Spontaneous Fistulization of Walled-Off Necrosis into Duodenum Requiring Video-Assisted Retroperitoneal Debridement: a Rare Complication of Acute Necrotizing Pancreatitis

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INTRODUCTION

• Gastrointestinal fistulas are an uncommon complication of acute or chronic pancreatitis, with colonic and duodenal fistula occurring in 60.5% and 26% of cases, respectively.

• We present a case of a spontaneous fistulization between the walled-off pancreatic necrosis (WOPN) and the duodenal bulb.

CASE PRESENTATION

• A 35-year-old male with a history of peptic ulcer disease was transferred to our institution after developing abdominal pain, distension, and decreased urinary output for several days.

• Upon arrival, he was found with tachycardia, fever, and respiratory failure requiring mechanical ventilation. Labs were remarkable for leukocytosis, transaminitis, and hyperbilirubinemia with normal pancreatic enzymes.

• Images showed necrotizing pancreatitis, with more than 90% of devitalized pancreatic parenchyma and multiple homogenous peripancreatic non-enhancing fluid collections, the largest one measuring 10.9cm x 11.5cm x 4.8cm, with associated bilateral paracolic gutters with abundant free fluid.

• Supportive therapy with bowel rest, hydration, and antibiotics were started.

•Bilateral pararenal space percutaneous drainage was placed, and subsequent upscaling of French catheter diameter without improvement.

• Follow-up images were remarkable for a larger retroperitoneal walled-off necrosis with fistulous communication between the walled-off necrosis and the first segment of the duodenum.

• Despite initial efforts, the patient remained septic with symptoms concerning gastric outlet obstruction. Therefore, a decision was made to perform a video-assisted laparoscopic retroperitoneal pancreatic debridement of pancreatic wall-off necrosis.

• After two weeks, the patient improved clinically, and repeated imaging revealed no drainable fluid collections.

IMAGING STUDIES

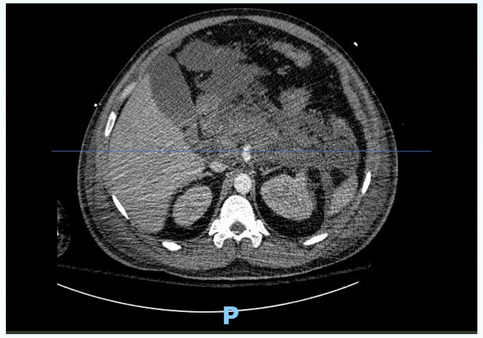

Fig 1 Abdominopelvic CT scan with IV contrast with multiple non-enhancing homogeneous fluid collections which may represent acute peripancreatic fluid collections, the largest measuring 10.9 cm AP x 11.5 cm transverse x 4.8 cm cc.

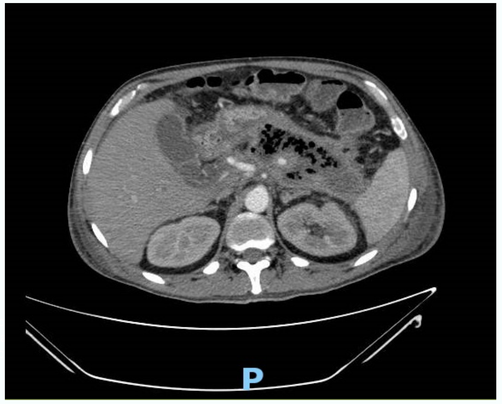

Fig 2 Abdominopelvic CT with IV contrast now with interval gas development within the multiloculated fluid collections, strongly suggestive of partial drainage versus infection with a gas-forming bacteria.

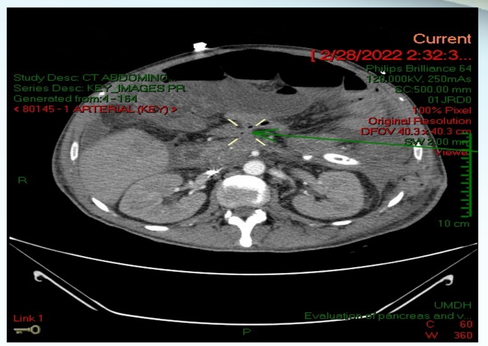

Fig 3 Interval development of fistulous communication between the walled off necrosis and the first segment of the duodenum

DISCUSSION

• Duodenal fistulization of WOPN is extremely rare, and most occur due to superimposed infection of necrotic pancreatic material.

• Sterile and asymptomatic WOPNs can be treated conservatively.

• Drainage endoscopically, percutaneously, or surgically is best for infected WOPN; however, these have higher morbidity and mortality rates.

• Our case depicts a spontaneous fistulization of WOPN into the duodenum that failed a “step-up” approach of percutaneous drainage requiring video-assisted retroperitoneal debridement with complete resolution of symptoms.

• This emphasizes the importance of infection source control to prevent further clinical deterioration and a prompt evaluation of acute abdominal pain.