

CASE REPORT

Chylous mesenteric cyst with constipation: Unusual presentation

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Abstract

Background: Chylous mesenteric cyst is a rare entity with variable clinical presentations and possible surgical implications in pediatric age group. Constipation and thick fibrous wall with thin endothelial lining are rarely reported as first clinical presentation and commonest histologic appearance in pediatric patients, respectively.

Case presentation: We herein report the case of a 9-year-old male patient presented with an abdominal mass and constipation. Abdominal ultrasonography and computed tomography revealed a well-defined large cystic mass extending to the right abdominal cavity. Laparotomy and histopathology of the excised mass confirmed the diagnosis of chylous mesenteric cyst.

Conclusion: To our knowledge, this is the first reported case worldwide as well as in Lebanon with such unusual presentation in pediatric patient. Ultrasonography and CT scan suggest the diagnosis; however, histopathology is often required for confirmation. Complete excision of the cyst yields excellent results.

Key words

Mesenteric cyst, Chylous cyst, Abdominal mass, Constipation

1 Introduction

Mesenteric cysts are rare intra-abdominal tumors. Mesenteric cysts are found at a rate 1/140,000 in normal population while approximately one third of the patients are children younger than 15 years^[1,2]. Mesenteric cysts may occur in any part of the mesentery from duodenum to rectum. Most frequently, the cysts are localized in small bowel mesentery (ileum in 60%) and mesocolon (ascending colon in 40%)^[3].

Mesenteric cysts have multiple etiologies. Bears et al^[3] first classified mesenteric cysts according to the etiology (embryonic, traumatic, neoplastic, infective and degenerative) while Mennemeyer and Smith also proposed a clinically accepted classification of mesenteric cysts based essentially on histopathological features. Seems however those mesenteric cysts are often caused by congenital lymphatic pockets that gradually enlarge as they fill with lymph^[3].

Although frequent cases about mesenteric cysts in general have been reported in the literature, chylous variant of mesenteric cysts in pediatric population is rare [4].

In this paper, we report a case of chylous mesenteric cyst presented with distended abdomen and constipation in a 9-year-old boy. This type of presentation is unusual in pediatric population and to our knowledge; this is the first reported case of chylous mesenteric cyst in Lebanon in addition to the rarity of its presentation with constipation in the international literature.

2 Case report

A 9 year-old boy, previously healthy and well immunized up to date, presented to our outpatient division complaining of recent (over the last 3 months) mild abdominal distention associating with bouts of abdominal colics and constipation, relieved by using spasmolytics and laxatives. Initially the parents attributed his abdominal distention to the constipation especially when symptoms were alleviated by using laxatives. In the last 4 days prior to presentation, the parents noticed that their son was having an obviously distended abdomen with no gas or fecal elimination for 3 days.

Upon presentation, the child looked tired, slightly pale, alert, however conscious, oriented and ambulating independently. Abdominal examination revealed a large (about 15 cm in diameter), smooth, globular, non-tender and mobile mass in the transverse axis of the abdomen, occupying the mid-abdomen. No hepatosplenomegaly was observed. The mass was found to be lateralized to the right more than to the left side of the abdomen.

Laboratory findings were within normal range for his age. No signs of poor nutritional status or anemia were found (Total proteins= 5.8 g/dL, Albumin= 3.6 g/dL, Hemoglobin= 12.7 g/dL).

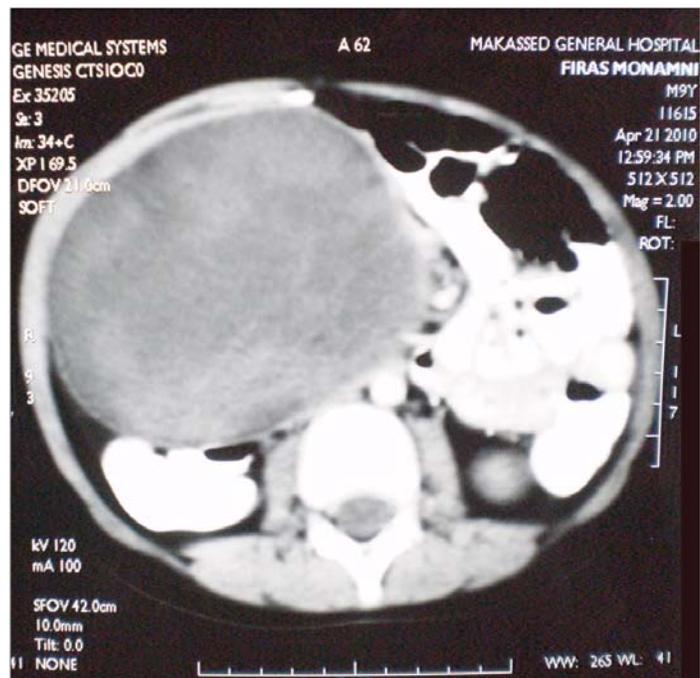


Figure 1. Abdominal CT with contrast of a 9-year old boy showing a right-sided large abdominal mass

Ultrasonography revealed a well-defined cystic lesion measuring 10×15×10 cm but failed to detect its origin. Abdominal computed tomography (CT) with contrast administration was done and showed a well-defined large mass extending into

the right abdominal cavity measuring 15×15 cm. The mass contained homogenous and non-enhancing fluid of watery density. No infiltration of the adjacent abdominal structures (kidneys, pancreas or liver) was observed (Figure 1). Considering the benign, non-infiltrative and cystic character of the mass, additional imaging such as Magnetic Resonance Imaging (MRI) was not performed.

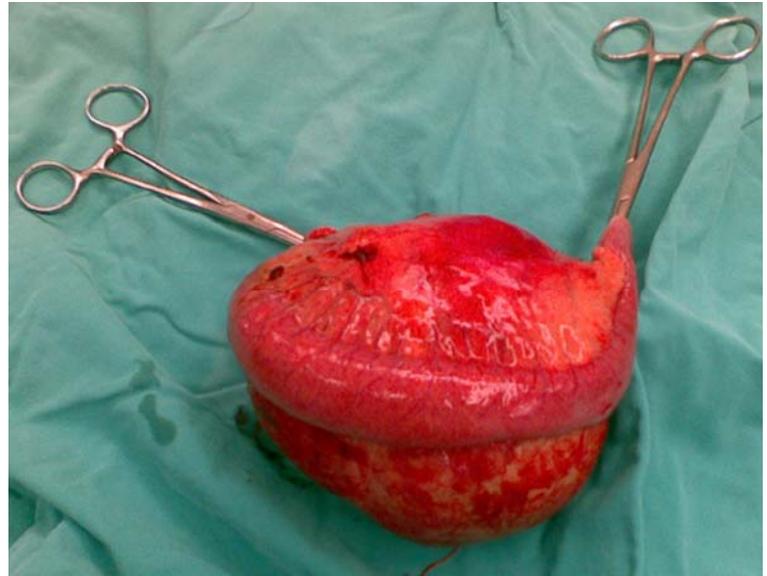


Figure 2. Chylous mesenteric cyst, excised specimen along with adherent resected gut.

Two days after an initial in-hospital observation, the patient underwent laparotomy revealing a large cystic mass originating from one of the mesenteric leaves of the small bowel at the jejunoileal portion and adherent to a small segment of the intestine. Although laparoscopy was initially considered, we finally opted for the open surgery because of the size of the mass. Excision of the mass with segmental resection of the adherent part of the intestine was successfully done (Figure 2). Histopathology of the excised cyst showed thick fibrous wall infiltrated by lymphocytes and plasma cells with milky (chylous) fluid content (Figure 3).

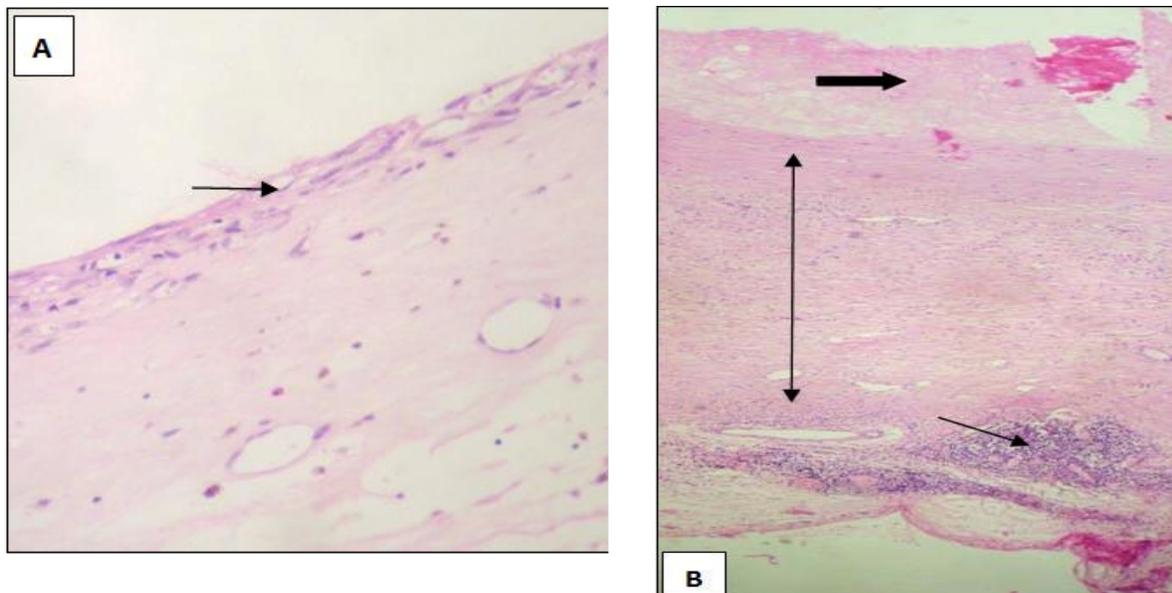


Figure 3. Histopathology of the mesenteric cyst wall (A) shows thin endothelial lining (thin arrow), (B) shows thick fibrous wall (double arrowed line) with lymphocytic infiltration (thin arrow) and chylous material (thick arrow).

No post-operative complications occurred and the patient was discharged home on the 4th post-operative day. Upon 12-month follow up, no signs of recurrence or long-term post-operative complications were observed. The defecation of the young patient was significantly improved.

3 Discussion

Chylous mesenteric cysts are very rare variants of mesenteric cysts with few reported cases in the literature. Rayan et al^[4] reviewed the literature over a period of 48 years and identified only 14 reported cases of chylous mesenteric cysts regarding children. None of them presented with constipation.

Mesenteric cysts are usually thin walled and do not have any mucosa or muscular wall. The lining epithelium is composed of endothelial cells, often incomplete. The cysts may be filled with chyle or serous fluid and may be multi or uni-locular^[5]. The thick fibrous wall makes our case differentiate from the typical characteristic of mesenteric cysts.

Although Bears classification seems to be universally accepted, the Mennemeyer and Smith classification is considered more clinically useful. The later divides mesenteric cysts in 6 groups and it is based essentially on histopathological features (Table1)^[3]. The only genuine malignant tumor in this classification is malignant cystic mesothelioma and therefore may often lead to misdiagnosis. Our case lies in the first group of the Mennemeyer-Smith classification while could be considered as congenital if Bears classification is taken into consideration.

Table 1. Classification of Mesenteric Cysts

1. Cyst of lymphatic origin
a. Simple Lymphatic Cyst
b. Lymphangiomas
2. Cysts of mesothelial origin
a. Simple mesothelial cysts
b. Benign cystic mesotheliomas
c. Malignant cystic mesotheliomas
3. Cysts of enteric origin
a. Enteric duplication cysts
b. Enteric cysts.
4. Cysts of urogenital origin
5. Mature cystic teratomas (dermoid cysts)
6. Non- pancreatic pseudocysts
a. Cysts of traumatic origin.
b. Cysts of infectious origin

In pediatric age group, mesenteric cysts typically present with acute abdomen. Adults usually present unspecific symptoms including diarrhea (6%), constipation (27%), vomiting (45%) and abdominal pain (82%). No cases of chylous mesenteric cyst in children presented with intermittent bouts of constipation are reported. In our case, the fact that intermittent constipation fades completely after tumor excision strictly relates tumor and constipation (probably due to mass effect or to inhibited peristalsis) and makes our report unique in the pediatric population^[5]. Fifty percent of mesenteric cysts are palpable on physical examination and are typically mobile transversely and not longitudinally, as in our case^[6].

Authors investigated a population of 162 patients with mesenteric and retroperitoneal cysts. The population was divided into two groups based on age (<10 years old vs. >10 years old). They noticed that it was more frequent to find the cysts in the mesentery of the small bowel of male gender in the age group <10 years old. This is in accordance to our case and to

relative literature that report the small bowel mesentery (50%-67%), specially the ileal part as the most common site of mesenteric cyst formation [7, 8].

Typically, complete excision with or without resection of the involved bowel (50%-60% of pediatric patients need bowel resection) has an excellent long-term prognosis and no recurrence have been reported. In our case, no constipation was observed after a 12 month follow up. This fact further demonstrates the curative role of the complete excision of the cyst. Marsupialization and drainage carries high recurrence rate [3, 5, 9]. Laparoscopic excision has been achieved successfully in some cases, however, seems to be difficult to perform in cases of large cysts just like our case.

4 Conclusion

Although chylous mesenteric cysts are rare in pediatric age group and constipation a common intestinal abnormality in the childhood, the combination of both mesenteric cysts and constipation worth to be emphasized and reported. The physicians should be aware in long standing constipation treated with spasmolytics and laxatives. Ultrasonography is a low-cost, radiation free, highly sensitive examination for intra-abdominal cystic lesions and easily to perform in children and adults whether long-standing abdominal symptoms persist. In case of cystic findings, complete investigation with CT and MRI is often required to exclude malignancies and to delimitate the borders of the lesions. Complete excision of the chylous mesenteric cyst seems to be curative, often diagnostic and ensures excellent prognosis with no recurrence.

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