

A rare case of acute abdomen in an elderly patient: Jejunal diverticulum perforation

 Server Sezgin Uludag¹,  Nazım Gures²,  Ahmet Askar¹,  Omer Kucuk²,  Abdullah Kagan Zengin¹,
 Mehmet Faik Ozcelik¹

¹Department of General Surgery, Cerrahpasa Medical Faculty, Istanbul University, Istanbul, Turkey

²Department of General Surgery, Balıkesir Atatürk City Hospital, Balıkesir, Turkey

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Abstract

Jejunal diverticulosis is rare condition that commonly seen in elderly patient. The majority of cases are asymptomatic; however nonspecific abdominal symptoms like abdominal pain, nausea and diarrhea can be seen. Diverticulum perforation leads to generalized or localized peritonitis which may lead to emergency surgical intervention. Diagnosis of Jejunal diverticulosis is often difficult and it is commonly diagnosed incidentally by screening for other purposes. Jejunal diverticulosis is false diverticulum and is believed that Jejunal diverticulosis arises from herniation of the intestinal mucosa and submucosa without a muscle layer. In this report an 88-year-old male patient was admitted to the emergency department with abdominal pain. In abdominal computed tomography (CT) free gas and fluid were observed in the perihepatic area and between the jejunal loops. The patient was taken to emergency operation. During exploration, multiple diverticulae were noted in the jejunum. Microperforation area was seen in one of the diverticula. Approximately 50 cm of jejunal segment with diverticulum was resected. The patient was discharged on the sixth day without any remarkable complications.

Keywords: Acute abdomen; jejunal diverticulosis; meckel diverticulum; microperforation; peritonitis

INTRODUCTION

Jejunal diverticulosis is rare condition that commonly seen in elderly patient, it affects %1-2 of population. The majority of cases are asymptomatic; however nonspecific abdominal symptoms like abdominal pain, nausea and diarrhea can be seen (1). Diagnosis of jejunal diverticulosis is often difficult and it is commonly diagnosed incidentally by screening for other purposes (2). Jejunal diverticulosis is false diverticulum and its exact cause remains unclear but believed that possible increase in luminal pressure resulting in herniation of the intestinal mucosa and submucosa without a muscle layer (3). When Jejunal diverticulosis gets complicated serious findings like Gastrointestinal hemorrhage, obstruction, diverticulitis and perforation are observed. Diverticulum perforation leads to generalized or localized peritonitis which may lead to emergency surgical intervention (4). This report aims to draw attention of the surgeons involved in the surgical specialties to this rare entity. In this way morbidity and mortality due to complicated jejunal diverticulosis can be prevented.

CASE REPORT

An 88-year-old male patient was admitted to the emergency with abdominal pain that started approximately 24 hours ago. On physical examination, there was pain and tenderness in the epigastrium and periumbilical region. The White blood cell (WBC) value was 8490 / mm³. Aspartate transaminase (AST), Alanine aminotransferase (ALT) and creatinine values were within normal ranges. There was bilateral pleural effusion on thorax CT scan. Free gas and fluid were observed in abdominal CT scan, especially in the perihepatic region (Figure 1). Also, the loculated fluid collection area near the jejunal loops was seen (Figures 2A and B). With these findings, the patient was first taken to laparoscopy for diagnostic purposes. Dilated small bowel loops were observed in laparoscopy. There were pseudomembranes on the jejunal loops. No perforation area was observed in the duodenum and anterior of the stomach. Exploration was very limited due to adhesions and dilatation of the small intestines, and exact pathology could not be determined by diagnostic

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Corresponding Author: Ahmet Askar, Department of General Surgery, Cerrahpasa Medical Faculty, Istanbul University, Istanbul, Turkey

E-mail: achkar.dr@yahoo.com

laparoscopy so operation was converted to open. Starting from the Treitz ligament about 40 cm of the jejunal loop was seen adhere to the paraduodenal fossa. When this loop was released and examined carefully, the jejunal loop contained multiple diverticula seen on the mesenteric side. The affected jejunal segment was clamped proximally and distally and a milking procedure initiated, during the procedure a tiny perforation area was observed in one of the diverticula (Figure 3). Then the approximately 50 cm of affected jejunal loop containing the perforation area was resected (Figure 4) and an end-to-end anastomosis was performed. After the operation on a postoperative day 2 patients start the oral feeding with thin liquids and puree without any complaint. On postoperative day 6 bilateral pleural effusions completely regressed and when the adequate oral intake was achieved the patient discharged from the hospital without any complications.

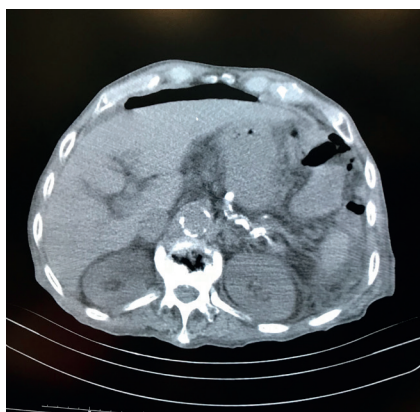


Figure 1. Abdominal CT scan axial view of perihepatic free gas and fluid

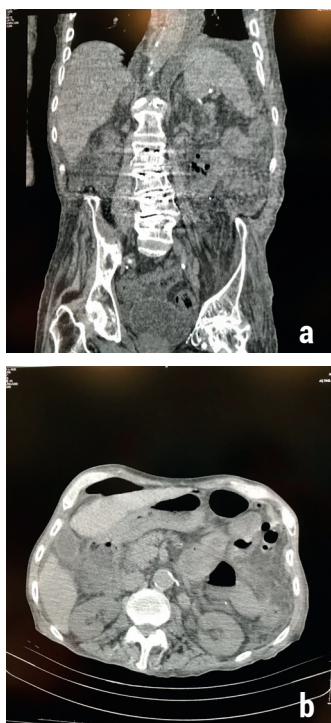


Figure 2. A: Abdominal CT scan coronal view of the loculated fluid collection area near the jejunal loops. B: Abdominal CT scan axial view of the loculated fluid collection area near the jejunal loops

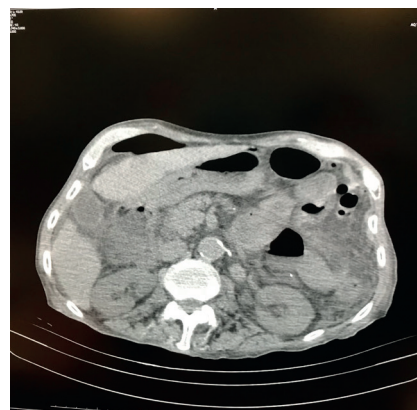


Figure 3. Tiny perforation area in one of the diverticula



Figure 4. Resection material of 50 cm affected jejunal loop containing the perforation area

DISCUSSION

Jejunal diverticulosis described by Somerling in 1794, morphologically it resembles colonic diverticulosis (3,5). Meckel Diverticulum is the most common congenital cause of small bowel diverticulum. However in adults acquired solitary small bowel diverticulum is commonly seen in the duodenum (2,6). Jejunal diverticulosis are generally more common in older ages, usually seen after the 5th decade of life, mostly after the ages of 60s and 70s (8). Because of its rarity Jejunal diverticulosis encountered incidentally during radiological examinations. Abdominal CT is prominent in their diagnosis (1,2,4). They are generally asymptomatic; however, their perforations can lead to localized or generalized peritonitis which may lead to emergency surgical intervention (5,7,8). Cases have been reported in the literature mostly as case reports, and small study series. In one case report, an obstructive mass was considered in a patient with similar complaints as the ones presented in our case; the patient was taken to emergency operation. During the operation, it has been observed that the patient's symptoms are caused by intraabdominal actinomyces infection (9). Which causes suppurative infections; such rare cases ought to be kept in mind especially when performing emergency operations. Since it is a rare condition, usually causes a delay in diagnosis and this leads to a significant increase in morbidity and mortality (5,8).

CONCLUSION

In our case, we aimed to report jejunal diverticulosis perforation as a rare cause of acute abdomen, being aware of such rare conditions may help in preventing delay in necessary interventions.

Conflict of interest: The authors declare that they have no competing interest.

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REFERENCES

1. Rangan V, Lamont JT. Small Bowel Diverticulosis: Pathogenesis, Clinical Management, and New Concepts. *Curr Gastroenterol Rep* 2020;22:1-7.
2. Sinclair A. Diverticular Disease of the Gastrointestinal Tract. *Prim Care* 2017;44:643-54.
3. Ceuppens AS, Dhont S, Sneyers B, et al. Jejuno-ileal diverticulosis: a review of literature. *Acta Gastroenterol Belg* 2018;81:517-9.
4. Harbi H, Kardoun N, Fendri S, et al. Jejunal diverticulitis. Review and treatment algorithm. *Presse Med*. 2017;46:1139-43.
5. Patel VA, Jefferis H, Spiegelberg B, et al. Jejunal diverticulosis is not always a silent spectator: a report of 4 cases and review of the literature. *World J Gastroenterol* 2008;14:5916-9.
6. Choi SY, Hong SS, Park HJ, et al. The many faces of Meckel's diverticulum and its complications. *J Med Imaging Radiat Oncol* 2017;61:225-31.
7. Johnson KN, Fankhauser GT, Chapital AB, et al. Emergency management of complicated jejunal diverticulosis. *Am Surg* 2014;80:600-3.
8. Duggan WP, Ravi A, Chaudhry MA, et al. Isolated perforated jejunal diverticulitis: a case report. *J Surg Case Rep* 2021;1:1-3.
9. Sari R, Kuş M, Kayaselçuk F. Intra-abdominal Actinomyces Imitating Sigmoid Colon Cancer: A Case Report. *Middle East J Dig Dis* 2020;12:126-9.