

## Mesenteric Cyst with Volvulus of Distal Ileum: A Rare Cause of Acute Abdomen in a Girl

Hamza Malik, Farukh Mehmoods, Bilal Mirza and Nabila Talat\*

Department of Pediatric Surgery, The Children's Hospital and the Institute of Child Health, Lahore, Pakistan

\*Corresponding Author: Nabila Talat, Professor and Head, Department of Pediatric Surgery Unit II, The Children's Hospital and the Institute of Child Health, Lahore, Pakistan.

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### Abstract

**Introduction:** Mesenteric cysts are rare abdominal masses that usually present as asymptomatic mass in children. Very rarely they can present with intestinal obstruction due to volvulus of gut. Surgical excision is the treatment of choice.

**Case Report:** Here in we report a case of 10 years old girl who presented with acute abdomen in our unit. Her exploratory laparotomy revealed a large mesenteric cyst causing volvulus of terminal ileum. Excision of cyst was done after Detorsion of volvulus.

**Conclusion:** The volvulus of gut due to mesenteric cyst is a rare surgical condition in children. The preoperative diagnosis is difficult. Surgical excision of cyst is the treatment of choice.

**Keywords:** Mesenteric Cyst; Volvulus; Intestinal Obstruction

### Introduction

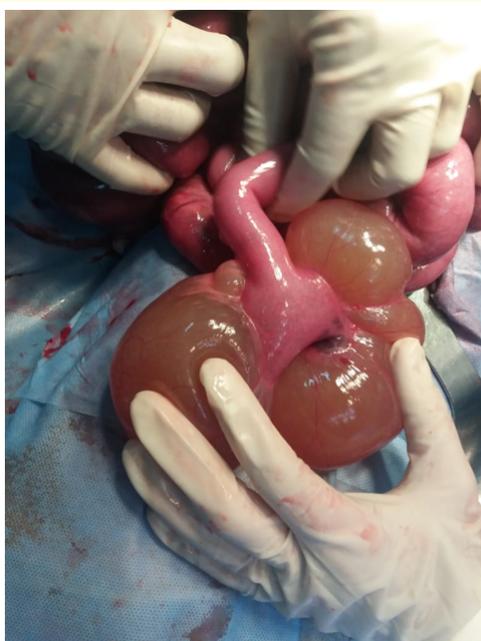
Mesenteric cyst are rare intra-abdominal benign masses that usually present with abdominal distension and still rare in their occurrence with volvulus. The incidence is 1 in 20000 [1]. In more than 50% of cases the cyst is located in the mesentery of terminal ileum [2]. The small size cyst are usually asymptomatic. The large cysts usually present with palpable cystic abdominal mass or abdominal distension. Very rarely they can present with acute abdomen due to volvulus of involved segment of gut or due to mass effect of a huge cyst. The preoperative diagnosis is difficult due to the absence of obvious clinical symptoms. Ultrasonography and CT scan aid in the diagnosis. Surgical excision of cyst is the treatment of choice. Here we report a case of 10 years old girl who presented who had large mesenteric cyst with volvulus of terminal ileum.

### Case Report

A 10 years old girl presented in emergency department with history of abdominal pain for four days. The pain was gradual in onset, severe, generalized and not relieved with medication. There was also history of absolute constipation, abdominal distension and vomiting for 2 days. On examination the patient was a febrile. The abdomen was distended, soft with mild generalized tenderness. Rest of clinical examination was unremarkable. The nasogastric tube was passed which showed bilious aspirate. Plain x-ray abdomen revealed multiple air fluid levels (Figure 3). USG abdomen showed dilated gut loops. After resuscitation with iv fluids and antibiotics patient was prepared for exploratory laparotomy. Exploratory laparotomy was done with supraumbilical transverse incision. Per operatively there was a 10 x 10 cm mesenteric cyst of terminal ileum with volvulus, 20 cm proximal to the ileocecal junction (Figure 1). The detorsion of the volvulus was done, cyst wall was adherent to gut, so resection of cyst and end to end anastomosis was done (Figure 2). Post-operative course was uneventful. N.G was removed on the 3<sup>rd</sup> post op day and oral feeding was started on 4<sup>th</sup> postoperative day. Patient was discharged on 7<sup>th</sup> postoperative day. Patient is under regular follow up and no complication has been observed so far.



**Figure 1:** Mesenteric cyst with volvulus of ileum.



**Figure 2:** Mesenteric cyst after detorsion of volvulus.



**Figure 3:** Preoperative x-ray of mesenteric volvulus with mesenteric cyst.

## Discussion

Intestinal volvulus is an uncommon but life-threatening cause of acute abdomen in children. Primacy volvulus occurs in normal abdominal cavity and is very rare in occurrence. The secondary volvulus occurs due to malrotation, adhesions, bands, ascariasis and very rarely due to mesenteric masses such as mesenteric cyst or lipoma [3].

Mesenteric cysts are rare intra-abdominal cystic masses. The first case of mesenteric cyst was reported by Benivini in 1507 [4]. The incidence is 1:100000 in adults and 1:20000 in children [4]. The majority of Mesenteric cysts are found in the mesentery of ileum but they can occur anywhere from the mesentery of duodenum to the rectum. Majority of cases occur in children younger than 15 years of age with slight male predominance [1].

The etiology of mesenteric cyst is not clear. Gross stated that mesenteric cyst occur due to proliferation of the lymphatic tissue in the mesentery.

The clinical presentation of mesenteric cyst is variable depending upon the size and location of cyst. Small cyst may be asymptomatic, the larger cyst usually present with abdominal distension with palpable cystic abdominal mass. The complicated cases of mesenteric

cyst may present with acute abdomen due to infection, hemorrhage in the cyst, rupture, torsion, or intestinal obstruction due to volvulus of gut like in the index case. Mesenteric cyst with volvulus is a serious surgical emergency. The preoperative diagnosis is difficult due to absence of pathognomonic features on ultrasonography. The delayed diagnosis can lead to complications such as ischemia and necrosis of gut leading to perforation.

Ultrasound and CT scan abdomen are helpful in the diagnosis. Radiological features on plain abdominal x-ray are non-specific and show intestinal obstruction with distended gut loops. Ultrasound can detect mesenteric cyst as cystic multiloculated masses however it may be misdiagnosed as mesenteric fat because fat is abundant in mesentery or inconclusive due to the intestinal distension [5]. The differential diagnosis include cystic lymphangioma, cystic teratoma, adnexal cyst, duplication cyst of gut, Hydatid cyst etc.

The excision of cyst is the treatment of choice. If the cyst is severely adherent to the borders of gut, resection of the effected segment of gut is followed by end to end anastomosis like in the index case [6]. Surgery can also be done laparoscopically [7]. If excision is impossible then partial excision and marsupialization of remaining cyst into the abdominal cavity is the recommended. The cyst lining can be sclerosed after marsupialization to prevent the reoccurrence [8-11].

### Conclusion

Mesenteric cyst with volvulus is rare surgical emergency. The preoperative diagnosis is difficult. Exploratory laparotomy with excision of cyst with or without resection of gut is the treatment of choice.

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