

Jejunal Diverticular Perforation with Intra-abdominal Abscess: A Case Report

S Venkata Reddy¹, A B Jagadeesh², P Sushma², K Varun Prakash², M Mounika Chowdary²

¹Associate Professor, Department of General Surgery, Rangaraya Medical College, Kakinada, Andhra Pradesh, India, ²Postgraduate, Department of General Surgery, Rangaraya Medical College, Kakinada, Andhra Pradesh, India

Abstract

Jejunal diverticular perforation is rare and few cases have been reported in the literature. Jejunal diverticula have a prevalence of approximately 1% in the general population. The incidence reported of 0.2-1.3% in from autopsy studies and 0.5-2.3% from contrast studies. Perforation of jejunal diverticulum and abscess formation is very rare. Clinically, this diagnosis is challenging task and confused with other causes of an acute abdomen. It is usually asymptomatic, but may present as diffuse vague pain in the abdomen or acute abdominal pain. However, they may present with non-specific symptoms leading to delay in diagnosis causing catastrophic consequences. Here, we present a rare case of jejunal diverticular perforation with intra-abdominal abscess.

Key words: Abdominal abscess, Acute abdomen, Jejunal diverticulosis, Jejunal perforation

INTRODUCTION

Jejunal diverticular perforation is a rare entity; Jejunal diverticula have a prevalence of approximately 1% in the general population. Incidence reported of 0.2-1.3% in from autopsy studies and 0.5-2.3% from contrast studies.¹⁻³ Jejunal diverticula are pseudo diverticula which were first described by Somerling in 1794 and by Sir Astley Cooper in 1807. Most of the cases of jejunal diverticulosis remain asymptomatic, only 10-30% of patients complications are reported.⁴ Small bowel diverticula occur most frequent in the duodenum, duodenal diverticulum (45%), followed by Meckel's diverticulum (23%).⁵ In one retrospective review of 208 patients with symptomatic small bowel diverticulosis, diverticula were located in the duodenum in 79%, in the jejunum or ileum in 18%, and in all three segments in 3%.⁶ Jejunal diverticula are the least common type of small bowel diverticula.⁷ Jejunal diverticula is slightly more common in men than women, 58% compared to 42% in a reported series.⁸ Jejunal diverticula are usually multiple and predominantly localized to the proximal

jejunum (75%), followed by the distal jejunum (20%). Jejunal diverticula may be composed of mucosa and submucosa only, or of all layers of jejuna wall. They are frequently associated with disorders of intestinal mobility, such as progressive systemic sclerosis and neuropathies, and myopathies. Familial aggravation have been described in literature and some cases may be heritable.^{9,10} Jejunal diverticula may present as chronic abdominal pain, malabsorption, hemorrhage, diverticulitis, obstruction, diverticular perforation, and rarely abscess formation.¹¹ Jejunal perforation with intra-abdominal abscess formation of jejunal diverticula is a rare complication. Peritonitis caused by perforated jejunal diverticula can be localized and self-limiting, because most of the diverticula are at the mesenteric border of the bowel and readily allow the small bowel mesentery to seal them off. The treatment of choice for perforated jejunal diverticulum with peritonitis is segmental intestinal resection with primary anastomosis including non-inflamed diverticula.¹²

CASE REPORT

A 40 years male patient presented with a history of pain abdomen since 2 days admitted in our hospital. The clinically patient looks ill and on examination guarding and rigidity of abdomen is present. The patient is afebrile, pulse rate: 96/min, blood pressure: 100/60 mm of Hg and respiratory rate: 32/min. X-ray erect abdomen showed

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Corresponding Author: Dr. S Venkata Reddy, Department of General Surgery, Rangaraya Medical College, Kakinada, Andhra Pradesh, India. Phone: +91-9849107656. E-mail: venkatreddy.satti@yahoo.com

multiple air fluid levels. X-ray chest showing air under diaphragm. Ultrasound abdomen shows intra-abdominal abscess in-between jejunum and transverse colon. CT abdomen shows jejunal diverticulitis in association with abdominal abscess (Figure 1).

Initial management consisted of intravenous fluid administration, broad spectrum antibiotics, blood transfusion was done.

Laparotomy revealed that purulent fluid in-between jejunum and transverse colon with jejunal diverticula in mesenteric boarder, each diverticula measuring about 90-140 mm, about 30 cm away from duodenal-jejunal flexure and length of involved jejunal bowel segment measuring about 10 cm was excised and end to end anastomosis performed. Peritoneal lavage was done. Histopathology of resected specimen confirmed jejunal divericulitis with perforation mucosa. The patient recovered well and discharged on the tenth post-operative day. The patient is followed for 3 months and patient doing well (Figures 2 and 3).

DISCUSSION

Jejunal diverticular disease is such a rare pathology, diagnosis would be challenging task. Diverticula are multiple outpouchings of mucosa and submucosa. All though the exact etiology of jejunal diverticulosis is unknown, believed to develop from a combination of abnormal peristalsis intestinal dyskinesia, and high segmental pressures.^{9,10} The majority cases are asymptomatic, few cases associated with non-specific gastrointestinal symptoms. They may be solitary, few cases are multiple. They are always situated on the mesenteric border where mesenteric vessels penetrate and weak. Usually, this condition is clinically silent. Diagnosis of this condition is delayed till it becomes complicated. Acute complications are diverticulitis, hemorrhage, obstruction and rarely perforation of the diverticula leads to abdominal abscess formation. X-ray erect abdomen, ultrasound abdomen and computed tomography abdomen can identify the diverticula and reveals intra-abdominal complications, but no truly reliable diagnostic tests are there to diagnose jejunal diverticulosis prospectively.^{13,14} Cessation of symptoms after surgical resection is the only definitive way to say that jejunal diverticulosis is the primary cause of abdominal pain.

Management depends on the severity of symptoms. Decision of surgical procedure depends upon the presentation of the case. Diagnostic laparoscopy very useful in investigating patients presenting with complications, this aids in accurate diagnosis and avoids unnecessary



Figure 1: Computed tomography abdomen suggestive of jejunal diverticulosis



Figure 2: Intra-operative photograph suggestive of jejunal diverticula

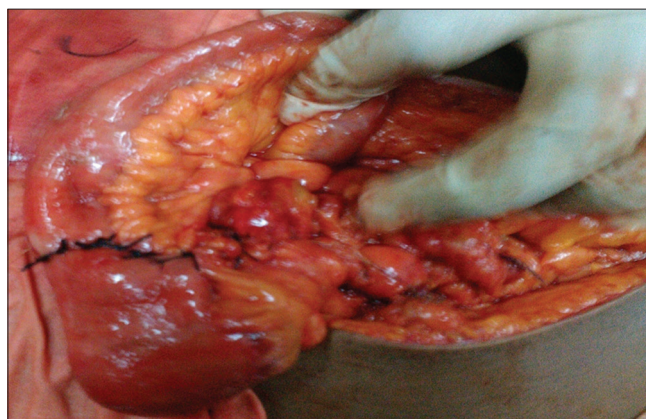


Figure 3: Intra-operative resection and anastomosis photograph

laparotomy. Laparotomy with segmental bowel resection of an end to end anastomosis of entire involved bowel is warranted only in patients presenting with generalized peritonitis. The extent of bowel resection depends upon the length of involved segment and perioperative conditions to avoid complications like short bowel syndrome.^{15,16}

If patient present with only local peritonitis and stable, nonoperative measures like guided aspiration with appropriate intravenous antibiotics can be tried.⁷

In our case, we did laparotomy with resection of an entire involved segment of bowel with through peritoneal lavage is done.

CONCLUSION

Jejunal diverticulosis is rare disease and usually asymptomatic. However, these patients may present with acute complications like bleeding per rectum, perforation and abscess formation. Jejunal diverticulosis in an elderly patient may lead to high morbidity and mortality. This condition requires high index of suspicion to diagnose and to take appropriate decision to treat the patient. Rarely, jejunal diverticulosis may present as a perforation and abscess formation, for which surgical resection is the treatment of choice.

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