



# Mesenteric Cyst In A 9-Year-Old Boy – A Case Study

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## ABSTRACT

Mesenteric cysts are rare benign lesions occurring in the abdomen. The cystic lesions can be asymptomatic or present with a specific symptoms. When discovered, treatment is either open or laparoscopic surgery. We present a case of 9 years old boy with the complain of abdominal pain and urinary incontinence.

On examination abdomen was soft and distended, No lump felt. Ultrasound scan of the abdomen done on 3.10.21 suggest the large Anechoic cyst in abdomen as detailed likely S/o retroperitoneal lymphangioma, mildly thickened bladder wall again on 27 October 21 USG of the abdomen repeated impression was there is evidence of large cystic thin walled lesion in the midline and to the right side of abdomen measuring approx. 11.0x 4.0x9.2 cm in size. The cyst is traversing along the mesenteric vessels and is seen extending up to the retroperitoneal region. Posteriorly the cyst is seen abutting the great vessels. Internal echoes are seen within the cyst with few partial thick septa likely lymphatic malformation. CECT was performed on 4 October 2021 A well-defined unilocular cystic lesion with thin imperceptible walls is seen in the mesentery in right lumbar region. It measures 10x 7.3 x6.5 cm. no evidence of septations/ enhancing solid component/ calcification seen. Anteriorly lesion is abutting and causing displacement of small bowel loops. Posterolaterally lesion is abutting and displacing the ascending colon. Poseromedially it is abutting the psoas muscles, Infra renal IVC and aorta. Laterally it was reaching up to the abdominal wall. Medially lesion is crossing the mid line and reaching upto left lateral border of infra renal aorta. Medially it is insinuating between the superior mesenteric vessels and IVC & aorta superiorly it is abutting the segment VI of liver and D3 segment of duodenum. Mesenteric vessels are seen along the wall of the lesion. Findings were suggestive of large thin walled unilocular cystic lesion in mesentery in right lumbar region as described possibility of lymphangioma and mesenteric lymphadenopathy. Exploratory laparotomy was done. The excised cyst revealed the 15x 10 cm thin walled with fibrinous exudates and containing light brown fluid. The patient had uneventful postoperative recovery. Histopathology of the cyst showed cyst wall made up of loose fibro collagenous tissue with multiple foci of lymphoid infiltrate and vascular proliferation. Focally cuboidal cells are seen lining the wall.

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## CASE REPORT

Mesenteric cysts are rare benign intra-abdominal tumors with an incidence of 1 case per 250,000 hospital admission. Because of variable and non-specific clinical symptoms and signs, they are discovered either accidentally during an abdominal radiological examination for other reason or during laparotomy for the management of one of the complications. The etiology of such cysts remains unknown but several theories regarding their development exist. Complete surgical excision of the cyst is the treatment of choice.

Due to the rarity of this entity and the lack of specific symptoms, correct pre-operative diagnosis is difficult. Knowledge of these lesions is important due to the various complications associated with suboptimal surgical management.

A 9-year-old boy, native of Uttrakhand presented with history of abdominal pain particularly after meals since eight months and urinary incontinence from one week. No lump was noticed on abdomen. There was no history of fever, vomiting, jaundice, maleana, haematemesis, bleeding per rectum, dysuria, haematuria, chronic cough, haemoptysis, bonv pains, seizures or worm infestation.

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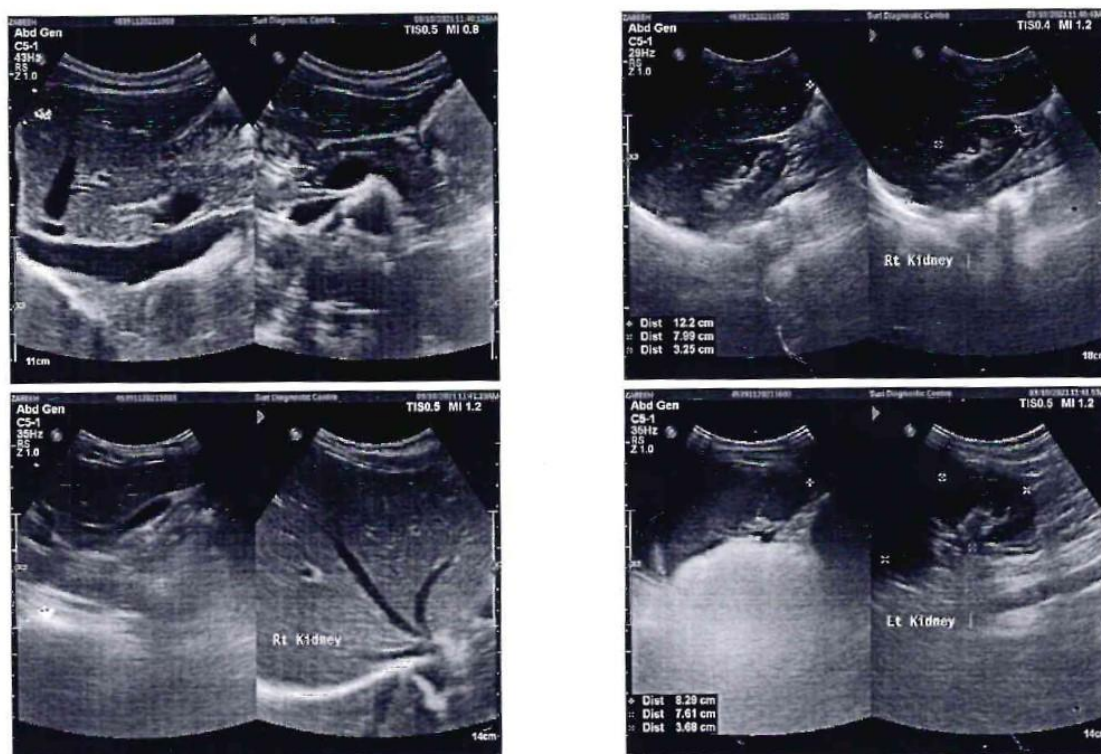


There was no family history of similar disease or any congenital anomaly. On clinical examination vital parameters were found within normal limit with no pallor, icterus, pedal oedema, and lymphadenopathy. Per abdomen examination abdomen was soft and distended, No lump felt. Laboratory tests found haemoglobin count of 13.30 g/dl, PCV of 39.10 %, platelet count of 215 thou/mm<sup>3</sup>. His blood differential showed 51.80 % neutrophils, lymphocytes 29.10 %, 6.00% monocytes, 12.30 % eosinophils and .80% basophils. His blood absolute leucocyte count showed 3.21 thou/mm<sup>3</sup> neutrophils, 1.80 thou/mm<sup>3</sup> lymphocytes, .76 thou/mm<sup>3</sup> eosinophils, .37 thou/mm<sup>3</sup> monocytes and .05

thou/mm<sup>3</sup> basophils. His liver function tests, basic metabolic panel, amylase and lipase levels, and urinalysis were within normal limits. A chest radiograph showed no infiltrates in lungs. Ultrasound scan of the abdomen done on 3.10.21 suggest the large Anechoic cyst in abdomen as detailed likely S/o retroperitoneal lymphangioma, mildly thickened bladder wall again on 27 October 21 USG of the abdomen repeated impression was there is evidence of large cystic thin walled lesion in the midline and to the right side of abdomen measuring approx 11.0x 4.0x9.2 cm in size.

Patient ID: 45391120211003  
Name: ZABEEH

Date: 03-Oct-2021



**Fig: 1 - Ultrasonography shows a large anechoic cyst in abdomen as detailed likely s/o retroperitoneal lymphangioma**

The cyst is traversing along the mesenteric vessels and is seen extending up to the retroperitoneal region. Posteriorly the cyst is seen abutting the great vessels. Internal echoes are seen within the cyst with few partial thick septa likely lymphatic malformation. CECT was performed on 4 October 2021 A well defined unilocular cystic lesion with thin imperceptible walls is seen in the mesentery in right lumbar region. It measures 10x 7.3 x6.5 cm. no evidence of septations/ enhancing solid component/ calcification seen. Anteriorly lesion is abutting and causing displacement of small bowel

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region as described possibility of lymphangioma and mesenteric lymphadenopathy. Based on clinical features, ultrasound study of abdomen and CECT diagnosis of "Mesenteric Cyst" was made. Therefore, patient was prepared for exploratory laparotomy and excision of cyst. Patient underwent exploratory laparotomy, which revealed a big unilocular mesenteric cyst in mesentery in right lumbar region. Complete enucleation of cyst carried out no bowel involvement. Post-operative period was uneventful.

Cut section revealed unilocular cyst with thin wall, filled with dark brown fluid probably due to haemorrhage in the cyst. Histopathology of the cyst showed cyst wall made up of loose fibrocollagenous tissue with multiple foci of lymphoid infiltrate and vascular proliferation. Focally cuboidal cells are seen lining the wall, so opinion was consistent with clinical diagnosis of benign mesenteric cyst. Regular follow up of patient for 1 year showed no recurrence and patient was symptom free.

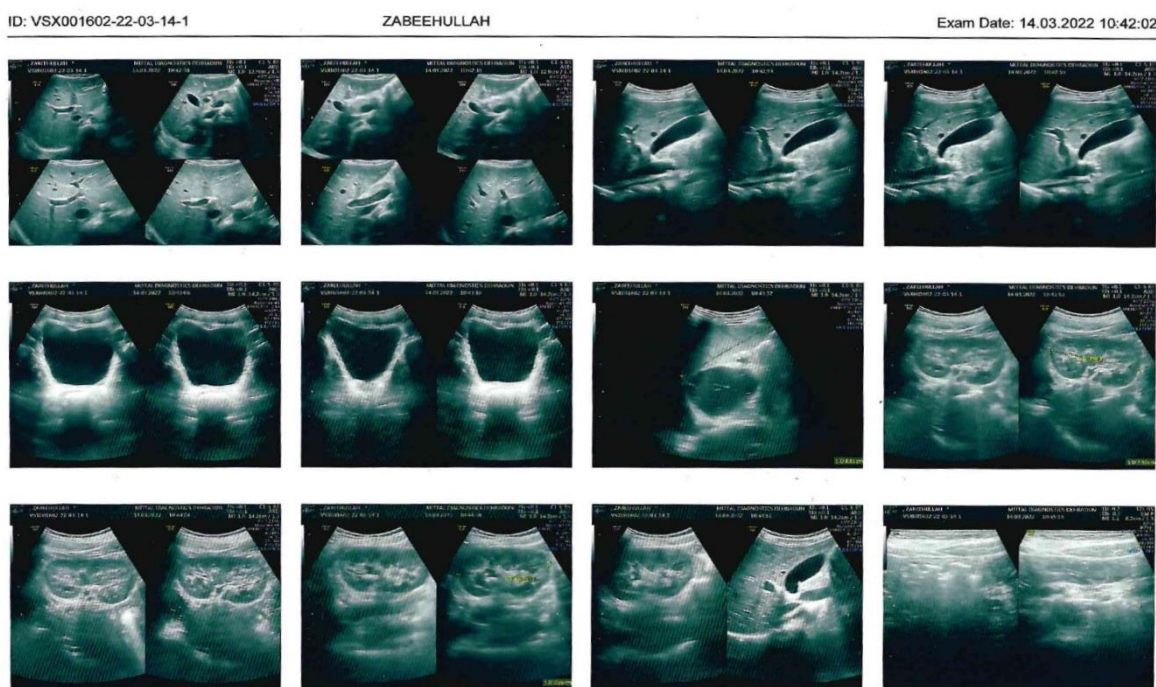


Fig: 2 – Ultrasonography of postoperative phase shows no wall thickening

## CONCLUSION

Mesenteric cysts may be the cause of acute abdominal pain, although it can be challenging to distinguish between the two and make this diagnosis before surgery, particularly when the mass is large. Radical mass removal was feasible in the present clinical experience, enabling a reliable radiological and diagnosis. Furthermore, it prevents any problems and recurrences. In conclusion, if a child has an intra-abdominal cystic mass, it is advised that they receive primary radical surgery.

The patient's preoperative diagnostic examination results strongly suggested a mesenteric cyst; intraoperatively, the cyst's size and location matched the preoperative radiography findings. A benign cyst with a fibrous wall invaded by inflammatory cells and lymphoid aggregates was discovered during the radiological examination. The lumen contains macrophages, but no cancer cells. As a result, the colon was partially removed, as was the entire tumor. The preferred treatment option for mesenteric cysts is thorough surgical resection.

## DISCUSSION

The literature has relatively little information on how to treat mesenteric cysts that cause symptoms. Aside from the rare nature of the disease as revealed by radiological scans, identifying such cases is highly difficult, especially when the patient presents with unclear symptoms.

Antonio Benivieni, an Italian pathologist, first described mesenteric cysts in 1507. Their specific reason is yet unknown. The most commonly accepted explanation for the emergence of mesenteric cysts is benign ectopic lymphatic development in the mesentery that is unconnected to other mesentery components. It is likely to spread to the retroperitoneum and can be found in any part of the gastrointestinal tract, from the duodenum to the rectum in the mesenteric or omentum. More than half of the cysts are found in the small intestine's mesentery, with the ileum the most prevalent region. Single, many, unilocular to multilocular mesenteric cysts containing serous, chylous, and hemorrhagic fluids, or a combination of these fluids, as well as infectious fluid, can be isolated. Mesenteric cysts are





thought to be less than 40 cm in size. The documented instance had a mass of 15 by 14 centimeters. A single, numerous, unilocular to multilocular mesenteric cyst containing serous chylous, hemorrhagic fluid, or a mix of these fluids, as well as infectious fluid, can be separated. Mesenteric cysts are started to be smaller than 40 cm in size. The reported incidence contained a bulk measuring 15 × 14 cm.

Prenatal ultrasonography is commonly used to identify mesenteric cysts. However, to corroborate the sonographic data, an MRI is recommended and preferred. In these cases, ultrasonography can give information regarding the size, location, and presence of the intrinsic septum. While a CT scan provides little more information than sonographic data, it is nonetheless suggested to have one performed in order to better characterize the mass's structure and determine how it interacts to the surrounding organs. Ultrasonography and CT scans are commonly used to identify mesenteric cysts; however, in certain situations, a surgical diagnosis is required due to the intricacy of the mass's location and size. The CT scan of our patient revealed an abdominal ascites or hematoma. Hydronephrosis, teratomas, choledochal cysts, omental cysts, and duplication cysts are some common differential diagnoses in these settings. Different criteria are used to categorize mesenteric cysts. Aside from the type of cyst, it connects clinical difficulties with surgical choices and methods. Consequently, mesenteric cysts fall into four categories: Type 1 cysts are pedicled; type 2 cysts are sessile, restricted to the mesentery, and completely excisable; type 3 cysts disseminate to the retroperitoneum and are usually incompletely removed; and type 4 cysts need complicated surgery, sclerotherapy, or both.

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