

Case Report

Perforation peritonitis secondary to jejunal diverticulosis

Kanika Mani*, Simran Gill, Rajveer Singla, Bhavinder K. Arora, Mahipal, Naresh Pal

Department of General Surgery, PGIMS, Rohtak, Haryana, India

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***Correspondence:**

Dr. Kanika Mani,

E-mail: kanikamani2309@gmail.com

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ABSTRACT

Small bowel diverticula are rare presentations and jejunal diverticula are even more rare. Due to their asymptomatic nature, they are diagnosed at a very late stage leading to poor prognosis. Jejunal Diverticulosis is a rare diagnosis which presents at later stages with mild symptoms as in our case. Prognosis is poor due late presentation and high mortality. Timely management is important to reduce mortality. Here is a case report highlighting the presentation, the diagnostic workup and management of a patient with perforated Jejunal Diverticulosis.

Keywords: Jejunal diverticulosis, Small bowel diverticulosis, Perforation peritonitis

INTRODUCTION

Diverticulum is an outpouching from the gut wall on the mesenteric border. These are mucosal herniation through sites of wall thickening. Colonic diverticulosis is more common. Small bowel diverticulosis are rare and jejunal diverticulosis is a rarer diagnosis.¹ The incidence of small bowel diverticulosis ranges from 0.3-1.3%.¹ Majority of cases are asymptomatic and are diagnosed on computed tomography.² Jejunal diverticulosis can present as stasis and bacterial overgrowths, diarrhea, malabsorption, intestinal pseudo-obstruction, gastrointestinal bleeding, diverticulitis and perforation peritonitis.³⁻⁵ Jejunal diverticulosis is diagnosed on barium studies by the presence of multiple rounded variable sized jejunal outpouchings that have relatively narrow necks.

CASE REPORT

A 78-year-old female presented to emergency with complaints of pain abdomen for 10 days and non-passage of stool and flatus with abdominal distension for 4 days. Patient was diabetic for 8 years, non-compliant with medication. On clinical examination the patient had soft

abdomen with mild distension. X-ray abdomen erect revealed multiple air-fluid levels with no sign of air under diaphragm. Contrast enhanced CT abdomen was done which revealed perforation. Exploratory laparotomy done and a 1×1 cm perforation was noted on the mesenteric border of jejunum, 30 cm from duodeno-jejunal junction. The whole length of bowel was inflamed, edematous and studded with pus flakes.

Thorough lavage with primary repair of the perforation was done. On post operative day 5, abdominal drain contained bile for which the patient was re-explored. Re-exploration revealed a leak from the primary repair site with multiple impending perforations. A gut segment of 100 cm (20 cm from duodeno-jejunal junction till 120 cm) was excised and a cut section revealed 6 jejunal diverticula on the mesenteric border. Jejunostomy along with feeding jejunostomy was done. On post operative day 4 of re-exploration, patient developed burst abdomen and there was bile from the main wound. She was diagnosed with entero-cutaneous fistula and was managed conservatively, Feeds were given through feeding jejunostomy. Despite best possible care, the patient succumbed to her illness.



Figure 1: Specimen of resected jejunum.

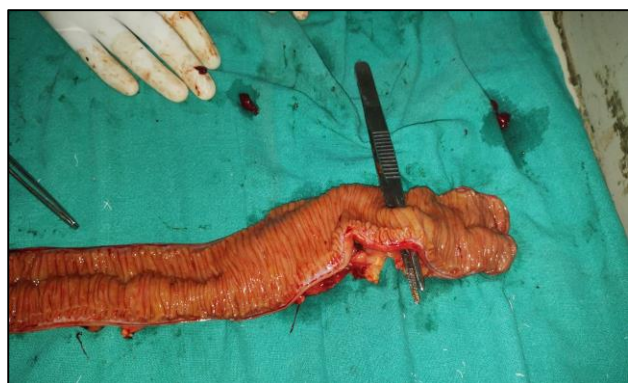


Figure 2: Specimen with forceps indicated perforated diverticulum.

DISCUSSION

Small bowel diverticulosis is a rare disease entity. Duodenal diverticulosis is the most common amongst small bowel diverticulosis.¹ Jejunal diverticulosis is rare and more prone to complications like perforation, abscess formation, obstruction and hemorrhage.⁷ Etiopathogenesis of jejunal diverticulosis is unclear, but a proposed hypothesis is that increased intraluminal pressure leads to obstruction and bacterial stasis or visceral neuropathy seen in connective tissue disorders can lead to diverticulosis.⁸ The disease shows no particular symptoms and is a coincidental finding, like in our case where only upon operating the patient and opening of the specimen it was revealed that the patient had diverticula. Patients mostly present with vague symptoms or with symptoms that arise due to the complication. Cases have been reported where patients had volvulus and intestinal malrotation secondary to jejunal diverticulosis.⁹

Definitive diagnosis requires a series of radiological investigation, ultrasound remains the first line of modality in all cases of abdomen. Contrast enhanced computed tomography of the abdomen is always the diagnostic modality of choice. Appearance of diverticula on CT is a distinct round or ovoid, fluid, contrast, or air-containing structure outside the expected lumen of the

small bowel, with a smooth wall and no recognizable small bowel folds.⁶ They are often seen to communicate directly with an adjacent loop of small bowel. CT findings in jejunal diverticulitis include a thick enhancing wall of diverticulum arising from the mesenteric border with a surrounding inflammatory reaction in the peritoneum. An associated finding may include the arrowhead sign which is described in both appendicitis and diverticulitis. It is caused by contrast tapering in shape of an inverted pyramid toward the edematous orifice of an appendix or diverticulum, creating an arrowhead-shaped collection of contrast.

Treatment depends on the type of symptoms and complications that the patient presents with. Acute complications of jejunal and ileal diverticulum require surgery as they are diagnosed as acute abdomen.¹⁰ The recommended technique is resection of the segment involved. The extent of resection depends on the length of bowel involved and the patient's perioperative requirements.¹¹ Some series have reported a morbidity of 4% and a mortality of up to 30%.¹² This very high figure is attributed to a delay in diagnosis and proper treatment. In cases of non-perforated diverticulitis, conservative management with antibiotics and gastrointestinal rest, is said to be useful. Percutaneous drainage has shown good results in intra-abdominal abscesses. In chronic forms, which manifest as chronic pain or abnormal motility, analgesics and intestinal motility regulators may be useful.¹³ Some authors support prophylactic resections due to the seriousness of some complications, such as perforation, while other authors affirm that they have demonstrated no greater benefits and that, furthermore, most patients are elderly and have multiple associated diseases.¹⁰

CONCLUSION

Jejunal diverticulosis is a rare entity and is often left undiagnosed due to either no or vague symptoms. A very high degree of suspicion is hence required for diagnosis. A CECT Abdomen is definitely required for definitive diagnosis, but as patients usually present with acute abdomen, diagnosis is made intra-operatively. In case of early detection, patients can be treated conservatively with intravenous antibiotics unless the patient develops any complication which would they require surgical intervention.

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