Case Report

Abdominal Pain: A Silent and Unlikely Cause

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Abstract
While diverticulosis is a common phenomenon in the large intestine, it is a rare disease found in the small intestine accounting for only 0.06% to 1.3% of cases. Although most cases are asymptomatic, roughly 30% to 40%, it is crucial that it is on the differential of acute abdominal pain as it can be life-threatening and potentially require surgical management. Here, we describe a case of a 61-year-old Hispanic man who was found to have a perforated jejunal diverticula after initially presenting with left upper quadrant abdominal pain.

Keywords
diverticulosis, jejunum, perforation, jejunal diverticulum

Introduction
Diverticulosis of the small bowel is a rare disease that is usually discovered incidentally on imaging or during surgery for an unassociated condition. It is characterized by herniation of the mucosa through weak spots along the gastrointestinal tract, leading to sac-like protrusions. It is called a true diverticula when the protrusion involves all 3 layers (mucosa, submucosa, and muscularis externa) of the intestine wall and a false diverticula when the sac includes only the mucosa and submucosa. Most of these intestinal pathologies are acquired except for Meckel diverticulum, which is congenital in nature and usually presents at a young age (~2 years of age).

The incidence of small bowel diverticula ranges from 0.06% to 1.3%.1 While their prevalence is significantly lower than large intestine diverticula, cases increase with age and peak in the sixth to eighth decades of life.2 In the small intestine, duodenum is the most common place for those outpouches, followed by the jejunum and the ileum. In fact, duodenal diverticula are 5 times more common than jejunoileal diverticula with equal predominance among men and women, whereas jejunoileal diverticula are predominantly found in men with a 1.5:1 ratio.3

Although most cases are asymptomatic, 30% to 40% of cases progress to cause malabsorption, hemorrhage, chronic abdominal pain, diverticulitis, obstruction, abscesses, and in severe cases diverticulum perforation.4 Therefore, it is imperative for physicians to consider small bowel diverticula in patients presenting with abdominal pain, nausea, fever, and other nonspecific gastrointestinal (GI) symptoms to prevent such complications that can be life-threatening and potentially require surgical management. Here, we describe a case of a 61-year-old Hispanic man who on initial presentation of left upper quadrant abdominal pain was found to have a perforated jejunal diverticula.

Case Report
A 61-year-old Hispanic man with a medical history of hypertension, which is managed by diet and lifestyle, and Helicobacter pylori (H pylori) gastritis found on esophagogastroduodenoscopy (EGD) in 2019 presents to the emergency department due to new-onset sharp and cramping 10/10 diffuse abdominal pain that began in his left upper quadrant, which woke him from sleep at 1 o’clock in the morning. His past surgical history is significant for an exploratory laparotomy 25 years ago secondary to a gunshot wound in his right upper quadrant. He was hemodynamically stable, afebrile, and saturating well on room air. He denied of any...
Jejunal diverticulosis was first described in 1794 by Sommering as only mucosa and submucosa herniating on the mesenteric side of the small intestine along the muscular layer, which today would be classified as a false diverticula. Still to date, the etiology of jejunal diverticulosis is unknown. Some hypothesize that it is caused by a combination of factors, including increased intraluminal pressure, abnormal peristalsis, and/or dyskinesia. Similar to our case, jejunal diverticula is usually found on the mesenteric side. They also tend to form at the entry point of vessels.

Within the small intestine, the duodenum is the most common localization of small bowel diverticular disease, with the incidence of jejunum and ileum being between 0.7% and 1%. The incidence of simultaneous diverticula in the large intestine and the small intestine, particularly the jejunum and ileum, is approximately 20% to 70%.

However, there is only a 10% to 40% chance if it is present in the duodenum and only 2% if diverticula are found in the esophagus and stomach.

Because of their rarity, physicians must suspect these jejunal diverticula for them to be found. One study showed a 0.06% incidence of jejunal diverticula in postmortem examinations. The following year investigators used moderate air insufflation and careful inspection of the small bowel during these postmortem examinations. This resulted in an incidence of 1.33%, a 22-fold increase in incidence.

Without increased suspicion, these diverticula will not be found, likely resulting in worse patient outcomes.
Sharma et al described a recent case where a patient with respiratory failure due to COVID-19 complained about sudden-onset abdominal pain without nausea, vomiting, or fever. As abdominal pain happens to be in the array of symptoms for COVID-19 among other diseases, it becomes challenging to have a high suspicion for small bowel diverticular perforation. The patient was subsequently found to have jejunal diverticular perforation requiring surgical intervention. Similar to our case, this case also highlights the importance of having a high index of suspicion for small bowel diverticulosis and perforation as it is extremely rare with low intraluminal pressure and can be fatal. Duggan et al also described a case similar to ours where the patient presented with an isolated perforation of the jejunal diverticulum requiring surgical intervention. This case also reiterates the rarity of the presentation of jejunal diverticulosis solely with perforation.

Most cases of jejunal diverticula are uncomplicated and patients are usually asymptomatic. The symptoms can be as vague as nausea, vomiting, and any kind of abdominal pain whether it be epigastric or periumbilical. Complications arise in about 30% of cases, which include bleeding, obstruction, and perforation. As seen in the case presented above, he presented with perforation on initial evaluation.

Jejunal diverticulosis is a rare phenomenon that can lead to life-threatening complications. As most cases are asymptomatic and often miss being diagnosed, it is imperative that physicians consider it as a differential when the diagnosis of abdominal pain or acute abdomen is presented.

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