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Case Report

Surgical treatment of type 2 giant mesenteric cyst: case report and literature review

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ABSTRACT

Mesenteric lesions, including cysts, are rare abdominal tumours and in most cases non-neoplastic. They may have an asymptomatic course or present with pain, abdominal distension or intestinal obstruction. The suggested management is surgical resection of the lesions by laparotomy or minimally invasive surgery. We presented the case of a 48-year-old patient with progressive abdominal distension attributed to liver cirrhosis. Ultrasound and computed tomography of the abdomen showed evidence of a giant cyst of the mesentery with no evidence of tumor activity. We therefore decided to perform an exploratory laparotomy with cystectomy and omentectomy, follow-up and pathology report negative for malignancy.

Keywords: Cyst, Mesentery, Peritoneum, Laparotomy, Omentectomy, Cystectomy

INTRODUCTION

Mesentery cysts are rare lesions and are mostly diagnosed incidentally in up to 40% of cases by physical examination or imaging studies. They are mostly benign lesions with low malignancy risk of around 3%.[1]

The pathophysiology describes alterations in lymphatic drainage or blockage as a consequence of surgery, trauma, neoplasms or infectious processes. Clinically, they may have an asymptomatic course or present with signs of intestinal obstruction, volvulus or perforation.[1,2]

The suggested approach is complete resection of the lesions by laparotomy or laparoscopy.[1] We presented the case of a 48-year-old male with progressive abdominal distension secondary to a giant mesentery cyst identified by ultrasound and abdominal tomography, treated with laparotomy and cyst resection.

CASE REPORT

A 48-year-old man with a history of smoking and alcoholism, with a current illness of 16 months of evolution manifested by progressive abdominal distension, attributed to ascites due to liver cirrhosis, managed with diuretics. He came to our institution to the emergency department due to progressive abdominal distention and restrictive respiratory distress. On admission, physical examination revealed an abdomen with present peristalsis, abdominal distention due to ascites, not painful on superficial nor deep palpation, no evidence of peritoneal irritation, positive wave sign, no visceromegalies, without evidence of surgical urgency.

Paracentesis was performed, obtaining serous fluid with a negative cytological study for malignancy, with no evidence of bacteria and negative staining for tuberculosis. Laboratory studies showed no elevation of transaminases, negative viral panel for hepatitis and human immunodeficiency virus infection, normal levels

of alpha-fetoprotein. Abdominal ultrasound showed evidence of cystic lesion, homogeneous content with detritus, probable peritoneal fluid content, not dispersed towards peritoneal recesses, no evidence of peripheral vascularity and liver without alterations or dilatation of the intra or extrahepatic biliary tract. A CT scan of the abdomen showed evidence of a simple cyst of the mesentery, encapsulated, with no evidence of invasion of adjacent structures, with no data suggestive of tumoral activity (Figure 1).

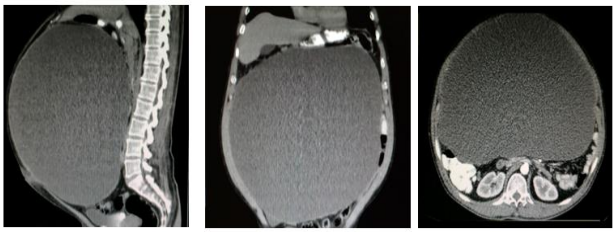

Figure 1: Computed tomography of the abdomen, sagittal, coronal and axial section with evidence of simple mesenteric cyst, encapsulated, without data of invasion to adjacent structures, without data suggestive of tumoral activity.

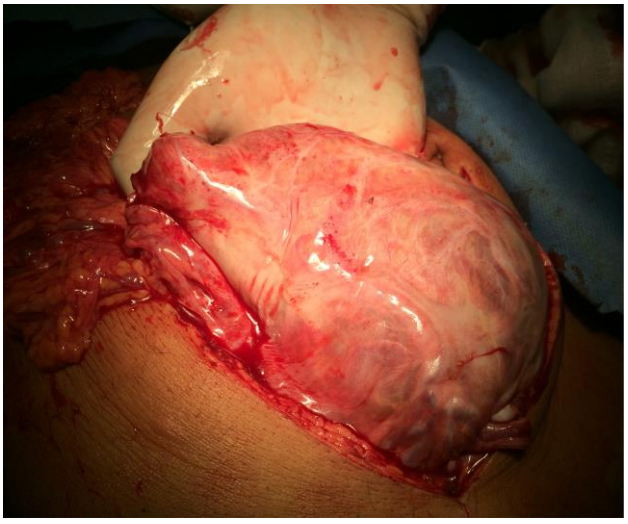

Figure 2: Laparotomy with finding of multiple omental-peritoneal adhesions and giant mesenteric cyst of 30×25 cm.

Exploratory laparotomy was performed, identifying multiple omental-peritoneal adhesions and a giant mesenteric cyst measuring 30×25 cm, cystectomy and omentectomy were performed, firm adhesion was found towards the posterior gastric side, adhesion was released and gastric serosa was reinforced (Figure 2 and 3). The approach was completed with methylene blue through a nasogastric tube to rule out gastric leaks, and surgery was completed without complications. He was admitted for postoperative follow-up without evidence of complications. Histopathology report, giant mesenteric cyst, chronic inflammatory process, with no evidence of malignant cells.

Figure 3: Product of resection of giant mesenteric cyst 30×25 cm and omentectomy via open approach for type 2 mesenteric cyst.

DISCUSSION

Mesenteric cysts were described as early as 1507 by Antonio Benivieni in an 8-year-old patient. They represent an uncommon cause of abdominal tumors, most of them being benign lesions with a risk of malignancy of less than 3%. The incidence in adults is reported to be 1 in 105,000 patients.[1,2]

Mesenteric cysts develop mostly from the mesentery of the small intestine towards the ileum in 60% and less frequently from the mesocolon of the ascending colon in up to 24% and in the retroperitoneum in 14.5% of cases.[2]

The pathophysiology of these lesions is explained by alterations in lymphatic and venous drainage, in addition to lymphatic blockage secondary to surgery, trauma, infections and neoplasms. Benign proliferation of lymphatic ducts is also proposed as a pathological mechanism.[1,3]

Four types of mesenteric cysts are described according to their characteristics. Type 1 or pedunculated has wide mobility and growth with a risk of complications. Type 2 or sessile has less mobility and implies probable intestinal resection. Type 3 involves retroperitoneal structures with surgical limitations due to proximity to large vessels. Type 4 involves intra and extraperitoneal structures.[2]

These lesions may have an asymptomatic course or have evidence of abdominal pain, nausea, bloating, anorexia or

altered bowel movements. They may be diagnosed incidentally or manifest as intestinal occlusion, volvulus, bleeding, torsion or perforation.[1] Abdominal pain is the most common clinical manifestation and up to 10% present with evidence of complications.[4]

This pathology is a differential diagnosis and it is possible to make the preoperative diagnosis through imaging studies. Computed tomography is an essential study to determine the dimensions, the invasiveness to other structures and the surgical resection plan, as well to rule out other lesions.[1] However, MRI is the most specific imaging study and is considered the imaging of choice in these cases.[3]

The indication for surgery in the case of a mesenteric cyst is symptom-related. In case of asymptomatic patients, follow-up can be maintained while those with clinical manifestations, resection of the cyst is suggested.[5]

Complete resection of the cyst is the surgical treatment of choice for these patients. The surgical approach involves resection of the cyst and mesentery through an open approach by laparotomy or minimally invasive surgery. Drainage is not suggested because of the risk of recurrence, infection and abscess formation.[6,7] The histopathology report is definitive for the diagnosis.[8]

Although they may be asymptomatic, they can also grow to large dimensions.[9] After complete resection of the cyst there is a low risk of recurrence and malignancy, less than 3%. Most of these patients have a good long-term prognosis.[3,10]

CONCLUSION

Mesenteric cysts are rare abdominal tumors that can occur along the gastrointestinal tract. Alterations and malformations of the lymphatic drainage are described in the pathogenesis. Most of these lesions are benign and their clinical course may be asymptomatic or present with abdominal pain and even complications in relation to acute abdomen. The surgical management of choice is resection to avoid recurrence.

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