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MESENTERIC CYST IN CHILD: THE CAREFUL LOOK OF THE ULTRASONOGRAPHIST

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ABSTRACT

INTRODUCTION: The mesenteric cyst is one of the rarest abdominal tumors, with approximately 820 cases reported since 1507. The lack of clinical features and characteristic radiological signs can present major diagnostic difficulties.

OBJECTIVE: describe the clinical manifestations in a patient with a mesenteric cyst and the route to diagnosis.

CASE REPORT: Two-year-old female patient, with no comorbidities complaining of abdominal pain, mainly in iliac fossae, associated with intense vomiting and sporadic fever spikes for about three months. Globose and painless abdomen without visceromegaly or masses. Abdominal ultrasound showed a collection of thin walls and anechoic content with minimal debris in suspension in the supravesical and hypogastric region. Laboratory tests with leukocytosis. As the symptoms intensified a tomography of the total abdomen was prescribed, which showed a voluminous, well-defined contoured cystic lesion, measuring approximately 12 x 6 cm of intraperitoneal location, occupying the lower half of the abdomen. The lesion presented septations in its anterosuperior aspect, left with a mass effect on the adjacent structures, with displacement of intestinal loops, but apparently with cleavage planes and with small free liquid in the peritoneal sac bottom, without retroperitoneal or pelvic lymph node enlargement and presence of massive ascites. The patient underwent diagnostic exploratory laparotomy, which showed a giant mesenteric cyst at the root of the mesocolon, which was excised.

CONCLUSION: The mesentery cyst is the main clinical manifestation of abdominal pain associated with vomiting. Its diagnosis is difficult to conclude and may require special attention from ultrasound. If the doubt persists, tests of greater accuracy should be indicated. The role of the ultrasonographer goes far beyond the application of systematics in conducting exams. He needs to correlate radiological images with the association of possible clinical diagnoses and leverage all possible hypotheses to elucidate and facilitate the final diagnosis.

KEYWORDS: MESENTERIC CYST, DIAGNOSIS, ULTRASOUND.

INTRODUCTION

A recent systematic study has classified the mesentery as an organ and it must therefore be subjected to the same focus of investigation applied to other organs and systems.

The main mesenteropathies are volvulus with malrotation, thrombosis in the superior mesenteric artery, sclerosing mesenteritis (of which there are several subtypes) and mesenteric cysts[1].

The mesenteric cyst is one of the rarest abdominal tumors, with approximately 820 cases reported since 1507. The lack of clinical features and characteristic radiological signs can present great diagnostic difficulties[2].

The incidence is 1 per 100,000 to 1 per 250,000 hospitalizations[3].

The exact etiology of the mesenteric cyst has not yet been determined, but the failure of the lymph nodes to communicate with the lymphatic or venous systems or the blockage of the lymphatics because of trauma, infection and neoplasia are contributing factors.

The accepted theory, proposed by Gross, is the benign proliferation of ectopic lymphatics in the mesentery that lack communication with the rest of the lymphatic system[4].

Precise preoperative diagnosis is possible with current ultrasound imaging techniques. Complete cyst resection is the procedure of choice and it presents excellent results[5].

It is known that clinical characteristics are variable and it is not always possible to view them on ultrasound images, especially in children due to gas distension and agitation at the time of the examination, so being aware of subtle characteristics is essential for early diagnosis. The aim of this study is to describe the clinical manifestations in a patient with a mesenteric cyst and the route to diagnosis.

CASE REPORT

This is a descriptive case report. The techniques used to obtain information in this study stand out through data from medical records, physical examination, laboratory and images. This research project was based on Resolution N^0. 466/2012, and the rights of those involved are ensured by the Ethics Committee appointed by Plataforma Brasil.

Patient born by cesarean delivery, at term, with adequate weight for gestational age, complete vaccination for age, living in an urban area with basic sanitation. Female, two years old, with no comorbidities, complaining of abdominal pain mainly in the iliac fossae, associated with intense vomiting and sporadic fever spikes for three months. Good general

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condition, hydrated, normal, eupneic, anicteric. Cardiopulmonary auscultation with murmur. Globose and painless abdomen without visceromegaly or masses. Well-perfused extremities, without edema or cyanosis.

An abdominal ultrasonography was performed with a normal-sized, slightly heterogeneous liver, a patent portal system, with normal flow. Free peritoneal fluid occupying the bottom of the pouch of Douglas and bottom of the uterine vesicle with distention of intestinal loops (figure 1).

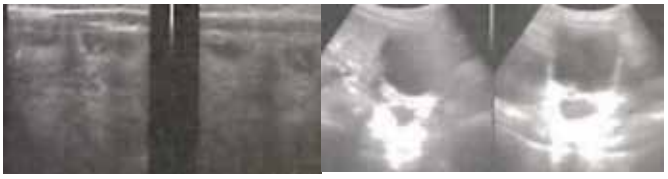

Figure 1. Abdominal ultrasound

Laboratory tests with borderline leukocytosis and 15.90 uL and EAS leukocytes increased by 24.0000/mL.

The main suspicion of food allergies was ruled out since the specific allergens were negative. The patient was referred to the cardiologist who detected an innocent murmur without major repercussions for the clinical picture.

Ultrasound of the urinary tract was normal with observation of collection of thin walls and anechoic content with minimal debris suspended in the hypogastric, supravesical, partially assessed (figure 2).

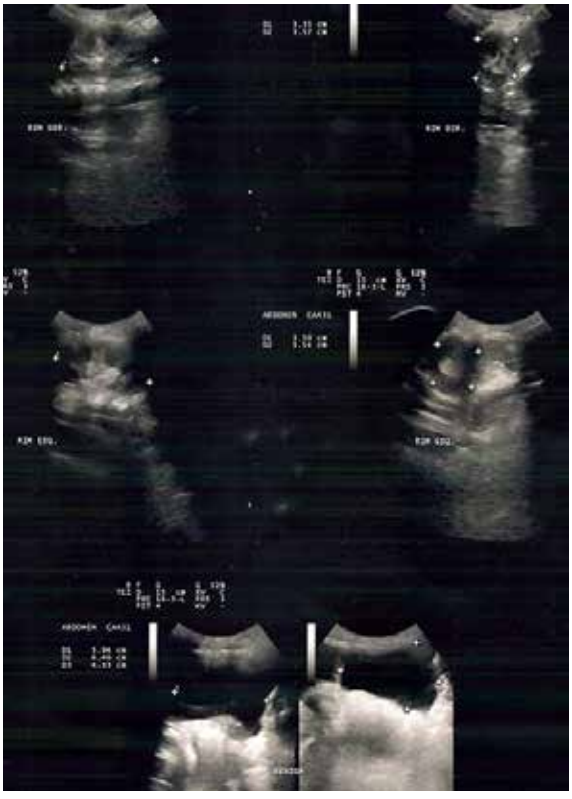

Figure 2. Ultrasound of the urinary tract.

The patient sought medical attention several times with hospitalizations at different periods. Referred for reflux assessment.

Tomography of the total abdomen was performed after the symptoms intensified, which showed a large, well-defined contoured cystic lesion, measuring approximately 12 x 6 cm of intraperitoneal location, occupying the lower half of the abdomen. The lesion had septations in its anterosuperior left aspect, with a mass effect on the adjacent structures, with displacement of intestinal loops, but apparently with cleavage planes and with small free liquid in the bottom of the peritoneal sac, without retroperitoneal or pelvic lymph node enlargement (figures 3 and 4), which confirmed voluminous ascites, with fine septations, displacing the intestinal loops to the left and absence of thrombi in hepatic veins. Bulky expansive intraperitoneal cystic lesion, with gross septations in its intraperitoneal aspect occupying the lower half of the abdomen with gross septations in the left anterolateral aspect.

Figure 3. Computed tomography of the abdomen and pelvis.

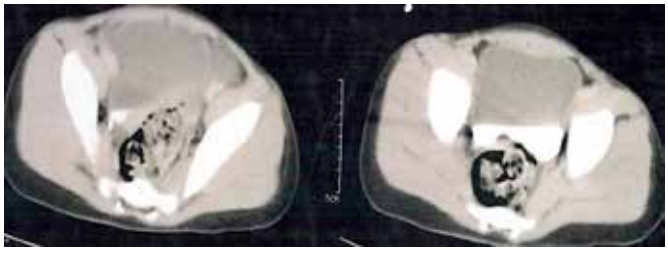

Figure 4. Computed tomography of the abdomen and pelvis.

The patient underwent a diagnostic exploratory laparotomy, which showed a giant mesenteric cyst at the root of the mesocolon, which was completely excised during the procedure.

Histopathological examination revealed cystic formation in the mesentery without atypia and the immunohistochemical study found mesenteric cystic lymphangioma.

The patient evolved asymptomatic in the postoperative period, without pain and with a flat abdomen, without healing changes and no new complaints.

DISCUSSION

The first case of mesenteric cyst reported in the literature was by Benevieni in 1507[6].

Benign intra-abdominal cystic masses in childhood are quite uncommon and their etiopathogenesis, histology and clinical presentation differ significantly[7].

The cysts are probably of congenital and lymphatic origin. Trauma, infection, bleeding or volvulus can manifest a silent cyst[8]

Mesenteric cysts are rare intra-abdominal injuries and account for only one in 100,000 acute admissions of adults. There is a wide spectrum of symptoms and patients have nonspecific complaints of abdominal pain, bloating or abdominal mass[9].

The diagnosis of the present case took 13 months between the first episode of pain and the diagnosis.

Dawar & Madsen[10] reported a case of a 10-year-old boy with known episodes of moderate abdominal pain for 18 months that evolved to severe abdominal pain and only on tomography was it possible to see a 25 × 15 cm cystic view. It should be stated that mesenteric cysts are rare, but they should be considered a source of abdominal pain in children, especially after excluding the most common diagnoses[10].

The child's age in the report was two years. In a retrospective analysis in the period 2002-2012 in Spain[11] seven patients were found, with an average age of 5.3 years (range $^{3-11}$). However, in these cases, abdominal ultrasound was the diagnostic tool in all cases, except one, diagnosed during laparotomy. All had abdominal pain, five (71.4%) vomiting, four (57%) gross abdominal distension, three (42.8%) fever and none had complete abdominal obstruction, although two patients (28.6%) had mild subocclusion symptoms[11].

Ghritlaharey & More[13] presented an eight-year-old boy who revealed a cystic mass in the peritoneal cavity with dilated bowel loops in an ultrasound of the abdomen and, in the case presented, this was the only finding on the initial ultrasound. In exploration of the abdomen, he revealed a solitary cyst of the terminal ileum mesentery measuring 10 x 8 cm. A study of 18 patients using ultrasound of the abdomen, performed in all patients, was not conclusive in half of the cases[14].

Belhassen et al.[15] analyzed two boys and a girl with an average age: 6.3 years. The abdominal ultrasound examination showed a cystic mass in all cases. However, the cystic nature of the mass, its margins and its extension were better described in the tomographic images.

Mesenteric cysts vary in presentation. Lymphangiomas predominate in male children, can cause acute abdominal pain and often require resection of adjacent structures[16].

In the case presented, the patient was female, which was at odds with the researched literature.

As for the location, the cyst presented itself in the mesentery of the small intestine. In an evaluation from 1970 to 1990, [15] children were diagnosed and treated for mesenteric cysts at the Hospital Ste Justine, in Montreal[15]. Ten patients had preoperative ultrasounds that diagnosed cystic mass in all of them. The second most frequent preoperative diagnosis was appendicitis. The cysts were located in the mesentery of the small intestine in five cases, the base of the mesentery with retroperitoneal extension in four cases, the transverse mesocolon in four cases and the gastrocolic ligament in two cases. The operative procedures performed included complete excision of the cyst in nine patients, complete excision with intestinal resection in five patients and in one patient only drainage of the cyst was performed[5].

Another study with 10 children with histological examination showed a mesenteric cyst and recurrence was not observed[12]. Early diagnosis and treatment produce excellent results[17].

Abdominal tumors usually present themselves as an asymptomatic abdominal mass, often discovered in routine consultations or by the parents themselves[18].

Despite the rarity of these injuries, benign cystic abdominal masses in children are not so uncommon and should be considered as causes of acute abdominal pain in the presence of intestinal loop distension. If the ultrasound examination does not reveal an abdominal lesion even with intestinal preparation, a CT scan should be performed[7].

CONCLUSION

Mesentery cyst is the main clinical manifestation of abdominal pain associated with vomiting. Its diagnosis is difficult to conclude and may require special attention in the ultrasound.

Therefore, it is necessary for the ultrasound doctor to be attentive and when in doubt, tests of greater accuracy, such as abdominal tomography, should be performed.

The role of the ultrasonographer goes far beyond the application of systematics in conducting exams. He needs to correlate radiological images with the association of possible clinical diagnoses and leverage all possible hypotheses to elucidate and facilitate the final diagnosis.

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