purely a coincidental occurrence. In a presentation of acute pancreatitis with associated finding of renal mass, possibility of renal cell carcinoma should be considered.

PANCREATICODUODENECTOMY IN ELDERLY PATIENTS

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Introduction: Surgery can offer the chance for a cure in patients with pancreatic cancer or bile duct cancer, and a growing number of elderly patients have been undergoing pancreaticoduodenectomy (PD). But, PD has relatively high rate of mortality and morbidity compared with the other digestive surgery. The purpose of this study was to evaluate the impact of patient age on the short-term outcomes of PD.
Method: From 2002 to 2012, one-hundred and twelve PDs were performed at Department of Surgery, Anjo Kosei Hospital. Perioperative outcomes after surgery were compared between patients 75 years and older (group A, n = 19) and patients under the age of 75 (group B, n = 93).

Results: All of the 19 patients in group A were healthy and deemed to be candidates for surgery; however, seventeen (89.4%) had one or more comorbidities. Postoperative morbidity (such as pancreatic fistula, anastomotic leakage, delayed gastric emptying, wound infection etc.) and mortality occurred in 73.7% and 5.3% of the group A, respectively. These were similar to those in group B (p = 0.741 and p = 0.209, respectively). There were no cardiovascular or pulmonary complications in group A. Average number of hospitalization days in group A were 34.3, and were similar to those in group B (p = 0.201).

Conclusions: PD can be safely performed even in patients 75 years and older, and careful patient selection can lead to acceptable morbidity and mortality. Elderly patients should not be precluded from undergoing PD only because of their ages.

PPP26-027
THE CHOICE OF PANCREATOGASTROSTOMY AFTER PANCREATECTOMY
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Introduction: Postoperative pancreatic fistula rate after pancreatectomy remains high even in the large surgical centers. The aim of this study was to compare different types of pancreatic anastomosis with regard to postoperative pancreatic fistula and other complications.

Method: From August 2007 to July 2013 in Moscow Pirogovo’s state hospital #1 HPB Department were treated 609 patients with peripancreatic tumors. We performed 145 pancreatectomies: 47 pancreatojejunostomies (PJ) and 47 pancreaticojejunostomies with internal pancreatic drain, when the condition of the pancreatic stump was unsatisfactorily. Since 2010, for the purpose to decrease postoperative pancreatic fistula rate we began forming pancreatogastrostomies (PG) (n = 49). Pancreatic anastomosis failure preventing methods were every time the same. The ISGPS definitions were employed for analysis. Occurrence of postoperative pancreatic fistula, postpancreatectomy hemorrhage, delayed gastric emptying, reoperation, and mortality were evaluated. Comparing operative time and overall hospital stay was also carried out. Another complications rate was evaluated using Clavien-Dindo classification.

Results: Pancreatogastrostomy has showed less cases of postoperative pancreatic fistulae (PG vs PJ, 18.4% vs 29.8%), but more intraluminal hemorrhage (PG vs PJ, 12.2% vs 8.5%) and more delayed gastric emptying (PG vs PJ, 18.3% vs 10.6%). PG general complications (Clavien-Dindo classification) rate was comparable with PJ I (grade: 14.7% vs 16.3%, grade II: 18.45 vs 21.2%, grade III: 12.2% vs 12.7%, grade IV: 2% vs 2.2%, grade V: 0% vs 2.2%).

Conclusions: Performing pancreatogastrostomy is better method for patients with unsatisfactory conditions of the pancreas and makes possible to decrease postoperative complications.

PPP26-028
IDENTIFICATION OF HIGH RISK CATEGORIES FOR PANCREATICODUODENECTOMY BASED ON DIAGNOSIS: NOT ALL GLANDS ARE EQUAL
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Introduction: Soft gland texture and small duct are associated with postoperative complications after pancreaticoduodenectomy (PD). While diagnosis is associated with gland texture and duct size studies of postoperative complications frequently overlook diagnosis or group patients into “benign vs malignant”. Insurers determine value and compensate all PD’s independent of diagnosis. There has been no large multicenter study comparing postoperative outcomes for PD while stratifying by diagnosis. We hypothesized that postoperative morbidity and length of stay (LOS) following PD varies by diagnosis and patients may be grouped into low- and high-risk categories.

Method: A large multicenter prospective database (American College of Surgeons- National Surgical Quality Improvement Program) was reviewed for all PD’s between 2005 and 2011. Patients with severe preoperative conditions, without pancreaticojejunostomy, or with concurrent operations not typical of PD were excluded. Diagnoses were identified using ICD9 codes. Chi-square and multivariable logistic regression were utilized to assess the impact of diagnosis on PD outcomes.

Results: Of 5,537 patients: pancreas cancer (3173) and chronic pancreatitis (485) (combined major morbidity of 23.4%) were grouped as “low risk”, while bile duct and ampullary (1181), duodenal (558), and neuroendocrine (140) (combined major morbidity of 33.5%) were grouped as “high risk” (p<0.001). Multivariable logistic regression analysis identified “high risk” diagnoses as an independent risk factor for prolonged LOS (≥14 days: OR 1.62), organ space infection (OR 2.60), sepsis/septic shock (OR 1.82) and major morbidity (OR 1.72). Serum albumin <3.5 g/dL is a risk factor independent of diagnosis for prolonged LOS (OR 1.76), organ space infection (OR 1.50), sepsis/septic shock (OR 1.36), and major morbidity (OR 1.40). Diagnosis did not predict readmission.

Conclusions: “High risk” diagnoses are independently associated with prolonged length of stay and postoperative complications. PD outcomes comparisons, value and compensation should be stratified by diagnosis to more accurately reflect postoperative risk of complication and complexity of care.
PPP26-029

**Pancreas sparing total duodenectomy for multiple duodenal adenomas in familial adenomatous polyposis; report of a case**

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**Introduction:** Duodenal adenomas occur frequently in patients with familial adenomatous polyposis (FAP). Final prevalence is said to be 90% and similar to colorectal polyps, it transforms to adenocarcinoma in the time course, especially those in periampullary region. Surveillance is necessary and the treatment strategy should follow the criteria of the Spigelman classification. Although prophylactic pancreaticoduodenectomy is a treatment option, its surgical morbidity and mortality is a concern. We advocate pancreas-sparing duodenectomy (PSD) as an alternative for radical operation.

**Method:** A 51-year-old man with FAP, who had total colectomy thirty years ago, had been visiting our outpatient clinic from 2010 for surveillance. Recent upper gastrointestinal endoscopy revealed growing size of IIa-like poly, biopsy specimen conclusive for tubular adenoma with moderate atypia with villous change. Spigelman classification was stage IV (score; 10), suggestive for surgery. We conducted PSD reconstructed by the Billroth-I method.

**Results:** Minor pancreatic fistula (ISGPF classification Grade A) and cholangitis occurred but was discharged on the 24th postoperative day. Pathologically, numerous adenomas were identified macroscopically, but all polyps investigated microscopically were all conclusive for adenoma.

**Conclusions:** PSD is a theoretically optimal procedure for benign large polyps and diffuse duodenal adenomas for prophylactic purpose. Long-term outcome after PSD must be warranted in the future.

PPP26-030

**Standard procedure of pancreaticoduodenectomy in our institute**

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**Introduction:** Procedures of pancreaticoduodenectomy (PD) vary in each institute, and there is no general standard. Since we have been trying to make our own standard, we here show and analyze our PD procedures.

**Method:** We usually choose Subtotal Stomach-preserving PD (SSPPD) except in cases after gastrectomy. For reconstruction of remnant pancreas, we prefer pancreaticojunostomy by the modified Kakita method. We once adopted total diversion method using pancreatic tube (external stenting). Then, since 2011, we have adopted the internal stenting method (lost stent). We retrospectively compared these 2 groups.

**Results:** There was no significant difference in operative time and blood loss between the 2 groups. But, postoperative hospital stay was significantly shorter in the internal stenting group. Incidence of pancreatic fistula in the internal stenting group seemed lower than that in the total diversion group, but not significant.

**Conclusions:** We conclude so far that our standard procedure is SSPPD with reconstruction by the modified Kakita method using the internal stenting.

PPP26-031

**Post-operative outcome after pancreatic surgery for patients with pancreatic neuroendocrine tumor (PNET)**

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**Introduction:** PNET is a rare disease. Surgery is the only available curative treatment. Although enucleation seems less invasive, complications such as pancreatic fistulas frequently occur. This study compares the outcome of enucleation versus other pancreatic resections for PNET.

**Method:** All patients with PNET in the database on pancreatic resections were selected. Patients were operated between January 2000 and July 2013. Surgical procedure and post-operative outcome were analysed.

**Results:** A total of 96 patients underwent resection for PNET, 26% (25/96) underwent enucleation and 74% (71/96) another pancreatic resection. Type of pancreatic resections were pancreaticoduodenectomy (PPPD) N = 33, left pancreatectomy N = 19, left/central pancreatectomy N = 17 and total pancreatectomy N = 2. Enucleations were mainly performed for tumors less than <2 cm 92% (23/25) and located in the head of the pancreas 56% (14/25). Overall complication rate was 56% (14/25) after enucleation versus 69% (49/71) after pancreatic resection (p = 0.2). Major complications after enucleation were delayed gastric emptying 36% (5/14) and clinically relevant pancreatic fistula 71% (10/14). Major complication after pancreatic resections were delayed gastric emptying and chylous leakage, both 20% (10/49) and clinically relevant pancreatic fistula 27% (13/49) (p < 0.05 compared with enucleation). Post-operative hospital stay (10 vs 12 days), ICU admission (2 vs 6 patients), number of relaparotomies (2 vs 6 patients) and readmission after discharge (3 vs 12 patients) weren’t significantly different after enucleation versus pancreatic resection. Mortality rate was 1% (1/96) after pancreatic resection due to abdominal sepsis and aspiration.

**Conclusions:** Although enucleation for PNET seems a less invasive technique, complication rate was high, mainly caused by pancreatic fistula. Careful patient selection and operation should be performed in particular for small lesions.
PPP26-032
COMMON BILE DUCT REINSERTION IN TO RESECTION CAVITY FOR TREATMENT OF BILIARY TRACT OBSTRUCTION IN CHRONIC PANCREATEITIS

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Introduction: Appropriate operation technique for treatment of biliary tract obstruction in chronic pancreatitis is being discussed. We present late results of surgical treatment of biliary tract obstruction in chronic pancreatitis by making bile duct reinsertion into the resection cavity of pancreas modo Izbicki.

Method: A retrospective analysis of patients who had chronic pancreatitis and underwent a surgical intervention in 2004–2011 was made. Patients who during the first operation underwent a bile duct reinsertion into the resection cavity due to mechanical jaundice or cholestasis were selected, n = 62. After 18 months patients were asked to come back for follow up. They were divided into 2 groups: recurrence (group A) and recovery (group B). Demographic (age, gender), pathologic (diameter of: intrahepatic ducts, common bile duct and pancreatic duct), biochemical (concentrations of: alkaline phosphatase and total bilirubin), clinical (amount of removed tissues) features were analyzed and compared.

Results: 41 (66.1%) of the patients came back for control: recurrences - 32 (78%), recoveries - 9 (22%). 93.8% of recurrentes underwent an additional operation - hepaticejojunostomy on the same loop. We have not found any significant differences when comparing A and B group in anatomical (intrahepatic ducts, common bile duct and pancreatic duct) or biochemical (alkaline phosphatase and total bilirubin) findings or the amount of removed tissue.

Conclusions: Reinsertion of common bile duct into resection cavity does not guaranty permanent and adequate drainage for chronic pancreatitis complicated by obstructive jaundice. It can be stated that hepaticeojunostomy is the procedure of choice for such patients.

PPP26-033
LAPAROSCOPIC DISTAL PANCREATECTOMY FOR HIGH-RISK PATIENTS

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Introduction: Laparoscopic distal pancreatectomy (LDP) has been increasingly accepted by laparoscopic surgeons with respect to its safety and inherent benefits; whereas the advantages of this technique for high-risk patients remain unexplored.

Method: Ten consecutive patients had undergone LDP, who had been associated with one or more high risks such as old myocardial infarction, cerebral vascular accident, morbid obesity, obstructive sleep apnea, refractory diabetes, SLE, ESRD, frequent seizure and elderly status, were recruited. Their ASA scores were 3 at least. Their demographics, surgical indications, comorbidity, operation time, blood loss, mortality and morbidity, and hospital stay were analyzed.

Results: There were 5 men and 5 women, with a mean age of 53 ± 12 years. The surgical indications included intraductal papillary mucinous neoplasm (n = 2), serous cystadenoma (n = 3), neuroendocrine tumor of the pancreas (n = 3), and pancreatitis associated with pseudocysts (n = 3). Of the 10 LDP, 7 were with spleen preservation. The concomitant sleeve gastrectomy and transverse colectomy were performed in one each. The mean operation time was 241 ± 116 minutes. The blood loss was 701 ± 751 mL. There was no surgical mortality. However, there were five pancreatic leaks; of them, 3 needed a percutaneous drainage. The mean hospital stay was 11.2 ± 7.3 days.

Conclusions: LDP for high risk patient (ASA > 3) is considered feasible and safe with respect to zero surgical mortality and controllable specific complications such as pancreatic leak. Obvious benefits of LDP is reflected by a gratifying postoperative stay.

PPP26-034
SURGICAL TREATMENT OF PANCREATIC NEUROENDOCRINE TUMORS: PRELIMINARES RESULTS

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Introduction: Pancreatic neuroendocrine tumors (PNET) are rare neoplasms with heterogeneous presentation due to its various subtypes. The association between tumor size and survival is still controversial. We aimed to evaluate the results of patients that underwent pancreatic resection of neuroendocrine tumors with different subtypes.

Method: We retrospectively evaluated 86 patients with diagnosis of pancreatic neuroendocrine tumor that underwent pancreatic resection at our Institution. Patients with distant metastasis were not included. We analyze age, sex, clinical diagnosis, surgical procedure, histology, tumor size, and follow-up time.

Results: We included 75 patients, 43 (57%) women and 32 (43%) men with mean age of 46.61 ± 23.68 years. Diagnosis was nonfunctional PNET in 19 (25%) cases, insulinoma in 42 (56%), gastrinoma in 6 (8%), glucagonoma in 4 (5%), somastatinoma in 3 (4%) and pancreatic polypeptide secretor 1 (2%). Main surgical procedures were corporeal pancreatectomy in 29%, enucleation in 25%, duodenopancreatectomy in 20% or gastroduodenopancreatectomy in 7%. Seventy three percent of the tumors were carcinomas. The median tumor size was 3.75 cm (0.5–16 cm) in nonfunctional PNET and 2.0 cm (0.6–3.4 cm) in insulinomas (p = 0.0031). The mean follow-up time was 13.17 ± 7.95 years. The table shows characteristics by diagnosis.
Conclusions: Fifty six percent of PNETs were insulinoma, accounting for 75% of functioning tumors in the study. Nonfunctioning tumors have higher diameters at time of resection, what is justified by the silent growing and late development of symptoms related to compression of other structures by the tumor.

**PPP26-035**

TOTAL PANCREATECTOMY IN EXTENSIVE CYSTIC NEOPLASM OF PANCREAS: A CASE REPORT

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*National Cancer Institute, Thailand*

**Introduction:** Pancreatic cystic lesions are increasingly identified on routine imaging. These lesions have the probability of malignant potential that require surgical resection. However even with improvements in present imaging, these lesions are still challenging to accurately diagnose preoperatively and difficult to decide for observation or resection. Total pancreatectomy maybe performed in a patient with extensive lesion and highly suspicious pancreatic malignant neoplasm.

**Method:** A case of 54-years-old female had Modified radical mastectomy for breast cancer. After Ultrasonography work up for liver metastasis, the imaging show cystic lesion at pancreatic head size 1.5 × 1.5 cm. She had no symptom and her laboratory tests including tumor marker were normal. For 2 years CT scan followed by MRI, there were mixed solid and cystic lesions at pancreatic head and unciness process measured about 4.5 × 4.1 cm. Moreover the imaging showed multiple small cysts in unciness process, body and tail that communicating between the cysts and the main pancreatic duct. According to imaging lesion, surgical resection was planned for remove lesion because of unable to distinguished malignant neoplasm.

**Results:** Due to the extensive and multiple cystic lesions along pancreas that confirmed by intraoperative ultrasonography. Total pancreatectomy was performed with splenectomy. Operative time was 5 hours 15 minutes. Postoperative serum glucose was monitored and controllable with minimal doses insulin. Pathological diagnosis was serous cystadenoma of pancreatic head, body and tail, negative for malignancy of 3 mesenteric lymph node and 11 peripancreatic lymph node.

**Conclusions:** It is difficult to make a definite preoperative diagnosis of pancreatic cystic neoplasm. Observation or surgical resection depended on clinical and radiological finding. Total pancreatectomy may be mandated if cystic lesions were entirely distribution along a pancreas.

**PPP26-036**

“NATURAL HISTORY” OF PANCREATICOoduodenectomy

P. Pessaux

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**Introduction:** The aim of this study was to describe the clinical and biological changes in a group of patients who underwent pancreaticoduodenectomy (PD) without any complications during the postoperative period. These changes reflect the “natural history” of PD, and a deviation should be considered as a warning sign of possible complications.

**Method:** Between January 2000 and December 2009, 131 patients underwent PD. We prospectively collected and retrospectively analyzed the following data: demographics, pathological variables, associated pathological conditions, and preoperative, intraoperative, and postoperative variables. The postoperative variables were validated using an external prospective database of 158 patients.

**Results:** The mean postoperative hospital stay was 20.3 ± 4 days. The mean number of days until nasogastric tube removal was 6.3 ± 1.6 days. The maximal decrease in hemoglobin levels occurred on day 3 and began to increase after postoperative day (POD) 5 in patients with or without transfusions. The white cell count increased on day 1, and high white cell counts persisted until day 7. There was a marked rise in amylase and lipase levels at day 3. The peak is significantly higher in patients who had hepatic pedicle occlusion (866 ± 236 Units/L vs 146 ± 48 Units/L; p < 0.001). Both γ-glutamyl transpeptidase and alkaline phosphatase decreased on POD1 and persisted until day 5 before stabilizing. The bilirubin levels decreased progressively from POD1.

**Conclusions:** This study created a standardized biological and clinical pathway of follow-up. Each patient who does not follow this recovery indicator might have complications, and additional exams are required to prevent the consequences of these complications.

**PPP26-037**

DIAGNOSIS AND SEVERITY ASSESSMENT IN PATIENTS WITH ACUTE PANCREATITIS IN A LARGE TEACHING HOSPITAL: A CLOSED LOOP AUDIT


*Addenbrooke’s Hospital, UK*

**Introduction:** Diagnosis and severity assessment of acute pancreatitis in the UK is principally based on British Society of Gastroenterology guidelines. The aim of this study was to audit diagnosis and severity assessment in acute pancreatitis against standards of practice in the UK guidelines.

**Method:** Retrospective data was collected from all acute pancreatitis patients admitted to Addenbrooke’s hospital during two periods, June 2012 to September 2012 (period 1), and February 2013 to April 2013 (period 2). Between these periods, a pancreatitis proforma was introduced based on the UK guidelines. Data was collected using hospital software, discharge summaries and patient paper notes.

**Results:** Fifty-five acute pancreatitis patients were admitted during period 1 while forty-two patients were admitted during period 2 (re-audit). Patient demographics in period 1 (mean age 51.4 years, 50.9% male & 49.1% female) differed from period 2 (mean age 58.6 years, 50.8% male & 49.2% female).
Unresectable Pancreatic and Biliary Gastrojejunostomy for Patients with Duodenal Obstruction Due to Unresectable Pancreatic or Biliary Cancers

**Introduction:**
Since 2011, we have used laparoscopic gastrojejunostomy (Las-GJ) for patients with duodenal obstruction due to unresectable pancreatic or biliary cancers. We assessed the usefulness of Lap-GJ.

**Method:**
Operation time, blood loss, complications, and prognosis were compared between 6 patients who underwent Lap-GJ between September 2011 and December 2012 (including 4 pancreatic, 1 bile duct, and 1 gallbladder cancer patients; mean age, 62.5 years; male:female = 1 : 5) and 20 patients who underwent open gastrojejunostomy (Open-GJ) between April 2007 and December 2012 (including 11 pancreatic, 1 bile duct, and 5 gallbladder cancer patients, and 3 patients with other diseases; mean age, 66.9 years; male:female = 13 : 7).

**Results:**
The average operation time and blood loss in Lap-GJ and Open-GJ groups were 262 minutes (range, 196–444 minutes) and 190 minutes (range, 61–420 minutes), and 0 mL and 131 ± 50 mL, respectively. No serious perioperative complications were observed in either group. Three patients in Open-GJ group died of cancer during hospitalization. In Lap-GJ and Open-GJ groups, the median duration of postoperative hospital stay was 19.7 ± 3.1 days and 35.2 ± 7.6 days respectively, whereas the number of patients who could resume a normal diet was 5 (83%) and 15 (75%), respectively. Chemotherapy could be initiated in 4 and 11 patients in Lap-GJ and Open-GJ groups at 13.7 days (mean, 9–16 days) and 17.6 days (mean, 14–21 days) after surgery, respectively. Moreover, the median postoperative survival duration was 179.3 days (mean, 36–303 days) and 121 days (mean, 16–310 days) in Lap-GJ and Open-GJ groups, respectively. None of the abovementioned values indicated a significant difference.

**Conclusions:**
Lap-GJ is a useful treatment associated with minimal invasion and unproved quality of life due to a low complication rate, shorter postoperative hospital stay, high resumption rate of oral intake, and earlier initiation of chemotherapy, as compared to Open-GJ.

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**PPP26-039**

**THE STUDY OF PATIENT WITH PANCREATIC CANCER ON SOCIAL SUPPORT AND COPING STYLE**

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**Introduction:**
The patients with pancreatic cancer usually feel down in spirits and feel anxious. The article is to explore the social support and coping style of pancreatic cancer patient, in order to provide the basis for the individual nurse.

**Method:**
Applied symptom checklist, social support questionnaire and medical coping modes questionnaire to 40 patients to analysis.

**Results:**
Retrieving 36 questionnaires in effect, among them 10 cases are positive according to the score of SCL-90. Comparing to the normal patient, the score of subjective support and surrender are low significantly in positive cases.

**Conclusions:**
The pancreatic cancer patients usually take passive coping style, nurses would encourage them to take an active coping strategy and use of social support effectively.

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**PPP26-040**

**TROPICAL PANCREATITIS AND ALCOHOLIC CHRONIC PANCREATITIS: COMPARISON & EFFECT OF SURGERY**

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**Introduction:**
Tropical pancreatitis (TP) is the commonest form of chronic pancreatitis in our experience. We have reviewed 78 such cases and also compared with 21 cases of alcoholic chronic pancreatitis (AP). 110 patients with chronic pancreatitis were treated at Patna, North India. Tropical Pancreatitis was the commonest (78), followed by alcoholic chronic pancreatitis (26), hyper parathyroidism (4) and pancreatic divisum (2). 53 cases of TP were operated.

**Method:**
Patients presented with serous episodic or continuous pain. Age ranged from 11 to 60 years. 23 patients had diabetes. Surgery was advised for intractable pain. Threshold of surgical intervention was lower if the patient had diabetes and pancreatic duct more than 7 mm. The median age for AP was 41 years. Average body mass index of TP patient was 17 kg/m² where

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59.0 years, 54.8% male & 45.2% female. 66.7% of patients (n = 31) in the re-audit had a proforma in their hard copy notes, of which only 81.4% had complete forms. The pancreatitis proformas improved completion of the full Glasgow pancreatitis score from 40% to 55%. The proforma also improved referral to higher level care of severe pancreatitis patients (3 or more on the Glasgow score) from 50% to 67%. Recognition of pancreatitis aetiology also improved from 78% to 81% (43/55 and 34/42 respectively). Requests for amylase levels improved from 96.3% to 100%, while lipase level requests reduced (80% to 69%).

**Conclusions:**
Prompt diagnosis and severity assessment is essential in acute pancreatitis, which is highlighted in this study. The introduction of Pancreatitis proformas has led to significant improvements in severity scoring for acute pancreatitis and subsequent care of severe cases. We aim to raise further awareness throughout the hospital by presenting the proforma at local meetings and posters. Regular re-audits are important.
as it was 18.6 kg/m² in AP. Diabetes was present in 23/78 patients of TP whereas only 4/26 patients in AP were diabetic. Symptomatic steatorrhea was more pronounced in TP. In AP, calcification was mainly parenchymal. Pancreatic duct were less than 7 mm and without large intraductal stones. All TP had intraductal calculi ranging from 0.5 cm to 3 cm, including staghorn calculus.

**Results:** All patients (53) operated for TP had dilated main pancreatic duct (mean diameter 8 mm) with multiple large intraductal calculi in atrophic small firm pancreas. Twenty six patients of TP underwent lateral pancreaticojunostomy and twenty five underwent Frey’s procedure. Additional biliary bypass was done in four cases. In 2 patients, pancreaticoduodenectomy was done for head mass (turned out malignant). Only 7 patients of AP underwent surgery. Diabetes improved in 70% patients, pain relief was 80–100% and weight gain in 90% cases.

**Conclusions:** TP is not uncommon in North India and is much different from AP. TP presents in early age and surgery helps in relieving pain. Frey’s procedure probably delays or stops further damage of pancreatic parenchyma.

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**PPP26-041**

**EN BLOC ARTERIAL RESECTION FOR BORDERLINE RESECTABLE PANCREATIC HEAD CARCINOMA**


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**Introduction:** Borderline resectable (BR) pancreatic head carcinoma (PhC) is an advanced disease, with infiltration of major vessels. Major vascular resection (VR), especially arterial resection, to achieve microscopic no residual tumor (R0) is controversial because of potential complications. We aimed to clarify the benefit of en bloc R0 resection with VR for PhC.

**Method:** We retrospectively evaluated 78 PhC patients who underwent pancreatoduodenectomy at our institute. They were divided into 4 groups: resectable (R) (20 patients), BR involving the superior mesenteric vein or portal vein (BR-V) (28 patients), BR involving the superior mesenteric artery (BR-SMA) (21 patients), and BR involving the hepatic artery (BR-HA) (9 patients).

**Results:** Sixty-five patients underwent VR. Sixty-three, 21, and 9 patients underwent portal vein, SMA, and HA resection, respectively. R0 rates were as follows: R group, 85%; BR-V group, 82%; BR-SMA group, 71%; and BR-HA group, 33%. Median survival time and 5-year survival rate in R0 were as follows: R group, 31 months and 25%; BR-V group, 22 months and 28%; BR-SMA group, 17 months and 27%; and BR-HA group, 10 months and 0%, respectively. Prognosis was comparable between the BR-V and BR-SMA groups and the R group but significantly poorer in the BR-HA group. Five (6.4%) patients died perioperatively (4, postoperative hemorrhage and 1, suffocation by failure of expectoration without pneumonia or asthma). Of the 4 patients with hemorrhage, 3 had undergone arterial resection.

**Conclusions:** En bloc resection with major VR for R0 is suitable for BR-V and BR-SMA PhC, but not BR-HA PhC.

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**PPP26-042**

**MODIFIED METHOD OF BUMGART’S PANCREATICOJEJUNAL ANASTOMOSIS WITH ONLY TWO-TRANSPANCREATIC U SUTURE-TECHNIQUE**

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**Introduction:** Pylorus-preserving pancreaticoduodenectomy (PPPD) is the standard method of treating benign and malignant diseases of the pancreatic head and periampullary region. Although associated mortality rates have significantly decreased in the past decades, morbidity rates still remains high. Pancreatic fistula (PF) has been a major source of the high morbidity rate after PPPD. In addition, the existing methods of pancreaticejunal anastomosis (PJA) are time-consuming and wearisome. Transpancreatic U-suture PJA technique has been introduced by Blumgart and has made incidence of PF decrease. We aimed to describe our PJA technique which modified the Blumgart PJA and to report the surgical outcomes about PF.

**Method:** We have performed 86 cases of PPPD since 2008 for treatment of various kinds of periampullary diseases. Every PJA has been performed using only two-transpancreatic U sutured technique which modified the PJA of Blumgart for outer layer of anastomosis and duct-to-mucosa PJA with internal stent for inner layer of anastomosis.

**Results:** According to the definition of PF by ISGPF, there were 13 cases of Grade A PF (16%) after the surgery. There was no grade B or C PF. And 3 delayed gastric emptying which needed Levin tube drainage, 6 wound complications, and 10 abnormal fluid collections not related to PF which needed to be drained have occurred. There was no mortality related the surgery. The mean hospital day after the surgery was 18 days.

**Conclusions:** The modified transpancreatic U-suture technique with only two stitches and internal pancreatic duct stent for PJA can be applied safely and feasibly in terms of decreasing occurrence of PF after PPPD, but further evaluation is mandatory.
PPP26-043
MODIFIED BLUMGART ANASTOMOSIS FOR PANCREATICOJEJUNOSTOMY
DECREASE RATE OF PANCREATIC FISTULA: COMPARISON WITH MODIFIED CATTLELL-WALLEN ANASTOMOSIS AND MODIFIED KAKITA METHOD
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Introduction: Pancreatic fistula (PF) from pancreatocjejunostomy is one of the most common complications after pancreatic head resection. Original Blumgart anastomosis using transpancreatic U sutures has been proposed to decrease the PF rates and its associated morbidity. We have used this technique with minor change. In this study, we compared a new anastomosis technique with two conventional methods.
Method: Between January 2003 and August 2013, 300 patients at our institute underwent pancreatic head resection by a total of 3 experienced surgeons. Modified Blumgart anastomosis (BA) (n = 21) was compared with modified Cattle-Wallan anastomosis (CWA) (n = 103) and modified Kakita method (KM) (n = 176) retrospectively.
Results: Three patient cohorts were similar with respect to primary diagnosis, age, gender and pancreas texture. There were no significant difference in operating time and blood loss among 3 groups. There were no significant difference in the drain fluid amylase level at post-operative day 1 and 3 among three groups, however, the PF rates (BA, 0% vs CWA, 21%; p = 0.026; BA vs KM, 27%; p = 0.011) was significantly low in BA group. No patient in BA group developed pancreatic fistula grade B or C. Overall postoperative major complications (BA, 5.3% vs CWA, 22.3%; p = 0.05; BA vs KM, 31.2%; p = 0.02) and postoperative hospital stay (BA, median 22.5 days vs CWA, 34 days; p = 0.004; BA vs KM, 29.5 days; p = 0.04) were significantly reduced in BA groups. There were 2 and 3 postoperative death due to a PF-related complications in CWA and KM groups respectively, while no patients in BA group.
Conclusions: BA significantly decreased PF rates and postoperative complication. BA appears to be a simple and safe procedure for pancreatocjejunostomy.

PPP26-044
ROBOTIC-ASSISTED DISTAL PANCREATECTOMY: A CASE SERIES
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Introduction: Robotic surgery is being used increasingly. Its benefits over conventional laparoscopic technique include provision of a 3-dimentional magnified view, increased freedom of instrument movement, reduced operator fatigue and elimination of tremor. This is particularly helpful in pancreatic surgery which requires fine dissection. We retrospectively reviewed the cases of robotic distal pancreatectomy in our centre from March 2011 to August 2013.
Method: Nine patients (4 males; 5 females) underwent robotic distal pancreatectomy, with concomitant splenectomy performed in 8 of them. Operations were performed by the same team of HPB surgeons with a similar technique. Two to three robotic arms with 2 accessory ports were placed. Upon entering lesser sac, the upper and lower borders of pancreas were dissected. In cases where splenectomy was needed, ligaments around the spleen were divided. Splenic artery and vein were transfixed individually. Pancreatic body was transected by vascular stapler or diathermy scissors; and transection surface further secured by sutures. Tissue-glue was applied and a drain was placed in all cases.
Results: The median blood loss was 300 mL (range 50–1770), median operating time was 400 minutes (range 247–480). One case (11%) required conversion to open because of bleeding. The median hospital stay was 6 days (range 4–8). There was no operative mortality. Pancreatic fistulation occurred in two cases (22%), both managed by endoscopic drainage. Pathology included neuroendocrine tumours (n = 3), adenocarcinoma (n = 1), serous cystadenoma (n = 1), metastatic hepatocellular carcinoma (n = 1), metastatic renal cell carcinoma (n = 1), intraductal papillary mucinous neoplasm (n = 1) and lymphoepithelial cyst (n = 1). The median tumour size was 2 cm (range 1–6). Clear pancreatic resection margins were achieved in all cases.
Conclusions: Robotic-assisted distal pancreatectomy for removal of pancreatic tumour is safe and feasible. The use of robot enhances the conventional laparoscopic approach for distal pancreatectomy.

PPP26-045
THE CLINICAL FEATURE AND NURSING STRATEGIES OF FUNCTIONAL DELAYED GASTRICEMPTYING AFTER PANCREATIC OPERATION
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Introduction: To summarize the clinical feature and nursing strategies of functional delayed gastric emptying (FDGE) after pancreatic operation.
Method: Analyzed the reason of ten cases of FDGE after pancreatic operation, and summarized the characteristics of FDGE.
Results: Ten patients occurred FDGE, the mean time of FDGE was 6.2 ± 3.1 days after gastrointestinal decompression stopping. Eight cases of FDGE occurred in 4.3 ± 2.3 days after taking liquid diet. During the period of FDGE, the lowest amount of the gastrointestinal decompression drainage was 320 mL, the highest was 1540 mL, and the mean was 578 ± 446 mL. The mean amount was 176 ± 168 mL before the gastric tube was pulled out.
Conclusions: The key points to promote the early recovery of the patients with FDGE were properly diet guidance especially 3 to 5 days after taking liquid diet, scientific nutritional support, closely observation of gastrointestinal decompression drainage, early detection and early treatment.

PP26-046
VASCULAR RESECTION DURING PANCREATIC SURGERY. PERIOPERATIVE RESULTS AND LONG-TERM SURVIVAL
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Introduction: Pancreatic surgery (PS) traditionally has been associated with significant perioperative morbidity. Eventually it is needed to perform vascular resections (VR) due to tumoral invasion, with uncertain perioperative results and long-term survival.

Aim: to analyze perioperative results and long-term survival of patients submitted to VR during PS in our institution.

Method: Retrospective analysis of our PS database, between 2005 and 2013. Patients submitted to VR during PS were described. Perioperative results and long-term survival were analyzed using non-parametrics tests and Kaplan Meier.

Results: During this period, 210 cases of PS were performed, 14 (6%) including VR. Mean age was 59 yr (40–89). The indication for surgery was malignancy in 86%, mainly pancreatic adenocarcinoma. Non-malignant indications for VR were PSC in one case and a pseudopapillary tumor in another. All operations were performed by open approach, 72% Whipple’s procedure and 28% distal pancreatectomies. Regarding to VR, 71% included superior mesenteric vein and 29% portal vein. In 86% the reconstruction was performed with primary suture of the vein defect and 2 cases required a PTFE vascular graft. There were no intraoperative complications. Median in-hospital stay was 14 days (6–77). 36% of patients developed postoperative complications, including three cases of pancreatic fistula (one type A, one type B and one type C). One patient required a reoperation, due to a biliary fistula. Pathologic specimen revealed vascular invasion of tumor in only two patients (17% of oncologic patients). Median survival of the series was 35 months.

Conclusions: VR is frequently performed in patients with infiltrative disease, however real vascular invasion is seldom found in surgical specimen. Despite being more aggressive and challenging technique, VR is not associated with impaired perioperative results or long-term survival in this series. These results confirm the feasibility and safety of VR during PS in case of suspicion of infiltrative disease.

PP26-047
THE ROLE OF CT IN THE EVALUATION OF THE STRUCTURAL CHANGES IN THE PANCREAS IN CHRONIC PANCREATITIS AGAINST SURGICAL, ENDOVASCULAR AND CONSERVATIVE TREATMENT
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Introduction: The article deals with the analysis of diagnosis and the dynamic assessment of CT changes in patients with chronic pancreatitis treated by operative, conservative and endovascular methods. Investigation of changes in the pancreas, based on a set of symptoms characteristic of the different severity of chronic pancreatitis is relevant diagnosis and can largely help in selection of treatment. CT helps to assess not only the quantitative and qualitative characteristics of pancreatic parenchyma changes due to the calculation of the X-ray density in units Hounsfield.

Method: The study was conducted in 117 patients with chronic pancreatitis. Pancreas underwent CT before and after treatment (surgical, endovascular and conservative) without and with contrast bolus enhancement nonionic low-osmolar agent. Was used as the standard algorithm description of the pancreas and developed by us. Included determination of parameters such as specific gravity and index compression. On the basis of the results was performed treatments: surgical and endovascular conservative.

Results: The results were evaluated according to the Cambridge classification and changes introduced by the new parameters. In patients after surgical treatment remain mild parenchymal changes of the stump pancreas, remains low specific density and poor growth index seal. Following the suspension of the regional infusion of hydrocortisone showed positive dynamics, the index increased compaction and specific gravity. Standard medical therapy does not provide complete relief of inflammation, leading to progression of the disease and the development of complicated.

Conclusions: In patients after the surgical treatment the CT signs of chronic pancreatitis restore in the stump of pancreas. The most significant regression of pathological symptoms has been observed after the endovascular treatment. The indicators of absolute and relative density have been normalized. The use of conservative methods of treatment doesn’t influence on CT dynamics of chronic pancreatitis.

PP26-048
SARCOPENIA IN PATIENTS UNDERGOING SURGERY FOR PANCREATIC CARCINOMA – DOES IT INFLUENCE POSTOPERATIVE OUTCOMES?
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Introduction: The influence of sarcopenia, defined as depletion of muscle mass, on postoperative short-term
outcomes following pancreatic surgery and its effects on postoperative infectious complications remains undefined and is therefore the aim of the present study.

**Method:** All patients scheduled to undergo a pancreaticoduodenectomy (PD) for malignancy between July 2008 and August 2012 were included. Sarcopenia was assessed according to established methods; a cutoff value of 55.4 cm²/m² in men and 38.9 cm²/m² in women was used to define sarcopenia. Patient characteristics and postoperative complications were prospectively collected and subsequently analysed.

**Results:** 154 patients were enrolled. 95 patients underwent a PD, 59 received a double bypass (DB) because of irresectability. 91/154 patients (59.1%) were classified as sarcopenic. 90-day-mortality was higher in sarcopenic patients (n = 11 (7.1%) vs n = 1 (0.6%); p = 0.02). Infectious complications occurred in 59/154 patients (38.1%) and overall complications in 79/154 patients (51.3%). Of the total group, significantly more patients with sarcopenia developed infectious complications (n = 41 (26.6%) vs n = 18 (11.7%); p = 0.04); while the occurrence of overall complications was comparable (n = 51 (33.1%) vs n = 28 (18.2%); p = 0.15). Significantly more sarcopenic patients developed infectious as well as overall complications after PD (n = 31 (32.6%) vs n = 11 (31.6%); p = 0.009 and n = 37 (38.9%) vs n = 17 (17.9%); p = 0.03, respectively). No differences in complications were observed in the DB group (all p > 0.05). On univariate analysis but not on multivariate analysis, sarcopenia was found to increase the risk of infectious complications (OR = 2.1 [95%-CI 1.0–4.1]; p = 0.04). On multivariate analysis, obesity (OR = 2.3 [95%-CI 1.2–4.7]; p = 0.01) and undergoing a PD (vs DB: (OR = 2.2 [95%-CI 1.0–4.6]; p = 0.04)) were associated with an increased risk of infectious complications.

**Conclusions:** 90-day mortality seems higher in sarcopenic patients. However, due to low incidence further analysis was not possible. Whereas sarcopenia might negatively impact short-term outcomes, its real effects remain ill-defined. Conversely, obesity and undergoing a pancreaticoduodenectomy were found to be independent predictors of postoperative morbidity.

**PPP26-050**

**UNUSUAL CASE OF INTRAPANCREATIC CYSTIC NEOPLASM, CASE REPORT**

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**Introduction:** Cystic pancreatic lesions are becoming increasingly recognized with improvements in diagnostic imaging. Among them, cystic neoplasms represent only a minority of pancreatic cystic lesions. The distinction between nonneoplastic pseudocysts and cystic neoplasms is critical, because some cystic neoplasms, including mucinous cystic neoplasms (MCNs), progress to invasive carcinoma.

**Method:** Postpartum Female patient, 29 years of age which began 15 months clinical picture prior to testing at the National Cancer Institute, characterized by enlargement of the left upper quadrant and epigastric pain accompanied by partially disappears analgesics intake specified. Physical examination revealed no lymphadenopathy in the neck, abdomen with approximately 25 × 20 cm tumor involving all partially fixed upper quadrant and left flank, soft, painless, no peritoneal irritation. Within the study protocol was reporting Computed Tomography, 21 × 16 × 13 cm tumor involving upper quadrant and left flank cystic characteristics with multiple thick septa that enhance with contrast, presents solid component in the lower pole. Endoscopic USG; tracking duodenal pancreatic head and uncinate process and unaltered biliary ampulla without being affected, body and tail of the pancreas with injury that exceeds the field of heterogeneous liquid content display with multiple septa. Refuses to structures such as the spleen, kidney and large vessels. No lymph observed hepatic hilum level. Normal Laboratories.

**Results:** Were subjected to total splenectomy and distal pancreatectomy with final pathology report mucinous...
cystic neoplasm of the pancreas, with immunophenotyping focal foveolar and intestinal Adenocarcinoma pancreatoduodenal intracytic type, surgical margins without neoplasia.

Conclusions: Tumor size and postpartum presentation are unusual presentations in these tumors.

PPP26-051
SEROUS CYSTADENOCARCINOMA WITH SOLID GROSS APPEARANCE
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Introduction: Serous cystic neoplasms (SCN) of the pancreas are regarded as a benign entity with rare malignant potential. Characteristically the tumors are comprised of multiple microcysts lined by cuboidal cells with clear glycogen-rich cytoplasm. However, some variants in gross appearance such as macrocystic or solid type have been reported. Recently we experienced a case of solid type of serous cystadenocarcinoma with liver metastases. To clarify specific clinical features of serous cystadenocarcinoma, we reviewed this rare disease reported in the literatures.

Method: A 69-year-old man complained of epigastric discomfort. A CT scan revealed 5cm well-enhanced mass at the pancreas body and multiple wedge-shaped hypervascular lesions in the liver. Based on imaging, this case was initially diagnosed as pancreatic neuroendocrine tumor. A systematic review of the literature was performed utilizing PubMed. Twenty-four articles including thirty patients were analyzed.

Results: The patient was histologically identified as solid variant type of SCN after distal pancreatectomy. During 14 months follow-up, size and number of liver tumors did not change. Then laparoscopic liver resection was performed for histological confirmation as liver metastases.

Literature review showed that the mean age of the patients was 68 years, with 65% being female. Tumor location was head 21%, body and tail 67%, and entire pancreas 12%. Average size of the tumor was 9.3 cm. Gross appearance of the cut surface was microcystic in most cases, however, was not solid in any case. Synchronous and metachronous liver metastases were observed in seven cases each. The prognosis was excellent even in metastatic disease.

Conclusions: To our knowledge, this is the first case of solid type of serous cystadenocarcinoma of the pancreas. Accurate diagnosis of variant type of SCN is still difficult. SCN has a small but finite risk of malignancy. We should manage the surgical treatment considering malignant SCN is slow-growing tumor.

PPP26-052
IMMUNOHISTOCHEMICAL ANALYSES OF THYROID TRANSCRIPTION FACTOR-1 EXPRESSION DISTINGUISH BETWEEN PRIMARY PULMONARY ADENOCARCINOMA AND METASTASIS OF Pancreatic Ductal Adenocarcinoma
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Introduction: Isolated pulmonary metastasis after curative resection for pancreatic ductal adenocarcinoma (PDAC) tends to occur in the long term survivor. However, pulmonary metastasis is rarely confirmed histologically with surgical specimen. We report herein two cases with the isolated pulmonary metastasis after curative pancreatectomy. Recently, thyroid transcription factor-1 (TTF-1) has been regarded as a reliable marker for primary pulmonary adenocarcinoma. This study evaluates the expression of TTF-1, CK7 and CK20 immunohistochemically in the specimens to elucidate whether pulmonary tumor was primary or metastasis.

Method: Two females underwent pulmonary resection after curative pancreatectomy, followed by adjuvant gemcitabine chemotherapy. Disease-free interval was 26 and 37 months, respectively. Immunohistochemistry of the resected specimens was conducted using each of the following primary antibodies against TTF-1, CK7 and CK20.

Results: One patient underwent partial resection of the lung, whereas the other underwent pulmonary lobectomy. There were no in-hospital mortalities or complications after pulmonary resection. Immunohistochemical examination revealed that the pulmonary tumor was metastasis from PDAC because tumor cells were negative for TTF-1 and positive for CK7 and CK20 in two cases. After pulmonary resection, they received gemcitabine and S-1 combination therapy. One patient died of peritoneal metastasis 58 months after initial pancreatectomy. The other patient undergoing pulmonary lobectomy was still alive 120 months after initial pancreatectomy, whereas she underwent second pulmonary resection for another pulmonary metastasis 51 months after initial pulmonary resection. They obtained relatively long-term survival after initial pancreatectomy since they received appropriate chemotherapy based on diagnosis of recurrence from PDAC.

Conclusions: Immunohistochemical analyses of TTF-1 expression are useful for distinguishing between primary pulmonary adenocarcinoma and metastasis of PDAC and histological confirmation is important for appropriate chemotherapy.
PPP26-053

PANCREATIC ADENOCARCINOMA: ANALYSIS OF THE RESULTS OF CEPHALIC PANCREATICODUODENECTOMY VERSUS TOTAL PANCREATICODUODENECTOMY

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Introduction: Pancreatic cancer in the head of the pancreas is currently managed by Cephalic pancreaticoduodenectomy (CPD) and in selected cases, by total pancreaticoduodenectomy (TPD). The aim of this study is to evaluate the results of patients with pancreatic head adenocarcinoma treated by CPD vs TPD in the Hospital Clinic de Barcelona.

Method: Patients operated on for adenocarcinoma of the pancreatic head from 2007 to 2013 were retrospectively studied, comparing between CPD and TPD. Overall surgical complications (Clavien-Dindo score), pancreatic fistulae (ISGPF) as well as non-pancreas related complications (ISGPS score) were analyzed.

Results: 97 patients were included, 76 in the CPD group, 21 in the TPD group. Most postoperative complications were minor (grade I; II:42; IIIa:7; IIIb:4; IVa:3; IVb:3; V:5). Overall mortality was 5.15%. Survival at 1, 3 and 5 years was 70.1%, 36.2% and 14.3%, respectively. Comparisons between CPD and TPD groups showed significant differences in preoperative ASA score (CPD patients having lower surgical risk (p = 0.021)) and lower rate of preoperative diabetes (18.4% vs 42.8%, p = 0.02). Clinically relevant pancreatic fistulae occurred in 11 patients in CPD group (grade B: 10.6%, grade C: 3.9%). Analysis of complications between groups only showed statistical differences in pancreatic fistula, but no differences regarding hospital stay, delayed gastric emptying, hemorrhage, biliary fistula, infection and respiratory complications. No significant differences were found in Clavien-Dindo classification between CPD and TPD patients. Survival was similar in both groups.

Conclusions: This study shows that no differences were found between CPD and TPD groups in the postoperative outcome, despite TPD patients had higher surgical risk. No differences between patient survival were found between groups.

PPP26-054

PANCREATICOPLEURAL FISTULA: AN UNUSUAL CAUSE OF PERSISTENT PLEURAL EFFUSION

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Introduction: There are multiple causes of recurrent pleural effusion. Pancreaticopleural fistula (PPF) is a rare entity. It is usually manifested by respiratory symptoms secondary to pleural effusion. Initial treat-

ment should be medical, consisting of the inhibition of exocrine pancreatic secretion with octreotide, with or without stent in the pancreatic duct, surgery being a final option. We report the case of recurrent and massive pleural effusion resulting from a pancreaticopleural fistula in a patient with chronic pancreatitis.

Method: 63-year-old male complaining of progressive dyspnea, cough and fever with a history of chronic pancreatitis. A chest X-ray was performed, revealing a massive left pleural effusion and thoracentesis in which 12400 IU/L of amylase in the pleural fluid stood out. Suspicion of a parapneumonic effusion led to medical treatment, which produced no positive result. Given the recurrent pleural effusion, a thoracic-abdominal CT was performed revealing a pancreatic pseudocyst with a collection extending from the pancreas to the subphrenic space, associated with massive left pleural effusion. These findings indicated the presence of a pancreaticopleural fistula.

Results: An ERCP and medical treatment were initiated aimed at stenting the pancreatic duct, but this was not possible for technical reasons. The patient showed no improvement, prompting a surgical intervention, which revealed a 2 cm diaphragmatic orifice exposing the pseudocyst to the pleural cavity and constituting the pancreaticopleural fistula. A distal pancreatectomy was performed, as well as closure of the left diaphragmatic orifice, followed by pleural drainage. The pleural drain was removed on the third post-operative day, and the patient was discharged on the sixth. The patient remained asymptomatic 2 years following the intervention.

Conclusions: PPF is a rare entity. Initial treatment should be medical with chest drainage, although there are studies supporting early surgical intervention since this reduces recovery time and has a higher success rate.

PPP26-055

NEW CLASSIFICATION OF CHRONIC PANCREATITIS (CP) BASED ON CRITERIA OF PANCREAS HARDNESS AND CHARACTER OF CP COMPLICATIONS

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Introduction: We aimed to develop a classification of CP on the basis of the integral simple sign’s selection, which allows determining the severity of CP and differentiated approach to the treatment of patients.

Method: Duodenum preserving pancreatic head resection (DPPHR) was performed in 105 pts (in 95 pts with longitudinal pancreaticojunooanastomosis (PJA)). 74 pts with acute obstruction of the main pancreatic duct (MPD) and 115 pts with complicated pancreatic pseudocysts were subjected to endoscopic interventions and traditional surgery. “Hardness” was assessed by intraoperative palpation of pancreas, elastometry and dual-

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Phased CT, histological study of resected pancreas tissue.

**Results:** There was a direct correlation of pancreas “hardness” with pancreatic fibrosis ($R = 0.45$; $p < 0.001$) and significant differences in the duration of CP, the presence of jaundice, portal hypertension, duodenostasis, diabetes, steatorrhea, postoperative complications, depending on the degree of pancreas “hardness” ($p < 0.05$). A direct correlation between palpable pancreas “hardness” and elastometry parameters ($R = 0.75$; $p < 0.01$), between parameters of elastometry and dual-phased CT ($R = 0.73$; $p < 0.05$) have been revealed. The results of operations depended on the kind of CP complication. Classification of Chronic Pancreatitis. A-Soft CP - conservative treatment. B-Hard CP (total, head, body, tail) - operative treatment accordingly to localization: DPPHR and/or PJA. C*-Hard complicated CP - operative treatment.

C1.Compression of adjacent organs by PH-DPPHR + choledochopancreatoanastomosis or hepaticojejunooanastomosis; gastroenteroanastomosis.
C2.Acute MPD obturation - draining, lithotripsy, stenting etc. DPPHR and/or PJA (1-st or 2-nd stage).
C3.Complicated pseudocyst - draining, vascular embolization, pancreas resection. DPPHR and/or PJA, DPPHR and/or cystopancreaticojejunooanastomosis (1-st or 2-nd stage). *Soft complicated CP - urgent restoration of MPD patency or pseudocyst sanation.

**Conclusions:** The major integral sign that determines the severity of CP, clinical symptoms, morphological and functional pancreas disorders, the choice of treatment, the operation possibility, its volume, and the subsequent prognosis is pancreas “hardness”. The specific operation selection depends on the localization of pancreas “hardness” and the type of the CP complications.

**PPP26-056**

**A NOVEL POSTOPERATIVE INFLAMMATORY SCORE PREDICTS POSTOPERATIVE Pancreatic Fistula AFTER Pancreatic RESECTION**


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**Introduction:** The aim of this study is to characterize a high-risk group for postoperative pancreatic fistula (POPF) after pancreatic resection using postoperative clinical variables of the patients.

**Method:** The retrospective study included 297 patients who underwent pancreatic resection between January 2001 and December 2011. We examined the relationship between perioperative findings and the incidence of POPF among patients who underwent pancreatic resection between 2001 and 2009 (early period). Next, patients were stratified into three groups using serum albumin and CRP on postoperative day (POD) 1 (Score 0: albumin $\geq 2.7$ g/dL and CRP $\leq 10$ mg/dL, Score 1: albumin $< 2.7$ g/dL or CRP $> 10$ mg/dL, Score 2: albumin $< 2.7$ g/dL and CRP $> 10$ mg/dL) as Postoperative Inflammatory Score (PIS). We examined perioperative findings including PIS and POPF among patients who underwent pancreatic resection between 2010 and 2011 (late period).

**Results:** In univariate and multivariate analysis, male gender ($p = 0.032$), postoperative serum albumin on POD 1 ($p = 0.024$) and postoperative serum CRP on POD 1 were identical as independent risk factors for POPF in early period patients. In univariate and multivariate analysis, postoperative hospital stay ($p = 0.009$) and PIS (score 1: $p = 0.005$, score 2: $p = 0.017$) were identical as independent risk factors for POPF in late period patients.

**Conclusions:** We have identified a novel PIS as risk factors for POPF after elective pancreatic resection.

**PPP26-057**

**THE SAFETY AND EFFICIENCY OF BLUMGART ANASTOMOSIS IN THE PANCREATICOJEJUNOSTOMY AFTER POSTOPERATIVE Pancreatic Fistula (POPF) remains a leading cause of morbidity and mortality after pancreaticoduodenectomy (PD). Thus, a number of technical modifications regarding the pancreaticenteric anastomosis after PD have been proposed to reduce POPF rate. Until now, there is no consensus regarding the best management. This study aims to evaluate the safety and efficiency of Blumgart anastomosis in pancreaticojejunostomy after PD.

**Method:** A total of 205 patients who underwent PD between January 2011 and February 2013 were retrospectively studied. The patients were divided into three groups depending on the pancreaticenteric reconstruction: Blumgart anastomosis group ($n = 37$), duct-to-mucosa anastomosis group ($n = 39$) and invagination group ($n = 129$). Patients’ basic characteristics were similar, including age, pancreatic texture, and pancreatic main duct size. Postoperative mortality and morbidity were analyzed.

**Results:** With regard to POPF, there were 3 cases (2 grade A and 1 grade B) in the Blumgart anastomosis group, 9 (6 grade A, 2 grade B and 1 grade C) in the duct-to-mucosa anastomosis group, and 39 (22 grade A, 12 grade B and 5 grade C) in the invagination anastomosis group. Significant differences were found among these three groups ($p < 0.05$). Multivariate analysis revealed soft pancreatic texture, pancreatic duct diameter <3 mm and Blumgart anastomosis as the independent risk factors for POPF. In subgroup analysis, Blumgart anastomosis was superior to duct-to-mucosa anastomosis in patients with pancreatic duct diameter <3 mm ($p = 0.038$), and showed an advantage over invagination anastomosis in patients with soft pancreatic texture ($p = 0.001$), as well as in patients with pancreatic duct diameter <3 mm ($p = 0.011$).

**Conclusions:** As a safe technique, Blumgart anastomosis could significantly reduce the rate of POPF and should be routinely used for pancreaticenteric reconstruction after PD.
**PPP26-058**

**SOLID PSEUDOPAPILLARY TUMOR OF THE PANCREAS: A POPULATION-BASED COMPARISON WITH PANCREATIC ADENOCARCINOMA**

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**Introduction:** Solid-pseudopapillary tumor of the pancreas (SPTP) is a rare neoplasm that has been investigated only in individual case series from single institutions. We sought to identify characteristics of these tumors and compare outcomes with pancreatic adenocarcinoma (PA) using a national database.

**Method:** A query of the Surveillance Epidemiology and End Results database was made for patients with malignant SPTP and PA from 2001 to 2010. Demographic, staging, treatment, and survival data were obtained for both groups. The primary outcome measure was 5-year overall survival. A Cox regression analysis was performed using age group, gender, and stage to identify independent variables associated with survival.

**Results:** One hundred seven patients with SPTP and 53,353 PA were identified for study. For patients with SPTP, 74.8% were under age 50 (6.3% for PA, p < 0.001), 82.2% were female (48.6% for PA, p < 0.001), and 69.2% were white (81.2% for PA, p < 0.001). SPTPs were more frequently located in the tail than PA (46.7% vs. 11.8%, p < 0.001), more often stage I (57.3% vs. 5.6%, p < 0.001), and were more likely to undergo surgical treatment (79.5% vs. 13.6%, p < 0.001). Nodal involvement was only seen in 8.4% of patients with SPTP. Overall 5-year survival was 84.7% for SPTP and 2.8% for PA. When selecting out patients who underwent surgical treatment, 5-year overall and cancer-specific survival were 92.7% and 95.9% for SPTP and 13.5% and 16.7% for PA, respectively.

**Conclusions:** SPTP is a rare pancreatic neoplasm found more commonly in young women and associated with a significantly more favorable prognosis than PA.

**PPP26-059**

**IDENTIFICATION OF THE RISK FACTORS OF PANCREATIC EXOCRINE INSUFFICIENCY AFTER PANCREATODUODENECTOMY USING 13C-LABELED MIXED TRIGLYCERIDE BREATH TEST**

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**Introduction:** There are only a few reports concerning long-term pancreatic exocrine function after pancreateoduodenectomy (PD), although the number of long-term survivors has increased. We assessed pancreatic exocrine function after PD in 189 patients to identify risk factors for exocrine insufficiency.

**Method:** The present study included 90 patients that underwent pancreaticogastrostomy (PG) at Hiroshima University Hospital and 99 patients that underwent pancreatecojejunostomy (PJ) at Wakayama Medical University Hospital, the standard reconstruction techniques during PD at the respective hospitals. We evaluated patients’ exocrine function by using the ¹³C-labeled mixed triglyceride breath test, a noninvasive test feasible in outpatient service units. We also analyzed long-term morphological changes of remnant pancreas by computed tomography (main pancreatic duct dilation and parenchymal atrophy), nutritional status (body weight change, serum total protein, albumin, triglyceride, and total cholesterol, and prognostic nutrition index by calculating as $10 \times \text{albumin} + 0.005 \times \text{total lymphocyte count}$), and endocrine function after PD.

**Results:** The independent risk factors for the exocrine insufficiency after PD include hard pancreas (p = 0.003, odds ratio; 3.157) and PG reconstruction (p = 0.040, odds ratio; 2.321). The results of the breath test were significantly correlated with postoperative morphological changes, nutritional status, and endocrine function. The atrophic changes of the remnant pancreas in the PG group were more severe than those in the PJ group (p < 0.01). Furthermore, for patients with a soft pancreas, the postoperative body weight changes (p = 0.02), prognostic nutritional index (p < 0.01), serum total protein levels (p = 0.01) as well as exocrine test results were worse in the PG group, compared with the PJ group.

**Conclusions:** Our results showed that PJ reconstruction might be superior to PG during PD, from the viewpoint of long-term pancreatic exocrine function, although further prospective studies are needed.

**PPP26-060**

**ADVANCED PANCREATIC CANCER IN A PATIENT TREATED FOR COLO-RECTAL CANCER – CASE REPORT**

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**Introduction:** Pancreatic cancer is one of the leading causes of cancer mortality. It’s incidence increases with age, slightly more in men than women. Less than 20% live longer than 1 year.

**Method:** We present a case of a female patient who was diagnosed with a colo-rectal cancer. The cancer was staged as pT-3, N-0, M-0, G-2, R-0. He underwent a surgical intervention with colo-anal anastomosis. Then he was treated with neoadjuvant chemotherapy: 5-FU and radiation. He was followed –up at the outpatient clinic of surgery. Two years later the patient complaint of back pain. A CT scan was performed, which found a solid lesion of the body of the pancreas with peripancreatic and truncus celiacus infiltration. Multiple liver metastases were found. A thoracic CT scan revealed metastatic lesions of both lungs, 7–8 mm in diameter. In these conditions the clinical diagnosis was made: Pancreatic cancer with pulmonary and liver metastasis, diabetes mellitus.
Results: The stratification of the cancer showed a Stage 4 B, non resectable. The celiac plexus was accessed percutaneously. It was decided that the patient will be treated with palliative chemotherapy with gemcitabine 1000 mg/m² weekly for up to 7 weeks followed by 1 week rest; then weekly for 3 weeks out of every 4 weeks, plus ondansetron for the nausea and vomiting.

Conclusions: Adenocarcinomas of the body of the pancreas usually do not obstruct the intrapancreatic portion of the common bile duct, early diagnosis is rare; the vast majority have locally advanced or metastatic disease at the time of presentation. The diagnosis of pancreatic cancer, however, is typically made radiographically. Celiac plexus neurolysis may maintain the quality of life better than alternative treatments. Gemcitabine is an option for treatment of patients with poor performance status and/or pain or for management of metastatic disease. The prognosis is poor.

PPP26-061
PREDICTIVE FACTORS OF SEVERITY AND MORTALITY IN ACUTE PANCREATITIS, ROLE OF BISAP SCORE
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Introduction: Acute pancreatitis (AP) is a sudden inflammation of the pancreas. A variety of scoring systems are available to evaluate the severity of AP. To evaluate the accuracy of bedside index for severity in acute pancreatitis (BISAP) in predicting the severity and prognosis of AP.

Method: We retrospectively studied 109 cases admitted at the UHC. AP was classified as mild or severe according to the 1992 Atlanta classification. BISAP was calculated using data within 24 hours following admission, and the Ranson score was calculated using data from the first 48 hours following admission; CTSI score within 3 days following symptom presentation.

Results: We had 78 males (71.56%) and 31 females (28.44%), mean age 43.74 Std ± 12.05 years. 84 patients (77.06%) had mild AP (MAP), while 22 patients (20.18%) had severe AP (SAP), 3 patients died (2.75%). We found significant correlations between the scores of any 2 systems. BISAP performed similarly to other scoring systems in predicting SAP, pancreatic necrosis, mortality, and organ failure in SAP patients, in terms of the area under the receiver-operating characteristic curve.

Conclusions: We compared BISAP scores with Ranson, and CTSI scores (when applicable) in predicting the severity and prognoses of AP in our patients. We demonstrated that BISAP has the advantages of simplicity and speed over traditional scoring systems and performed similarly to other scoring systems in predicting SAP and the prognoses of SAP. We confirmed that the BISAP score is an accurate and very useful method in the clinical practice for risk stratification and prediction of prognosis in patients with AP.

PPP26-062
CLINICAL OUTCOMES COMPARED BETWEEN LAPAROSCOPIC AND OPEN DISTAL PANCREATECTOMY
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Introduction: Laparoscopic distal pancreatectomy (LDP) for benign and borderline pancreatic lesions appears to offer advantages and is replacing open distal pancreatectomy (DP) in some centers. The purpose of this study is to compare these surgical procedures.

Method: A retrospective chart review of consecutive patients with benign and borderline pancreatic tumors who underwent DP or LDP in a Abdominal and Endocrine surgical department of Klaipeda University Hospital between January 2005 to August 2013 was performed. Data relative to demographic and clinical characteristics, indications for surgery, surgical procedure, postoperative course and final pathology results were recorded.

Results: A total of 44 cases were analysed, 21 patients underwent LDP and 23 open distal pancreatectomy. There were no significant differences regarding demographic, clinical and pathological data. We excluded from the study malignant cases. All of the resections attempted laparoscopically were completed. EndoGIA (Ethicon Endosurgery) was used to transect the pancreas in both: LDP and DP. The operation time, intraoperative transfusion requirements, rate of splenic preservation and rate of pancreatic fistula were similar in both groups. Blood loss for laparoscopic patients was 220 mL, then in open group ~450 mL (p < 0.004). The median hospital length of stay was 8 days (range 5–21 days) for the LDP cohort and 13 days (range 8–32 days) for the DP cohort (p < 0.001). The amount of analgesic drugs administered after LDP was significantly less then in DP group (morfin hydrochlorid 1% i/m 8 mg vs 56 mg, p < 0.001).

Conclusions: The laparoscopic approach to DP offers advantages over open surgery with less blood loss, shorter hospital stay and less analgesic consumption.

PPP26-063
PERSURING THE BETTER OUTCOME OF SURGERY FOR PANCREATIC DUCTAL ADENOCARCINOMA: POSSIBLE USEFULNESS OF NEOADJUVANT CHEMOTHERAPY AND PREOPERATIVE RADIOThERAPY
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Introduction: Although surgery is the only curative key for pancreatic ductal adenocarcinoma (PDA), its prognosis is still unsatisfactory even in the combination with the latest antineoplastic agents. We reevaluated our strategy to determine the best predictive factors for long time survival of PDA. Furthermore, we tried to clarify the reason for high recurrence rate even after “no residual tumor (R0) operation”, by analyzing the...
mode of recurrence from the standpoint of original site and pathological findings.

**Method:** 317 consecutive patients (1990–2012) who underwent pancreatic resection in our ward were analyzed. They consisted of head 72.2%, body and tail 27.8%; UICC TisT1T2 11.4% T3T4 88.6%, N0 54.3%; and pathological findings: without lymphadenectomy (EL) 15%, R0 90.5%. Adjuvant chemotherapy (AC) was applied to 18.9%.

For data analysis, Kaplan–Meyer and univariate/multivariate method were employed.

**Results:**

- Over all 1, 3 and 5 year survival rate after surgery were 63.9, 32.2 and 23.2% respectively. Those for R0 were 67.7, 34.4 and 25.3%, and those for AC were 94.8, 55.8 and 48.6% respectively.
- AC was the best independent factor for survival (p = 0.000, OD 3.75) followed by UICC N and R0, while AC was accomplished only by 20% of patients. Although the rate of R0 was over 90%, recurrence/metastasis was observed as high as 22% at local site, 33.6% at liver, or 18.1% as peritoneal dissemination. In many cases of head cancer with pathological “margin-free”, cancer cells were found very close to the edge.

**Conclusions:**

- AC was found to be effective but was tolerated only by a part of PDA.
- R0 had some but little effect and EL had no influence on recurrence, indicating the importance of radical removal of cancer cells near surgical margin. Taken together, we propose that neoadjuvant chemotherapy and preoperative radiotherapy would be the hopeful adjunct for PDA operation especially for head cancer.

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**PPP26-065**

**THE INFLUENCE OF STANDARDIZED HISTOPATHOLOGICAL WORKUP ON REPORTING OF THE RESECTION MARGIN STATUS IN PANCREATIC HEAD CANCER**

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**Introduction:**

Resection margin (RM) status in pancreatic head adenocarcinoma is assessed histologically, but pathological examination is not standardized. Our aim was to determine the influence of the technique of histopathological examination of pancreaticoduodenectomy specimens on the reporting of the RM status and to test prospectively the hypothesis that current histopathological reports underestimate the proportion of R1 pancreatic head resections.

**Method:**

Starting October 2009, 14 patients with pancreatic ductal adenocarcinoma were reported according to standardized protocol (SP) involving five color margin staining, axial slicing and extensive tissue sampling and were compared to our conventional bivalve slicing in which a non-standardized protocol was used. We reevaluated different sites of R1 resections according to the color code and demonstrate the most frequent site of incomplete tumor resection.

**Results:**

- Applying our conventional protocol, 12 cancers were curatively (R0) resected (85.7%), while 2 cases were R1 resections (14.2%) based on infiltration of pancreatic neck margin. Applying the standardized histopathological workup, an additional set of 7 specimens was considered R1 resections (64.2%), reducing the rate of R0 resection to 35.7%. An additional 12 sites of tumor infiltration were detected; uncinate margin (n = 6), posterior surface (n = 4), anterior surface (n = 1), SMV groove (n = 1). 35% of R1 resections exhibited multifocal margin involvement. Interestingly,
the uncinate margin was the commonest site of infiltration in 6 (56.4%) of these R1 specimens either alone (n = 3) or in combination (n = 3).

Conclusions: Standardization of the histopathological examination of pancreaticoduodenectomy specimens influences the reporting of RM status. The resection margin involvement is significantly more frequent than commonly reported.

PPP26-066
MAIN DUCT AND MIXED PANCREATIC INTRADUCTAL PAPILLARY MUCINOUS NEOPLASM: ANALYSIS OF CLINICOPATHOLOGICAL FEATURES AND SURGICAL OUTCOMES
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Introduction: Intraductal papillary mucinous neoplasms (IPMNs) are increasingly recognized entities, whose management remains sometimes controversial, due to the high rate of benign lesions and on the other side to the good survival after resection of malignant ones. Our study aim to underline the clinical problems they set, related both to the diagnostic procedures and to the therapeutic indication including extent of surgical resection.

Method: From 2008–2012, 25 patients presented with operable non metastatic pancreatic cystic tumors. 10/25 were resected and diagnosed as IPMN and were subject to further analysis of clinicopathologic data, diagnostic procedures, extent of surgical resection, histopathology, disease free survival and recurrence.

Results: 80% of patients were symptomatic; the cho-langio-MRI diagnostic accuracy was 90%. One patient underwent pancreaticoduodenectomy, 9 total pancreatec-tomies with morbidity of 40 and 0% hospital mor-tality. Main duct and mixed type were found in 7 and 3 patients respectively; this corresponded to the preoperative imaging classification in 70%. 6/10 resected lesions were malignant (3 insitu and 3 invasive carci-noma) which corresponds to preoperative diagnostic accuracy of 66.6%. 2/6 malignant patients had meta-static nodes and had a relapse after 14 months and deceased 17 months after the operation. The mean follow-up was 18 months (range 9–32); 6/10 patients are alive and disease-free.

Conclusions: Main duct IPMN or mixed type warrants complete resection due to its significant malignant potential and multifocal pattern. Surgical indication is mainly based upon radiological evaluation of its risk of malignancy. Total pancreatectomy was tolerated in all patients with minimal morbidity and mortality and produces excellent long-term survival.

PPP26-067
FEASIBILITY AND ONCOLOGICAL OUTCOMES OF LIMITED DUODENAL RESECTION IN PATIENTS WITH PRIMARY NONMETASTATIC DUODENAL GIST
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Introduction: Duodenal gastrointestinal stromal tumors (GISTs) are rare but still represent approximately 30% of primary duodenal tumors. This study aimed to audit the feasibility and oncolgical outcomes of limited duodenal resection in patients with primary nonmetastatic duodenal GIST.

Method: Twelve patients who underwent surgery at our institution since 2002 were prospectively followed up. The duodenal GISTs were located in the first (n = 3), second (n = 1), third (n = 3), and fourth of duodenum (n = 1). Involving both D1/D2 (n = 2), D2/ D3 (n = 1), and D3/D4 (n = 1). The primary endpoint for this analysis was disease-free survival.

Results: The commonest presentation was melena and anemia (83%). All the patients underwent limited resection; six wedge resections with primary closures and six segmental resections with end-to-end anastomosis. The median tumor size was 8 cm (range, 5–16 cm). According to Fletcher scale, 2 GISTs were low risk, while 10 patients were intermediate and high risk. The latter received adjuvant therapy. All the patients had a complete resection with no postoperative mortality. One patient had three liver metastases 4 months after limited resection and had partial hepatectomy. After median follow-up of 45 (15–78) months, all patients are alive and disease free.

Conclusions: When technically feasible, limited resection should be considered a reliable and curative option for duodenal GIST achieving satisfactory disease-free survival. The technical feasibility is guided by the tumor size, possible adjacent organ involvement, and its exact anatomical location.

PPP26-068
PRIMARY HYPERPARATHYROIDISM WITH PANCREATITIS: EXPERIENCE OF MANAGEMENT IN 5 PATIENTS WITH REVIEW OF LITERATURE
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Introduction: Parathyroid adenoma accounts for less than 1% cases of acute pancreatitis. The cause and effect relationship has been shown in most of the studies. Parathyroidectomy leads to resolution of acute pancreatitis. Management of acute pancreatitis with parathyroid adenoma is challenging and may involve treatment of comorbidities like hypercalcemia, ARF and acidosis before surgical management of parathyroid adenoma and pancreatic necrosis.
**PPP26-069**

**COLONIC FISTULAE IN SEVERE ACUTE NECROTIZING PANCREATITIS**

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**Introduction:** Colonic involvement in acute necrotizing pancreatitis accounts for 6–40% of cases. Colonic involvement is a rare but potentially lethal complication of severe acute pancreatitis which has a frequency of 3.3–15%. The spectrum of colonic complications includes a localized ileus with “pseudoostruction”, obstruction, necrosis, hemorrhage, fistula and ischemic colitis. Colonic fistula is a rare and potentially critical sequel of severe acute pancreatitis, which requires surgical treatment.

**Method:** We present a series of 9 patients who developed colonic fistulae spontaneously during the course of acute necrotizing pancreatitis and following pancreatic necrosectomy for severe acute necrotizing pancreatitis.

**Results:** A colonic fistula was diagnosed at the time of necrosectomy in 4 patients; a post-necrosectomy colonic fistula was diagnosed in 5 cases. We performed a diverting loop ileostomy in all the patients with colonic fistulae. Four patients required segmental colectomy and fistula closure occurred in 5 patients with ileostomy alone. Operative mortality was 22.2%.

**Conclusions:** A colonic fistula associated with severe acute necrotizing pancreatitis carries a high mortality and an ileostomy should be performed early to divert the faecal stream and control the peritoneal infection. Resection of the fistulated colon was not always required and in some patients the fistulae healed with a diverting ileostomy. In acute pancreatitis cases with extensive pericolitis at surgery the subsequent development of a colonic fistula is likely and an ileostomy (perhaps during necrosectomy) might be an effective preempting manoeuvre.

**PPP26-070**

**MACROPHAGE MIGRATION INHIBITORY FACTOR EXPRESSION PREDICTS SURVIVAL OF PATIENTS WITH RESECTED PANCREATIC DUCTAL ADENOCARCINOMA**

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**Introduction:** Macrophage migration inhibitory factor (MIF), an inflammatory cytokine, is overexpressed in various types of solid tumors and is associated with poor prognosis. However, MIF expression in pancreatic ductal adenocarcinoma (PDAC) has been described in a few reports. This study aimed to elucidate the prognostic significance of MIF expression in patients with resected PDAC.

**Method:** A retrospective analysis was conducted of 67 patients who underwent macroscopically curative resection for PDAC. Of the 67 patients, 62 (93%) received adjuvant chemotherapy. Immunohistochemistry using anti-MIF monoclonal antibody on paraffin-embedded primary tumor tissue samples was performed. Survival analysis was performed using the Kaplan–Meier method with log-rank test for univariate analyses, and multivariate analysis for survival was performed using the Cox proportional hazards regression models. p-values less than 0.05 were considered statistically significant.

**Results:** MIF-positive cells were observed in the cytoplasm of tumor cells and absent in non-neoplastic pancreatic epithelium. Of the 67 patients, 51 (76%) were classified as having tumors with high MIF expression and 16 (24%) had tumors with low MIF expression. There were no significant differences in other clinico-pathological factors between patients with tumors with high MIF expression and those with low MIF expression. Disease-free survival was significantly worse in patients with MIF-high tumors than in patients with MIF-low tumors (cumulative 3-year disease-free survival rate of 24.4% and 61.9%, respectively; p = 0.012). Post-resection survival was significantly worse in patients with MIF-high tumors than in patients with MIF-low tumors (cumulative 5-year survival rate of 0% and 51%, respectively; p = 0.005). The Cox proportional hazards regression analysis revealed that high MIF expression was an independent prognostic factor for disease-free survival (p = 0.005) and post-resection survival (p = 0.004).

**Conclusions:** Assessment of MIF expression may be useful as a prognostic marker for patients with resected PDAC.
PPP26-072
SOLID PSEUDOPAPILLARY TUMOUR OF THE PANCREAS: INCIDENCE, PROGNOSIS AND OUTCOME OF SURGERY
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Introduction: Solid pseudopapillary tumour (SPT) of the pancreas is a rare neoplasm of low malignant potential. The pathogenesis and guideline for treatment remain unclear.

Objective: This study is designed to evaluate the diagnosis, surgical treatment and outcome of SPT.

Method: Study design: A retrospective study during the period from January 1996 to April 2012, were eligible for the study. Patients and method: Fourteen Patients had SPTs treated at our institution were reviewed. Demographic data, clinical manifestations, radiological, surgical, and pathological records were reviewed for patients with SPT.

Results: All of the 14 patients were female and the average age was 30.9 ± 15.9 years (16–64 years). The tumour was located in the head in 8 patients (57.1%), and in the body and tail in 5 patients (42.9%). The mean size was 4.25 ± 1.24 cm (2.5–6). The clinical presentation was abdominal pain in 9 patients (64.3%), jaundice in 6 patients (42.9%). Elevated CEA and CA19-9 was recorded only in two cases. The content was necrosis and hemorrhage in 11 patient (78.6%) and thick fluid in 4 patients (28.6%). None of the patients had definite pre-operative diagnosis. All 14 patients had curative resection including 8 pancreaticoduodenectomy (57.1%), 3 central pancreatectomy (21.4%) and one distal pancreatectomy (7.1%). No hospital mortality, all patients were alive and disease free at follow up period. The recurrence was recorded in one case (7.1%) after 5 year postoperative.

Conclusions: SPT are rare neoplasms with malignant potential. Aggressive surgical resection is needed even in presence of local invasion, as patients had a good long term survival.

PPP26-073
THE IMPACT OF VASCULAR RESECTION ON EARLY POSTOPERATIVE OUTCOME AFTER PANCREATICODUODENECTOMY: A SINGLE CENTER EXPERIENCE
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Introduction: Pancreaticoduodenectomy (PD) combined with vascular resection (VR) is increasingly accepted as a viable treatment option for periampullary carcinoma with suspected involvement of the portal vein (PV), superior mesenteric vein (SMV), or superior mesenteric portal vein (SMPV) confluence. However, its clinical benefit remains controversial. Our objective is to review the outcomes associated with VR during PD.

Method: One-hundred and eighteen consecutive patients underwent macroscopically curative PD, Pylorus-preserving pancreaticoduodenectomy (PPPD) or total pancreatectomy for periampullary carcinoma and other benign lesions of the pancreas between October 1, 2006 and November 30, 2012. VR was performed in 13 patients (11%). Data on surgical mortality, morbidity, perioperative outcome, initial recurrence site, and survival were retrospectively compared between the patients with and without VR.

Results: The duration of surgery and blood losses were significantly more important in PD combined with VR groups, however, postoperative morbidity and mortality rates were similar. Almost of the primary tumor in VR group were pancreatic carcinoma (69.2%), difference from non-VR group which the primary tumor were ampullary carcinoma (58.1%). Subgroup analysis of pancreatic carcinoma, overall survival and disease-free survivals were not significantly difference between 2 groups (18.56 months vs 15.29 months).

Conclusions: PD combined with VR for periampullary carcinoma increases local resectability without increasing mortality and morbidity rates compare with standard PD.

PPP26-074
PANCREATIC METASTASIS OF FOLLICULAR THYROID CARCINOMA: A CASE REPORT
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Introduction: Follicular thyroid cancer (FTC) is the second category of well-differentiated thyroid cancer and constitutes about 10% of all thyroid malignancies. FTC is more likely to metastasize to distant organs than regional lymph nodes, most commonly to lung and bone. Here we describe a patient with pancreas metastasis from widely invasive follicular thyroid carcinoma and discuss the unique features of these lesions.

Method: A 68-year-old woman underwent total thyroidecomy and prophylactic central compartment node dissection for widely invasive FTC in 2010.

Results: After 2 years, 18F-FDG PET/CT scan showed multiple lung metastasis and a hypermetabolic mass on pancreas head which is neuroendocrine tumor more likely. Serum Tg was elevated at >250 ng/mL while on L-thyroxine with TSH of 0.03 mIU/mL. I131 whole body scan showed a remnant thyroid activity without local recurrence. Despite 200mCi I131 ablation treatment, Serum Tg was not decreased and pancreas mass grew in size. Pylorus preserving pancreaticoduodenectomy was performed with a histopathological diagnosis of metastatic follicular thyroid carcinoma in 2013.

Conclusions: Pancreas metastases from follicular thyroid carcinoma are very uncommon. To the best of our knowledge, FTC with pancreatic metastases has been not described in the literature. If a pancreas mass is identified in a patient with history of a primary cancer in other regions, metastasis should be considered potentially. Also the management must be individualized and selective surgical approach is needed.
PPP26-075
PROTON THERAPY MAY ALLOW FOR COMPREHENSIVE ELECTIVE NODAL COVERAGE FOR PATIENTS RECEIVING NEOADJUVANT RADIOTHERAPY FOR LOCALIZED PANCREATIC HEAD CANCERS

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Introduction: Neoadjuvant radiotherapy has the potential to improve local disease control for patients with localized pancreatic cancers. Concern about an increased risk of surgical complications due to small bowel and gastric exposure, however, has limited enthusiasm for this approach. Dosimetric studies have demonstrated the potential for proton therapy to reduce intestinal exposure compared with X-ray-based therapy. We sought to determine if neoadjuvant proton therapy allowed for field expansions to cover high-risk nodal stations in addition to the primary tumor.

Method: Twelve consecutive patients with nonmetastatic cancers of the pancreatic head underwent proton-based planning for neoadjuvant radiotherapy. Gross tumor volume was contoured using diagnostic computed tomography (CT) scans with oral and intravenous contrast. Four-dimensional planning scans were utilized to define an internal clinical target volume (ICTV). Five-mm planning target volume (PTV) expansions on the ICTV were generated to establish an initial PTV (PTV1). A second PTV was created using the initial PTV but was expanded to include the high-risk nodal targets as defined by the RTOG contouring atlas (PTV2). Optimized proton plans were generated for both PTVs for each patient. All PTVs received a dose of 50.4 cobalt gray equivalent (CGE). Normal-tissue exposures to the small bowel space, stomach, right kidney, left kidney and liver were recorded. Point spinal cord dose was limited to 45 CGE.

Results: Median PTV1 volume was 308.75 cm³ (range, 133.33–495.61 cm³). Median PTV2 volume was 541.75 cm³ (range, 399.44–691.14 cm³). In spite of the substantial enlargement of the PTV when high-risk lymph nodes were included in the treatment volume, normal-tissue exposures (stomach, bowel space, liver, and kidneys) were only minimally increased relative to the exposures seen when only the gross tumor target was treated.

Conclusions: Proton therapy appears to allow for field expansions to cover high-risk lymph nodes without significantly increasing critical normal-tissue exposure in the neoadjuvant setting.

PPP26-076
VISFATIN AND RESISTIN AS MARKER OF PERIPANCREATIC NECROSIS IN ACUTE PANCREATITIS

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Introduction: Severe acute pancreatitis is characterized by lipase-induced peripancreatic fat cell necrosis. Peripancreatic necrosis determines clinical severity in acute pancreatitis. Early markers predicting peripancreatic necrosis and clinical severity are lacking. Adipocytes of peripancreatic and intrapancreatic adipose tissue are secret adipocytokines. Adipocytokines could serve as potential markers predicting peripancreatic necrosis and severity in acute pancreatitis. It was the aim of this study to investigate whether the adipocytokines visfatin and resistin is able to serve as an early marker predicting peripancreatic necrosis and clinical severity.

Method: A total of 39 patients with acute pancreatitis were included in monocentric cohort study on diagnostic accuracy. Clinical severity was classified by the Ranson score. Pancreatic and peripancreatic necrosis were quantified by using the Balthazar CT score. Resistin and visfatin were measured by enzyme-linked immunosorbent assay.

Results: Visfatin and resistin values were significantly and positively correlated with clinical severity and with death and need for interventions. Admission resistin and visfatin levels were significantly elevated in patients with higher pancreatic and extrapancreatic necrosis. An admission resistin and visfatin concentration provides a high positive predictive value in predicting the extent of peripancreatic necrosis.

Conclusions: An admission resistin and visfatin concentration serves as an early predictive marker of peripancreatic necrosis and clinical severity in acute pancreatitis.

PPP26-077
POSTOPERATIVE CHANGES OF THE PANCREATIC PARENCHYMAL VOLUME ACCORDING TO EXTERNAL VERSUS INTERNAL DRAINAGE OF THE PANCREATIC DUCT AFTER PYLORUS-PRESERVING PANCREATECODUODENECTOMY

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Introduction: Atrophy of the pancreatic parenchyma is a common finding after pylorus-preserving pancreatecoduodenectomy (PPPD), which is often associated with clinical and subclinical pancreatic exocrine insufficiency. Many centers prefer to insert a drainage tube into the remnant pancreatic duct primarily to prevent pancreatic leakage at the pancreaticojejunostomy (PJ) after PPPD. There are wide variations in their preferred drainage method, but they can be roughly classified into 2 types as internal or external drainage. It is difficult to objectively evaluate the real preventive effect on pancreatic leak, thus this study was focused on their influence on pancreatic parenchymal atrophy following PPPD.

Method: We selected 57 patients who underwent PPPD and divided into 2 groups according to external (n = 28) and internal (n = 29) pancreatic drainage. The external drainage tube was removed 4 weeks after PPPD. Patients showing marked atrophy of the native pancreas before surgery were excluded. We investigated the serial postoperative changes of the pancreatic volume after PPPD. The volume of pancreatic paren-
chyma was measured before surgery, postoperative 7 days, 3 months, 6 months and 12 months by using abdomen computed tomography (CT) scans. The degree of pancreatic parenchymal atrophy was determined with the proportion of postoperative pancreas volume relative to that at day 7 CT scan.

Results: Univariate analysis showed that patient sex, age, body mass index, concurrent pancreatitis, pathology and types of PJ did not have a significant influence on the changes in pancreatic volume following PPPD. The degree of pancreatic volume atrophy was not significantly different in the external and internal drainage group. The incidence of external drainage-related surgical complication was absent. The incidence of PJ leak was comparable in both groups.

Conclusions: The results of this study support that external pancreatic drainage is not inferior method compared to internal pancreatic drainage for protecting the pancreatic parenchyma following PPPD.

PPP26-078
ADULT PANCREATIC HEMANGIOMA
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Introduction: Pancreatic hemangioma is very rare and hardly suspected clinically due to their nonspecific symptoms and diagnostic characteristics. We report an adult pancreatic hemangioma diagnosed on pathological specimen review following laparoscopic distal pancreatectomy with splenectomy for a 2 cystic mass in the body of the pancreas.

Method: A 49-years-old woman was admitted to our institution because of bowel distention, constipation, and fatigue. Pancreatic cystic lesions were incidentally found on ultrasound when she visited a gynecologist for evaluation of suspected uterus myoma. A computed tomography (CT) scan demonstrated two lesions, first lesion was 2.7 × 2.3 cm sized unilocular cystic tumor and second lesion was 2.4 × 2.3 cm sized multilocular cystic tumor with septation and intramural nodules in the pancreatic body. The suspicious intramural nodule and wall enhancement could not exclude a malignancy, and then we decided a surgical removal. She underwent in laparoscopic distal pancreatectomy.

Results: The surgery was successfully finished by laparoscopy without a perioperative complication. Gross examination of the tumor revealed a two mass; first lesion composed of well-defined wall, containing a dark green fluid, and second lesion is composed of cystic spaces containing gelatinous material and hemorrhages. On microscopic examination shows pancreatic acinar tissue consisted of blood vessel with dilated cystic lumen filled with red blood cell. Immunohistochemistry (IHC) examination revealed that this lining was positive for CD34 and CD68 stain shows macrophage cells in cystic lumen filled with red blood cell. The histological results demonstrate that tumor was pancreatic cavernous hemangioma.

Conclusions: This case of an adult pancreatic hemangioma is the sixteenth reported in literature since 1939. The histological examinations are very important role for pancreatic hemangioma diagnosis. In pediatric cases, they often regress, no surgical removal is advocated other than follow-up. But in adult cases, the risk of sudden hemorrhage, abdominal pain, and possible differential diagnosis with malignant tumors, surgical resection is recommended.

PPP26-079
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Introduction: Many factors are suggested to be involved in development of pancreatic fistula (PF). The role of acinar cells density, pancreatic fatty infiltration and fibrosis in occurrence of major complications and PF after pancreaticoduodenectomy (PD) have been investigated.

Method: 46 consecutive PD were performed in our center. Variables considered were: age, gender, ASA score, pancreatic texture, Wirsung diameter, postoperative mortality and pancreatic fistula - PF, post pancreatectomy haemorrhage - PPH, delayed gastric emptying - DGE, hospital stay, histology and preoperative biliary drainage. Analisys regarding histological findings (pancreatic fibrosis, pancreatic fatty infiltration, acinar cell frequency) and correlation with PF was conducted. Univariate and multivariate models were used to determine factors correlated to PF.

Results: All patients underwent standard PD with duodening, sutureless, end to end PJ anastomosis. Overall morbidity rate and operative mortality rate were respectively 43.2 and 5%. PF rate was 21.7%. PPH rate was 17.8% and DGE 27.3%. Fibrotic pancreas has lower frequency of acinar cells; no correlation between BMI and frequency on pancreatic cut edge could be an interesting marker to identify high risk pancreas which could lead to a reduction of PF severity, probably not of its occurrence.
PPP26-080

PANCREATIC HEAD RESECTION: OPERATIVE MORBIDITY AND MORTALITY

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Introduction: Death rates after pancreatoduodenectomy have decreased dramatically during the last two decades. However, despite a low death rate, there is still a relatively high complication rate. Studies of risk factors after pancreatoduodenectomy are few and sometimes with conflicting results. The aim of our study was to evaluate risk factors for complications rate after pancreatic head resection.

Method: Seventy-eight patients undergoing pancreatoduodenectomy were recorded retrospectively. We evaluated age, gender, jaundice, Pitt & Cameron risk factors, preoperative biliary drainage for complications rates. Pancreatic fistula was analyzed for texture of remnant stump and type of pancreatoenteric anastomosis.

Results: Pancreatoduodenectomy was performed for periampullary carcinoma in 29 (47.4%), pancreatic head carcinoma in 10 (37.2%), distal bile duct carcinoma in 10 (12.8%) and duodenal cancer in 2 (2.6%). The main symptom leading to diagnosis was jaundice in 69 (88.5%) and 15 of them (21.7%) had a preoperative biliary drainage. Drainage was performed endoscopically in 11 cases and surgically in 4 cases. A pancreaticogastrostomy was carried out in 57 patients (73%) and isolated Roux-loop pancreatojejunostomy in 21 patients (27%). Five patients died postoperatively (6.5%). Causes of death were myocardial infarcts (2), pulmonary embolism (1) and pancreatic leakage (2). Postoperative complications occurred in 25 patients (32%), they had to be treated by repeat laparotomy in 10 patients (40%). None assessment parameters has revealed as risk factor for rate complications. Pancreatic fistula was the most frequent complication documented in 09 patients (36%). The type of pancreatoenteric anastomosis after pancreatodudenectomy does not significantly influence the rate of pancreatic fistula but the severity of this complication was observed only in pancreatogastrostomy.

Conclusions: Our study confirms the results from recent reports that pancreatic head resection can be performed with a low mortality rate and acceptable morbidity, which may reflect changes in operative strategy and prefer as well as possible an isolated roux-loop end to end pancreatojejunoscopy.

PPP26-081

ECTOPIC PANCREATIC NEOPLASIA (PANIN) IN THE SMALL BOWEL WITH SYNCHRONOUS PANCREATIC, RENAL, AND BREAST CANCER

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Introduction: Ectopic pancreatic tissue is relatively rare and results from embryological rotation defects. Malignant transformation of this tissue is extremely unusual with only few cases being previously reported. Furthermore, the combination of multiple primary malignancies in the same patient is also uncommon. Herein, we present a patient who developed synchronous primary pancreatic adenocarcinoma, renal cell, and breast cancer. Intraoperatively, concurrent ectopic pancreatic intrapithelial neoplasia (PanIN) was identified in the small bowel.

Method and Results: Case Report: A 69-year-old woman with prior history of left breast ductal carcinoma in situ presented with ductal invasive carcinoma of the right breast and underwent bilateral total mastectomy with right superficial lymph node dissection. Postoperative computed tomography staging showed incidental distal pancreatic mass and a solid heterogeneous mass of the left kidney. She underwent a subtotal pancreatectomy with splenectomy, regional lymphadenectomy, radical left nephrectomy and resection of a proximal small bowel neoplasm with primary anastomosis. Patient was discharged home on postoperative day 7. Final pathology showed invasive poorly differentiated adenocarcinoma of distal pancreas with features of PanIN-3, left renal clear cell carcinoma, and the small bowel mass was consistent with ectopic pancreatic tissue that contained PanIN-2.

Conclusions: Herein, we have described a previously unknown association between multiple synchronous primary malignancies and ectopic PanIN-2, which is a suspected precursor of pancreatic ductal adenocarcinoma. Furthermore, the patient was a non-smoker, BRCA-negative, and had no prior significant family history. No other predisposing factor could be identified that could have contributed to these malignancies suggesting a yet unidentified genetic predisposition for multiple neoplasias in this subset of patients.

PPP26-082

INNOVATIVE SURGICAL TECHNIQUES IN 244 PANCREATICO-DOUDENAL RESECTION

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Introduction: Although pancreatoc-doudenectomy techniques have been changed over time, still significant incidence of complications like, pancreatitis, pancreatic fistula/leakage, infection, delayed gastric emptying, chylus ascitis, etc., is significant. Between 2002 and 2010, a 244 pancreatoc-doudenectomy were done in 5 different but innovative techniques with the attempt to improve outcome and avoid complications.

Method: A 244 pancreatoc-doudenectomy that were done between 2002 and 2010 CPMC. They were done for Adenocarcinoma (N = 165), Benign diseases (N = 65), IPMN (N = 8), Neuroendocrine tumors (N = 4), metastatic cancer (N = 1). Innovative techniques were practiced in sequence and they share the following principles: R & Y reconstruction with the R limb retro-mesenteric and directed to pancreas/hepatic duct anastomosis (R1-reconstruction), or bile duct alone (R2-reconstruction). The Y limb was retro-colic toward doudenum (R1-reconstruction), or pancreas/doudenum (R2-reconstruction) and here initially the
Pylorus were made incompetent with the use of transgastric EEA pyloromyotomy and hence pyloric incompetent R1 (1 patient)/R2 (45 patients) vs pyloric competent R1 (110 patients)/R2 (66 patients) when pyloromyotomy was not done. The pancreatico-jejunostomy in all techniques were done in 2 layers with the use of self deposed silastic tube stent. Studied in all techniques are; 30 and 90 days mortality, pancreatitis/leakage, infection, delayed gastric emptying (defined by requirement for feeding tube on discharge with or without vomiting), days of hospital stay.

**Results:** Overall infection rate is 2.8%, length of stay was 8–15 days, pancreatic leakage was 2.5%, chylus ascitis was 6%, with no statistical difference in all groups. Delayed gastric emptying when pylorus were made incompetent was 20% which is similar to when distal gastrectomy was done vs 23% in R1-competent group. 30/60 days mortality 2.4%/3.6%.

**Conclusions:** Multiple innovative techniques in pancreatico-duodenectomy that shows less over all complications.

**PPP26-084**
TOTAL LAPAROSCOPIC LONGITUDINAL PANCREATEICOJEJUNOSTOMY IN CHRONIC PANCREATITIS
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**Introduction:** Chronic pancreatitis (CP), typically associated with variable etiology. Ductal decompression and drainage are the basis for surgical treatment of a dilated and strictured main pancreatic duct, with or without calculi.

**Method:** Twenty two (22) patients with males (n = 9) and females (n = 13) of age ranging from 18–65 years of either sex underwent electivelaparoscopic longitudinal pancreaticojejunosotmy for chronic pancreatitis fulfilling the inclusion and exclusion criteria. Alcohol consumption was seen in 8 patients. Pain was present in all patients for which they were on analgesics. Weight loss was present in 12 patients (male = 4, female = 8). 12 patients were taking pancreatic enzyme supplements. 8 patients were taking insulin for diabetes mellitus preoperatively. All patients have undergone MRCP.

**Results:** Mean operating time was 247.8 minutes. There were no conversions, intra operative and major postoperative complications. Mean dose of narcotic analgesia required was 4. Only 2 patients required pancreatic enzyme supplements postoperatively but in lower doses than they used to take preoperatively. Insulin requirements in those 8 patients were maintained at same dose. Mean postoperative stay in hospital was 5.2 days. Mean duration of follow up was 25.5 months. All patients had excellent pain relief measured by a yes or no question. 6 out of 8 patients quit alcohol. Mean weight gain of 6kgs in 6 months was seen in 18 patients. Another two patients developed diabetes newly during this follow up. Two patients had pain after 6 months and these two patients continued to consume alcohol and another patient had pain recurrence after 2 years and were managed conservatively and responded well in this follow up.

**Conclusions:** Laparoscopic longitudinal pancreaticojejunosotmy is safe, effective and feasible technique for chronic pancreatitis in selected patients in the presence of adequately dilated pancreatic duct containing stones and has favourable outcome in short term followup.

**PPP26-085**
PANCREATEICODUODENECTOMY FOR PANCREATIC AND PERIAMPUTLLARY LESIONS IN THE YOUNG
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**Introduction:** The purpose of this study was to clarify surgical outcomes and assess the biological behavior of periamputlary malignancy after pancreaticoduodenectomy (PD) in the young. PD remains a formidable challenge to many pancreatic surgeons. There is no literature report regarding PD in the young.
Method: Data on patients undergoing PD were retrieved for study between January, 1997, and December, 2010. Demographics, disease patterns, clinical presentations, operative findings, surgical risks, tumor pathologic characteristics, and survival outcomes were evaluated in the young patients less than 60-years-old and compared with those in the older population.

Results: There were 585 patients in our study. Of them, 172 were patients 60 years or younger. Higher proportions of female patients were found in the young age group compared to old in regards to sex distribution. Young group had more benign tumor compared to the old, ex. neuroendocrine tumor. The surgical mortality rates are significant less in the Young group. However, there was no significant difference in surgical morbidity and pancreatic leakage. As for the initial presentations, young group patients are often asymptomatic (4.7%) when compared to the old (1.5%, p = 0.026) but less jaundice and GI upset (p = 0.004, p = 0.012).

Conclusions: PD in the young did not carry more surgical morbidity or pancreatic leakage, but had less surgical mortality, as compared to the old. Young group patients after PD had better 5 year survival in peripancreatic malignancy and pancreatic head adenocarcinoma.

PPP26-086
LONG-TERM SURVIVAL AFTER PANCREATICODUODENECTOMY FOR PANCREATIC AND PERIAMPULLARY ADENOCARCINOMAS
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Introduction: This study was to identify predictors for long-term survival and to compare survivals for periampullary adenocarcinomas after a pancreaticoduodenectomy.

Method: Clinicopathological factors were compared between short-term (<5 years) and long-term (≥5 years) survival groups. Both actuarial and actual 5-year survival, as well as actuarial 10-year survival for those that survived over 5 years, were determined.

Results: There were 109 (21.8%) long-term survivors. Most (76%) of the long-term survivors were those with ampullary adenocarcinoma. Long-term survival was highest for ampullary adenocarcinoma (32.8%) and lowest for pancreatic adenocarcinoma (6.5%). Jaundice, tumor size, and lymph node involvement were found to be independent predictors for long-term survival. Prognosis was significantly worse for pancreatic adenocarcinoma, which had an actuarial 5-year survival of only 6.7%. There was no difference in subsequent actuarial 5-year survival (actuarial 10-year survival) between pancreatic adenocarcinoma and other periampullary adenocarcinomas for patients surviving over 5 years after resection. However, there was a difference in actuarial and actual 5 year survivals.

Conclusions: Jaundice, tumor size, and lymph node involvement are independent predictors for long-term survival after pancreaticoduodenectomy. The biological factors of pancreatic adenocarcinoma no longer play a role in determining the prognosis for those who survive to the 5 year landmark.

PPP26-087
EN BLOC SIMULTANEOUS PANCREAS AND KIDNEY COMPOSITE GRAFT TRANSPLANT WITH LIMITED VASCULAR ACCESS
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Introduction: Limited vascular access could be encountered in an obese or re-transplant patient. We described modifications that facilitated an en bloc simultaneous pancreas and kidney (SPK) composite graft transplant in an obese type 2 diabetic patient with renal failure under hemodialysis.

Method: At the back-table, the superior mesenteric artery and splenic artery of the pancreas graft were reconstructed with a long “Y” iliac artery graft. The smaller left renal artery is anastomosed end-to-side to the larger and longer common limb of the arterial Y graft and the shorter portal vein is Anastomosed end-to-side to the longer graft left renal vein. Thus, this en bloc composite graft allowed to facilitate “real” SPK transplant using single common graft artery and vein for anastomosis to one recipient arterial and venous site. The en bloc pancreas and kidney composite graft was implanted by suturing the graft left renal vein to IVC and graft common iliac artery the recipient distal aorta. Exocrine drainage was provided by anastomosis of the graft duodenum to a Roux-en-Y jejunum limb in a side-to-side fashion. Immunosuppressants included basiliximab, tacrolimus, mycophenolate mofetil, and methylprednisolone.

Results: The operative time was 7 hours with cold ischemic time of 6 hours and 25 minute. and warm ischemic time of 47 minutes. The patient was discharged on postoperative day 20, with a serum creatinine level of 1.4 ng/mL and a blood glucose level of 121 mg/dL. He has not had any rejection episodes or postoperative complications in the following 12 months after the en bloc SPK transplant.

Conclusions: En bloc pancreas and kidney composite graft might be an option for patients with limited vascular access. This technique (1) facilitates “real” simultaneous pancreas and kidney (SPK) transplant with only single common artery and vein for implanting the composite graft; (2) minimizes dissection of vessels and conserves recipient vessels.