

Perforated jejunal diverticula- a rare cause of acute abdominal pain: a case report

Mohammad Esmail Akbari, Khashayar Atqiae, Saran Lotfollahzadeh, Amir Naser Jadbbaeey Moghadam, Mohammad Reza Sobhiyeh

Cancer Research Centre, Shahid Beheshti University of Medical Sciences, Shohadae-Tajrish Hospital, Tehran, Iran

ABSTRACT

Jejunal diverticula have a prevalence of approximately 1% in the general population. Perforation of jejunal diverticulum is a rare. Clinically this diagnosis may be easily confused with other causes of an acute abdomen. In the article, we discuss a 74-year-old man with a 2-day history of constipation and left-sided abdominal pain. The day before admission he developed an abrupt exacerbation his symptoms with pain localized to periumbilical and left lower quadrant. An abdominal computed tomography scan revealed soft tissue stranding within the left upper quadrant, bilateral plural effusions , larger on the left, an opacity with the right and left pulmonary lobes and polypoid lesion with in stomach. Physical examination revealed left upper quadrant fullness. An emergency laparotomy was carried out. This revealed multiple jejunal diverticula, one of which had perforated 40 centimeters distal to the ligament of Treitz.

Keywords: Small bowel diverticulosis, Jejunal diverticulosis, Diverticular perforation, Acute abdomen.

(Please cite as: Akbari ME, Atqiae K, Lotfollahzadeh S, Jadbbaeey Moghadam AN, Sobhiyeh MR. Perforated jejunal diverticula- a rare cause of acute abdominal pain: a case report. *Gastroenterol Hepatol Bed Bench* 2013;6(3):156-158).

Introduction

Jejunal diverticula are the least common type of small bowel diverticula (1). Jejunal diverticula is slightly more common in men than women, 58% compared to 42% in a reported series (2). We present a patient with acute abdominal pain due to perforated jejunal diverticula.

Case Report

We report a case of 74-year-old man presented to our emergency ward with a 2-day history of constipation, anorexia, fever, and left sided

abdominal pain, he denied recent travel or an unusual eating experience. His past medical history included a right side inguinal herniorraphy.

His son died of leukemia of unknown subtype and his brother was affected by lymphoma. Family history was negative for gastrointestinal malignancy.

On examination he was clinically dehydrated. Vital signs were normal. His abdomen was tender in the left upper quadrant with localized rebound tenderness. Bowel sounds were present. Routine laboratory investigations were normal. His chest x ray was normal and abdominal x-ray showed prominent but non-dilated small bowel loops. Intravenous fluids and broad spectrum antibiotics were commenced. At emergency laparotomy there were multiple jejunal diverticula, one of which

Received: 22 November 2012 Accepted: 11 January 2013

Reprint or Correspondence: Mohammad Reza Sobhiyeh, MD. Department of General and Vascular Surgery, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
E-mail: mreza.sobhiyeh@yahoo.com

had perforated. Adhesions between the jejunum to the omentum were gently dissected. The jejunum was examined and multiple diverticula, from 10 to 70 cm - distal to the ligament of Treitz. The diverticulum sizes varied from 1.5 cm to 3 cm. The perforated diverticulum was located 40cm distal to the ligament of Treitz (Fig 1). The rest of the gastrointestinal tract, including the stomach, gallbladder and remainder of the small intestine, appeared normal. A 20cm segmental resection of the jejunum was carried out. The patient was discharged a week later.



Figure 1. The perforated diverticulum in distal to the ligament of Treitz

Discussion

Jejunal diverticula are the least common type of small bowel diverticula, with an incidence of less than 1%, slightly more common in men (1, 2). The pathologic description of these pseudodiverticula is an acquired outpunching of mucosa commonly found on the mesenteric border of the jejunum (3, 4). Multiple diverticula are seen in 77% of cases (5).

Clinical diagnosis of diverticula perforation may be difficult as the symptoms may mimic any other episode of acute abdomen and the diagnosis may easily be confused with other causes of an acute abdomen such as sigmoid diverticulitis, appendicitis, perforated peptic ulcer or ischemic bowel disease (6). The typical presentation of jejunal diverticula is intermittent abdominal pain,

accompanied by flatulence, diarrhea or constipation in 10% to 30% cases. In a series of 112 cases of jejunoo-ileal diverticulosis is analyzed by Tsiotos et al., 42% were asymptomatic (2). Among the symptomatic patients, diarrhea (58%) was the most common clinical manifestation followed by chronic abdominal pain (51%) or bloating (44%).

Common acute complications include diverticulitis, bleeding, intestinal obstruction and perforation (7). Upright abdominal X-ray is useful for assessment of acute abdomen, but its contribution to the diagnosis of perforated jejunal diverticulosis is limited to providing information on intra-peritoneal free air and air-fluid bowel levels. Abdominal computerized tomography (ACT) has been established as the most valuable imaging technique for identifying the presence, site and cause of gastrointestinal perforation (8). ACT with double oral and intravenous contrast may allow the diagnosis of perforated jejunal diverticula, based on the following findings; free intra-peritoneal air; concentrated bubbles of extra luminal air in close proximity to the bowel wall, focal asymmetric wall thickening, edema or thickening of the surrounding fat or fascial planes (9, 10).

Yet there are many reasons for causing small bowel perforation that should be considered in differential diagnosis. Meckel's diverticulitis is one of such examples among another diverticular disease of the small bowel. But, unlike the Jejunal diverticulum, Meckel's diverticulitis is true, congenital diverticula, and involves the antimesenteric side of the bowel. Meckel's diverticulitis usually presents in adults with intestinal obstruction due to intussusceptions rather than perforation or bleeding (11). Non steroidal anti-inflammatory drugs are another cause of ulcerations and perforation. Although they primarily affect the stomach or ileum but their effect is not limited to these regions and can affect any point throughout the small bowel (12).

Perforated neoplasms are difficult to distinguish and the most likely neoplasm in the jejunum is lymphoma.

Treatment is only indicated if complications appear. In our case resection of a small bowel segment was performed in order to avoid any future complications in the remaining diverticula. Invagination, excision and simple closure are associated with greater mortality than resection (8). Emergency surgical intervention is required in 8-30% of these complicated patients (8, 13).

Conclusion

Perforation of jejunal diverticula is a rare, but the diagnosis needs to be considered in patients presenting with an acute abdomen.

References

1. Zager JS, Garbus JE, Shaw JP, Cohen MG, Garber SM. Jejunal diverticulosis: a rare entity with multiple presentations, a series of cases. *Dig Surg* 2000; 17:643-45.
2. Tsiotos GG, Farnell MB, Ilstrup DM. Nonmeckelian jejunal or ileal diverticulosis: an analysis of 112 cases. *Surgery* 1994;116:726-31.
3. Benson RE, Dixon CF, Waugh JM. Nonmeckelian Diverticula of the Jejunum and Ileum. *Ann Surg* 1943; 118: 377-93.
4. Patel VA, Jefferis H, Spiegelberg B, Iqbal Q, Prabhudesai A, Harris S. Jejunal diverticulosis is not always a silent spectator: a report of 4 cases and review of the literature. *World J Gastroenterol* 2008; 14:5916-19.
5. Lempinen M, Salmela K, Kemppainen E. Jejunal diverticulosis: a potentially dangerous entity. *Scand J Gastroenterol* 2004; 39: 905-909.
6. Gliistra PE, Killoran PJ, Root JA, Ward WW. Jejunal diverticulitis. *Radiology* 1977; 125: 609-11.
7. Woods K, Williams E, Melvin W, Sharp K. Acquired jejunooileal diverticulosis and its complications: a review of the literature. *Am Surg* 2008; 74: 849-54.
8. Koger KE, Shatney CH, Dirbas FM, McClenathan JH. Perforated jejunal diverticula. *Am Surg* 1996; 62: 26-29.
9. Coulier B, Maldaque P, Bourgeois A, Broze B. Diverticulitis of the small bowel: CT diagnosis. *Abdom Imaging* 2007; 32: 228-33.
10. Kim SH, Shin SS, Jeong YY, Heo SH, Kim JW, Kang HK. Gastrointestinal tract perforation: MDCT findings according to the perforation sites. *Korean J Radiol* 2009; 10:63-70.
11. Dumper J, Mackenzie S, Mitchell P, Sutherland F, Quan ML, Mew D. Complications of Meckel's diverticula in adults. *Can J Surg* 2006; 49: 353-57.
12. Palanivelu C, Rangarajan M, Rajapandian S, Maheshkumaar GS, Madankumar MV. Perforation of jejunal diverticula in steroids and nonsteroidal anti-inflammatory drug abusers: a case series. *World J Surg* 2008; 32:1420-24.
13. Chendrasekhar A, Timberlake GA. Perforated jejunal diverticula: an analysis of reported cases. *Am Surg* 1995; 61: 984-88.