

## Poster

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### Clinical Effect of a Clinical Pathway for Patients Undergoing Pancreaticoduodenectomy at the University Hospital

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**Introduction:** Pancreaticoduodenectomy (PD) is still associated with high morbidity and mortality. There is little data to support the critical pathway use in this procedure. In June, 2004, the new departmental guidelines for peri-operative management of PD were introduced, and a clinical pathway (CP) for all patients undergoing PD was implemented for checking the expected clinical outcomes. The objective of this study is to determine the clinical effects of critical pathway implementation.

**Patients and Methods:** From June 2004 to January 2010, 178 consecutive patients underwent PD. Group A was consisted of 50 patients who were managed according to departmental guidelines (duct-to-mucosa anastomosis for pancreatojejunostomy, early removal of closed-suction drain, restrictive use of pancreatic and biliary duct stenting) between 2004-06. Group B was consisted of 78 patients who had no biliary and pancreatic duct stenting during reconstruction of PD between 2006-08. Group C was consisted of 50 patients who had reinforcement of pancreatojejunostomy between 2008-10. Clinical outcome data between each group, post-operative mortality and morbidity were analyzed. Clinical outcomes included the day of nasogastric tube removal (expected on pathway outline on POD1), discontinue prophylactic antibiotics (POD2), abdominal drainage tube removal (<POD6), starting oral intake (<POD7), and discharge home (<POD14). Criteria to control clinical outcomes were set in this study.

**Results:** No significant differences in demographic characteristics and intraoperative parameters between three groups except operative time. Expected clinical outcomes, including The removal rate of nasogastric

tube (66% in group A vs 92% in B or 90% in C,  $p=0.004$ ), the day of discontinued prophylactic antibiotics (84% in group A vs 100% in B or 96% in C,  $p=0.001$ ), drain removal (48% v.s. 91% or 94%,  $p<0.0001$ ), and starting oral intake (68% in group A vs 97% in B or 96% in C,  $p=0.001$ ), were significantly improved in group B or C, relative to those in group A. In comparison of discharge date, 62% in group B or 58% in group C discharged until POD14 expected on pathway outline, that was significantly better than 14% in group A ( $p=0.001$ ). There were no significant differences in mortality and morbidity among them.

**Conclusion:** Over time, implementation of clinical pathway for patients undergoing PD was associated with improvement of clinical outcomes.

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### Pancreaticoduodenectomy after Chemoradiotherapy for Adenosquamous Carcinoma of Pancreas with Retroperitoneal Invasion

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**Introduction:** Adenosquamous carcinoma (ASC) of the pancreas is a rare tumor with an incidence of 3-4% of all pancreatic malignancies. These tumors are characterized by the presence of variable proportions of mucin-producing glandular elements and squamous components, the latter of which should account for at least 30% of the tumor tissue. Only a few case reports have been published about adjuvant chemoradiation therapy after resection of pancreatic ASC, but there are no report of neoadjuvant chemoradiation for unresectable pancreatic ASC.

**Case:** A 41-year-old man was admitted to our hospital with vomiting and epigastric pain.

Imaging modalities including Abdominal ultrasound, computed tomography (CT) scan and magnetic resonance imaging showed a ill-defined mass measuring 5.4×3.7 cm in retroperitoneal space causing extrinsic compression of duodenal 3rd portion. At exploration

we found irregular shaped hard mass in the retroperitoneal space and the mass compressed duodenum with proximal loop dilatation. We tried to dissect the tumor but hard infiltration with surrounding tissue prohibited from approaching to mass itself. We performed incisional biopsy and palliative gastrojejunostomy. The immunohistochemical study showed that the tumor cells were metastatic squamous cell carcinoma of unknown origin. Postoperative Positron emission tomography - computed tomography (PET-CT) revealed no significant hypermetabolic lesion except for known retroperitoneal malignancy. The patient referred to department of oncology for palliative therapy and received 5-fluorouracil and low-dose cisplatin (FP)-based concurrent chemoradiotherapy. After 3-cycles of chemoradiotherapy and additional 2 cycles of FP chemotherapy, follow-up CT scan showed decreased tumor size of 2.8 cm compared to preoperative measured 5.4 cm. We planned surgical intervention anticipating complete removal of the tumor. The patient underwent pylorus preserving pancreaticoduodenectomy by the same operator of initial surgery. At surgery mass of pancreatic uncinate process as well as jejunal mesenteric nodule were detected, and they were successfully dissected. The immunohistochemical study showed that the pancreatic tumor were adenosquamous carcinoma which was extensively infiltrative with perineural and lymphovascular invasion, involvement of peripancreatic lymph nodes and all the thickness of the duodenum wall. The mesenteric nodule were reported as metastatic adenocarcinoma. The patient has received postoperative adjuvant FP chemotherapy and he is alive 8 months after initial surgery.

**Discussion:** The ASC of pancreas is an aggressive tumor with a poor prognosis. But the use of adjuvant chemotherapy or radiation may increase the duration of survival. However, owing to the rarity of ASC, the number of cases is too small to statistically support this claim. Furthermore the efficacy of neoadjuvant chemoradiation therapy affected this case, is unreported and further study is required.

## A Huge Mucin-producing Biliary Tumor Arising from Primary Sclerosing Cholangitis treated by Orthotopic Liver Transplantation: A Case Report

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**Introduction:** Mucin-producing biliary tumor is relatively rare neoplasm in the liver and the concept of this tumor has not been established yet. Some case reports have been published on this tumor treated with aggressive surgical resection due to serious complication causing by abundant mucus and highly possibility of malignant transformation or combined malignancy. Most of cases were reported with favorable prognosis and a high survival rate, even though the malignant component was found after hepatectomy. There has been a single case that mucin-producing biliary tumor treated with Orthotopic Liver Transplantation (OLT) was reported for a frequent recurrence after local resection has been reported. We herein describe a case of mucin-producing biliary tumor arising from Primary Sclerosing Cholangitis (PSC) which was treated by OLT. Pathological examination of the resected liver showed well-differentiated mucinous carcinoma arising from intraductal papillary neoplasm.

**Case Report:** The patient is a 30-year-old African-American female who has a known history of ulcerative colitis. She underwent uncomplicated total abdominal colectomy and ileoanal pull-through procedure 10 years ago. On August 2008, she transferred to hospital with right upper quadrant pain and jaundice. At the time she was admitted, ERCP was performed, showing multifocal intrahepatic biliary stricture, compatible with PSC. A year ago, during the workup for OLT, CT angiography showed marked intrahepatic and extrahepatic dilatation and huge low-attenuated mass in left hemiliver which extended to hilar area and segment 4. It seems difficult to be man-