Mesenteric Cyst of Abdomen in a Young Girl– A Rare Entity

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Abstract
Mesenteric Cysts are often asymptomatic and are found incidentally, although patients may present with lower abdominal pain. Due to non specific clinical presentation, very low incidence and lack of adequate classification these cysts represent a diagnostic and therapeutic challenge. Clinical examination, ultrasound and CT imaging combined together help in the diagnosis. We present a case of mesenteric cyst in a 4.9 years old girl that was successfully removed surgically. She presented with history of intermittent abdominal pain for the previous 8 months and it was associated with high grade fever. It was successfully treated by complete excisional surgery.

Key words: Mesenteric cyst; Abdominal mass; Acute abdomen.

Introduction
Mesenteric cysts are rare intra-abdominal mass of paediatric age group with vivid presentation, ranging from an asymptomatic mass to acute abdomen.¹ Incidence of this tumour is 1/10000-250000 hospital admissions.² Aetiology is unknown and rarity of this tumour has lead to confusion about the nature and classification.³ These cysts can occur in every part of mesentery from duodenum upto rectum, but mostly they are found in ileum, right colon and mesentery.⁴ Mesenteric cysts rarely cause abdominal symptoms and if found are discovered incidentally during abdominal exploration or radiological examination. Approximately 830 cases have been reported in literature.⁵ The rarity of the tumour contributes to the fact that the correct preoperative diagnosis is infrequently made.⁶

In this case report we describe a patient who developed mesenteric cyst. On laparotomy it was successfully treated by complete excisional surgery.

Case Report
In April 2010 a 4 year 9 months old girl was brought by her parents at Social Security Hospital Islamabad in emergency with history of recurrent episodes of pain abdomen for last 8 months that increased in severity for one day and was associated with high grade fever. On physical examination she was febrile with temperature of 102⁰F. Her respiratory and cardiac examination was normal. Her abdomen was slightly distended, soft and non tender. However a cystic mobile mass was palpable occupying whole abdomen with ill defined margins. Lower limit of the mass was found to be 2-3 cm above pubic symphysis. Bowel sounds were audible. On clinical examination opinion of a cyst was made. Her complete blood count report showed total leucocyte count of 8 x 10³/mm³ with 32% lymphocytes and 57% neutrophils. Keeping in view an ovarian mass, tumour markers; βHCG and alpha-feto protein were done and they were found to be normal.

Ultrasound abdomen (Fig 1) showed a large multi loculated cystic mass occupying right hemi abdomen measuring 18x13x7 cm, not arising from any organ. Differentials included ovarian cyst, mesenteric cyst and lymphocele. A CT abdomen was done (Fig 2) findings were large multiseptate cystic mass in the upper pelvis and lower abdomen displacing the gut loops anteriorly. Impression was made of either mesenteric cyst? or ovarian cyst?

Multidisciplinary team (combined gynae/surgery department) proceeded to laparotomy of the patient. Abdomen was opened through sub-umbilical mid line incision. Pelvis was explored. Uterus, fallopian tubes and ovaries were found to be normal. A huge cyst was found arising from mesentery at the level of jejunum (Fig 3). It was attached to bowel and had involved blood supply of jejunum. It was not possible to separate it from small bowel. Blood vessels were clamped, cut and ligated. Loops of intestine were cut along with cyst and end to end anastomosis was done (Fig 4).

Abdomen was closed in layers. The convalescence was uneventful and patient was discharged after 3 days. Histopathology report showed that it was mesenteric cyst

Discussion
Mesenteric cysts are uncommon benign abdominal masses first described by Benivieni in 1507,⁷ although 3% are found to be malignant.⁸ It is seen that one third of all reported cases of mesenteric cyst occur in children under the age of 15 years, however cases have been reported both in new born and patients in their seventies. Aetiology of these cysts
Mesenteric cysts vary in their clinical presentation. Some are discovered incidentally\(^8\) whereas other cause abdominal symptoms.\(^9\) There are no specific symptoms indicative of mesenteric cyst, which is the reason these are confused with other abdominal diseases at presentation such as appendicitis, ovarian torsion, diverticulum and small bowel obstruction. In these cases these cysts are discovered during emergency laparotomy. Our patient experienced intermittent abdominal pain and her recent symptoms and clinical examination suggested ovarian cyst or small bowel obstruction.\(^10\)

Children usually present with abdominal distension and a few associated symptoms.\(^11\) The most common physical finding for mesenteric cyst is Tillaux’s sign. This is described as a mass of abdomen only mobile in horizontal not in vertical direction.

Abdominal radiographs are non specific\(^12\) but they may show displacement of bowel to one side or other. CT scan can help establishing the point of origin and allow the clinician to rule out other abdominal pathologies such as bowel obstruction, appendicitis and perforation.

Complete surgical excision is the best way to manage the mesenteric cyst.\(^13\) Some patients may require bowel resection, like ours, to achieve complete removal of cyst if it is closely associated with bowel structures or involves blood vessels that supply the bowel, but becomes necessary in 50-60% of children with mesenteric cysts.\(^14\) Postoperatively patients rarely experience any adverse event. Mesenteric cysts have low recurrence rate, which range from 0-13.6%.\(^15\)

Conclusion

The exact aetiology of mesenteric cysts is unknown. CT scanning and ultrasonography are helpful in diagnosing mesenteric cysts. Surgical removal is the only treatment. Bowel resection may be necessary in cases where cysts are close to bowel or involve blood vessels that supply the bowel. Once removed they rarely recur and patients have excellent prognosis.
References


Answers to Pictorial Quiz (Page 128)

1. a (monozygotic twin)
2. d (more than 12 days)
3. Siamese twins; conjoined twin pregnancy