Mesenteric Chylous Cyst

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Abstract:
Mesenteric cysts are uncommon and mesenteric chylous cysts are extremely rare. The most common presenting symptoms are abdominal pain and abdominal distention. We report two cases of mesenteric chylous cyst in a young man and a young woman. Pre-operative, intra-operative and histological findings are discussed.

Introduction:
Chylous cysts of the mesentery are extremely rare and commonly present with abdominal pain that may worsen after meals as the cyst enlarges due to increased lymph flow causing intestinal obstruction. The cysts usually present as well-defined mobile lumps within the abdomen, the nature of which can be confirmed by ultrasound or computerized tomography scan. The Florentine anatomist “Bienviene” was the first to report a mesenteric cyst on a postmortem examination in 1507. Chylous (lymph containing) mesenteric cysts are the rarest type of these cysts and were initially reported by “Rookie Lansky” in 1842 at autopsy. The largest pathological collection of these chylous lesions was reported in two series in the Mayo Clinic where 23 of 316 cysts contained chyle. Of clinical interest, mesenteric chylous cysts may present as polyps inside the bowel that can be excised endoscopically. The incidence of mesenteric chylous cysts is 1 in 35,000 pediatric admissions. In this paper, we report two cases of chylous mesenteric cysts that were confirmed by clinical, radiological, intra-operative and histopathological examination.

Case Report I:
A 24-year old Nepali man presented to Hamad General Hospital with a history of generalized abdominal pain of one-day duration. The pain was not radiating and was associated with vomiting. There was no change in bowel habits. Physical examination revealed a young man with normal body build and an unremarkable general examination. His vital signs were normal. Abdominal examination revealed a visible swelling measuring about 15 x 15 cm located in the left lower quadrant, just to the left of the umbilicus. The swelling was mobile, non-pulsatile and without audible bruit. Bowel sounds were normal. Laboratory investigations revealed a total white cell count of 15 x 10^3/uL and hemoglobin of 14.8 g/dl. Platelet count, blood urea nitrogen and serum electrolytes were within the normal range. A CT scan of the abdomen showed non-enhancing twisted bowel loops in the left upper abdomen with a suspicion of air in their walls. The findings were suggestive of bowel ischemia. In addition, a CT scan showed a large cystic mass measuring about 8 x 12 cm occupying the anterior lower abdomen and compressing and displacing the adjacent bowel loops, compressing the urinary bladder and ureter and causing hydronephrosis through backpressure. Provisional diagnosis based on CT scan findings was twisted ischemic bowel loops due to a mesenteric cyst. A laparotomy through a midline incision revealed a large cystic lesion filled with milky fluid in the mesentery of the small bowel (jejunum) extending to the retroperitoneal space. The cyst was exteriorized and the covering peritoneum was incised. The feeding lymph vessels were ligated with vicryl 3-0. The excised cyst was sent for histopathologic examination. The post-operative period was uneventful and the patient was discharged home on the fourth post-operative day. The patient was followed up in the outpatient clinic for two years and there was no recurrence and no complications were encountered.

Case II: Mesenteric Cyst
A 36-year-old Qatari female presented with a history of abdominal pain for two days, first generalized then becoming localized to the epigastric area radiating...
Mesentric Chylous Cyst

Figure 1: Abdominal CT scan showing a large cyst (arrow)

Figure 2: Abdominal CT scan showing the cyst compressing the urinary bladder (filled with contrast)

Figure 3: Abdominal CT scan showing cystic lesion in mesentery of small bowel with a thin rim of peripheral enhancement (arrow)

Figure 4: Mesenteric Chylous (Lymph-Containing) Cyst

Figure 5: The cyst after excision and it is bed at the mesentery

Laboratory investigations showed a total white cell count of 11.9 x 10³ /μL and hemoglobin of 13 g/dl. Platelet count, blood urea nitrogen and serum electrolytes were within normal ranges. A CT scan of the abdomen showed a cystic lesion measuring 4x4cm in the mesentery of small bowel stretching the mesenteric vessels, associated with a thin rim of enhancement peripherally and no lymphadenopathy (Figure 3). The provisional diagnosis, based on CT finding, was a mesenteric cyst. Exploratory laparotomy showed a cyst about 4x4cm in the mesentery of the jejunum; this was excised, the lymphatic vessels ligated, and sent for histopathology which confirmed a benign mesenteric chylous cyst.

The post-operative recovery was uneventful and the patient was discharged home on the fourth post-operative day. The patient was followed up in the outpatient clinic for 18 months and there was no recurrence and no complications were encountered.

Discussion:

Oh C, and his colleagues(6) subdivided chylous cysts into true and false cysts, the former arising from the mesentery of the small bowel and the latter from regional lymphatic or non-lymphatic sources. When the...
content of the cyst is chylous, it is termed a cystic lymphangioma. The etiology of chylous cysts, which can be single or multiple, is unknown though some believe that it might be associated with developmental anomalies of the lymphatic channels. Other possible etiology is bleeding or inflammation in the lymphatic channels that leads to obstruction and subsequent chylous cyst formation. The preoperative determination of the nature of a cystic lesion in the mesentery by radiological means may not be possible but CT scanning and ultrasonography have helped to clarify and define the anatomical location of these cysts. A chylous cyst is an infrequent entity that may have a variable pathogenesis. Their clinical and radiological presentation was similar in all case reports. Despite the CT appearance of chylous cysts being very specific, definite confirmation of their benign nature requires histopathological examination. True mesenteric chylous cysts, as defined by Oh C and his colleagues, have a definite malignant potential. Enge, et. al, and Hardy et. al reported an incidence of 22% and 33% of malignancy respectively in their case series. Although surgical removal of these cysts is usually curative, a careful follow-up with imaging studies is important particularly in the case of true cysts where there is potential to change to malignancy. One of our two cases demonstrated clinical and radiological evidence of intestinal obstruction that was attributed to twisting of the cyst. Fortunately, the twisted mesentery relieved spontaneously and the cyst was excised successfully without the need for bowel resection.

References: