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Mesenteric Cyst – A Case Report

Eliane Berton, André Luiz Coelho Pereira, Vinicius Trevizam Soares, Amanda Carreão, Amanda Mesquita Grangeiro, Fernanda de Moraes Silva, Caroline Alves Bueno, Jose Vilar de Andrade Neto, Leonardo Alves Magalhaes Ribeiro

Abstract: Cystic lesions between the mesenteric leaflets, the mesenteric cysts, can be found fromthe duodenum to the rectum and still have an uncertain etiology. Several hypotheses have already been suggested and the most accepted theory is the formation of cysts due to the rupture of lymphatic vessels. Clinically they do not usually present symptoms and the diagnosis is accidental in about 75% of cases. The incidence is slightly higher in females and the therapeutic approach is mainly surgical, due to the risk of malignancy of the lesion, traumatic rupture, hemorrhage, torsion and compression of adjacent structures. We report the case of a 4-year-old patient with abdominal pain, with a subsequent diagnosis of mesenteric cyst. The postoperative prognosis is good and depends basically on the patient's previous pathologies. The follow-up of relapses, through imaging exams, is still controversial.

Keywords: Mesenteric Cyst, Abdominal Pain, Abdominal Neoplasms, Lymphangioma

Introduction

Defined as any cystic lesions between the mesenteric leaflets, mesenteric cysts can be found from the duodenum to the rectum, most commonly at the level of the ileum. They are considered rare entities, reaching about 1:100.000 to 1:250.000 adults and 1:20.000 children. The first description of this pathology was made by Benevienae in 1507 and until 1993 there were only about 820 cases reported in the literature[1].

The etiology of this lesion is unknown and several hypotheses have been put forward. The most accepted theory is the formation of cysts from the rupture of lymphatic vessels, with lymphatic extravasation, and the surrounding granulation tissue as the causes for the formation of the cysts. Another theory is that of embryological true cysts, which are considered to arise from small intestinal diverticula that grow inside the mesentery and later become closed, forming isolated cysts. There is still the possibility that cysts originate from developmental abnormalities secondary to trauma, infectious processes or degeneration of lymph nodes[2].

The clinical presentation is usually asymptomatic, with accidental diagnosis in about 75% of cases after 10 years of age and with a slight predominance in females. Symptoms are vague when present, such as pain and abdominal swelling. For radiological investigation, abdominal tomography, magnetic resonance imaging or ultrasounds are recommended[3].

Mesenteric cysts appear from the first trimester of pregnancy, usually diagnosed after the second trimester. They are thin-walled cysts, without peristalsis, with variable sizes and fluid content that are separated from the colon and in a retroperitoneal location[1,4].

The term lymphangioma can be used appropriately when there is hemodynamic isolation, that is, the lesion is not related to the arterial or venous system. Considered benign tumors, probably of congenital origin, lymphangiomas are most commonly located in the cervical and axillary regions and are uncommonly found in the abdominal region. Another denomination found for mesenteric cysts is vascular hamartoma, which encompasses a group of pathologies derived from failure in vascular evolutionary development, including the lymphatic one[5,6].

There are different types of mesenteric cysts, however, the difficulty in characterizing each one has been an obstacle in the elaboration of an ideal and universal classification system and the uncertain etiology makes standardization even more difficult. The differential diagnosis of this pathology must include renal anomalies, particularly duplications, hemangioma, branchial cyst, lipomas and ovarian cysts. Treatment is surgical, since there is a possibility of malignant transformation of the lesion, traumatic rupture, hemorrhage, torsion and compression of adjacent structures[7,8].

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Case Report

The patient, a 4-year-old female, was taken to the emergency department due to abdominal pain that had started 7 days ago. The guardian reported sudden onset of pain with no improving or worsening factors and no triggering factor. They also reported no fever, vomiting, diarrhea and urinary changes. They reported having been treated twice before, due to the same condition, being medicated, with transient improvement of symptoms. Regarding the patient's personal history, she had undergone umbilical herniorrhaphy 3 months ago and the guardian denied other previous comorbidities.

At the abdominal physical examination, a painful mass was found, palpable in the mesogastric region, without signs of peritoneal irritation. In the other systems, no changes were observed. The blood count had no alterations and there was a small increase in lactic dehydrogenase, 254 IU/L (RV: 81-234 IU/L). Regarding the imaging tests initially requested, abdominal radiography showed no changes and ultrasound revealed two oval images in the mesogastrium region, anechoic, regular, with fine suspended echoes inside it. It measured 8.6 cm on the right and 9.3 cm on the left, with etiology and origin yet to be clarified.

For further clarification, a computed tomography of the abdomen was requested (Figures 1, 2 and 3). In it, it was verified the presence of four oval, hypodense, regular, apparently contiguous/adjacent images in the epigastric/mesogastric region, all with density close to a liquid-like state. They did not undergo significant contrast enhancement, and measured 2 cm, 9.5 cm, 2.9 cm and 8.2 cm respectively. Thus, the diagnostic hypothesis of Mesenteric Cyst was brought up.

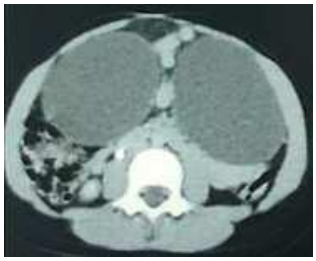

Figure 1

Figure 2

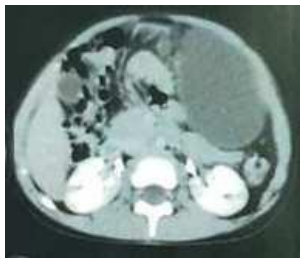

Figure 3

In view of this finding, we opted for a laparotomy surgical approach, through a midline incision in the epigastric region. The operation had no complications, with the removal of two cysts (Figures 4 and 5) sent for anatomopathological analysis, which revealed cystic lymphangioma with an associated chronic reparative inflammatory process. The patient evolved well and was discharged 48 hours after the surgery. During the outpatient follow-up, she remained asymptomatic, the operative wound healed well and the physical examination showed no abnormalities.

Figure 4

Figure 5

Discussion

There are no symptoms or pathognomonic signs related to mesenteric cysts. Despite the low incidence reported in the literature, it is believed that the frequency of this injury is underestimated, since most cases are asymptomatic[8].

In the diagnostic investigation, laboratory tests are

unnecessary, and the preparatory instructions are based on imaging tests. According to a study carried out by Senocak et al., abdominal ultrasound, when performed by an experienced physician, is the most reliable test, but the diagnosis must be confirmed by computed tomography, preferably with intravenous contrast. For better information about the location, nature and extent of the disease, oral contrast tomography helps to investigate the relationship between the cysts and the intestine, but this is not common in Brazil[2,4].

The treatment is eminently surgical and consists of the excision of the lesion, including the capsule. This approach can be performed laparoscopically, first described in 1993 by Mackenzie. This surgical route is shown to be an excellent treatment option, approaching the efficiency of open surgery, with the advantage of providing less postoperative pain, early recovery, shorter hospital stay and better aesthetic results. In this case, the chosen approach was the laparotomy due to the proximity to structures of the digestive tract, with the possibility of resection of gastric parts. In the literature there are other treatments described, such as sclerotherapy and drug therapy with sirolimus, however these treatments are more commonly used for lymphangiomas in places of difficult surgical access such as the mediastinum, head and neck [5, 6].

The prognosis of patients with mesenteric cyst is good and basically depends on their previous pathologies. Post-surgical follow-up by means of serial ultrasound is controversial, as it has shown few long-term benefits due to the low recurrence rate of this lesion, only 13.6% of cases. Malignant degeneration is rare. Kurtz et al. reviewed 162 cases, finding only 3% of malignancy, which were all in adults. Although there is no difference between malignant and benign cysts, as for their location and size, malignant ones tend to be thicker and to present uneven walls [9,10,11].

Thus, with a still uncertain etiology, mesentery cysts must be correctly approached with removal of the lesions and avoiding future complications. The best way for this approach will depend on the availability of each service, the patient's wills and pathologies. Yet, the need for postoperative follow-up may be uncertain[10,11].

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