Case Report

Jejunal Diverticulae: Presenting as Acute Intestinal Obstruction

Surgery Section

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ABSTRACT

Jejunal diverticulosis (JD) is a rare disease of elderly people. A majority of the diagnosed individuals are asymptomatic and are found incidentally on laparotomy. The disease is clinically significant because of the associated potential risk of serious complications. Due to the variable presentation and the rarity of this clinical entity, its diagnosis is often difficult and delayed, resulting in unnecessary morbidity and mortality.

In our institute, we came across a case of jejunal diverticulae – which presented as acute intestinal obstruction.

Key Words: Diverticulosis, Diverticulitis, Obstruction, Resection and anastomosis

INTRODUCTION

Jejunal diverticulosis (JD) is a rare disease of unknown aetiology which affects elderly people. JD may be true or false. By definition, the wall of the true diverticulosis of the intestine is composed of the entire thickness of the intestine. On the other hand, the false diverticulosis represents a herniation of the mucosa and the submucosa through the muscular coat of the intestine [1]. The prevalence rate of JD is 0.3 – 2.5 %. A majority of the patients with JD are asymptomatic or have minor, non specific gastrointestinal symptoms and are found incidentally on imaging studies or explorative laparotomy which may be done for other reasons [1], [2]. This disease is clinically significant because of the associated potential risk of serious complications. Here, we present a case of JD, presenting as acute intestinal obstruction in our institution.

CASE REPORT

A 65 years old male patient presented with a history of upper abdominal pain and vomiting since one week. The patient gave a history of constipation, recurrent abdominal pain and a bloating sensation. The patient had undergone surgery for peptic ulcer disease 20 years back. His abdominal examination showed fullness in the upper abdomen with visible peristaltic waves. Tenderness was present in the epigastric region. Neither guarding or rigidity nor a palpable mass was found. His bowel sounds were exaggerated. His per rectal examination was normal.

The X-ray of his erect abdomen showed distended small bowel loops with multiple air fluid levels [Table/Fig-1]. The CT of his abdomen revealed a small bowel obstruction.

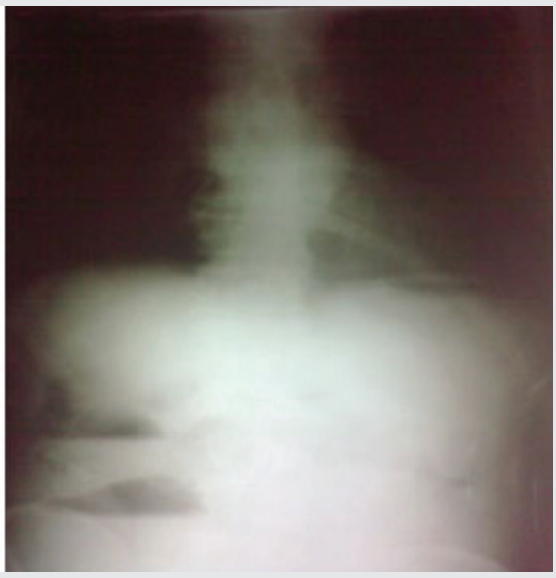
The patient was initially managed conservatively with IV-fluids and antibiotics. The patient did not show any sign of improvement after 24 hours. Emergency laparotomy revealed mild ascites with a diverticulum in the proximal part of the jejunum (30 cms from the Ligament of Treitz) [Table/Fig-2] and [Table/Fig-3], which was adherent to a previous scar. Segmental resection and end to end anastomosis was performed. The final pathological examination confirmed the presence of the jejunal diverticulum with no evidence of malignancy and the recovery was uneventful.

DISCUSSION

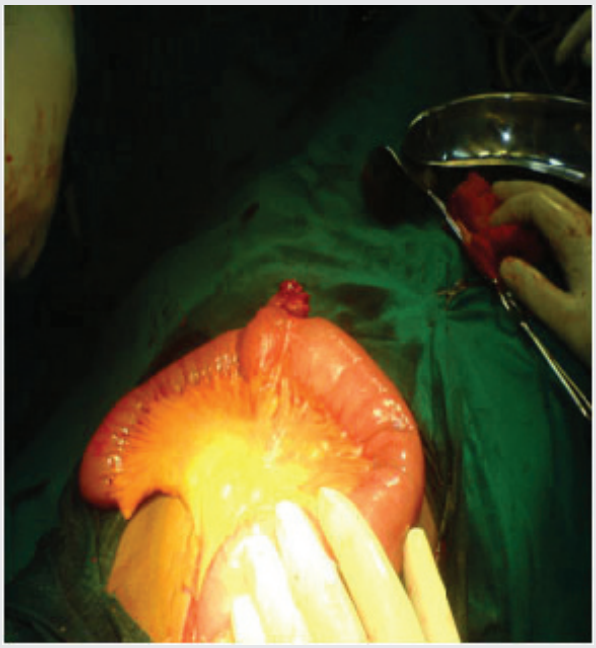
Jejunal diverticulum is a rare entity with an incidence rate ranging from 0.3 to 1.3% in the autopsy series and 2.3% in the radiographic findings [1]. It was first described in 1794 by Sommering and later in 1807 by Sir Astley Cooper. The male to female ratio for JD is 2:1 [3]. Excluding the duodenum and Meckel's diverticulum, the proximal jejunum is the most common site for diverticulae in the small bowel. The co-existence of diverticuli is found in many other parts of the digestive tract [1], [4] [Table/Fig 4].

The aetiology of JD is unclear. It is believed to develop as a result of the abnormalities in peristalsis, intestinal dyskinesis and high segmental intraluminal pressure [5].

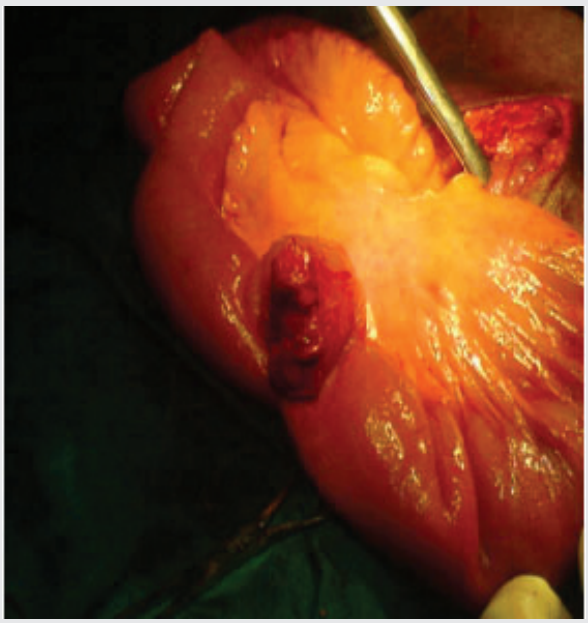
The current hypothesis focuses on the abnormalities in the smooth muscles or the myenteric plexus [1]. A careful microscopic examination will reveal three types of abnormalities [6].



[Table/Fig-1]: X-ray erect abdomen shows multiple air fluid level



[Table/Fig-2]: 5cm long jejunal diverticulae arising from mesenteric side



[Table/Fig-3]: Jejunal diverticulae

Digestive Location	Percentage
Colon	20–70%
Duodenum	10–40%
Oesophagus & Stomach	2%

[Table/Fig-4]:

- Fibrosis and a decreased number of normal muscle cells which are consistent with progressive systemic sclerosis
- Fibrosis and degenerated muscle cells which are suggestive of a visceral myopathy
- Neuronal and axonal degeneration which is indicative of visceral neuropathy.

Any of these abnormalities could lead to a distorted smooth muscle contraction of the affected small bowel, thus generating increased intraluminal pressure, which leads to herniation of the mucosa and the submucosa at the weakest point in the muscle layer of the jejunum i.e. the site of entry of the blood vessels [2], [1].

Jejunal diverticuli are usually asymptomatic and are found incidentally. If they are symptomatic, the most common symptoms include chronic, vague abdominal pain, nausea, vomiting, alternating diarrhoea and constipation, weight loss, anaemia and steatorrhoea. Complications which require surgical intervention occur in 8 to 30% of the patients [6]. The common acute complications include diverticulitis, haemorrhage, perforation and obstruction. Mechanical intestinal obstruction occurs in 2.3 to 4.6% of the cases and this may arise from enterolith formation, intussusceptions, adhesions and volvulus [7],[8].

Noble, in 1971, described a triad which consisted of obscure abdominal pain, anaemia and dilated small bowel loops which were found on X-ray, as highly suggestive of JD [9]. Upper GI radiological contrast studies by using various forms of barium like enteroclysis, are needed for the specific diagnosis, which will clearly show the presence of multiple diverticulae [7]. But these are contraindicated if acute diverticulitis or perforation is suspected. CT is the investigation of choice [2] and it has been proven to be superior to barium studies for demonstrating the acute inflammatory changes and the extent of the disease itself, or its complications [9] [10].

Asymptomatic patients who are diagnosed incidentally by routine contrast studies or by laparotomy for some other causes do not require any treatment and can be kept on follow-up and observed. Surgical treatment is not needed unless refractory symptoms or complications occur [3]. Surgical treatment is frequently required for acutely symptomatic patients with complications. The resection of the involved segment with primary end to end anastomosis is mostly recommended [7]. Simple diverticulectomy is not recommended because it has been linked to post-operative leakage, sepsis and death [4].

In our case, the acute intestinal obstruction was caused by an adhesion to a previous scar. The adhesion may have formed during the course of the recurrent diverticulitis. Although this presentation is rare, we should keep in mind that JD may induce intestinal obstruction of different kinds. These often present a diagnostic dilemma and the clinicians must have a high index of suspicion, so that an operative intervention, if needed, can be done as early as possible.

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