P. Martínez-Ayala[a,*], L.A. González-Hernández[a], F. Amador-Lara[a], J. Andrade-Villanueva[a], M. Ramos-Solano[b]

[a] *Unidad de VIH, Hospital Civil de Guadalajara Fray Antonio Alcalde, Guadalajara, Jalisco, Mexico*
[b] *Instituto de Investigación en Inmunodeficiencias y VIH, Departamento de Clínicas Médicas, CUCS - Universidad de Guadalajara, Guadalajara, Jalisco, Mexico*

* Corresponding author. Unidad de VIH, Hospital Civil de Guadalajara Fray Antonio Alcalde, Guadalajara, Jalisco, Mexico. Tel.: +01-33-36-575633.
E-mail address: pemayala4@gmail.com (P. Martínez-Ayala).

2255-534X/

Perforation of Meckel's diverticulum by a foreign body☆

Perforación de divertículo de Meckel por cuerpo extraño

Meckel's diverticulum (MD) is a vestigial remnant of the omphalomesenteric duct that consists of a saccular dilation of the small bowel, located at the antimesenteric border, generally at fewer than 60-100 cm from the ileocecal valve. It is the most common malformation of the small bowel and has a prevalence of 2-3%. Symptomatic MD is more frequent in males than in females.[1] It is composed of all the bowel wall layers and therefore is a true diverticulum. Up to 60% of the cases can present with heterotopic tissue of the gastric, pancreatic, colonic, or duodenal mucosa.[2]

We present herein an unusual case of MD perforated by a foreign body.

A 71-year-old man with a past medical history of COPD and peptic ulcer sought medical attention for abdominal pain in the right iliac fossa of 24-h progression, associated with hyporexia. There was no other accompanying symptomatology. Physical examination revealed pain in the lower hemiabdomen with guarding, as well as the Blumberg's sign and Rovsing's sign. Laboratory results reported leukocytosis (11,280/μl) with 63.3% segmented neutrophils and a slightly increased C-reactive protein level (1.2 mg/dl). Clinical diagnosis of acute appendicitis was made, indicating urgent surgery. A cecal appendix with normal characteristics was observed through a pararectal incision, and so the small bowel was explored. An 80-cm MD of the ileocecal valve was identified, with inflammatory signs secondary to perforation by a foreign body, suggestive of a fish bone, with fragments of fibrin in the surrounding area (fig. 1A). Appendectomy was performed along with a Meckel diverticulectomy, sectioning its base with a linear stapler (fig. 1B). The histopathologic study confirmed the normality of the vermiform appendix, as well as the inflammatory changes in the MD. The patient had favorable postoperative progression and was released on day 6 after the surgery. He was asymptomatic at month 6 of follow-up.

MD is generally asymptomatic and only 4.2-16.9% have clinical manifestations.[3] It is usually an incidental finding, identified in imaging studies or interventions performed for a different indication. When symptoms do present, they tend to be similar to those of acute appendicitis or those derived from a complicated MD. Bowel obstruction (35%), gastrointestinal bleeding (32%), diverticulitis (22%), umbilical fistula (10%), or perforation secondary to a foreign body (5%) are among the possible complications.[4] The differential diagnosis for MD should include acute appendicitis, peptic ulcer, gastroenteritis, biliary colic, and colonic diverticulitis.[5]

Plain abdominal x-ray, ultrasound, and computed tomography are complementary studies, and even though they are not very specific, they can aid in the differential diagnosis of acute abdomen. They are also useful in cases in which the MD presents as an obstruction or perforation.[5] Tc-99m scintigraphy has high sensitivity and specificity, but the number of false positives and false negatives increases with patient age, most likely due to technical difficulty and the overlap of the gallbladder over the area of the MD.[5] Thus, it is not a study that is routinely used, but it is considered the technique of choice in cases of lower gastrointestinal bleeding in children suspected of having a MD.

Management of asymptomatic MD is controversial. According to a review from the Mayo Clinic on patients seen within the time frame of 1950 and 2002, prophylactic resection is not recommended, except in cases presenting in males under 50 years of age, with a MD that is longer than 2 cm or has heterotopic tissue.[6] However, in a study by Cullen et al., they recommend prophylactic resection in all patients under 80 years of age, considering that 6.4% of patients with MD can develop complications.[7] In contrast, there is agreement that all symptomatic MDs should be surgically treated. The most widely used techniques are diverticulectomy and bowel resection. Diverticulectomy is the method of choice, as long as complete extirpation is certain, or the perforation is far from the base. It can be performed through wedge resection or with linear staplers. Bowel resection is indicated in cases of bleeding, diverticulitis, perforation close to the base, tumor, and in wide-based MDs or those in which wedge resection

☆ Please cite this article as: Merayo-Álvarez M, Fernández-Martínez D, Gonzales-Stuva J, Sanz-Álvarez L, Álvarez-Pérez JA. Perforación de divertículo de Meckel por cuerpo extraño. Revista de Gastroenterología de México. 2019;84:112–114.

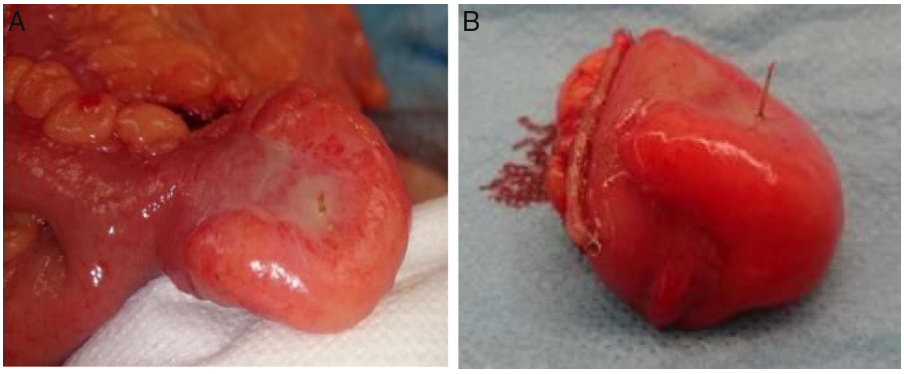

Figure 1 A) Aspect of the Meckel's diverticulum with inflammatory signs and the presence of a foreign body at its tip. B) Detailed image of the surgical specimen with a fish bone completely penetrating the diverticular wall.

involves an intraluminal stricture.[8,9] Minimally invasive techniques, such as laparoscopy, should be considered. It is a safe diagnostic procedure, as well as a therapeutic tool, reducing diagnostic delay, and consequently, morbidity and mortality, while keeping costs at a minimum.[9]

Diagnostic delay in a case of symptomatic MD can reach a 6% mortality rate, especially in the elderly.[3] Therefore, it is necessary to be aware of this entity when making the differential diagnosis for acute abdomen, especially in patients with symptoms consistent with acute appendicitis. When acute appendicitis is not confirmed, the final 180 cm of the small bowel should be examined, searching for a possible complicated MD and proceeding with its correct treatment.[5]

Authorship/collaborations

Marta Merayo-Álvarez worked in data acquisition and collection, and in the writing of the article. Daniel Fernández-Martínez participated in data acquisition and collection, and in the writing of the article and its critical review. Jessica Gonzales-Stuva participated in data acquisition and collection, and in the writing of the article. Lourdes Sanz-Álvarez participated in data acquisition and collection, and in the writing of the article. José Antonio Álvarez-Pérez carried out a critical review and the final approval of the article.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that no patient data appear in this article.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Financial disclosure

No specific grants were received from public sector agencies, the business sector, or non-profit organizations in relation to this study.

Conflict of interest

The authors declare that there is no conflict of interest.

Referencias

1. Méndez García C, Suárez Grau JM, Rubio Chaves C, et al. Surgical pathology associated with Meckelś diverticulum in a tertiary hospital: 12 year review. Rev Esp Enferm Dig. 2011;103:250–4.
2. Montenegro MA, Núñez H, Maroto L, et al. Meckel's diverticulum torsion with intestinal loop ischaemia. Cir Esp. 2009;85:59–60.
3. Gonçalves A, Almeida M, Malheiro L, et al. Meckelś diverticulum perforation by a fish bone: A case report. Int J Surg Case Rep. 2016;28:237–40.
4. Palanivelu C, Rangarajan M, Senthilkumar R, et al. Laparoscopic management of symptomatic Meckel's diverticula: A aimple tangential stapler excision. JSLS. 2008;12:66–70.
5. Malik AA, Shams-ul-Bari, Wani KA, et al. Meckelś diverticulum revisited. Saudi J Gastroenterol. 2010;16:3–7.
6. Park JJ, Wolff BG, Tollefson MK, et al. Meckel diverticulum: The Mayo clinic experience with 1476 patients (1950-2002). Ann Surg. 2005;241:529–33.
7. Cullen JJ, Kelly KA, Moir CR, et al. Surgical management of Meckel's diverticulum, An epidemiologic, population-based study. Ann Surg. 1994;220:564–9.
8. Hosn MA, Lakis M, Faraj W, et al. Laparoscopic approach to symptomatic Meckel diverticulum in adults. JSLS. 2014;18:e00349.
9. Ding Y, Zhou Y, Ji Z, et al. Laparoscopic management of perforated Meckelś diverticulum in adults. Int J Med Sci. 2012;9:243–7.

M. Merayo-Álvarez*, D. Fernández-Martínez,
J. Gonzales-Stuva, L. Sanz-Álvarez, J.A. Álvarez-Pérez

Sección de Coloproctología, Servicio de Cirugía General y del Aparato Digestivo, Hospital Universitario Central de Asturias, Oviedo, Spain

* Corresponding author. Servicio de Cirugía General y del Aparato Digestivo. Hospital Universitario Central de Asturias. Avda. de Roma s/n. 33011. Oviedo, Spain.
Tel.: +0034 985 108 724
E-mail address: mmerayoalvarez@usal.es
(M. Merayo-Álvarez).

2255-534X/

Primary pancreatic lymphoma as a cause of obstructive jaundice☆

Linfoma pancreático primario como causa de ictericia obstructiva

Primary pancreatic lymphoma (PPL) is a rare entity. It accounts for approximately 0.5% of pancreatic neoplasias and less than 2% of lymphomas.[1] PPL presents more commonly in males and the head of the pancreas is the most frequently affected region.[2] The most common histologic type is non-Hodgkin lymphoma. PPL clinical manifestations and radiologic findings must be differentiated from other pancreatic processes, given that its outcome, treatment, and survival differ from those of the rest.[3]

We present herein a case of PPL diagnosed and treated at our hospital center.

A 53-year-old woman with an unremarkable past history sought medical attention for epigastric pain, malaise, and a 3-kg weight loss within the last month. Physical examination revealed mucocutaneous jaundice and abdominal pain in the epigastrium. Laboratory test results reported total bilirubin 6.03 mg/dl, GOT 318 IU/l, and GPT 524 IU/l. An abdominal ultrasound study showed extrahepatic bile duct dilation, with progressive distal narrowing, and a 4 x 3 x 2-cm hypodense mass at the head of the pancreas. A computed tomography scan identified intrahepatic and extrahepatic bile duct dilation, a choledochus with a 17-mm diameter, normal caliber of the duct of Wirsung, and pathologic-appearing adenopathies in the area of the celiac trunk and the mesenteric root (fig. 1A). Endoscopic retrograde cholangiography revealed bulging of the duodenal papilla, suggestive of an ampullary tumor or distal cholangiocarcinoma. A 10-Fr plastic biliary stent was placed, and biopsies were taken of the papilla that were consistent with a nodular lymphoid infiltrate. Given the diagnostic doubt with the complementary studies, the lack of availability of echoendoscopy at our hospital center, and the absence of peripheral lymph node involvement, we decided upon surgical examination to perform lymph node biopsy in the area of the common hepatic artery. The histologic diagnosis was follicular lymphoma (fig. 1B). Extension studies were completed with bone marrow biopsy and flow cytometry, ruling out involvement at other levels. The definitive diagnosis of PPL was made and treatment was begun with chemotherapy (a total of 6 cycles of R-CHOP) and external radiotherapy (a total of 36 Gy were administered). The patient presented with clinical and radiologic improvement and jaundice was resolved. The biliary stent was removed at 120 days via endoscopy. At follow-up, after 24 months, a PET-CT scan identified pathologic adenopathy at the mesenteric root (fig. 1C), and bimonthly treatment with rituximab was begun. Later imaging studies revealed complete metabolic response to treatment (fig. 1D). At 48 months from diagnosis, the patient is asymptomatic with no active lymphoproliferative disease.

Classically, PPL is diagnosed when the following criteria are met: the presence of a mass that predominantly affects the pancreas with peripancreatic lymph node involvement, normal hemogram, and the absence of palpable adenopathies, of mediastinal involvement, and of hepatosplenic metastases.[3] The most common clinical manifestations are abdominal pain, weight loss, jaundice, acute pancreatitis, small bowel obstruction, and diarrhea.[2]

Ultrasound, CT, and NMR are outstanding imaging techniques for aiding in differentiating PPL from adenocarcinoma. Radiologically, PPL is a voluminous tumor, located at the head of the pancreas, with no significant dilation of the duct of Wirsung, and with adenopathies adjacent to the renal veins.[4] Generally, PPL is larger than adenocarcinoma, and unlike those tumors, it grows around blood vessels without infiltrating them. The definitive diagnosis is made through histologic study, and endoscopic ultrasound-guided fine needle aspiration (FNA) biopsy is considered the diagnostic method of choice.[3] However, because the tissue samples obtained with the conventional aspiration needles are often insufficient for making an accurate diagnosis, FNA has a reduced diagnostic yield for PPLs. Therefore, ProCore® or Shark Tip needles are recommended, given that a larger quantity of tissue can be biopsied, conserving the tissular architecture. When results are inconclusive, surgical biopsy is an alternative that enables an even larger quantity of tissue to be obtained.

Chemotherapy and/or radiotherapy is the treatment of choice for PPL. Cure rates of up to 30% have been reported, with no need for pancreatic resection.[3] Rituximab has also been described as an acceptable therapeutic option in cases of non-Hodgkin lymphoma.[5]

Thus, it is emphasized that PPL should be included in the differential diagnosis any time a pancreatic mass is identified, given that PPL outcome and treatment are very different from those of other such entities.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

☆ Please cite this article as: Rodríguez-Infante A, Fernández-Martínez D, Iglesias-García E, García-Flórez LJ. Linfoma pancreático primario como causa de ictericia obstructiva. Revista de Gastroenterología de México. 2019;84:114–115.