

# CASE REPORT

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## A RARE CASE OF PERFORATED JEJUNAL DIVERTICULOSIS: CASE REPORT

Rajkamal V<sup>1</sup>, Chaithanya Babu Bogarapu<sup>2</sup>, Janardhana Rao Konkana<sup>3</sup>, Jayaraj C<sup>4</sup>, Satish Chaitanya K<sup>5</sup>

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**ABSTRACT:** Jejunal diverticula are uncommon, acquired lesions which are usually asymptomatic. When symptomatic they present with chronic non-specific symptoms like pain, nausea, malnutrition and sometimes with acute presentation like gastrointestinal hemorrhage, peritonitis and obstruction. While chronic pain and malabsorption occurs in 40% of cases, perforation occurs only in 2.3-6.4% of all diverticula bearing patients.

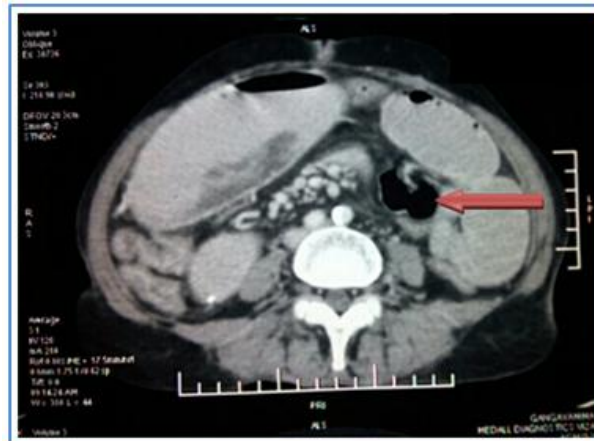
**INTRODUCTION:** A diverticulum is an out-pouching of a hollow or a fluid filled structure in the body. Depending upon which layers of the structures are involved, they are described as being either true or false. Jejunal diverticula are rare with an incidence of less than 0.5%.<sup>(1)</sup> Jejunal diverticula have a prevalence of approximately 1% in the general population. Jejunal diverticula are the least common type of small bowel diverticula.<sup>(1)</sup> Jejunal diverticula is slightly more common in tendency men than women, 58% compared to 42% in a reported series.<sup>(2)</sup> Pathologically, they are pseudo-diverticula of the pulsion type, resulting from increased intraluminal pressure and weakening of the bowel wall. These out-pouchings only contain mucosa and submucosa. Despite most cases of jejunal diverticulosis remaining completely asymptomatic, complications are reported in 10 to 30% of patients.<sup>(3)</sup> These include chronic abdominal pain, malabsorption, hemorrhage, diverticulitis, obstruction, abscess formation and rarely diverticular perforation.

We present a rare cause of acute abdominal pain with a case of perforated jejuna diverticula.

**CASE PRESENTATION:** A 67yr old female patient presented with generalized abdominal pain, abdominal distension, vomiting and constipation since 1 week. She had recurrent attacks of pain abdomen and vomiting for the past 1year which were relieved on medication.

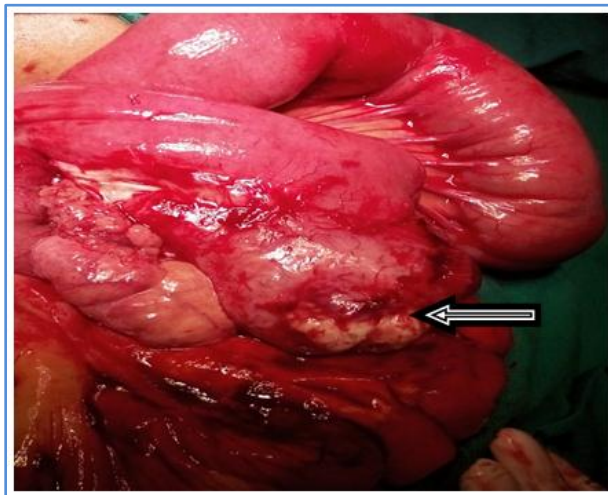
On physical examination she was dehydrated and tachypnoeic. Abdominal examination revealed diffuse tenderness. Bowel sounds were exaggerated. Laboratory blood investigations were normal. Her chest X-ray was normal. Plain X-ray of the abdomen in erect posture displayed multiple dilated loops of the small bowel without any air fluid levels. A subsequent computerised tomography scan of the abdomen and pelvis revealed dilatation of proximal jejunal loops with jejunal diverticuli and collapsed ileal loops suggestive of intestinal obstruction (Fig. 1).

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**Fig. 1: CECT abdomen showing jejunal diverticulum**

After resuscitating the patient with intravenous fluids and antibiotics, she was taken up for surgery. At laparotomy two jejunal diverticuli of sizes 8×6cm and 5×4cm were identified, one at 40 cm and another at 60 cm from ligament of Treitz. The proximal jejunal diverticulum was perforated and associated with localized peritoneal contamination (Fig. 2). The rest of the gastrointestinal tract appeared normal.



**Fig. 2: Intraoperative image showing perforated jejunal diverticulum**

Peritoneal lavage was done. A 25cm segmental resection of the jejunum which included both the diverticuli and end to end jejuno-jejunal anastomosis was performed (Fig. 3). Postoperative period was uneventful. Patient was discharged in good general condition on 10<sup>th</sup> post-operative day.

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**Fig. 3: Intraoperative image showing anastamotic site of jejunum**

**DISCUSSION:** Jejunal diverticula are the least common type of small bowel diverticula, with an incidence of less than 1%, slightly more common in men.<sup>(1,2)</sup> They were first described by somerling in 1794 and by Sir Astley Cooper in 1807. The most common part of the small bowel to be affected by diverticula is the proximal jejunum (75%), followed by the distal jejunum (20%) and the ileum (5%). They are multiple out-pouchings of mucosa and submucosa. Although the true etiology of jejunal diverticulosis is unknown, this condition is believed to develop from a combination of abnormal peristalsis, intestinal dyskinesia, and high segmental intra-luminal pressures. These diverticula arise on the mesenteric border where the mesenteric vessels penetrate the jejunum.<sup>(4)</sup> Jejunal diverticula are usually found incidentally on small bowel radiography such as double-contrast enteroclysis or at surgery.

Common acute complications include diverticulitis, bleeding, intestinal obstruction and perforation.<sup>(5)</sup> Jejunal diverticulosis is a challenging disorder from a diagnostic perspective, with no truly reliable diagnostic tests. Upright abdominal X-ray is useful for assessment of acute abdomen, but its contribution to the diagnosis of perforated jejuna 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. Perforation of jejuna diverticula is a rare complication. Peritonitis caused by perforated jejunal diverticula can be localized and self-limiting because the diverticula are at the mesenteric border of the bowel and readily allow the small bowel mesentery to wall them off.

Diagnostic laparoscopy can be very useful in investigating patients with a complicated symptomatology. It enables an accurate conclusive diagnosis to be made, avoiding the need for unnecessary laparotomy. In the presence of laparoscopic findings such as perforation, abscesses, and mechanical obstruction, exploratory laparotomy is required with resection of the diseased bowel and primary anastomosis is appropriate.

If the perforation of a jejunal diverticulum causes only localized peritonitis and the patient remains stable, it is has been reported that a trial of non-surgical management with intravenous antibiotics and other supportive measures alongside percutaneous CT-guided aspiration of

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localized intraperitoneal collections may be suitable and avoid the need for surgery.<sup>(6)</sup> However, the current treatment of choice for perforated jejunal diverticula causing generalized peritonitis is prompt laparotomy with segmental intestinal resection and primary anastomosis. The extent of the bowel resection depends upon the length of the bowel that is affected by the diverticula and the patient's peri-operative condition. If diverticula are extensive, resection may have to be limited to include only the segment containing the perforated diverticulum and to leave a segment of small bowel that still contains non-perforated diverticula in order to avoid short bowel syndrome.<sup>(7)</sup> The reported overall mortality rate is 24%, with a mortality of 14% in cases where resection of the involved segment with primary anastomosis was done.<sup>(8)</sup>

**CONCLUSION:** Jejunal diverticula are rare and usually asymptomatic. However, they may lead to chronic non-specific abdominal symptoms or rarely, as displayed by this case, can present as an acute presentation. Jejunal diverticulosis in the elderly can lead to significant morbidity and mortality and so should be suspected in those presenting with crampy abdominal pain and altered bowel habits. Once jejunal diverticulosis has been diagnosed, conservative medical management should be instituted to alleviate symptoms and reduce the risk of complications associated with diverticular disease. Rarely, jejunal diverticular disease may present as intestinal perforation, for which surgical repair is the treatment of choice.

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**AUTHORS:**

1. Rajkamal V.
2. Chaithanya Babu Bogarapu
3. Janardhana Rao Konkena
4. Jayaraj C.
5. Satish Chaitanya K.

**PARTICULARS OF CONTRIBUTORS:**

1. Associate Professor, Department of General Surgery, Andhra Medical College, Visakhapatnam.
2. Assistant Professor, Department of General Surgery, Andhra Medical College, Visakhapatnam.
3. Assistant Professor, Department of General Surgery, King George Hospital, Visakhapatnam.

4. Professor, Department of General Surgery, Andhra Medical College, Visakhapatnam.
5. Post Graduate Student, Department of General Surgery, Andhra Medical College, Visakhapatnam.

**NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:**

Dr. Rajkamal V,  
King George Hospital,  
Visakhapatnam.

E-mail: rajkamal.vobbili@gmail.com

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