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Case report

Mechanical Colonic Obstruction as A Complication of Necrotizing Pancreatitis: A Case Report and Literature Review

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Abstract

Colon involvement in patients with severe acute or chronic pancreatitis have been seen, and complications such as paralytic ileus, segmental necrosis, and pancreaticocolonic fistulas were reported. However, mechanical obstruction of the colon due to pancreatitis is very rare. We report a case of a transverse colon mechanical obstruction in 43-year-old male, due to non-biliary necrotizing pancreatitis. Trial of conservative management were failed and emergency laparotomy with deflation of the colon, segmental bowel resection for the ischemic cecum and end ileostomy were done. In such patients radiological imaging is highly important for further examination of the colon. Management consistent of bowel resection may be required electively or acutely.

Keywords: *Case Report, Necrotizing Pancreatitis, Colon, Mechanical Colonic Obstruction*

Introduction

Acute pancreatitis is usually caused by biliary stones or longterm alcohol consumption, and represents more than 200,000 hospital admissions every year [1]. The overall death rates is less than 5%, but severe acute pancreatitis may induce prolonged hospitalization and much higher mortality [2]. Among hospitalized patients with pancreatitis and organ failure or necrotizing pancreatitis, death rates may be as high as 30%-40% [3]. large bowel involvement in pancreatic disorders is uncommon but can be potentially fatal [4]. In a retrospective designed case series analyzing colonic complications of pancreatic disease involving 296 patients with acute pancreatitis it showed that less than 10% of patients developed disease in the colon [5].

Case Presentation

A 43-Years old gentleman presented with sudden onset of epigastric abdominal pain for one day. On clinical examination there was generalized abdominal tenderness. Patient was investigated by emergency physicians and was referred to general surgery care as a case of non-biliary necrotizing pancreatitis. Patient was admitted initially, well hydrated, started to tolerate orally with improvement clinically then he was discharged. Five days later, patient was re-admitted through emergency due to same abdominal pain and deterioration of his disease. The patient was managed conservatively by intravenous fluids, antibiotics and enteral feeding. The patient was improving day by day thus we started him on diet gradually but he wasn't able to tolerate, complaining of persistent vomiting and constipation. Upon physical exam the patient looks ill, vitally he was stable but has tachycardia. His abdomen was distended however, soft on palpation. Laboratory investigation showed high leukocytes count, normal hemoglobin level of 14 and platelets of 395. Amylase level, total and direct bilirubin were within normal ranges. Computed tomography (CT) of the abdomen was performed showed circumferential thickening over the proximal third of the transverse and distal large bowel with abrupt narrowing and tethering seen at the mid transverse colon just adjacent to the perpancreatic collection [**Figure 1**], causing proximal upstream dilatation of the cecum, ascending and transverse colon with mild dilatation of the lower small bowel ileal loops with relatively normal caliber of the upstream small bowel loops. The descending and sigmoid almost completely collapsed. Overall findings are suggestive of long inflammatory stricture involving transverse/splenic flexure [**Figure 2**]. Conservative management of nil per oral, nasogastric tube for five days failed, so the decision was to take the patient to emergency theater for exploratory laparotomy. Findings of free fluids, multiple adhesions, dilated cecum and ascending colon with ischemic patches. Frozen left lower quadrant with inflammatory mass at the distal transverse colon, body of pancreas and distended small bowel. Deflation of distended colon, adhesiolysis, resection of the ischemic segment, end ileostomy and mucus fistula were done. Abdomen was closed, patient extubated and shifted to the intensive care unit, discharged home after 1 month post op.

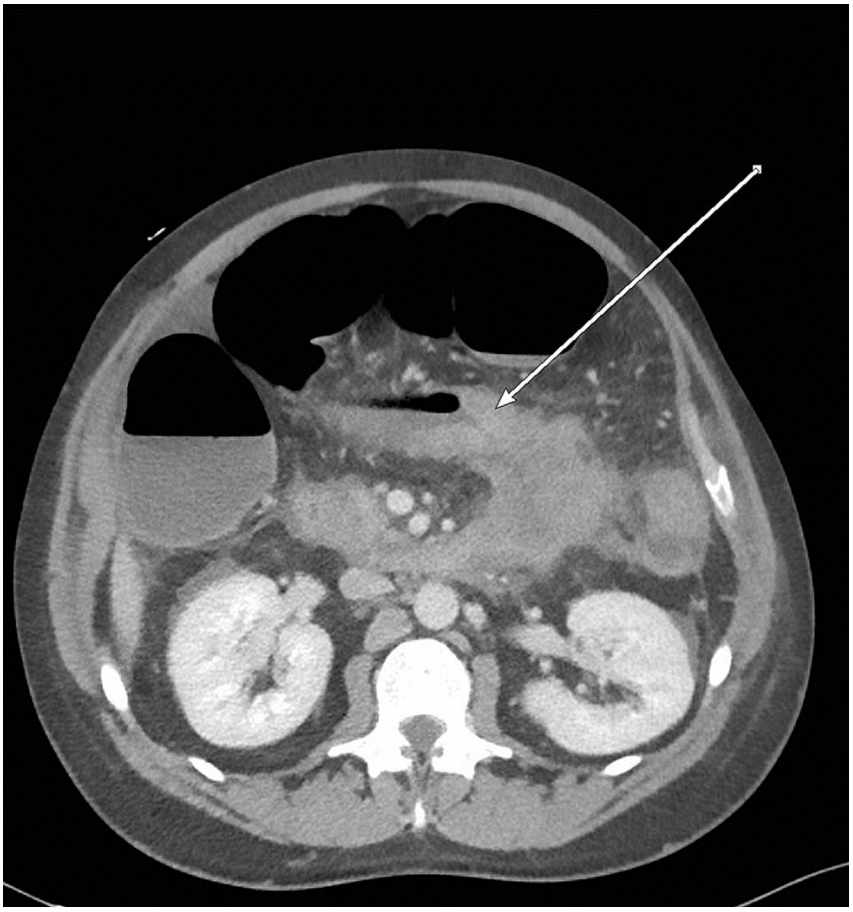

Figure 1: Narrowing and tethering seen at the mid transverse colon just adjacent to the perpancreatic collection

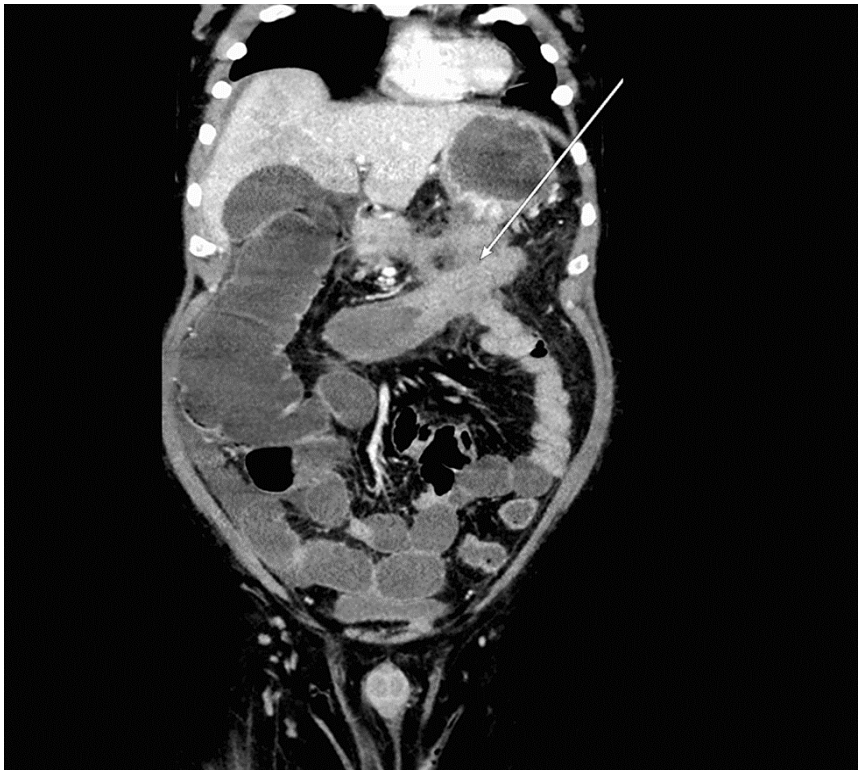

Figure 2: Inflammatory stricture at transverse/splenic flexure

Discussion

In severe types of pancreatitis such as necrotizing pancreatitis, involvement of the colon may be either acute due to ischemia and necrosis, which is can be caused by acute or chronic pancreatitis (or an acute exacerbation of chronic pancreatitis) or may follow pancreatic pseudocyst compression [6]. Large bowel involvement usually difficult to be identified because signs and symptoms are masked by acute pancreatitis systemic features [7]. Several mechanisms may result in colonic complications in pancreatic disease [8]. Direct transmit of the inflammatory or neoplastic process may lead to colonic inflammation, erosion or compression which will lead to fibrosis, scarring, and pericolonic adhesions. Eventually, might cause formation of fistula or stricture. Direct spread of the inflammatory process explained by the anatomical location of the pancreas to the transverse and descending colon, as the pancreatic

tail lies in the phrenic colonial ligament, which is adjacent to the splenic flexure of the colon. [9]. Not surprisingly, transverse colon and splenic flexure are the most common sites of colonic complications in pancreatic diseases [10]. In a case series identified nine patients with disease in the pancreas who ended up with large bowel resection. The cases comprised of two pancreatic abscess causing colonic necrosis. Three pancreatic carcinoma invading the colon. In addition, three extensions of pancreatitis producing a colonic stricture and a one case of pseudocyst invading the splenic flexure. The presentation was not similar, including bleeding per rectum, clinical deterioration during severe pancreatitis, and colonic obstruction. The three cases attributable to carcinoma, one of which was a recurrence, had primary colonic symptoms suggestive of bowel obstruction rather than pancreatic disease. In patients with severe acute pancreatitis, colonic pathology was usually initially hidden and masked because of the ongoing inflammatory process [3,4].

Conclusions

Colonic obstruction is a rare complication of acute or chronic pancreatitis. It can be manifested early or even late after the resolution of pancreatitis. Although colonic obstruction is infrequent complication of pancreatitis, clinicians should be aware of it and early identification and treatment are crucial to prevent serious and life-threatening sequels such as ischemia and perforation.

Declarations

Conflicts of Interest

None

Funding Statement

None

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