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CASE 1

A 65-year-old Thai male presented with non-specific epigastrium pain, progressive painless jaundice, and weight loss for 3 months. The CT scan of abdomen revealed an ill-defined hypodensity mass, 5.8×5.3 cm in size, at the head of pancreas with common bile duct and pancreatic duct dilatation (Figure 1). The mass encased SMV, and partially compressed duodenal bulb. The endoscopy showed normal major duodenal papilla (Figure 2), and prominent minor duodenal papilla (Figure 3). The cholangiogram revealed a malignant stricture at distal CBD, 4 cm in length, with proximal dilatation of the bile duct (Figure 4). A SEMS was inserted across the stricture and good bile flow was achieved (Figure 5). EUS-guided FNA was done later and the histopathology confirmed as pancreatic adenocarcinoma.

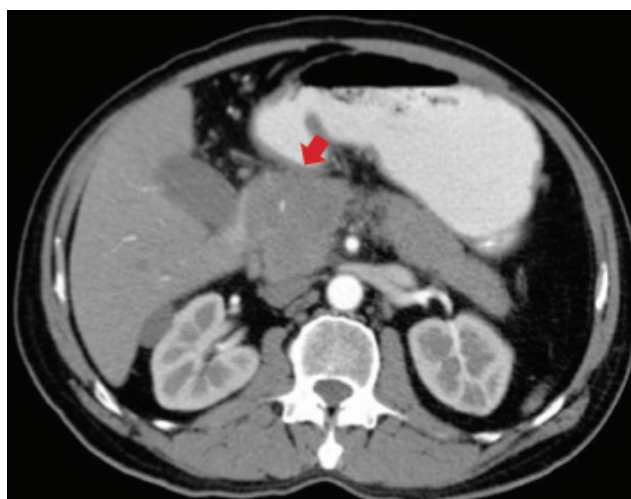


Figure 1. The CT scan of abdomen revealed an ill-defined hypodensity mass at the head of pancreas.



Figure 2. Endoscopy showed normal size but congested major duodenal papilla.

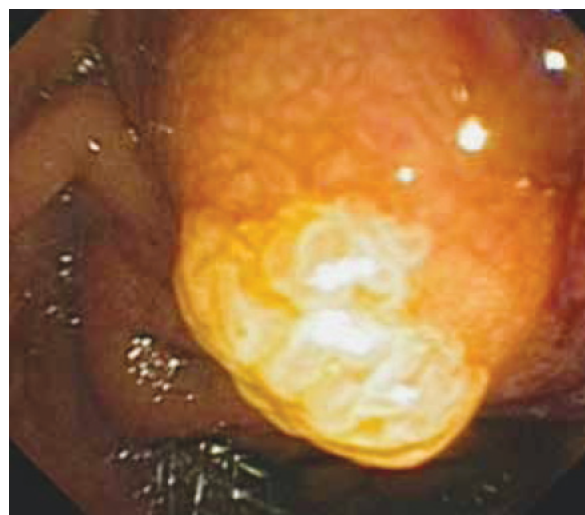


Figure 3. Endoscopy showed prominent minor duodenal papilla (noted a metallic stent was already inserted via major papilla).

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Figure 4. Cholangiogram showed a 5 cm long malignant distal CBD stricture.

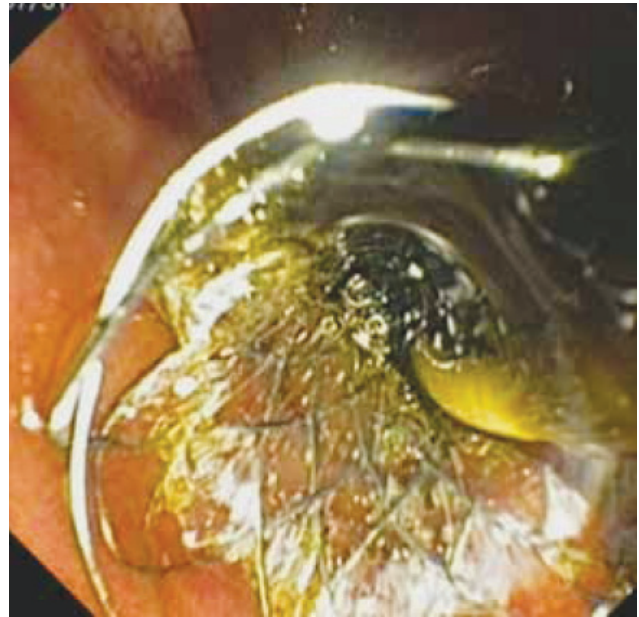


Figure 5. After SEMS deployment, good bile flow was observed.

Diagnosis:

Unresectable pancreatic cancer underwent endoscopic drainage with prominent minor papilla.

Discussion:

More than 80% of pancreatic cancer patients presented at advanced stage of the disease⁽¹⁾. Approximately 70% of pancreatic adenocarcinomas were located at the head of pancreas and caused any degree of biliary compression⁽²⁾. Endoscopic biliary drainage is one of the choices for palliative drainage with favorable short-term success rates (80-90%). The minor duodenal papilla receives pancreatic fluid mainly from the head of pancreas⁽³⁾. In cases of obstruction or de-

creased flow of the main pancreatic duct, eg. pancreas divisum, chronic pancreatitis, or pancreatic head cancer, the minor papilla might be prominent.

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CASE 2

A 67-year-old female with diabetes mellitus, hypertension and dyslipidemia presented with biliary pain for 3 days and high grade fever for a day. She had the similar, episodic pain since 5 years ago. She had no history of alcohol abuse. Her abdomen was mildly tender without guarding. The Murphy's sign and Fist test were negative. Abdominal ultrasonography showed a dilated common bile duct and a 1.3 cm round hyperechoic lesion with acoustic shadow at the distal part of the common duct (Figure 1). Gallbladder appeared normal without gallstone. ERCP was performed and revealed a bulging ampulla with an impacted, white stone at the major duodenal papilla (Figure 2). A free-handed precut sphincterotomy over the stone with a needle knife exposed a large whitish stone clogging the ampulla. Via common bile duct sweeping, stone removal was unsuccessful (Figure 3). A pancreatogram showed few filling defects within the dilated pancreatic duct. The obstructing 2-cm stone was removed via pancreatic duct sweeping. The remaining pancreatic duct stones were successfully removed by repeat balloon extraction (Figures 4 and 5). The final cholangiogram

showed an upstream-dilated common bile duct without any filling defect (Figure 6).

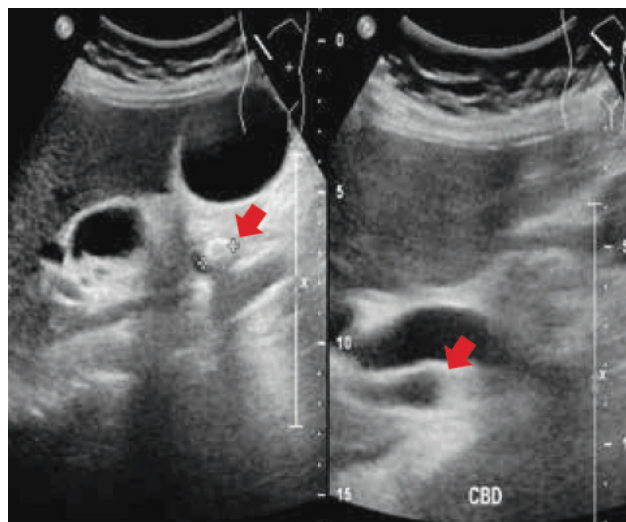


Figure 1. Abdominal ultrasonography showed a 1.3 cm dilatation of the common bile duct and a 1.3 cm round hyperechoic lesion with acoustic shadow at the distal part of the common duct.



Figure 2. Side-viewing duodenoscopy.



Figure 3. Free-handed precut sphincterotomy over a stone with a needle knife exposed a large whitish stone clogging the major duodenal papilla tightly.



Figures 4-5. Stone clearance via pancreatic duct was able to remove a 2 cm oval stone.



Figure 6. The following cholangiogram showed an upstream-dilated common bile duct without any filling defect.

Diagnosis:

Pancreatic duct stone causing biliary obstruction and acute cholangitis.

Discussion:

An impacted pancreatic duct stone is a rare cause of obstructive jaundice which has been reported for only less than 10 cases to date^(1,2). Malunion of pancreatobiliary ducts may be one of the possible caus-

ative mechanisms in these patients⁽²⁾. Successful endoscopic treatment with a pre-cut papillotomy using a needle knife had been reported⁽³⁾. In this case, the color of stone is a clue to differentiate between pancreatic and biliary stones. A pancreatic duct stone is mainly composed of calcium carbonate without bile pigment resulting in chalk-white color⁽⁴⁾, whereas pigmented biliary stone have concentric layered pigment resulting in brown or black color. A cholesterol biliary stone has bile stain resulting in yellow color⁽⁵⁾.

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CASE 3

A 25-year-old Thai man had intermittent biliary pain for 2 months, later he developed fever with chills one day before admission. Physical examination showed icteric sclera, tenderness at right upper abdomen with positive Murphy's sign. Upper abdominal ultrasonography revealed a distended gallbladder with a 1.2 cm gallstone (Figure 1). Common bile duct (CBD) measured 1.2 cm in diameter without dilation of intrahepatic bile ducts. CT scan of the upper abdomen revealed focal disruption of posterior gallbladder wall with small locolated pericholecystic collection (Figure 2). ERCP was performed. Cholangiogram revealed

a 1.5 cm external compression effect at mid common duct causing upstream dilatation of bile ducts (Figure 3). The contrast did not fill the cystic duct or gallbladder despite vigorous contrast injection. There was no filling defect in biliary tree. A 10-Fr double pigtail plastic stent was placed across the stricture (Figure 4). His symptoms improved after the procedure.



Figure 1. A hyperechoic material with posterior acoustic shadow in the gallbladder. This was consistent with a gall stone.



Figure 2. Focal disruption of the posterior gallbladder wall (white arrow) with small locolated pericholecystic collection (red arrow).

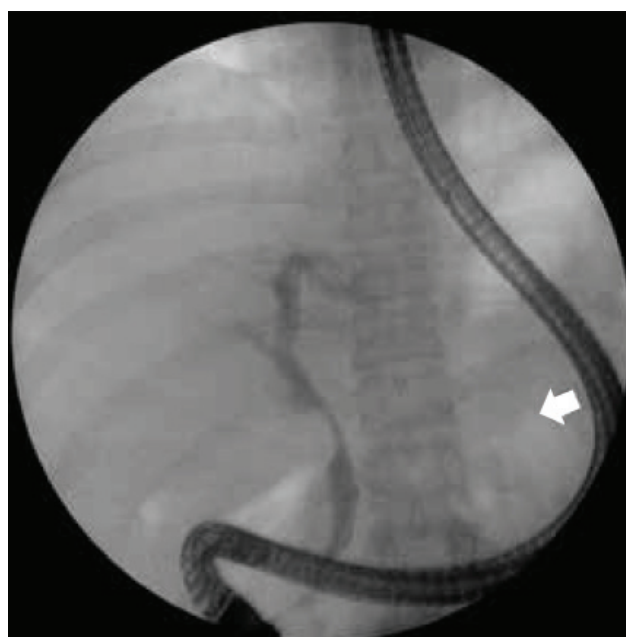


Figure 3. Extrinsic compression of midbile duct with upstream dilatation of biliary tree (white arrow).



Figure 4. Plastic stent was placed across the stricture.

Diagnosis:

Mirizzi's syndrome type I with concealed ruptured of gallbladder.

Discussion:

Mirizzi's syndrome is an uncommon complication of cholelithiasis. The reported incidence was 1.07% in the patients underwent ERCP⁽¹⁾. Mirizzi's syndrome consists of external compression of the bile duct from impacted stone in the cystic duct. It may lead to cholecystobiliary and cholecystoenteric fistulas. The syndrome is caused by an acute or chronic inflammatory condition secondary to gallstone impacted in the Hartmann's pouch or infundibulum or cystic duct. Pre-disposing factors are a long cystic duct; parallel to the bile duct, and a low insertion of the cystic duct into the bile duct⁽²⁾. The most common clinical manifestation is obstructive jaundice (60-100%), followed by abdominal pain over the right upper abdominal quadrant

(50-100%), and fever⁽³⁾. The diagnostic accuracy of Mirizzi's syndrome by ERCP was 55% to 90%. Typically, cholangiogram shows narrowing or curvilinear extrinsic compression involving the lateral portion of the distal common hepatic duct with proximal ductal dilatation and normal distal caliber⁽²⁾. Specific treatments are biliary stenting for temporarily drainage of the obstruction then followed by cholecystectomy.

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