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Multiple Jejunal Diverticulosis with Perforation - A Rare Case

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Abstract: ***Jejunal diverticula is a rare condition. Usually, it is clinically silent and becomes symptomatic only when complications develop. Perforation of a jejunal diverticulum secondary to enterolith formation leading to generalized or localized peritonitis is extremely rare. Herein, we present a case ofperforated jejunal diverticulae due to enterolith in an 80-year-old female patient managed by small bowel resection and primary anastomosis.***

Keywords: Jejunal Diverticulosis, Enterolith, Perforation

1. Introduction

Small bowel diverticula are sac-like pouchings of the small bowel wall that can occur throughout the small bowel. They are most often found in the duodenum, followed by jejunum and ileum. Jejunal diverticular disease is rare and difficult to diagnose. While most cases remain asymptomatic, patients may develop complications including diverticulitis, and in rare cases perforation. We report a case of an 80-year-old Indian lady who presented with acute abdominal pain with jejunal perforation and was diagnosed to have multiple jejunal diverticulosis with impacted fecolith

Jejunal diverticulitis is a very rare condition with a clinical incidence ranging from 0.06% to 1.3% [(1)] It is much less common than colonic diverticular disease and usually seen in the sixth and seventh decades [(2)] Its etiology is unknown. The disease is often asymptomatic and diagnosed incidentally on radiographic imaging. In about 10–30% of the patients, it may manifest with non-specific clinical symptoms and develop serious complications, such as hemorrhage, intussusception, small bowel obstruction, or perforation. Such complications must be promptly diagnosed to reduce the risk of morbidity and mortality [(3)], Owing to the rarity of jejunal diverticulitis, few studies have been published, and there are no known guidelines for treatment. The appropriate approach depends on the patient's symptoms or complications that develop.

2. Case Report

We present a case of an 80 years old Indian lady,who, with an unremarkable medical history, was admitted in emergency medical ward of our hospital with complaints of severe abdominal pain, vomiting and diarrhoea for one week. On clinical examination, she was febrile (Temp = 38.4 C), had Tachycardia (126/min), Abdomen was tender with guarding and rigidity and was not moving with respiration. Blood investigations revealed leukocytosis (WBC count 15,100/L). CECT Abdomen and pelvis showed small bowel thickening with mesenteric haziness with air pockets. (Figure 1 a & b)

The patient underwent an emergency midline laparotomy. It revealed multiple jejunal diverticula at the mesenteric border (Figure 2 a & b) with perforation with enterolith (Figure 3 a & b) and Contained peritonitis. Resection of affected segment with primary anastomosis was done. Her post operative course was uneventful and she was discharged on POD 7 under satisfactory condition. An upper and lower GI scopy was done 1 month following surgery both of which showed normal study. Histopathology of resected small bowel showed large diverticulum covered with exudate, mucosa with extensive ulceration. Perforation site measuring 1 x 0.5 cm showed acute inflammatory cells.

3. Discussion

Jejunoileal diverticulosis was first described over 200 years ago by Soemmering and Baille in their book titled Anatomy of the Pathological Structure of Some of the Most Important Parts in the Human Body in 1794. Jejunal diverticula are the least common type of small bowel diverticula (SBD) [(4)]They are usually multiple and predominantly localized to the proximal jejunum, followed by the distal jejunum. Duodenal diverticula are approximately five times more common than jejunoileal diverticula [(5)]Due to the variable and non-specific clinical presentation, the diagnosis of jejunal diverticula is often difficult and delayed. Most patients with jejunal diverticula are often asymptomatic; however, 10 to 30% of patients may develop acute complications such as infection, bowel obstruction, volvulus, bleeding, and perforation [(7)]

The most serious complications in SBD are gangrene and perforation with a high mortality level, usually caused by a delayed diagnosis and an advanced patient age [(8)]The typical clinical presentation of jejunal diverticula is intermittent abdominal pain, accompanied by flatulence, diarrhea, or constipation. Importantly, symptoms may mimic acute appendicitis with pain localized in the right iliac fossa, in cases of distal ileal diverticulitis [(9)]

Laboratory findings are also non-specific. Leukocytosis and elevated inflammatory markers, such as C-reactive protein, are the most common abnormalities in the presence of jejunal diverticulitis [(4)]CECT abdomen is the imaging investigation of choice due to its availability, rapidity, and high diagnostic accuracy [(10)]Asymmetric wall thickening adjacent to a diverticulum associated with peri diverticular mesenteric fat stranding is characteristic of acute diverticulitis [(5)]

Asymptomatic small bowel diverticulosis requires no treatment [(5,10)] Conservative management can be attempted

in cases with local mild inflammation and in the absence of other complications such as hemorrhage, obstruction, and perforation or abscess. It involves bowel rest, nasogastric suction, parenteral nutrition, IV antibiotics, and percutaneous peri diverticular abscess drainage. In case of failure of the conservative approach or generalized peritonitis, surgical management should be undertaken [6]Surgery is based on resection with a primary anastomosis either with or without preoperative antibiotic therapy [7,11]Surgical treatment of jejunal diverticulitis has, usually, good outcomes. The mortality rate ranges from zero to 5% and reaches 40% in case of perforation. This high mortality level is caused by factors like advanced age, associated comorbidities, peritonitis, and mainly the time interval between perforation and surgery [6,8]

4. Conclusion

Jejunal diverticulitis is a challenging disorder. Its rarity makes diagnosis difficult and thus delayed. It should be considered in the differential diagnosis of intra-abdominal sepsis and chronic abdominal pain. The perforation of jejunal diverticulitis requires emergent surgery to improve the patient's outcome. The treatment of choice for perforated jejunal diverticulum with peritonitis is segmental intestinal resection with primary anastomosis including non-inflamed diverticula.

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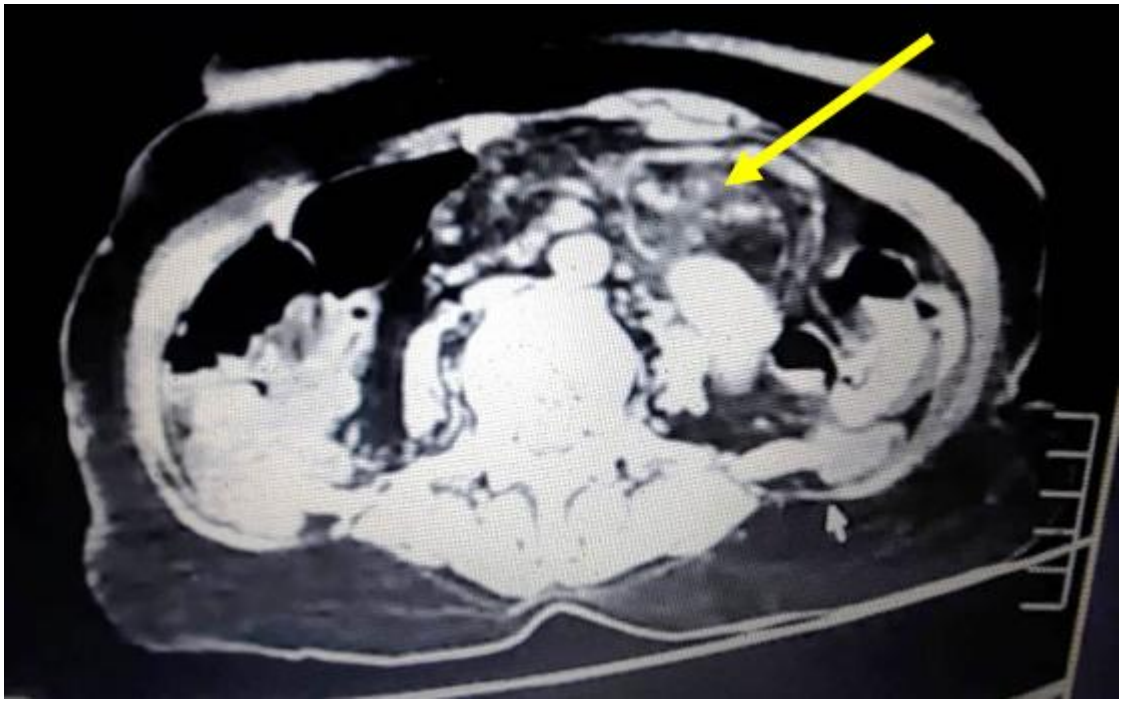

Figure 1 (a & b): CECT Abdomen and Pelvis. Small bowel thickening with mesenteric haziness with air pockets

Figure 2 (a & b): Multiple jejunal diverticula at the mesenteric border with impending perforation

Figure 3 (a & b): Cut specimen showing enterolith with perforations