CASE REPORT

Perforated non Meckelian jejunal diverticulum : a rare cause of acute abdomen

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Keywords: Jejunal diverticulum; acute abdomen; exploratory laparotomy

Introduction

Jejunal diverticulosis is a rare condition. Most of the affected patients are asymptomatic though some can present with acute abdomen due to various complications requiring intervention. We describe a patient who was managed successfully with emergency laparotomy due to a perforated jejunal diverticulum.

Case presentation

A 68-year-old previously healthy male presented to the emergency department with acute generalized abdominal pain and 3 episodes of non-bilious vomiting for 8 hours duration. He denied any past episodes of abdominal pain or any other symptoms leading towards a diagnosis except a two-week history of Non-steroidal anti-inflammatory drug use for joint pains. On examination, he was afebrile, but tachycardic (pulse rate 100 bpm) with the blood pressure of 110/70mmHg. Abdominal examination revealed generalized guarding and rigidity with loss of liver dullness on percussion. His abdominal X-ray was unremarkable but erect chest X-ray revealed air under the diaphragm (Figure 1). The full blood count showed mild leukocytosis (WBC-13.5*109/L, Neutrophils – 72%) and was otherwise normal. Urgent ultrasound scan of the abdomen revealed the moderate amount of free fluid in the peritoneal cavity, but no other obvious pathological focus. Emergency laparotomy was planned with a provisional diagnosis of perforated peptic ulcer considering available findings. The laparotomy revealed multiple jejunal diverticula along the mesenteric border extending from duodenojejunal flexure to 60cm length of jejunum and a pinhole perforation of one of the diverticulum closer to the duodenojejunal flexure causing gross contamination of the peritoneal cavity (Figure 2). The diverticula bearing segment was excised and end to end anastomosis of small bowel was done in interrupted single layer seromuscular technique with 2/0 Polydiaxone.

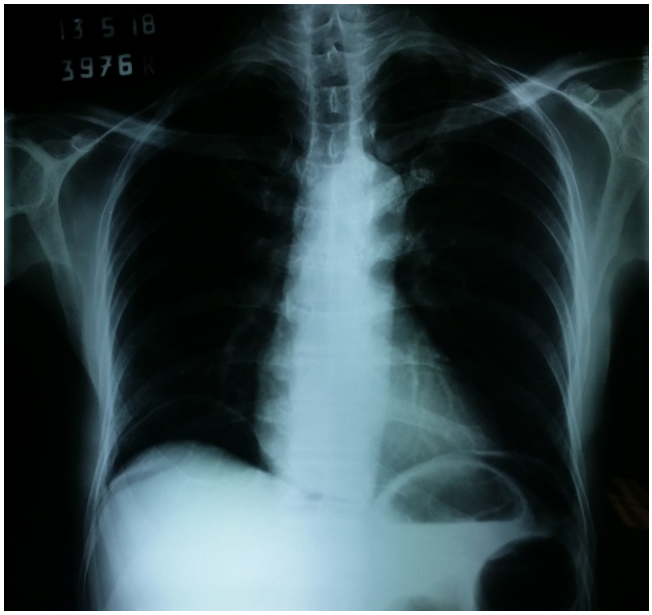

Figure 1. X-ray showing air under the diaphragm indicating pneumoperitoneum

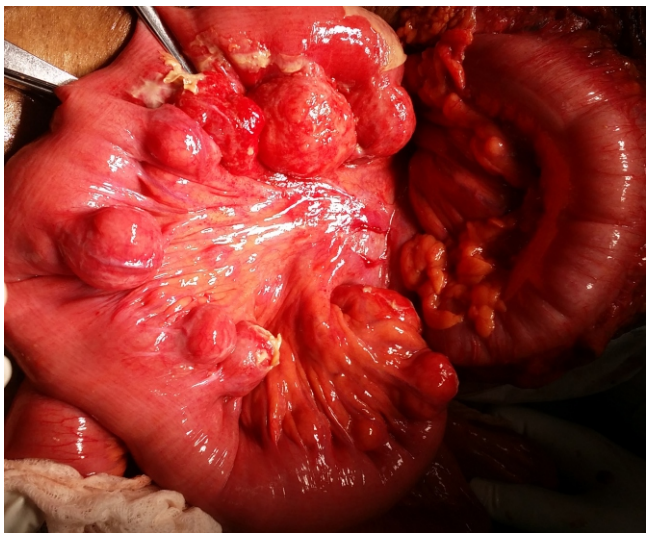

Figure 2. Multiple jejunal diverticula - intra-operative view

A coexisting uncomplicated Meckel's diverticulum was also found. It was excised and the defect was primarily repaired transversely. The abdomen was thoroughly lavage with warm normal saline and mass closure done. Post-operative period was uneventful except for superficial surgical site infection. Histopathology confirmed multiple jejunal diverticula with

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DOI: http://doi.org/10.4038/sljs.v36i4.8559

intact mucosa and a thin muscle wall with a focus of acute suppurative inflammation and haemorrhage at the site of perforation.

Discussion and Conclusions

Non-Meckelian jejunal diverticula are a rare pathology. Reported studies state an incidence of 0.5- 2.3% in contrast studies and 0.3- 4.5% in postmortems [1]. More than 80% of the diagnosed patients are older than 60 years though the condition has been reported in less than 10 years old in the literature [2, 3]. They are considered acquired lesions and are mostly found in the mesenteric border in contrast to Meckel's diverticula. Two pathological types are described. One type has a narrow neck with absent or thin muscular layer while the other type has a wide neck with all layers of the gut wall but with thinning and fibrosis of the muscle layer [3].

While most patients remain asymptomatic, about 20-30% may develop chronic non-specific symptoms such as nausea, vomiting, abdominal pain and fullness. Malabsorption may develop secondary to stasis and bacterial overgrowth. Diverticulitis, bleeding, perforation, intestinal obstruction occur rarely causing acute abdomen. Jejunoileal diverticula are more likely to cause complications compared to duodenal diverticula [3, 4]. Rarely, carcinoma of jejunal diverticula has also been reported in the literature [2]. A focal inflammatory mass in contrast enhanced CT may usually show jejunal diverticulitis though loco- regional complications and severity defines the complete picture [5]. Enteroclysis is the best imaging modality for diagnosis. In acute presentations scintigraphy and angiography (for bleeding), x-ray abdomen with erect chest x-ray and an ultrasound scan of the abdomen (for obstruction and perforation) are useful in achieving a diagnosis. Chronic symptoms are usually well managed conservatively by measures such as antibiotics for bacterial overgrowth. Acute presentations generally require surgical intervention. Most of the time resection of the pathological segment with a primary end to end anastomosis is recommended as in our patient with successful outcomes [1, 3].

Since this is a rare condition accurate diagnosis may be not be made until laparotomy. However jejunal diverticula must be considered as a differential diagnosis in acute or chronic presentations.

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

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Learning Points:

- Jejunal diverticula are a rare pathology with various presentations with both acute and chronic symptoms and signs.
- Acute complicated jejunal diverticula can be successfully managed with resection of affected segment and a primary end to end anastomosis.