CASE REPORT

Two cases of complicated jejunal diverticulosis in a low-resource peripheral teaching hospital

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Abstract

Jejunal diverticula, like other intestinal diverticula, can become complicated and present as acute abdomen. Diagnosis is difficult and management in complicated cases can be surgical as well as conservative. We present two cases of complicated jejunal diverticulosis that presented with acute abdomen and were managed surgically. Post-operative recovery was satisfactory. Jejunal diverticula is a diagnostic challenge in a low-resource peripheral hospital.

Keywords: Jejunal diverticula, Perforation, Low-resource hospital, Diverticulitis.

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Introduction

Diverticula have been known to occur within gastrointestinal tract from the oesophagus to the colon.[1] It is uncommon to have diverticula in small intestine as compared to colon and its annual reported prevalence, assessed by small bowel opacification, is around 0.3-2.3%.[2] Being pulsion diverticula, they often co-exist with diverticulosis of the colon which might indicate common causative factors.[3] Small bowel diverticula are usually asymptomatic, in as much as 40% of the individuals, or they can cause vague and non-specific abdominal symptoms, like mal-absorption and chronic pain. They can also present with acute abdomen where symptoms may be caused by diverticulitis, perforation, bleeding or intestinal obstruction. In these cases, surgical treatment is usually required.[4] We present two cases of jejunal diverticulosis that presented within a week with acute abdomen in surgical emergency, hence fulfilling the unsaid rule of uncommon cases in surgery (rare cases usually come in pairs).

Case 1

A 38-year-old female presented to the emergency of Aziz Bhatti Shaheed Teaching Hospital, Gujrat, on September 27, 2021 with complaint of sudden onset abdominal pain. Pain was severe and dull in character. It started in the epigastrium and spread to the whole abdomen within a few hours and had been continuous since then. It was aggravated by movement and relieved by lying still. It was associated with anorexia, nausea, vomiting, and absolute constipation for two days. There was no history of acid peptic disease, NSAID intake, steroid intake, fever, changes in bowel habits or melena. There was no significant past medical or surgical history.

On examination, the patient had pulse 120 beats per minute, respiratory rate 26 breaths per minute, and blood pressure 100/70. The abdomen showed generalised tenderness and rebound tenderness but no guarding or rigidity. Bowel sounds were absent. Chest X-ray in erect position showed free air under the diaphragm. Clinical diagnosis of acute peritonitis due to perforated duodenal ulcer was made and the patient was taken to the theatre for exploratory laparotomy after resuscitation and consent.

On exploration, instead of duodenal perforation, 12 diverticula were noted in proximal jejunum in a segment

Figure-1: Multiple jejunal diverticula with one perforated (left extreme) (Case 1).

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of about 40cm starting from 15cm distal to duodenojejunal junction. All diverticula were on the mesenteric border, about 6 cm in size and three of them were perforated. There was about 150ml debrinous fluid within the peritoneal cavity. Resection of the affected segment of jejunum (including all diverticula) and end to end jejuno-jejunostomy was done. Mesenteric lymph node was also taken for biopsy (Figure-1).

The patient was kept in the ICU for the next 12 hours for monitoring and then shifted to the high dependency unit (HDU). Oral intake was started on the fourth post-operative day. Recovery was complicated by wound infection for which stitches were removed and wound was left open to heal by secondary intention. The patient was discharged on the 10th post-operative day in stable condition and was well on follow-up. Histopathology showed diverticulitis with perforation, mesenteric abscess and reactive lymph node.

Case 2

A 60-year-old male with no co-morbidities presented in the emergency of Aziz Bhatti Shaheed Teaching Hospital, Gujrat, on October 4, 2021, with complaint of progressively increasing central abdominal pain and vomiting for two days. He had sudden para-umbilical pain, associated with multiple episodes of non-bilious non-bloody vomiting. The pain became generalised with relative constipation. The patient had previous history of hospital admission with abdominal discomfort and mild to moderate central abdominal pain three days back (Figure-2).

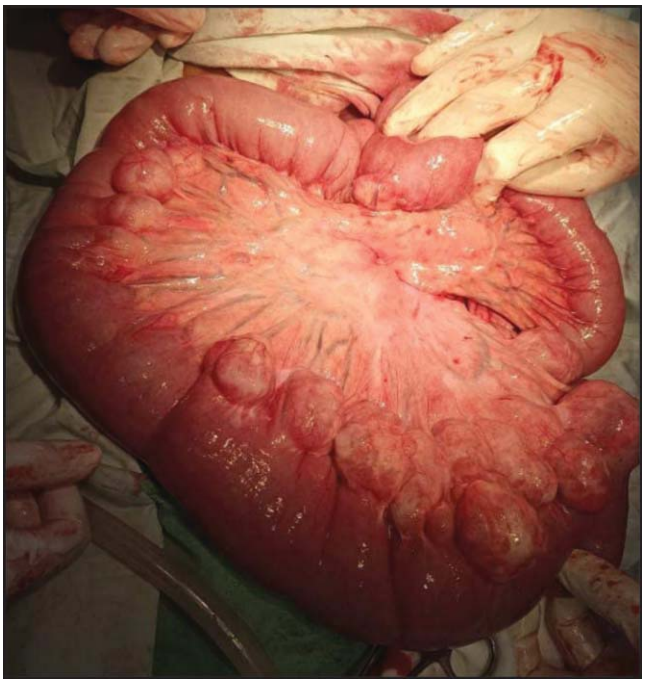

Figure-2: Multiple, inflamed diverticula of jejunum (Case 2).

On examination, the patient was irritated and lethargic with blood pressure 100/80, pulse 102/minutes, temperature 98°F and respiratory rate was 20/min. The abdomen showed generalised tenderness. On passing the nasogastric tube about 1,000ml of debrinous fluid was collected. He was resuscitated with IV fluids and IV antibiotics, and analgesia were given. Diagnosis of acute peritonitis due to intestinal perforation was made and exploratory laparotomy was performed. On exploration, multiple inflamed jejunal diverticula were noted in proximal jejunum starting from 20cm distal to the duodeno-jejunal junction. No perforation was noted but enlarged mesenteric lymph nodes were present. The rest of the alimentary tract was normal. Resection of about 45cm segment of jejunum containing all diverticula and end-to-end jejuno-jejunostomy was done. Sample was sent for histopathology. In post-operative period, the patient was monitored in the ICU for 24 hours and then shifted to the HDU. Oral nutrition was started on the fourth day. Recovery was uneventful and the patient was discharged on the eighth post-operative day. The patient was well on follow-up.

Histopathology was consistent with diverticulitis.

Discussion

Jejunal diverticula are an uncommon type of intestinal diverticula. Although their true aetiology is unknown, it is suggested that raised intraluminal pressure, focal muscular weakness, and gut motility disorders play a role in their development.[5,6] They are pseudo-diverticula (except Meckel's diverticulum), consisting of only mucosa and sub-mucosa that protrude through the muscularis, at the point of anatomical weakness where the vessels enter the wall.[7] They are usually multiple and larger in size in the proximal small gut and diminish in both size and number distally.[8] They can remain asymptomatic in about 40% cases with non-specific symptoms of abdominal pain, bloating, satiety, steatorrhea and malabsorption.[9] They are difficult to diagnose clinically and, due to their rarity, they are not included among the leading differential diagnosis. So far, it is suggested that detailed evaluation with CT scan may help in the diagnosis, and features like air and fluid within the mesentery might point toward the diagnosis of diverticulitis with perforation even though the exact localisation of inflamed diverticulum might not always be possible.[3] Most of the cases reported in the past 10 years lie in older age group, with only few of them presenting in young age as our patient No. 1 (i.e. <40 years).[10] In our cases, patient No. 1 was a case of perforated jejunal diverticula, while

patient No. 2 had acute diverticulitis. Both the cases were treated with resection of gut segment to include all the diverticula and post-operative recovery was satisfactory. Pre-operative diagnosis has been a challenge in resource-poor peripheral hospitals where surgeons have to rely on very basic investigations and clinical judgment to make decisions. This is not uncommon, as noted by Leigh N, where a number of cases were explored with other surgical diagnoses only to find complicated jejunal diverticula per-operatively.[11,12]

Most of the reported cases in the recent years were managed with surgical resection of the affected gut segment regardless of the presence of perforation.[10] The same management was done in the current cases as it do did not seem wise to leave a potential future complication within the abdomen after it had already been explored. Hence, pre-operative diagnosis is of paramount importance in order to manage the cases conservatively.

Conclusion

Diagnosis of jejunal diverticula in peripheral teaching hospitals is a diagnostic challenge. Even when complicated jejunal diverticula are encountered per-operatively, resection and anastomosis seem to be the mainstream treatment, although definitive guidelines are still awaited. Jejunal diverticula should be considered in differential diagnosis of acute abdomen just like diverticula of large intestine.

Consent: Verbal consent was taken from both the patients for publishing their cases.

Disclaimer: None to declare.

Conflict of Interest: The Person who signed the IRB is also a co-author of this manuscript.

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