Management of jejunal diverticulitis. Experience in our center
Manejo de la diverticulitis yeyunal. Experiencia en nuestro centro

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Abstract

Jejunal diverticular disease is a very uncommon pathology often asymptomatic. Associated complications appear in less than 30% of patients and they can present as diverticulitis, refractory inflammation, obstruction, hemorrhage, perforation or intraabdominal abscess formation. Clinical manifestations are usually unspecific and high suspicion index is required to reach the diagnosis. Treatment of complications includes volume replacement, transfusions, antibiotic therapy, percutaneous drainage or surgical intervention. We present a retrospective observational study of the cases treated in our hospital between 2007 and 2016.


Resumen

La enfermedad diverticular yeyunal es una condición clínica muy poco frecuente y habitualmente asintomática. Las complicaciones asociadas aparecen en menos del 30% de los pacientes y pueden manifestarse como inflamación de los divertículos, obstrucción intestinal, hemorragia digestiva, malabsorción intestinal, formación de abscesos intraabdominales y perforación. La clínica de los pacientes es muchas veces inespecífica, requiriendo un alto grado de sospecha para llegar al diagnóstico. El tratamiento de las complicaciones de la enfermedad diverticular es variado, incluyendo reposición de volumen o transfusiones, antibioticoterapia, drenaje percutáneo o intervención quirúrgica. Presentamos un estudio observacional retrospectivo de los casos tratados en nuestro hospital entre 2007 y 2016.


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Introduction

Diverticula are saccular formations arising from the intestinal wall. They are much more frequent in the colon, although they can also be found in the small intestine. Of those appearing in the small intestine, duodenal diverticula have a higher prevalence (80%) than those located in the jejunum and ileum (20%)\(^1\). Depending on the layers of the wall that are affected, they can be classified as true diverticula (involving the entire intestinal wall) and pseudodiverticula (where the mucosa and submucosa are herniated through the muscular layer, usually in areas of wall weakness, coinciding with the passage of nutritional vessels along the mesentery)\(^2,3\), with the latter being more common. They can also be divided into intraluminal (congenital) or extraluminal (usually acquired).

Jejunal diverticular disease is a rare clinical condition. Most patients do not suffer any symptoms associated with this disease if there are no complications, which only appear in 10-30% of cases. These complications include inflammation of diverticula (diverticulitis), intestinal obstruction due to volvulus, bleeding, intestinal malabsorption, intra-abdominal abscesses formation and abdominal cavity free perforation\(^4,5\). In these cases, clinical presentation is often nonspecific, and a high degree of suspicion is therefore required for their diagnosis.

Diagnosis is, in most cases, casual, during a complementary test for another reason.

Treatment of asymptomatic diverticula is not indicated, and only complications are managed in case they occur\(^7\).

Methods

We present the results of a descriptive, retrospective, observational study conducted in our hospital, a tertiary care center, of patients diagnosed with jejunal diverticulitis between 2007 and 2016. All patients were diagnosed by abdominal computed tomography (CT). In total, 12 cases were analyzed. The collected data included age at presentation of the condition, gender, risk factors for poor evolution, presence of data consistent with complications, administered treatment and subsequent evolution of each patient.

Results

Twelve patients were analyzed, out of which 7 were men (58%) and 5 women (42%), with an mean age of 79 years (range: 69-92 years). Among the comorbidities they presented, one patient on chemotherapy treatment for acute myeloid leukemia, one patient with chronic kidney failure, three patients with dementia and five with arterial hypertension under treatment stand out. Four of our patients had previous abdominal surgeries.

All studied patients had abdominal pain as main complaint, with fever or vomiting, or both, only in four cases (33%).

Half the patients showed leukocytosis in the laboratory tests practiced at the emergency department, with one case of neutrophilia without leukocytosis. In six (50%) of these patients, data of pneumoperitoneum were found on abdominal CT, while in one case (8%), data consistent with intestinal obstruction were observed, and in another case, an abscessed collection was found at admission. The rest of the patients had only inflammation of saccular formations dependent on the jejunum (Fig. 1).

Two patients underwent emergency surgery upon hospital arrival, with intestinal resection of the affected segment (perforated diverticulum prior to intestinal adhesion that caused retrograde obstruction) being carried out in one of them and abdominal cavity lavage and drainage placement using a laparoscopic approach, without intestinal resection, in the other one. Another case was operated after poor evolution with antibiotic treatment, with resection of the compromised area and anastomosis in one surgical time. Pathological anatomy in both cases where bowel resection was practiced revealed data consistent with perforated diverticulosis with diverticulitis and peritonitis. Nine patients (75%)...
were conservatively treated with antibiotic therapy, with one of them requiring percutaneous drainage for an intraabdominal collection.

Hospitalization period had mean of 13 days, with a range of 3 to 60 days (this longer hospitalization period corresponds to the patient who was operated after conservative management failure). Antibiotic treatment, which was maintained on an outpatient basis in 10 of the 12 cases, lasted a mean of 20 days (range: 10-48).

One of the patients, initially conservatively treated due to CT findings of uncomplicated jejunal diverticulitis, required readmission due to poor evolution at home with oral antibiotic therapy. Upon arrival at the emergency room, the condition had evolved with respect to the moment of discharge, this time presenting with intra-abdominal collection. For its management, intravenous antibiotic therapy and percutaneous drainage of the collection were associated.
In another patient, late relapse occurred at 2 years, with no complications appearing in neither of both admissions and with resolution of both with intravenous antibiotic therapy.

No mortality associated with this pathology was recorded in our series (Table 1).

Discussion

Diverticular disease of the small intestine is rare, with an incidence of 0.06-1.5% (up to 5% according to series in autopsies)\(^6\), with the highest incidence being observed at the seventh decade of life and thereafter\(^8\). However, incidence might be higher, since most patients remain asymptomatic. Diverticula located in the jejunum and ileum are more common in men. They are usually associated with previous existence of intestinal motility disorders due to progressive systemic sclerosis, neuropathies and myopathies, and to the presence of postoperative adherences that cause sub-occlusive recurrent conditions\(^10\). In most cases, there are no complications, but it can be a cause of acute abdomen.

Clinical presentation can be highly unspecific, with diffuse abdominal pain, intestinal malabsorption with diarrhea and weight loss, low digestive hemorrhage, fever, and even acute abdomen in case of inflammation with or without diverticulum perforation\(^11,12\).

In cases of complication and acute clinical presentation with pain, fever, intestinal obstruction, hematocchezia, weight loss or other symptoms, the tests to be performed are abdominal CT with intravenous contrast, magnetic resonance imaging or endoscopy\(^13-15\), or both. Sometimes, complementary tests are not enough to reach a safe diagnosis, and surgical exploration becomes necessary (laparotomy or laparoscopy).

The complications that can appear include inflammation, bleeding, obstruction, abscess formation and perforation of one or several diverticula\(^16\). Their management can be conservative, with resuscitation maneuvers in case of bleeding and intravenous antibiotic therapy when inflammation or abscess occur\(^17,18\). In case of not responding to these measures, more aggressive maneuvers are required, percutaneous drainage or laparoscopy/exploratory laparotomy for intestinal resection of the compromised segment, usually followed by primary anastomosis\(^19,21\).

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Conflicts of interest

The authors declare not having any conflicts of interest.

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