

## Giant Mesenteric Cysts of large intestine in children: two case reports and review of the literature

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**Abstract:** Giant Mesenteric Cysts in large intestine are rare here present two children ages being 5 and 4 presented with huge big abdominal masses noticed incidentally. Ultrasonography [USG] and Computerized Tomography [CT] done .one was found in the pelvic mesocolon which was enucleated and the other was in the transverse mesocolon which needed intestinal resection and anastomosis with successful outcome and review of relevant literature.

**Keywords:** Children , Cyst ,Mesentery, Surgery.

### I. Introduction

Mesenteric cysts are rare benign lesions that are found within the abdomen. They have an incidence app.1 per 105,000 admissions to general hospitals and 1 per 20,000 admissions pediatric hospitals .While they were first described in 1507 as an autopsy finding by anatomist Benevieni and in 1880 the first successful surgery of a mesenteric cyst was performed by Tillaux [1].

These lesions can present with symptoms such as abdominal pain, vomiting, anorexia, and a change in bowel habits, distension however, most commonly they are asymptomatic, and detected incidentally via physical exam, or imaging. Although most mesenteric cysts are benign, these lesions do occasionally cause complications, including intestinal obstruction ( most common),volvulus, torsion, or even hemorrhage into cyst or rupture,infection and malignancy [1,10].

### II. Case Reports

#### Case 1:

A 5year male child weighing 20 kg referred with complaints of abdominal swelling noticed 2 weeks back. Not painful, no vomitings. Bowel habits were regular and no urinary complaints. USG revealed huge cystic swelling occupying entire abdomen CT scan also done revealed app 30cms cyst unilocular with internal septations and clear fluid [fig1]. After adequate preparation we did laparotomy by supraumbilical transverse muscle cutting incision and the findings were giant mesenteric cyst arising in the pelvic mesocolon.total enucleation is done[ fig2]. child recovered uneventfully and discharged on 7<sup>th</sup> post operative day and histopathology report was simple serous mesenteric cyst.



Fig 1. CT scan showing gaint mesenteric cyst in the pelvic mesocolon.



**Fig 2.** Operative photograph showing gaint mesenteric cyst in the pelvic mesocolon

**Case 2:**

A 4 year male child weighing 14 kg referred with complaints of abdominal swelling noticed 10 days back. No pain, no vomitings. Bowel habits were regular and no urinary complaints. USG revealed huge multi locular cystic swelling with internal debris, occupying entire abdomen displaing bowels postero laterally. CT scan also done revealed app 35cms multi locular cyst [fig3]. After adequate preparation we did laparotomy by supraumbilical transverse muscle cutting incision and the findings were giant mesenteric cyst arising in the transverse mesocolon. Intestinal resection and anastamosis [fig4] was needed. Child recovered uneventfully and discharged on 7<sup>th</sup> post operative day histopathology report was chylo lymphatic mesenteric cyst.



**Fig 3.** CT scan showing gaint mesenteric cyst in the transverse mesocolon



**Fig 4.** Operative photograph showing gaint mesenteric cyst in the transverse mesocolon

**III. Discussion**

Mesenteric cysts may occur anywhere in the mesentery of the gastrointestinal tract from the duodenum to the rectum, but most commonly localized in the mesentery of the small intestine, the mesentery of the large intestine and retroperitoneum [1-5]. In a review of 162 cases of mesenteric cysts by Kurtz et al., they found that 60% were located in the mesentery of small bowel, 24% located in the mesentery of large bowel, and 14.5% were retroperitoneal [1]. Mesenteric cysts are most commonly solitary and multiloculated, but may occur at

multiple positions within the peritoneal cavity. One third of the mesenteric cysts occur in the children younger than 15 years of age and it is reported slightly more often in males [1,2]. The exact etiology for the development of the mesenteric cysts is not known. The most commonly accepted theory was proposed by Gross, and it is the result of benign proliferation of ectopic lymphatics in the mesentery that lack communication with remainder of the lymphatic system [1].

Other cystic lesions in the abdomen that resemble mesenteric cysts are cystic lymphangioma (hygroma), cystic teratoma, ovarian cyst, intestinal duplication cyst, hydatid cyst, etc [1,9]. The pathological features of these cysts can vary considerably. They can be single or multiple, unilocular or multilocular; can have serous, chylous, hemorrhagic or mixed fluid. Their lining can also vary from a flattened endothelium to patchy fibrosis [1]. Mesenteric cysts are most commonly single and multilocular and the fluid are generally serous when the cyst involves the distal small bowel or colonic mesentery and chylous when it is located in the proximal small bowel mesentery [1]. Histopathological examination is confirmatory and differentiates chylolymphatic cysts from all these lesions [1,9]

The most common physical finding for a mesenteric cyst is Tillaux's sign. This is described as a mass lesion of the abdomen only mobile in the horizontal and not the vertical direction. The goal of surgery is complete surgical excision [1]. In approximately 20% to 60% of the cases bowel resection and anastomosis is needed along with the excision of the mesenteric cysts [2,4-6,8]. Excision of the mesenteric cysts may also be accomplished successfully with laparoscopically [3,7,8]. Tran NS, et al., reviewed laparoscopic management of abdominal lymphatic cyst in 47 children. Amongst 47 cases; laparoscopic cyst excision was possible in 36 cases, laparoscopy-assisted bowel resection en bloc with the cyst in 8 cases, and 3 cases required conversion to open surgery. They concluded that laparoscopic management is safe, feasible, and effective for the management of abdominal mesenteric cysts in children [8]. Prakash A, et al., reported their experience with 17 cases of mesenteric cysts in children below 10 year of the age. The most common mode of presentation among above cases was acute small intestinal obstruction. The cysts were localized in the mesentery of the small intestine in 14 cases, and 3 were in the sigmoid mesentery. During exploration, 5 of these cases had volvulus of the intestine. Four of the above cases required bowel resection along with excision of the cysts during the management. Histologically, all the cases were confirmed as lymphangiomatous mesenteric cysts [4]. Rattan KN, et al., reported their retrospective review on chylolymphatic mesenteric cysts in pediatric age group and included 8 cases, aged below 10 year. All the cases were treated by exploratory laparotomy and complete excision of the cyst along with resection of the involved bowel. All the 8 cases required bowel resection. All of these cases were multiloculated and localized at the mesentery of the small intestine with a maximum size of 9 cm. All the cases were confirmed on histological examination as chylolymphatic cysts, and there were no recurrence [9]. The recurrence following complete excision of the mesenteric cyst is very rare, but may occur [8].

#### **IV. Conclusion**

Giant Mesenteric Cysts are rarely located in the large intestine, USG and CT scan are best diagnostic modalities, surgery is the mainstay of treatment and surgical goal is complete excision.

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