

cated cholecystitis. Initially, we worried about possibility of optimal positioning of liver because volumetric calculation of the intrathoracic portion of liver, calculated by computed tomography imaging, were 802 cm<sup>3</sup> which was three times of intraabdominal liver volume. Therefore, we contemplated closure of diaphragm using artificial patch, which was weak to contaminated field, or colonic mobilization through additional abdominal incision. However, We could perform cholecystectomy, reduction of liver, and primary repair of diaphragm via thoracic approach without additional abdominal incision or use of artificial patch with good result.

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### Synchronous Double Cancer with Adenocarcinoma of Distal Common Bile Duct and Intraductal Papillary Mucinous Carcinoma of the Pancreatic Head

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**Introduction:** Synchronous or metachronous malignancies have been identified in 10-52% of patients with intraductal papillary mucinous neoplasms of the pancreas. The gastrointestinal tract is most commonly involved in secondary malignancies, with benign colon polyps and colon cancer commonly seen in western countries and gastric cancer commonly seen in Asian countries. Other extrapancreatic malignancies associated with papillary mucinous neoplasms include benign and malignant esophageal neoplasms, gastrointestinal stromal tumors, carcinoid tumors, hepatobiliary cancers, breast cancers, prostate cancers, and lung cancers. But a case of intraductal papillary mucinous neoplasm with synchronous distal common bile duct cancer reported very rarely.

**Case Presentation:** A 73-year old man presented with abdominal pain and anorexia. Clinical examination revealed tenderness and rebound tenderness in the right upper quadrant of the abdomen. Blood tests demonstrated elevated transaminase, amylase, lipase,

and bilirubin levels. The level of tumor markers was within the normal limits. Abdominal computed tomography and magnetic resonance imaging showed about a 1.8 cm ill-defined enhancing lesion in the distal common bile duct and 2 cm-sized multiloculated cystic lesion in the uncinate process of the pancreas. The initial impression was intraductal papillary mucinous carcinoma in the pancreas, invaded to a distal common bile duct. The patient underwent pancreaticoduodenectomy. Gross pathologic examination revealed a 1×1 cm-sized fungating mass in the distal common bile duct and mucinous cystic mass with dilated pancreatic duct in the pancreatic head. The histopathology helped make the diagnosis of synchronous double cancer with adenocarcinoma of distal common bile duct and intraductal papillary mucinous neoplasm with an associated invasive carcinoma of the pancreatic head. The patient was discharged on the 12th postoperative day with uneventful recovery. He had received gemcitabine-based chemotherapy 3 times at 3-week intervals. There was no evidence of recurrence in the 1 month after surgery.

**Discussion:** Synchronous double cancers are defined as those cases that display primary malignant tumors of different histologic origins in one person. As the diagnostic methods have developed and the average life span has been extended, the diagnosis of multiple primary tumor has also increased. In our case, the initial radiologic diagnosis was intraductal papillary mucinous carcinoma in the pancreas, invaded to a distal common bile duct. However, the final pathologic diagnosis was synchronous double cancer with adenocarcinoma of distal common bile duct and intraductal papillary mucinous neoplasm with an associated invasive carcinoma of the pancreatic head.

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### Successful Surgical Treatment for Recurrent Intraductal Papillary Mucinous Cholangiocarcinoma: Two Cases

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**Research Purpose:** Intraductal papillary mucinous cholangiocarcinoma (IPMC) is known to have a favorable prognosis compared to a flat-type cholangiocar-

cinoma. Therefore, even a locally recurrent tumor deserves being aggressively managed to extend survival duration. We report two cases of successful surgery for recurrent IPMC.

#### Materials and Methods

**Case 1:** A 43-year-old male patient underwent curative right trisectionectomy and caudate lobectomy with extrahepatic bile duct resection for a huge poorly-differentiated IPMC (T1) of the left hepatic duct. The regional lymph nodes were not enlarged but the largest one was sampled for biopsy, resulting in no metastasis. Abdominal CT performed postoperative 6 months showed a 3.9 cm-sized mass in the porta hepatis and nodal metastasis was suspected. After further evaluation, the enlarged lymph node was excised and it was proved as metastatic lymph node. Subsequent concomitant chemoradiation therapy was carried out. The patient has not shown any evidence of recurrence for 21 months.

**Case 2:** A 46-year-old female patient underwent radical right hepatectomy with extrahepatic bile duct resection for hilar cholangiocarcinoma. Histopathological examination showed well-differentiated IPMC (T2N0). No postoperative adjuvant treatment was carried out. Abdominal CT performed postoperative 22 months showed newly appeared extrahepatic duct dilatation and smooth short segmental concentric wall thickening in periampullary area of the far distal CBD. Consecutive endoscopic examination demonstrated mucin expulsion from the ampulla and recurrent tumor was suspected. Pylorus-preserving pancreaticoduodenectomy was performed and pathologic results were IPMC (T1N0) in the background of papillomatosis. The patient has not shown any evidence of recurrence for 12 months.

**Conclusions:** Because IPMC tends to show a gentle biological behavior and a favorable prognosis, an aggressive surgery could be treatment of choice for locally recurrent tumor in selected cases as well as for initially diagnosed IPMC.

### Successful Treatment of an Iatrogenic Ruptured Right Hepatic Artery Pseudoaneurysm with a Stent Graft

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A 62-year-old man presented with an iatrogenic ruptured right hepatic artery pseudoaneurysm after a laparoscopic cholecystectomy. He underwent a laparoscopic cholecystectomy due to chronic cholecystitis with gallbladder stones in a local clinic. Approximately 12 days after the cholecystectomy in a local clinic, he was admitted to our hospital emergency center with a "crampy" epigastric pain and hypotension. Imaging studies demonstrated a pseudoaneurysm of right hepatic artery, with hemoperitoneum at GB fossa, subcholecystic space, perihepatic space and perisplenic space. There was no evidence of active bleeding on imaging studies. Selective celiac arteriography showed an occlusion of the right hepatic artery with a large pseudoaneurysm arising from an occluded segment. This was treated with a 4-x 26-mm stent graft (Jostent; Abbott Vascular, Temecula, Calif) with good result. The completion arteriogram showed wide patency of stent graft with total exclusion of pseudoaneurysm. However, 3 days after stent graft insertion, he complained with extremely cramping right upper quadrant pain. Follow-up imaging studies demonstrated an interval increase in size of sac of pseudoaneurysm. Selective celiac angiography showed contrast extravasation from proximal portion of the stent graft. So, This was treated with a 4-x 19-mm stent graft (Jostent; Abbott Vascular, Temecula, Calif), overlapped with the proximal portion of the previous stent graft. Follow-up dynamic CT scans up to 40 days after procedures showed no evidence of residual pseudoaneurysm and wide patency of the stent graft. The patient continues to do well clinically.