

Pancreatic Ascites in Idiopathic Acute Pancreatitis

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INTRODUCTION

- Pancreatic ascites is a rare condition characterized by the leakage of pancreatic secretions into the peritoneal cavity.
- It is associated with alcohol-induced pancreatitis, however it is rarely seen in idiopathic pancreatitis.
- Diagnosis typically involves a peritoneal tap, revealing elevated levels of pancreatic enzymes such as lipase and amylase in the ascitic fluid and management of pancreatic ascites can often be conservative, focusing on pancreatic rest, but severe cases may necessitate surgical or endoscopic intervention.
- In this case we discuss a case of pancreatic ascites in a female patient with acute idiopathic pancreatitis.

CASE

- 58-year-old female with a medical history including right hemicolectomy for tubulovillous adenoma, diverticulosis, and cholelithiasis presented with epigastric pain.
- She reported epigastric pain radiating to the back, nausea, and loss of appetite. Initial assessment revealed stable vital signs but abnormal blood work: lipase 500 U/L, amylase 1000 U/L, normal TG and LFT, creatinine 1.7 mg/dL, BUN 25 mg/dL, hemoglobin 10 g/dL, and WBC $9 \times 10^3/\mu\text{L}$.
- CT scan of the abdomen and pelvis with contrast showed moderate ascites, a 2.1 cm x 1.4 cm fluid collection along with thickening of the adjacent duodenal wall suggesting acute pancreatitis or groove pancreatitis along with multiple perihepatic cysts concerning for pseudocyst formation.
- MRCP, which showed a large liver cyst emanating from the caudate lobe (6 cm diameter), no pancreatic duct dilatation, a distended gall bladder with a single 3 mm filling defect in the neck with pericholecystic fluid, and a non-dilated CBD and hepatic duct.

- Endoscopic ultrasound (EUS) was performed to further investigate. EUS revealed a large liver cyst (60 x 55 mm), a non-dilated common bile duct (CBD) at 4.6 mm, and a non-dilated pancreatic duct with smooth tapering.
- Further evaluations for pancreatitis causes, including IgG4, calcium, and triglycerides, were negative, and the patient denied alcohol use.
- Despite conservative management, the patient experienced worsening abdominal pain. Repeat CT imaging demonstrated increased ascites. A peritoneal tap yielded 150 cc of brownish fluid with elevated amylase (>4500 U/L) and lipase (>3000 U/L), confirming pancreatic ascites.
- Interventional radiology performed ultrasound-guided aspirations of perihepatic fluid collections, extracting 60 cc of turbid gray fluid and 125 cc of dark bilious fluid, both with elevated amylase and lipase levels.
- The patient was managed with pancreatic rest, initially receiving total parenteral nutrition (TPN) before transitioning to nasogastric (NG) feeds, and eventually to a fat-free diet.
- A follow-up CT scan after one month showed resolution of the ascites and pseudocyst, with chronic pancreatitis evident and she was started on Creon



DISCUSSION

- Pancreatic ascites is the accumulation of high-protein, amylase-rich fluid in the peritoneal cavity, typically resulting from the disruption of a pancreatic duct or the rupture of a pancreatic pseudocyst.
- This condition is most commonly associated with chronic pancreatitis, particularly in patients with a history of chronic alcoholism. However, it has also been rarely reported in idiopathic pancreatitis. It is diagnosed through a peritoneal tap, which shows exudative ascites with elevated amylase, ascitic protein $>3\text{g/dl}$, and a serum-ascites albumin gradient of less than 1.1.
- Management of pancreatic ascites generally begins with conservative measures such as total parenteral nutrition and octreotide to reduce pancreatic secretions.
- Endoscopic retrograde cholangiopancreatography can be used to identify the site of ductal disruption, and endoscopic stenting may be employed to facilitate ductal drainage. Surgical options, including procedures like pancreaticojejunostomy or distal pancreatectomy, are considered, particularly when conservative and endoscopic treatments fail.

CONCLUSION

- Pancreatic ascites can pose a diagnostic challenge, especially in idiopathic pancreatitis, where it is rare. However, it should be considered as a differential diagnosis given its high mortality rate if not identified early.
- Conservative management has a high failure rate of 40-60% and an associated mortality rate of approximately 17%. In contrast, endoscopic drainage has shown a successful recovery rate of up to 82% with significantly lower mortality rates.