

Pyocolecyst in Elderly Patients with Jejunoileal Diverticulosis as a Transoperative Finding. Clinical Case

Luis Arturo Falcón-Cancino

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

Alejandro Alberto Flores-López

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

Rilma del Carmen Ferrera-Salas

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

Rubén García-Flores

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

Laura Daniela Caridad Carrillo-Pinto

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

Adriana Teresa Cruz-Méndez

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

Guillermo Padrón-Arredondo

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

Alejandro Lenin Villalobos-Rodríguez

Cínica-Hospital Mérida APP del ISSSTE
Calle 21 s/n Comisaría de Susulá. Mérida, Yucatán, México

ABSTRACT

Introduction: Small intestine diverticulosis is a rare finding, recognized as a cause of non-specific symptoms of the gastrointestinal tract, and however, it is capable of causing life-threatening complications. It frequently occurs in older individuals, as was our case. An incidence between 0.2 to 4.5% is in autopsies reported. Small intestinal diverticula contain only mucosal and submucosal layers, which herniated through the muscular layer and pseudodiverticula classified. **Clinical Case:** A 95-year-old female with a history of hospitalization one year ago due to cholangitis

associated with choledocholithiasis, which ERCP resolved, was discharged for not accepting elective cholecystectomy. She started with epigastric pain 48 hours before hospitalization, accompanied by nausea and vomiting on one occasion of gastro biliary content. Upon questioning, she reported abdominal pain in the right colic frame, present uresis, and no bowel movements. Integrated diagnosis of acute cholecystitis, emergency open cholecystectomy is determined and was done complete cholecystectomy was, later as a finding multiple thin-walled and vascularized diverticula were observed located in the jejunum 70 cm from the angle of Treitz and running towards the ileum, without apparent intestinal distress or perforation, thus concluding the surgical procedure. **Discussion:** Gallstone disease is a common health problem with an annual incidence of 1 to 4% in the general Western population. For uncomplicated jejunal diverticulosis, the treatment depends on the clinical stadium presentation and its complications, hence the importance of imaging techniques in pre-surgical diagnosis. In uncomplicated jejunal diverticulosis, the treatment is unnecessary; in uncomplicated jejunal diverticulitis, treatment is conservative, with only antibiotics; in perforated diverticulitis, intravenous antibiotic therapy and can be chosen CT-guided drainage and open or laparoscopic surgery is the choice in the case of peritonitis.

Keywords: Gallbladder, Empyema, Small bowell, Jejunoileal diverticulosis.

INTRODUCTION

The first reports of the jejunoileal diverticular disease were presented by Sommervit (1794), Voigtel (1804), and Cooper 1807). The first radiological preoperative diagnosis was established in 1920 by case during the performance of a gastrointestinal series. The diagnosis is made by contrasting radiological studies, surgical exploration, and autopsy (1). The incidence of diverticula in the small intestine varies from 1 to 2%. They are 5 to 8 times more common in the jejunum than in the ileum and are multiple in 75% of patients. Jejunoileal diverticula can be acquired or multiple, presenting after the sixth decade of life. In addition, they are more frequent in men. Jejunoileal diverticula remain asymptomatic in 60 to 70% of cases, and only symptomatic cases and their complications that require surgical intervention occur in 10 to 19% of cases.

Small intestine diverticulosis is a rare finding, it has been recognized as a cause of non-specific symptoms of the gastrointestinal tract, and however, it is capable of causing life-threatening complications. It frequently occurs in older individuals, as was our case. An incidence between 0.2 to 4.5% has been reported in autopsies. Small intestinal diverticula contain only mucosal and submucosal layers, which herniated through the muscular layer and are classified as pseudodiverticula. These are generated during increased intraluminal pressure or intestinal dyskinesia, producing localized areas of high pressure in the small intestine. Diverticulosis can be primary (acquired or with underlying visceral myopathy) or secondary to Crohn's disease, tuberculosis, Etc. The difference is made with Meckel's diverticulum, which is a congenital diverticulum. Jejuno-ileal diverticula typically arise at the mesenteric border of the small intestine, usually at the vasa recta entry sites. Anatomically, 80% of diverticula originate in the jejunum, 15% in the ileum, and 5% in both. The problem is due to the larger diameter of the penetrating vessels in the proximal portion of the small intestine. Jejunal diverticula vary in size, generally between 1 and 4 cm, but can be as large as 9 cm. Ileal diverticula are generally smaller, measuring between 2 and 15 mm. (2)

On the other hand, acute cholecystitis is one of the most frequent surgical entities treated in the Emergency Department; it is an acute inflammatory disease that occurs after obstruction of the cystic duct by gallstones or lithogenic bile. It occurs when the obstructed gallbladder becomes infected and contains bile with purulent material. The most frequent etiological agents are gram-negative enteropathogens: *Escherichia coli*, *Klebsiella* spp and *Streptococcus faecalis*, *Staphylococcus aureus*, *Clostridia*, and *Bacteroides*. However, other pathogens can affect the gallbladder and cause complications (3). The most frightening complication is vesicular empyema, which represents 6 to 27% of complicated acute cholecystitis, with mortality close to 3%.

This case was admitted due to an acute picture of a complicated vesicular disease treated satisfactorily, as seen in the clinical case description. However, the decision to report this case was due to the transoperative finding of completely asymptomatic jejunoileal diverticular disease, and although the original condition that brought this patient to the operating room was a severe pycholecyst, which drew the attention of the other underlying disease, which was wholly asymptomatic but which in her case could become complicated and also put the lives of these patients at risk, in addition to being difficult to diagnose.

CLINICAL CASE

A 95-year-old female with a history of hospitalization one year ago due to cholangitis associated with choledocholithiasis, which ERCP resolved, was discharged for not accepting elective cholecystectomy. She denies any other relevant history. She started with epigastric pain 48 hours before hospitalization, accompanied by nausea and vomiting on one occasion of gastro biliary content. Upon questioning, she reported abdominal pain in the right colic frame, present uresis, and no bowel movements for three days. On physical examination, the patient was awake and conscious, with mucous membranes with dehydration and pale integuments, pupils with bilateral opacities, distended abdomen with pain and hyperalgesia on palpation in the right hypochondrium, positive Murphy's sign, with a positive rebound sign in the right hemiabdomen. Laboratory studies with leukocytosis $18.06 \times 10^3/\mu\text{L}$, neutrophilia 83.6%, slightly prolonged coagulation times, liver function tests with an increased total bilirubin of 3.15 mg/dL, 1.05 mg/dL, and 2.1 mg/dL of direct and indirect bilirubin, respectively, alkaline phosphatase and gamma-glutamyltransferase slightly increased. Ultrasound reports a distended gallbladder with a 28 x 18 mm stone embedded in the neck, a 10 mm edematous wall, and perivesicular fluid. A diagnosis of acute cholecystitis is integrated, and emergency open cholecystectomy is determined. Peritoneal reaction fluid and distended gallbladder were found, thickened walls with multiple adhesions Granat 3: gallbladder-omentum and gallbladder-transverse colon; adhesions are dissected, and 150 mL of bilipurulent fluid inside the gallbladder is aspirated, as well as mobilization of a single stone of 2x3.5 cm embedded in the neck, cystic duct and cystic artery are identified, and complete cholecystectomy is obtained, later as a finding multiple thin-walled and vascularized diverticula were observed, located in the jejunum 70 cm from the angle of Treitz and running towards the ileum, without apparent intestinal distress or perforation, thus concluding the surgical procedure (Figs. 1 and 2). In the postoperative period, the patient evolved favorably and was discharged due to improvement four days after the operation.



Figure 1. Jejunal diverticula 70 cm from the angle of Treitz.



Figure 2. Manual reduction of diverticulum into the intestinal lumen.

DISCUSSION

Gallstone disease is a common health problem with an annual incidence of approximately 1 to 4% in the general Western population. Gallstones are usually asymptomatic, but biliary colic can present as intermittent colicky pain when a stone temporarily obstructs the cystic duct. However, this obstruction can persist and cause complete obstruction. Persistent obstruction, inflammation, and bacterial overgrowth within the gallbladder lumen and tissue can lead to eventual venous engorgement, pressure necrosis, and even perforation of the gallbladder wall. Such a course may include the accumulation of pus within the gallbladder and empyema formation. Gallbladder empyema may present with signs similar to acute cholecystitis. Patients may present with upper abdominal pain with a positive Murphy sign. As the infection progresses, there may be evidence of high fever, chills, and sepsis. Gallbladder empyema

requires aggressive treatment with antibiotics, volume drainage, and pressure reduction of the contents of the gallbladder lumen by urgent removal of the diseased organ, as occurred in our case (4). If not treated urgently, empyema and gallbladder rupture can induce peritonitis and bacteremia, leading to a rapid systemic inflammatory response and shock.

Although acute cholecystitis was once considered a contraindication to laparoscopic cholecystectomy, recent evidence suggests that admission of cholecystectomy is the treatment of choice. Admission is still considered by some to be unsafe and carries a higher risk of conversion and complications in cases of laparoscopic surgery (5). However, managing gallbladder empyema, a severe form of acute cholecystitis, remains controversial, with some authors advocating delayed surgery with or without initial treatment. Other available management can be percutaneous drainage where the resource is available.

For uncomplicated jejunal diverticulosis, the treatment is in such a way that the treatment is variable depending on the clinical presentation and its complications, hence the importance of imaging techniques in pre-surgical diagnosis. In uncomplicated jejunal diverticulosis, the treatment is unnecessary; in uncomplicated jejunal diverticulitis, treatment is conservative, with only antibiotics; in perforated diverticulitis, intravenous antibiotic therapy and CT-guided drainage can be chosen, and open or laparoscopic surgery is the choice in the case of peritonitis (6).

Watanabe et al. (8) report a case of diverticular disease in the entire jejunum and ileum in such a way that the surgery they performed was limited to avoiding short bowel syndrome. They said there was little accentuated inflammation, although the diverticulitis with abscess was localized. His patient had been previously treated with antibiotics twice, resulting in prolonged inflammation due to recurrence and exacerbation of diverticulitis with perforation. Consequently, an abscess formed that involved the adjacent small intestine, necessitating resection of a longer intestinal length. This case suggested surgical intervention in the early-onset stage of diverticulitis with perforation could avoid combined resection of adjacent non-inflammatory small bowel with satisfactory results.

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