

Giant mesenteric cysts - diagnosis and treatment

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Abstract

Mesenteric cysts are very rare pathologies characterized by a diverse clinical picture depending on their location and size. **Case report:** We accepted a 63-year-old woman in the Department of General Surgery at the Clinical Hospital in Tetova because of generalized abdominal pain, which had lasted for more than six months. The patient's main complaints were nausea, vomiting, anorexia, abdominal distension, and, more recently, difficulty in defecating. Promptly, after admission to our clinic, we conducted an ultrasound and CT of the abdomen, which revealed a giant cystic mass in the mesentery. Through an open laparotomy, we performed the complete excision of the cystic mass. **Conclusion:** Cystic mesenteric formations are very rare pathologies in the practice of general surgery. In the case of a giant cyst, complete excision remains the best form of treatment.

Keywords: giant, mesenteric cyst, excision.

1. Introduction

Mesenteric cysts are very rare pathologies of the abdominal cavity, characterized by a diverse clinical picture depending on their location and size.

Even though most of these cysts appear in children, they can also develop in adulthood. Various studies estimate that the incidence of mesenteric cysts in adults ranges from 1: 100,000 to 1: 200,000 by the total number of patients surgically treated on in abdominal surgery clinics, while in children, this incidence is significantly higher, respectively, it ranges from 1 in 20,000 to 35,000 children (Richard R, 2006; Egozi EI *et al*, 1997).

Mesenteric cysts can be located anywhere along the mesentery, starting from the ligamentum suspensorium duodeni and up to the mesorectum. Still, more than half of them are located in the small intestine's mesentery, respectively, in its ileal portion.

The diagnosis of mesenteric cysts is based on anamnestic data, respectively, the patient's concerns, then palpation of an intra-abdominal mass, and definitely through imaging examinations such as abdominal ultrasonography and CT.

The treatment of mesenteric cysts can be conservative or surgical, depending mainly on their size and relationship to the close structures. Usually, the small cyst < 2 cm in diameter, do not cause clinical concerns. Therefore, it is sufficient to observe their behavior through occasional ultrasonographic

examinations. However, the best and definitive treatment for mesenteric cysts is their complete excision, whether through open or laparoscopic surgery.

2. Case report

A 63-year-old woman was accepted in the Department of General Surgery at the Clinical Hospital of Tetova because of generalized abdominal pain associated with nausea and appetite loss. The patient reported that symptoms lasted for more than six months, while their intensity increased gradually. Over time, other clinical symptoms began to arise, such as nausea, vomiting, anorexia, abdominal distension, physical weakness, and lastly, difficulty in defecation. The patient did not provide anamnestic data for hematemesis or rectal bleeding, but she complained of progressive weight loss.

During the examination, her abdomen looked quite swollen and tense, without signs of peritoneal irritation, while palpation revealed a large intra-abdominal mass of medium consistency and regular contours. The tumor mass began above the umbilicus and extended close to the pubic symphysis. In auscultation, no abnormal bowel sounds were heard, while rectal examination showed no traces of fresh blood. On palpation, the abdomen was painless and without positive peritoneal signs, whereas, during percussion, the tympanic and dullness areas were distinguished.

During the examination, after hospitalization, vital signs such as blood pressure, pulse, respiration, and oxygenation were normal.

Blood tests were within normal limits with RBC 4.37 million cells/mcL, hemoglobin 13.8 g/dl, hematocrit 40.9 percent, white blood cells 8,900 cells/mcL, platelets 260,000/ mcL. The CRP value was 7 mg/L, the range of AST was 38 U/L, whereas of ALT 42 U/L. The levels of urea, creatinine, bilirubin, amylase, and lipase were also within normal limits. Even tumor markers like CA 19-9, CA 15-3, CEA were not increased.

Ultrasonographic examination showed an almost oval hypodense mass, which was in close contact with the radix mesentery, and without any contact with the genitals or part of the intestinal tract. According to the ultrasound examination, the dimensions of the cystic mass resulted in about 24 x 16 cm. Intravenous (IV) and oral contrast-enhanced abdominal CT showed the same characteristics of the cyst as ultrasonography. Still, through this examination, the pressure that the cystic mass exerted on the abdominal structures was more clearly visualized.

A chest radiograph did not indicate the presence of any pulmonary pathology. Because of troubles that have progressively intensified, and worsened the patient's condition, as well as the large size of the cyst, it was decided to perform surgical removal of the cyst. Through a midline incision extended above and below the umbilicus, the giant cyst, which compressed a portion of the small intestine and right hemicolon, was exposed.

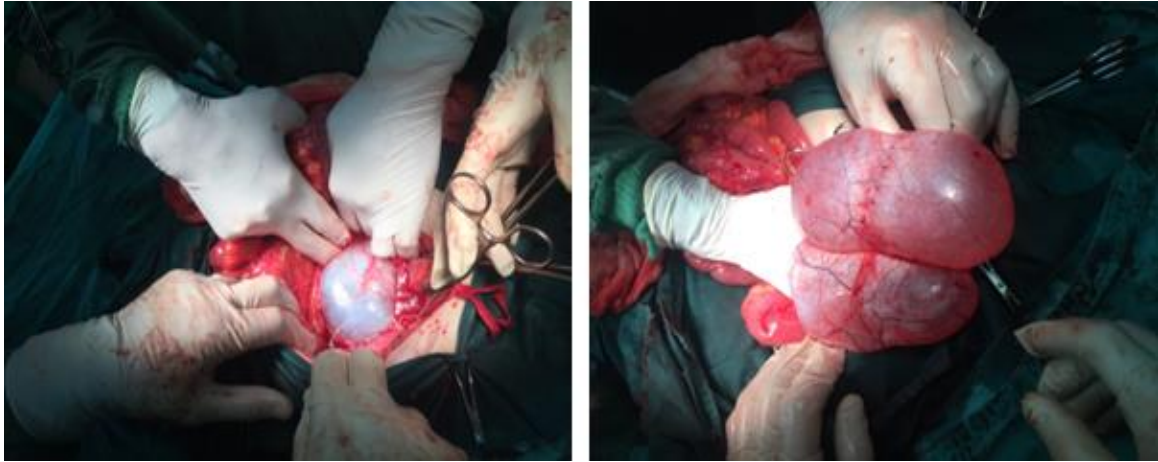


Figure 1. Mesenteric cyst during extirpation

No enlarged mesenteric or pre-aortic lymphatic glands were detected. Initially, the cyst was detached from the adhesions with the structures around it through blunt and sharp dissection. After that, the excision of the cyst was performed. The procedure ended through suturing the peritoneal defect created in the right mesocolon. Then, the abdominal cavity was carefully inspected, and no other pathology was found either in the intestinal tract or in the liver, spleen, or kidneys. From the inside of the cyst was aspirated about 2000 mL of clear fluid.



Figure 2. Giant mesenteric cyst after removal

The patient's postoperative condition was good, and she was discharged from the hospital on the fifth day after the surgery in very good condition.

The histopathological report showed a cystic formation with a fibrous wall, and in some areas with small pieces of mature adipose tissue near the outer surface, these are the signs that indicate the mesentery. No

granulomas or malignant cells were observed in the cyst wall. Histopathological findings are characteristic of a simple lymphatic cyst of the mesentery. At regular check-ups over one year, the patient showed no signs of deterioration of the disease's general condition or recurrence.

3. Discussion

Mesenteric cysts are rare benign lesions that most commonly develop during childhood, but can sometimes develop in adults. They can be located anywhere along the mesentery, although more often are found in the mesentery of the small intestine (Kurtz Rj *et al*, 1986; Ros PR *et al*, 1987).

Mesenteric cysts were first described by the Italian anatomist Benevanni in 1507, while Tilo was the first one that successfully removed a mesenteric cyst in 1880 (Sunder Goyal *et al*, 2013)

The appearance of most of these cysts is thought to be a result of the ectopic proliferation of lymphatic duct in the mesentery, in which ectopic lymphatics fails to drain in the core lymphatic system (Ros PR *et al*, 1987).

Mesenteric cysts, as long as they are small in size, are asymptomatic. They are diagnosed incidentally after any abdominal examination by ultrasound or CT. Once they reach a large size, they begin to manifest various disorders such as abdominal pain, nausea, vomiting, constipation, etc., mainly due to the pressure they exert on the surrounding structures (Egozi EI *et al*, 1997).

Many different diseases and disorders can mimic mesenteric cysts, of which the most common are: peritoneal inclusion cysts, pancreatic pseudocysts, loculated ascites (usually tuberculous), hydatid cyst, teratomas, urogenital cyst (Pantanowitz L *et al*, 2000), etc.

Sometimes mesenteric cysts may be multilocular, while their contents may be hemorrhagic or purulent (Richard R, 2006). The diagnosis of mesenteric cysts is made very well by ultrasound and CT of the abdomen, which provides good information about the size of the cyst and its relationship with the surrounding structures. These data are essential for the surgeon.

The treatment of mesenteric cysts is mainly their surgical excision, and this also represents the definitive cure of patients (Dufay C *et al*, 2012). Other techniques described for the treatment of these cysts are aspiration and marsupialization of the cysts. Still, because of the high incidence of complications that accompany these treatment methods, such as high rates of infections and recurrence, they are almost entirely abandoned ((Dufay C *et al*, 2012; Miljković D *et al*, 2007). Complete excision of the cysts has another advantage; this is because, through the total removal, the possibility of malignant alteration of the cyst residues is completely eliminated (De Perrot M *et al*, 2000).

In recent years, the excision of mesenteric cysts can be done successfully through laparoscopic surgery (Kwan E *et al*, 2004). However, in the case of large inflamed cysts, or those that have involved parts of the intestine or other structures around the cyst, laparoscopic access is very difficult, and removal of the cyst must be done through open surgery (Morrison CP *et al*, 2002; Mohanty SK *et al*, 1998). In our case, due to the cyst's size and the presence of inflammatory processes, we decided to perform the removal of the cyst through open surgical intervention.

4. Conclusion

Mesenteric cysts are rare pathologies, which can be of different sizes, from small to giant ones. However, diagnosing these cysts, especially when they are small, is often challenging. If they reach large dimensions, they can provoke various concerns; in these cases, their surgical removal is recommended. Extirpation of the mesenteric cysts is also recommended to elude the risks that may come from their malignant alteration, which risk increases with the enlargement of the cyst.

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