

Oral Presentation III

III-1

Mucinous Cystic Neoplasm of the Pancreas and Malignant Predicting Factors

Department of Surgery and Cancer Research Institute, Seoul National University College of Medicine, Seoul, Korea

Jae Woo Park, Jin-Young Jang, Mee Joo Kang, Wooil Kwon, Sun-Whe Kim

Research Purpose: Clinical characteristics and malignancy rates of mucinous cystic neoplasm (MCN) of pancreas vary widely in many published studies since Compagno and Oertel initially classified MCN in 1978. MCN of the pancreas currently diagnosed more frequently, surgeons' decision is more complicated and difficult for MCNs. The purpose of this study is to analyze the clinical and histopathological feature of mucinous cystic neoplasm through the more strict and uniform diagnostic criteria, and to investigate malignancy predicting factors for that.

Materials and Methods: Eighty one patients with a pathologically confirmed MCN who underwent pancreatic resection from 1991 to 2010 in the Seoul National University Hospital were identified in medical database. Experienced gastrointestinal pathologist had reviewed the surgical specimens and slide with criteria of mucin-producing columnar epithelium supported by ovarian-like stroma. Radiologic images were also reviewed with aspect of malignancy predicting factors mentioned in previous published studies included multilobularity, parenchymal calcification, mural nodule, wall thickness, p-duct dilatation, p-duct communication and evidence of pancreatitis on preoperative CT scan. And the long-term follow-up results of these patients were investigated.

Results: Of the 81 patients with resected MCNs, 4 patients has reassessed as IPMN. Only 1 patients in 77 MCN patients was male. Mean age of patients was 48.1±12.8 years old. MCNs were located predominantly in the body or tail of the pancreas (92.2%). Sixty-nine were benign (89.6%, 50 low-grade dysplasia and 19 moderate dysplasia) and 8 were malignant (10.4%, 4 non-invasive and 4 invasive). Chief complaints for hospital visit were asymptomatic pancreatic

cyst (48.1%), abdominal pain (22.1 %), palpable mass (11.7%), indigestion (13.0%) and others (5.2%). Preoperative serum CEA and CA19-9 level were 2.1±3.2 ng/ml and 1,505.9±12,020.4 U/mL. Size of tumor was 6.4±4.5 cm and most frequently performed operation was distal pancreatectomy (44 cases, 54.5%). And radiologic factors predicting malignancy were also investigated in 50 (64.9%) patients with available preoperative CT scan (46 benign and 4 malignant cases). However there were no significant difference between benign and malignant groups ($p < 0.05$) in clinical and radiologic analysis. Median follow up duration was 83.5 months (range; 7.0~225.2) and 5 year survival rate of all MCN patients was 97.2% and 75.0% for malignant MCN patients.

Conclusions: MCNs occurred mainly in women (98.7%) in their 5th and 6th decades. Most lesion located in pancreas body and tail(92.2%), had a low prevalence of malignancy (10.4%). Five year survival of MCN patients was good as 97.2%. However there is no definite preoperative malignancy predicting factors in this study. For confirmation of malignancy of MCN surgical resection and pathologic exam are indispensable.

III-2

Clinicopathologic Features and Prognosis of Mucinous Cystic Neoplasms (MCNs) of the Pancreas with Ovarian Stroma

Department of Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea

Eunmi Gil, Seong Ho Choi, Dong Wook Choi, Jin Seok Heo, Min Jung Kim, Hyo Jun Park, Kang Kook Choi

Research Purpose: Mucinous cystic neoplasms (MCNs) of the pancreas are rare but recently increasing disease. The aim of this study was to elucidate the clinicopathological features and prognosis of MCNs with ovarian stroma in a single center.

Materials and Methods: By using the presence of ovarian stroma as a requisite criterion for diagnosis of MCN, medical records of 48 surgically treated MCN patients among 285 mucin-producing neoplasms were reviewed and classified according to the new 2010 WHO classification.

Results: The patients were exclusively women (91.7%) with the mean age of 48.1 years. Most tumors were located in the pancreatic body/tail (89.6%) with a mean size of 5.23 cm. More than half were asymptomatic. Findings associated with malignancy were presence of mural nodules ($p < 0.001$) and cyst wall calcifications ($p = 0.015$). All invasive MCNs were either ≥ 5.0 cm in size or had mural nodules. There was no lymph node metastasis in 20 lymph node dissected cases. There was no perioperative mortality and postoperative morbidity was 45.8%. Overall patients were included 38 low-grade (79.2%), 4 intermediate-grade (8.3%), 1 high-grade dysplasia (2.1%) and 5 invasive carcinomas (10.4%). None of the 43 patients with non-invasive MCNs recurred. However 2 out of 5 patients with invasive MCNs recurred and 1 died within 5 years.

Conclusions: The prognosis of the resected non-invasive MCN was excellent. All MCNs should be resected regardless of sizes, especially with mural nodules. But small sized MCNs without mural nodules, nonradical resections are appropriate.

III-3

A Prospective Evaluation of the Preoperative Diagnostic Laparoscopy in the Pancreatico-biliary Cancer

Center for Liver Cancer, Clinics of Pancreatobiliary Cancer, National Cancer Center, Korea

Tae Suk You, Sang-Jae Park, Seung Duk Lee, Sung-Sik Han, Young-Kyu Kim, Seong Hoon Kim, Soon-Ae Lee, Young Hwan Ko, Hyun Boem Kim, Tae Hyun Kim, Sang Myung Woo, Woo Jin Lee, Eun Kyung Hong

Purpose: Peritoneal or liver metastases often cannot be fully determined with preoperative radiologic modalities, although there has been a big advance in diagnostic studies. Unnecessary laparotomy in patients with advanced pancreatobiliary cancer may both compromise the quality of life and delay the initiation of more appropriate therapy. The aim of this study was to determine the impact of staging laparoscopy in patients with potentially resectable pancreatobiliary cancer.

Method: Between June, 2010 to February, 2012, 156

patients with primary pancreatobiliary cancers were submitted to operation for potentially curative resection at the National Cancer Center, Korea. One hundred seven patients with informed consents had the staging laparoscopy with laparoscopic ultrasound before laparotomy and included in this study (Pancreas: $n = 39$, Bile duct: $n = 45$, GB: $n = 8$, AoV: $n = 15$). Also, peritoneal lavage was undertaken during laparoscopy.

Results: Out of 107, laparoscopy identified 5 patients (4.7%) with metastatic disease and made us quit the laparotomy; pancreas 4/39, GB 1/8, bile duct 0/45, AoV 0/15. The locations of metastasis were liver in 2 patients and peritoneal seeding in 3 patients. Therefore 102 patients had a laparotomy and we found the additional 9 patients (8.8%) with metastasis at laparotomy; pancreas 5/35, GB 1/7, bile duct 3/45, AoV 0/15. The locations of metastasis were liver in 3 patients and peritoneal seeding in 6 patients. Cytology of peritoneal lavage was performed in 72 patients and cancer cell (+) in 3 patients and atypical cells (+) in 7 patients. All 3 patients with cancer cell (+) had the metastasis in laparoscopy or laparotomy and 2 patients with atypical cell (+) had a distant metastasis. The rest 5 patients with atypical cell (+) had positive lymph node metastasis.

Conclusions: Staging laparoscopy is beneficial for correct staging in pancreatic cancer however it is not recommended in biliary or AoV cancer. Since we missed over 60% of metastasis by laparoscopy, careful and skillful technique should be standardized.

III-4

Prognostic Factors Associated with Long-term Survival and Recurrence in Pancreatic Adenocarcinoma

Department of Surgery, Kangbuk Samsung Hospital, Sungkyunkwan University School of Medicine

Sungryol Lee, Hyung Ook Kim, Chang Hak Yoo, Jun Ho Shin

Purpose: Although the 5-year survival rate of patients with pancreatic cancer in Korea has decreased, some patients with pancreatic cancer survive longer than others. It is very important to determine the prognostic factors for pancreatic adenocarcinoma when

choosing surgical and conservative management strategies. In this study, we identified prognostic factors for survival and recurrence in patients with histologically proven pancreatic adenocarcinoma.

Methods: Between January 2003 and December 2009, 82 patients with histologically proven pancreatic adenocarcinoma were considered for this study. Follow-up consisted of personal contact with patients or review of electronic medical records at this center and was terminated on December 31, 2011 or upon the patient's death.

Results: Overall survival rates of all patients at 1, 3, and 5 years were 51.9, 21.6, 16.0% and 71.5, 39.9, 33.2% in patients with surgical resection, and 46.6%, 3.3%, 0.0% in patients with palliative surgical bypass, respectively. In this study, preoperative jaundice was the only independent prognostic factor for total pancreatic cancer patients, while N stage and perineural invasion in pathological findings was identified as an independent prognostic factor for survival of patients with surgical resection. Chemotherapy was the only independent prognostic factor for survival of patients who underwent palliative surgical bypass.

Conclusions: Preoperative jaundice in any patients, lymph node metastasis, perineural invasion in patients with surgical resection, and chemotherapy in patients undergoing palliative surgical bypass are important prognostic factors for survival of pancreatic cancer and should be evaluated to select appropriate treatments and increase overall survival.

III-5

Clinical Effects of Neoadjuvant Chemoradiation Therapy Using S-1 for Patients with Pancreatic Cancer

Department of Surgery, Kansai Medical University, Osaka, Japan

Sohei Satoj, Hideyoshi Toyokawa, Hiroaki Yanagimoto, Tomohisa Yamamoto, Satoshi Hirooka, So Yamaki, Taku Michiura, Kentaro Inoue, Yoichi Matsui, A-Hon Kwon

Introduction: The results of surgical therapy alone for pancreatic cancer are disappointing. We have reported that surgical resection following neo-adjuvant chemoradiation therapy (NACRT) can be associated

with the higher rate of R0, and with the lower rate of metastatic lymph nodes, resulting in improved prognosis of patients with T3/4 pancreatic cancer (Pancreas 2009 and 2012). However, there is no consensus on the regimen of NACRT for pancreatic cancer. The aim of this study is to explore the short-term results of the new regimen of NACRT using S-1 followed by surgical resection.

Patients: Among 103 consecutive patients with potentially resectable pancreatic cancer between January 2006 and September 2010, 43 patients were classified as adjuvant group between Jan. 2006 and Sep 2008, and 34 patients who underwent NACRT between Oct 2008 and Sep 2010 were classified as NACRT group. The regimen of NACRT was consisted of S-1 (orally twice daily, 5 days in a week, 80 mg/m²/day) and concurrent radiotherapy (total of 50.4 Gy). The primary endpoint was the frequency of pathological curative resection (R0). All patients who underwent pancreatectomy were planned to receive adjuvant chemotherapy.

Results: The overall response rate and disease control rate in NACRT group were 18% and 88.0%, respectively. There was no difference in resection rate between NACRT and adjuvant groups (30/34 vs 36/43). Other organ resection including vascular resection was done for 17 of 36 patients in adjuvant group and for 19 of 30 patients in NACRT group. The primary end point analysis of this study demonstrated that in accordance with our study hypothesis, NACRT followed by surgical resection improved R0 rate in NACRT group compared with adjuvant group (28/30 vs 21/36, p=0.005). The number of metastatic lymph nodes in NACRT group was significantly lower than in adjuvant group (p=0.0363). On the comparisons of extension of metastatic lymph nodes, the frequency of N0/1 in NACRT group was also higher than in adjuvant group (p=0.041). There were no significant differences in mortality and morbidity except intractable ascites between two groups. The rate of intractable ascites in NACRT group was significantly higher than in adjuvant group (8/22 vs 2/34, p=0.035). The frequency of local relapse in NACRT group was significantly lower than in adjuvant group at 1year after surgical resection (0% vs 26%, p=0.021).

Conclusions: NACRT using S-1 can improve the rate of pathologically curative resection and the number and extension of metastatic lymph nodes in patients with T3/4 pancreatic cancer, resulting in better local control.