

Case Report

Perforated jejunal diverticulitis a rare cause of acute abdomen type of article: case report

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ABSTRACT

Jejunal diverticulosis are false diverticula which is characterized by herniation of mucosa and submucosa through muscular layer of bowel; their perforation is rare but potentially a life-threatening condition that can present as peritonitis. In this case report, a 75-year lady presented to the emergency department with complaints of generalized pain in the abdomen with multiple episodes of vomiting and signs of peritonitis. Radiological evaluation, X-ray of abdomen suggestive of pneumoperitoneum, raising suspicion of a bowel perforation. The patient was immediately resuscitated and promptly managed by surgical intervention. Intraoperatively, multiple jejunal diverticular perforations identified and managed by resection and anastomosis of affected jejunal segment. This case report outcores presentation, early diagnosis and surgical intervention in such rare and challenging cases for better outcomes. The purpose of this case report is to highlight the clinical presentation, diagnostic work up, surgical intervention and postoperative outcomes in jejunal diverticular perforation as a differential diagnosis in elderly patient with acute abdominal pain and to discuss the current management strategies based on the latest research findings.

Keywords: Pneumoperitoneum, Jejunal diverticula, Resection and anastomosis, Perforation peritonitis, False diverticula

INTRODUCTION

Jejunal diverticulosis are rare congenital or acquired anomalies of gastrointestinal tract; are false diverticula which is characterized by herniation of mucosa and submucosa through muscular layer of bowel, with a reported incidence of approximately less than 1% in the general population.^{1,2} Although they are asymptomatic, can lead to complications such as diverticulitis, hemorrhage, or perforation which necessitates medical attention and prompt surgery intervention. Acquired jejunal diverticular perforation is a rare presentation that possesses diagnostic challenges due to its nonspecific presentation.^{3,4} We present this case of a 75-year lady presented to the emergency department with complaints of generalized pain in the abdomen with multiple

episodes of vomiting, guarding and rebound tenderness. This case report outlines the clinical presentation, diagnostic work up, surgical intervention and post operative course of our patient, drawing upon recent articles and literature to provide context for this challenging clinical scenario.

CASE REPORT

A 75-year elderly lady who came to the emergency department with the complaints of generalized pain in the abdomen for one day, which was sudden in onset and gradually progressive associated with multiple episodes of bilious vomiting and constipation. She had no history of chronic illness or any previous surgery. On examination, she was dehydrated, malnourished, her

vitals; afebrile, tachypnoea, pulse rate-110 beat per minute and blood pressure 92/68 millimeter of Hg. On per abdomen examination; tense, distended, guarding, rigidity, generalized tenderness and rebound tenderness present as signs of peritonitis.

Radiological evaluation, X-ray of abdomen suggestive of pneumoperitoneum (Figure 1), raising suspicion of a bowel perforation.

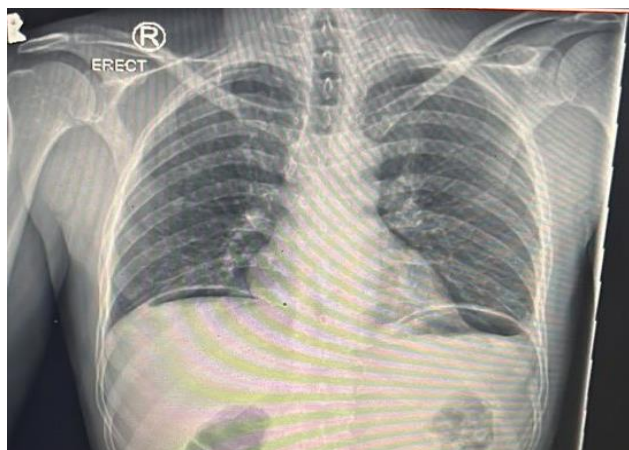


Figure 1: Air under diaphragm.

Patient was immediately resuscitated; routine emergency investigations were done and underwent emergency laparotomy. Intraoperatively, around 500 cc of purulent fluid present in peritoneal cavity; around 10 cm of jejunal segment containing multiple diverticulae on mesenteric border, largest one measuring 3x3 cm and multiple pinpoint perforation over smaller one, present on 50 cm distal to duodenojejunal junction (DJ). Resection of 10 cm of jejunal segment and end to end anastomosis in two layer was done, abdominal drain placed in pelvis.



Figure 2: Jejunal diverticula at mesenteric border.

Postoperatively patient remained comfortable. Patient kept on total parental nutrition (TPN) in view of hypoalbuminemia; potassium supplementation, chest physiotherapy. Bowel sounds present and passed flatus on third postoperative day (POD) and passed stools on POD-7. Enteral feed started on POD-7, gradually progressed without any signs of distress or complications. She developed deep surgical site infection (burst abdomen), for which pus culture and sensitivity done; antibiotic changed accordingly. Abdominal drain removed on POD-8 Regular antiseptic dressing done. Secondary suturing done using prolene no 1, in intermittent fashion on POD-14 after healthy granulation. Patient recuperated well, discharged on the POD-19. On follow up, patient had discharge from wound in periumbilical area, skin suture removed from that area and regular dressing was done and healed well.

DISCUSSION

Jejunal diverticulosis are rare congenital or acquired anomalies of gastrointestinal tract; are false diverticula which is characterized by herniation of mucosa and submucosa through muscular layer of bowel, with a reported incidence of approximately less than 1% in the general population.^{1,2,4} Acquired jejunoileal diverticulosis was first described in 1794 by Sommering and later in 1807 by Sir Astley Cooper and is characterized by false diverticula on the mesenteric border of the bowel.^{3,4} They are more common in elderly males (58%). The commonly affected part of the small intestine by the diverticula is the proximal jejunum (75%), followed by the distal jejunum (20%) and the ileum (5%). Co-existent diverticula can be present in the colon (30-75%), duodenum (15-42%), esophagus (2%), stomach (2%) and urinary bladder (12%) of the patients.^{4,5}

Jejunal diverticular perforation has wide clinical presentation, often mimicking other acute abdominal conditions, such as appendicitis, cholecystitis, or diverticulitis of the colon. Therefore, a high index of suspicion is crucial in early diagnosis and management of such rare diseases, particularly in elderly population. In our case, the patient's symptoms included generalized abdominal pain, and vomiting episodes, which are consistent with previous reports.^{1,6}

The presence of free intraperitoneal air under diaphragm on abdominal X-ray confirmed the diagnosis of pneumoperitoneum, a hallmark sign of bowel perforation. The treatment of choice for jejunal diverticular perforation is by surgical intervention, as conservative management has very limited success.^{7,8} The surgical intervention consists of either diverticulectomy or segmental resection and anastomosis of the affected jejunal segment. In our case, surgical intervention was performed promptly to address the perforation by resection and anastomosis of the affected jejunal segment and the patient had a successful recovery. Our intraoperative findings and management are consistent with previous literature that emphasize the importance of

early diagnosis and surgical intervention.^{9,10} Delayed presentation, diagnosis or conservative management may lead to complications such as abscess formation, sepsis, peritonitis or death.^{8,9} The prevalence of jejunal diverticulosis is relatively low, and its complications, including perforation, are even rarer. This rare condition should be considered in the differential diagnosis of acute abdomen, especially in older individuals, as presented in this case.¹¹ The mortality rate is 0% to 5% in jejunal diverticula, but this risk significantly increases to 40% in cases of perforation.¹² Furthermore, recent literature has also reported cases of giant and multiple jejunal diverticula, which can present unique challenges in diagnosis and management.¹³

CONCLUSION

Jejunal diverticula perforation is a rare but potentially challenging life-threatening condition that requires prompt recognition and surgical intervention for better outcomes. In this case report, the importance of considering jejunal diverticula perforation condition in the differential diagnosis of acute abdominal pain, especially in elderly patients with a history of diverticulosis. Awareness of this rare entity and its clinical presentation, radiological evaluation can lead to earlier diagnosis and improved outcomes for affected individuals.

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