

CASE REPORT

Chylous mesenteric cyst in children -A case report in a 4-year-old boy

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SUMMARY

Chylous mesenteric cyst is a very rare case, with some vague clinical findings, and it is hard to establish the diagnosis before surgery. The most common complaints post-surgery are abdominal pain and abdominal distention. We report a case of chylous mesenteric cyst in a 4-year-old boy with chief complaint of a lump in the abdomen. Pre-operative abdominal ultrasound study could not identify the origin of the mass, and suspected it as a tuberculous peritonitis. A repeat ultrasound examination revealed a multicystic mass, suspected as lymphangioma. From the exploratory laparotomy, we noted a giant mesenteric cyst (20cm in diameter) containing chylous fluid within the ileal mesentery situated 30cm from the ileocaecal junction and made an effect of diminution of the bowel lumen above it, resection and end to end anastomoses was done. Histopathology examination confirmed it as a giant mesenteric cystic lymphangioma.

KEY WORDS:

Pediatric; chylous; mesenteric; cyst; lymphangioma

INTRODUCTION

Mesenteric cysts may occur anywhere in the mesentery along the gastrointestinal tract and can extend from the base of the mesentery into the retroperitoneum.¹ It is a very rare occurrence that has an estimated incidence of 1 in 250,000.² Patients with chylous mesenteric cyst may come with vague signs and symptoms of periodic pain in the abdomen, nausea, vomiting, early satiety, and alteration in defecation pattern, but the vast majority are asymptomatic and detected coincidentally on physical exam or during imaging. While most of the lesions are benign, they sometime lead to an acute abdominal condition such as bowel obstruction, twists and strangulation.³

CASE REPORT

A 4-year-old boy presented with complain of a lump in the abdomen. He had a history of periodical abdominal pain and early satiety. He had no difficulty in defecation. The symptoms begun since two years prior his visit to our clinic. The plain abdominal X-ray showed a gasless space-occupying lesion displacing the bowel loops with a normal distribution of intestinal gas without any signs of bowel obstruction (Fig. 1). Abdominal ultrasound (US) study could

not identify the origin of the mass and we suspected tuberculous peritonitis. A repeat US examination revealed a multicystic mass, suspected as lymphangioma. The preliminary blood works showed no abnormality.

From the exploratory laparotomy, we noted a giant mesenteric cyst (20cm in diameter) with chylous fluid inside it, that arose from the mesentery of the ileum situated 30cm from the ileocecal junction. The cyst made an effect of diminution of the bowel lumen just above it (Fig. 2a). Some tortuous lymphatic vessels were also seen in the mesentery near the cysts (Fig. 2b). Resection and end to end anastomoses was done. Macroscopic view of the mass identified a multicystic lesion that adhered to the mesentery of the small intestine, which contained serous liquid of 1,200ml (Fig. 2c). Microscopic examination revealed the proliferating lymphatic spaces, varied in sizes, with endothelial cells lining and smooth muscle. Hence, it was conclusively diagnosed as giant mesenteric cystic lymphangioma.

The patient had an uneventful postoperative recovery period. He was discharged two days later after full recovery. The patient was followed up to six months and the parents reported that he had gained body weight significantly since he could eat more without early satiety.

DISCUSSION

Chylous mesenteric cyst, a variant of mesenteric cystic lymphangioma according to some authors, is a nonmalignant congenital lymphatic system malformation. The presence of non-striated muscle and lymphatic spaces in the wall of the cyst are the distinctive features of cystic lymphangioma from mesenteric cysts.⁴ As in our patient, there were endothelial cells lining and smooth muscle, so it was diagnosed conclusively as giant cystic lymphangioma.

The congenital presentation has been suggested from an embryological abnormality of the lymphatic system, which involves the obstruction of the embryonic lymphatic vessels because of the lack of communication between small bowel lymphatic tissue and the main lymphatic vessels resulting in non-communicating lymphatic cyst.⁴ Hence, the term "cystic lymphatic malformations" may be more appropriate. This is a suggestive reason for the tortuous lymphatic vessels as seen in our case [Figure 2b].

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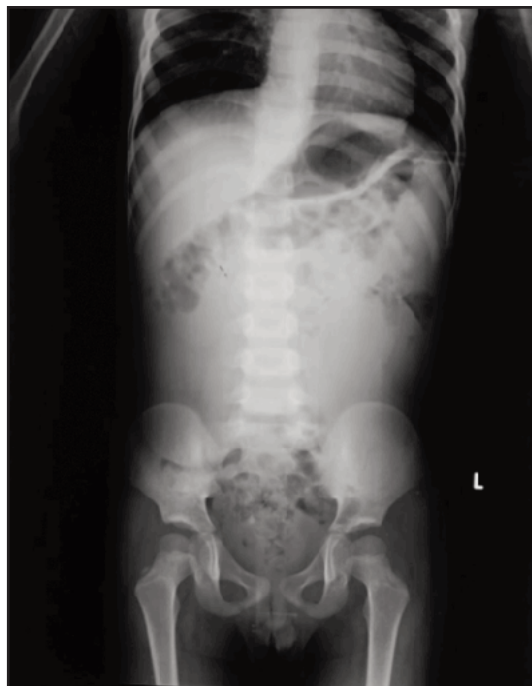


Fig. 1: The plain abdominal X-ray showed a gasless space-occupying lesion displacing the bowel loops with a normal distribution of intestinal gas without signs of bowel obstruction.



Fig. 2: a). The giant chylous mesenteric cyst diminishing the diameter of intestinal lumen just above it. b). Some tortuous lymphatic vessels in the mesentery near of the cysts. c). A multicystic lesion that adhered to the mesentery of the small intestine.

A chylous mesenteric cyst is difficult to diagnose prior to surgery as they may resemble other intraabdominal cystic lesions such as pseudocysts of either pancreatic or non-pancreatic origin, cystic masses (i.e., teratoma, cysts of dermoid), cysts of ovary, and aneurysms of abdominal aorta. Clinical findings are varied and depends on mass size and location. While the vast majority of patients present as non-symptomatic, and detected coincidentally on physical examination or imaging, some manifestations of abdominal emergencies can be associated with bowel obstruction, twists and even strangulation.³ In our patient, the symptoms were noted by his parents at the age of two years old, when his abdomen became enlarged and the mass become palpable.

The preoperative imaging studies usually used include abdominal plain X-ray, computed tomography scan (CT scan) and ultrasonography. To many authors, the ultrasound study is the best choice. But as in our case, it's always wise to

understand its limitation, which is that it is highly operator dependent. It took two ultrasonography assessment for us to get a conclusion of a lymphangioma. While in abdominal plain X-ray we could only see an inconclusive opacity within the abdominal region. Our patient didn't get a CT scan because of the high cost to the parents.

Despite being generally benign, chylous mesenteric cyst have risks for recurrence and invading adjacent structures.⁵ Hence the definitive treatment for chylous mesenteric cyst remains a proper surgical excision. As in our case, resection and anastomosis were done to excise the whole cyst.

CONCLUSION

A chylous mesenteric cyst is a rare congenital benign malformation of the lymphatic system that is usually located in the small bowel mesentery. The diagnosis may be difficult,

as they may mimic other intraabdominal cystic pathologies. The use of ultrasound study is highly operator dependent. To some extent, as in our case, from the clinical condition and physical diagnostic physicians should have a high index of suspicion to an abdominal cystic lesion, and although rare a chylous mesenteric cyst should be considered. Complete excision of the cyst with or without intestinal resection is mandatory, to prevent recurrences, and penetration to the adjacent structures.

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