



## GIANT CYSTIC MUCINOUS MESENTERIC TUMOR – CASE REPORT

## General Surgery

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## ABSTRACT

Mesenteric cystic tumors or mesenteric cysts are defined as cystic masses located in the mesentery. They are rare malformations with estimated incidence to be 1 in 100.000 in the adult population and 1 in 20.000 in the pediatric population with a 1:1 male to female ratio. Usually they are benign growths with malignant transformation reported in 3% of cases and they usually present in the first decade of life. Mesenteric cysts are often incidental findings on physical examination or imaging in about 40% of cases, but they can cause unspecific abdominal symptoms. In this article is presented a case of a 14-year-old girl with a giant cystic mucinous mesenteric tumor.

## KEYWORDS:

mesenteric cyst, surgical treatment, laparotomy, laparoscopy.

## INTRODUCTION

Mesenteric cysts are rare intra-abdominal tumors with incidence 1 in 100.000 in adults and 1 in 20.000 in pediatric population with a 1:1 male to female ratio. They are defined as cystic masses located in the mesentery (1). Usually they are simple mesothelial cysts of mesothelial origin. The size is up to 10 cm but the size can range up to 40 cm. Perrot classification showed that peritoneal simple mesothelial cyst, benign cystic mesothelioma and malignant cystic mesothelioma are mesenteric cysts of mesothelial origin and other types are dermoid cysts and cysts of lymphatic, enteric or urogenital origin (2). Mesenteric cysts are commonly located at the ileal mesentery, but they also can be found anywhere at the mesentery from the duodenum to the rectum. Mesenteric cysts are usually benign growths, but they have a malignant potential with estimated malignant transformation in about 3% of cases (4). About 40% of cases are found incidentally on physical examination or imaging, the other cases are presented with unspecific abdominal symptoms, such as palpable abdominal mass, abdominal distension or pain. 10% of cases can present with bowel obstruction, volvulus, torsion or shock. The mainstay in imaging is computerized tomography (CT) (4,5). Complete surgical excision is the treatment of choice. This can be accomplished by laparotomy or by minimally invasive surgery (6).

## CASE REPORT

A 14-year-old girl was referred to our department for surgical treatment of huge mesenteric cyst in the right abdomen. A month earlier she felt a resistance in the right lower abdomen which was at that time asymptomatic. Later she started to feel lower abdominal pain. She was referred to abdominal ultrasound (US), that showed a large cystic lesion in the right abdomen, but the etiology of lesion could not be accurately determined. Then she was referred to abdominal CT, that showed a large cystic lesion, 15 cm in diameter, in the right side of the abdomen, which was according to CT characteristics most likely a mesenteric cyst. Her gynecological status was normal and laboratory tests including tumor markers were also normal.

According to preoperative imaging, showing a large intra-abdominal cyst, we decided to approach with laparotomy and not with laparoscopy. The girl was operated in supine position under general anesthesia. The sterile operative field was prepared in standard manner and perioperative antibiotic prophylaxis was applied. Median laparotomy was performed. A thorough abdominal exploration was performed. We found a large cystic mass with tiny wall in the right abdomen, most likely a mesenteric cyst from the ileal mesentery. The right colon and the appendix vermiformis were adhered to the cystic lesion. We performed a complete extirpation of the cyst and appendectomy (Figure 1). We inserted one abdominal drain in the right paracolic gutter. Laparotomy was closed with resorbable interrupted sutures, skin wound was closed with staples. The postoperative course was uneventful. The abdominal drain was removed on the second postoperative day and on the third postoperative day she was discharged from hospital.

The final pathohistological examination of cystic lesion revealed a unilocular mesothelial cyst (17x13x14 cm) with up to 1 mm thick wall and some foci of mucinous metaplasia (so called cystic mucinous mesenteric tumor). The cyst was filled with clear yellow fluid. The cyst was completely extirpated. There was no malignant component or other invasive growth inside the cyst.

## DISCUSSION

Mesenteric cysts are rare intra-abdominal lesions, which are benign with known malignant potential. Most of them are discovered accidentally, but they can present with complications, such as intestinal obstruction, torsion, rupture, hemorrhage, obstruction of urinary and biliary tract or infection (2,5). Abdominal pain or distension may be the first clinical sign and/or symptom of the mesenteric cyst but there is no pathognomonic sign or symptom for the diagnosis (5). The widespread use of ultrasound, computed tomographic scanning and magnetic resonance imaging make it possible to identify an abdominal mass, to define its nature and relationships with intraabdominal organs (5).

There are various types of mesenteric cysts: simple lymphatic cyst, simple mesothelial cyst, lymphangioma, benign and malignant cystic mesothelioma, enteric cyst, urogenital cyst, cystic teratoma, traumatic cyst, and infectious cyst (3). Its precise pathogenesis remains unknown and many possible pathologic processes have been proposed (4). They are thought to be primarily lymphatic in nature arising due to benign proliferation of ectopic lymphatics or obstruction of the lymphatics, which develop either spontaneously or following trauma (5). Although mesenteric cysts can occur at any age, it is common in people between the ages of 40 and 70 years, but it also affects children younger than age 10 (4). There is a slight female preponderance. Mesenteric cyst usually ranges in size from a few centimeters to 10 cm, but it can be very large up to 40 cm (1). The majority are single, and they can be uni- or multilocular. Although mesenteric cysts can occur anywhere along the gastrointestinal tract, it is most commonly found in the small bowel mesentery (60%), followed by the mesocolon (24%) and the retroperitoneum (14.5%) while it is indefinite in 1.5% of cases (1,5). In the large bowel most arise from the right colon and ileum but rarely in the mesentery of the descending colon, sigmoid colon and rectum (1). Two major problems are associated with treating mesenteric cyst: the lesion may be malignant or the lesion may subsequently become malignant even if the lesion is benign at initial diagnosis. First-line treatment for mesenteric cysts is complete excision to avoid recurrence and possible malignant transformation (3). A simple aspiration or internal drainage is not recommended because of the high rate of recurrence and infection (5).

The treatment of choice is complete surgical excision of the cyst. This can be done either by laparotomy or laparoscopy (6). The decision regarding the surgical approach depends on the size, its location and level of surgeon's experience in minimal access surgery. Laparoscopic enucleation of mesenteric cyst is feasible and should be considered as treatment of choice (6). Other treatment options include drainage,

marsupialization and enucleation which were previously thought to be the treatment of choice. Bowel resection is required in a one-third of adult and 50–60% of pediatric cases. Partial excision is not indicated as there is a high recurrence rate with this modality. Sometimes, complete resection and enucleation cannot be achieved. In cases where the cyst is imbedded deep within the mesentery or when size is a factor, partial excision with marsupialization of the remainder of the cyst into the abdominal cavity (followed by sclerosis of the cyst lining) is a good option with low recurrence rates (1).

#### FIGURES

**Figure 1: Cystic lesion measuring 17x13x14 cm, that was completely removed during surgery.**



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