

## **CASE REPORT**

# **A chylolymphatic mesenteric cyst causing mid gut volvulus: Case report in southern Rajasthan**

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### **ABSTRACT**

A mesenteric cyst is a rare intra-abdominal pathology with little literature to guide us on how to diagnose and manage it. We have reported a 9-year-old girl child who presented with acute abdominal pain and vomiting and was diagnosed with an intra-abdominal cystic mass with midgut volvulus. She underwent an exploratory laparotomy and procedure, which found a large chylolymphatic mesenteric cyst. This cyst is resulting in a volvulus in the small bowel. The gut was derotated and noted to be viable, then a complete excision of the cyst was done with mesenteric repair. Usually, mid-gut volvulus presents in pediatric age groups with malrotation of the gut, but in this case, the gut wasn't malrotated; it was due to cystic pathology that caused the volvulus. Urge

**Keywords:** chylolymphatic cyst, mesenteric cyst, volvulus

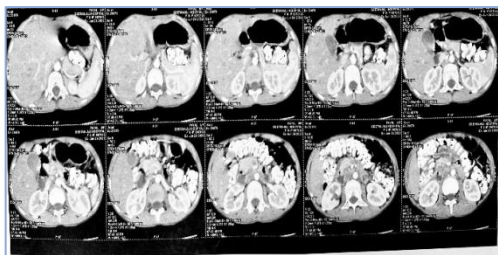
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### **INTRODUCTION**

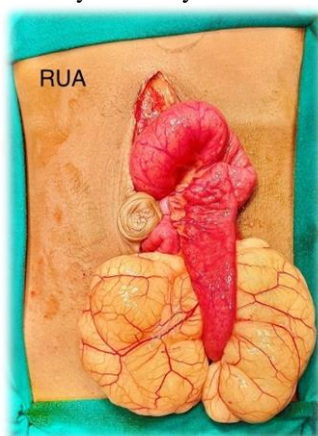
Cysts of the mesentery are benign lesions with an incidence of less than 1/1,00,000. The etiology remains unknown, but several theories regarding their development exist, including degeneration of the mesenteric lymphatics or peritoneal inclusions arising as congenital anomalies. A chylolymphatic cyst is a rare variant of a mesenteric cyst. These cysts are present within the mesentery, lined with a thin endothelium, or mesothelium, and filled with chylous and lymphatic fluid. Although mesenteric cysts in general have been reported in the literature fairly frequently, chylolymphatic cysts in the pediatric age group are extremely rare in the modern medical literature. Therefore, very little information is available regarding their presentation and complications. For the diagnosis of these cysts, patients require radiological investigation such as ultrasonography, computed tomography, and magnetic resonance imaging. Depending on the patient's presentation, these cysts are either treated conservatively or by open or laparoscopic surgical excision.

### **CASE REPORT**

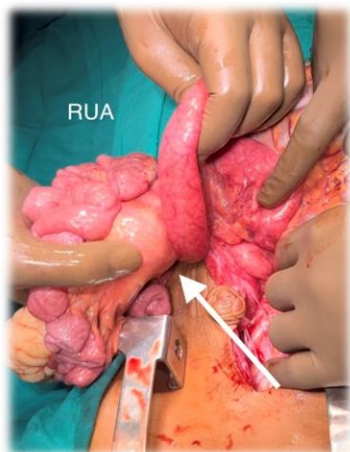
We have reported a case of a 9-year-old female child who was apparently asymptomatic and healthy and came to the emergency department complaining about acute abdominal pain that was associated with vomiting from previously digested food. She complains about having abdominal pain on and off for 3 days, associated with multiple episodes of vomiting with upper abdominal pain. She has been experiencing similar complaints for 7 years, lasting on average 5–6 days. Upon examination, she was afebrile with a normal range of heart rate and blood pressure and maintaining normal saturation on room air. A par abdominal examination was done, and her abdomen was soft with moderate tenderness present. There was no guarding, no rigidity, and no distension with normal bowel sound. She was primarily stabilized symptomatically in the emergency room.



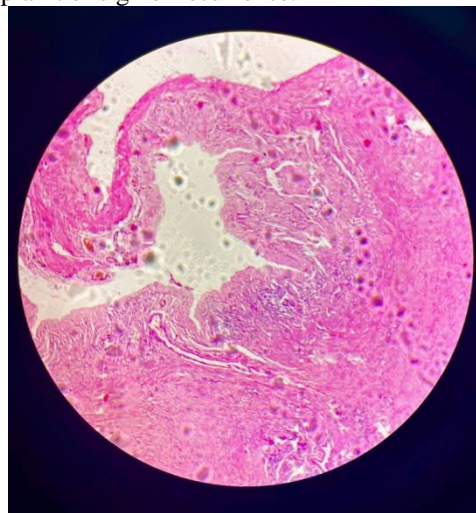
Routine blood and urine investigations were done to find out that the patient had hyponatremia, hypochloreaemia, and ketonuria. She had an ultrasound of the whole abdomen a day before she came to the emergency, and it was suggestive of a complex cyst in the pelvis and midgut volvulus. Contrast enhanced computed tomography (CECT) abdomen was advised, suggestive of non-rotation or malrotation of the gut and possibility of mesenteric cyst or lymphangioma measuring 9.8cm by 4.6cm by 5.8 cm.



She was taken to the operating room for an exploratory laparotomy and procedure. Intraoperatively, the gut was found to be twisted around the jejunal mesenteric cyst, leading to a volvulus of 1080 degrees (3 complete twists) with no sign of malrotation, so the gut was de-rotated to 1080 degrees. There was a large mesenteric cyst in mid-jejunal, and cystic fluid was aspirated. The chyle was seen and sent for biochemical analysis. The chylolymphatic mesenteric cyst was completely excised and the mesentery repaired, and the gut was placed in the abdominal cavity in a normal position.



Uneventful postoperative recovery. Cystic fluid triglyceride levels were 670.8 mg/dl, which suggests that the cystic fluid was chyle, and histopathological examination of the chylolymphatic cyst suggests fibromuscular adipose tissue along with congested, dilated blood vessels and chronic inflammatory infiltrates. Upon follow-up, the patient is doing well with day-to-day regular activities, and there is no complaint or sign of recurrence.



## DISCUSSION

Mesenteric cysts may be asymptomatic or cause acute or chronic symptoms of a mass lesion. Acute pain is generally caused by rupture or torsion of the cyst or from acute hemorrhage into the cyst cavity. Mesenteric cysts may also cause intermittent abdominal pain secondary to compression of adjacent structures or reversible torsion of the cyst. Mesenteric cysts can also be the cause of nonspecific symptoms such as anorexia, nausea, vomiting, fatigue, and weight loss.

Cycloaliphatic mesenteric cyst is a rare case in the pediatric age group, and there is little information and literature available on how to manage patients with symptomatic cysts. Due to this rare entity, patients can present with non-specific symptoms. In this case, the patient presents with acute abdominal pain associated with vomiting. Similar complaints have been heard over the last 7 years.

The investigation for this case involves ultrasonography and contrast-enhanced computed tomography. The proper management of cysts varies in the literature. In acute conditions, papers have suggested that laparotomy should be the method of choice, but recently there has been a shift to the laparoscopic approach, but the optimal approach for the best outcome is still unknown due to the rarity of the condition.

## CONCLUSION

Complete excision of the cyst along with derotation of the twisted bowel segment is the treatment of choice for this patient. In the study made by Kasra Razi et.al., states that it is difficult to create a gold standard

treatment for the management of these patients, however, in other similar cases there has been a thorough step-wise approach. Most patients are managed electively with an investigation in the form of a CT scan to establish the characteristics of the cyst and involvement of surrounding structures. Where possible a laparoscopic approach is favourable. Various laparoscopic techniques have been reported, however, the optimal approach for the best outcome is still unknown due to the rarity of the condition.

## ETHICS DECLARATIONS

### Funding

This study did not receive any funding.

### Conflict of interest

The authors declare that they have no competing interests.

Ethics approval, Consent to participate, bConsent to publish, Availability of data and material, Code availability

Not applicable

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