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Mesenteric Cyst: A Diagnostic Dilemma in An Emergency

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Abstract

Mesenteric Cyst is a rare disease with variable clinical presentations, and it can occur at any part of intestine, most common in mesentery of small bowel. Tillaux triad is useful to clinically diagnose a mesenteric cyst. There is a chance of malignancy in only 3 % of these cysts. Treatment is removal of the cyst by laparotomy or laparoscopy, enucleation or marsupialization. The recurrence rate varies from 0 to 13.6% post-surgical removal.

Keywords *Mesenteric Cyst; Surgical Excision*

Introduction

Mesenteric cysts are very rare intra-abdominal cystic masses with a prevalence rate of 1 in 100,000 to 250,000 hospital admissions.1 They may be diagnosed at any age but most of them are found in the first decade of life with a male to female ratio of 1:1.2 The presentation of this condition is variable; it has no specific symptoms. It might be found incidentally during an unrelated surgery or radiological investigation. Less than one-third of the patients present with symptoms including pain in the abdomen, vomiting, constipation or diarrhea. Surgical removal is the treatment of choice for this condition.

Case Report

A 6-year-old girl presented to the emergency department with severe mid and upper abdominal pain which was precipitated by having food and lying down in bed to sleep. She had similar episodes since the previous 1 week for which she was treated for suspected acute peptic disease with medications. The last episode did not subside in spite of repeating the anti-histaminic drugs. On examination, her vital parameters like temperature, pulse and blood pressure were normal. Her abdomen showed no distension. There was tenderness in the lower abdomen, and no mass was palpable.

Her full blood count and C-reactive protein estimates were all normal. Since her previous ultrasound scan report suspected her to have an ovarian or retroperitoneal cyst she was taken for emergency contrast enhanced computed tomogram which reported the lesion as a large bilobulated cystic mass most likely arising from the pelvis and occupying the lower abdomen and pelvis and containing clear fluid and some basal solid component, possibly ovarian tissue. The diagnosis according to contrast enhanced computed tomogram was ovarian cyst, and since the vascularity could not be well demonstrated ovarian torsion was suspected. The child was therefore taken up for emergency surgery after sending blood for ovarian tumour markers. All the tumour markers were absent or within the normal limit.

Initially, laparoscopy was done. A large mesenteric cyst was found in the pelvic cavity so snugly stuck that it could not be pulled out. Therefore, the procedure was converted to laparotomy with a transverse incision. The mesenteric cyst was delivered out and since it was adherent to the adjacent small bowel, resection and anastomosis of the involved bowel was done along with the cyst removal.

The drain was removed on the second day after surgery and feeding started on the fourth. The child was discharged on the sixth day when she was on normal feeds and pain free. The histopathology report confirmed the lesion to be a unilocular mesenteric cyst with a thin wall, lined by flat cells with no atypia, mucinous component or malignancy. The child has been followed up for 4 months after surgery and is normal.

Discussion

Mesenteric cyst is a rare cystic disease occurring in 1 patient of every 100,000 to 250,000 admitted to the hospital.1 It was first described by Beneviene in the year 1507. Tillaux was the first to remove the cyst in the year 1880. These cysts might be caused by failure of lymph nodes to communicate with the lymphatics or venous system. The other reason might be obstruction of the draining lymphatics due to trauma, infection or tumour. These cysts were classified as embryonic and developmental cysts, traumatic cysts, neoplastic cysts and infective and degenerative cysts by Beahrs et al in the year 1950.

These cysts can occur anywhere from the duodenum up to the rectum, but the commonest location is in the mesentery of the small bowel. Some of them extend retroperitoneally.

Tillaux triad is useful to clinically diagnose a mesenteric cyst; it includes the following three findings

1. A mid-abdominal cystic mass,

2. The cystic mass moves perpendicular to the root of the mesentery,

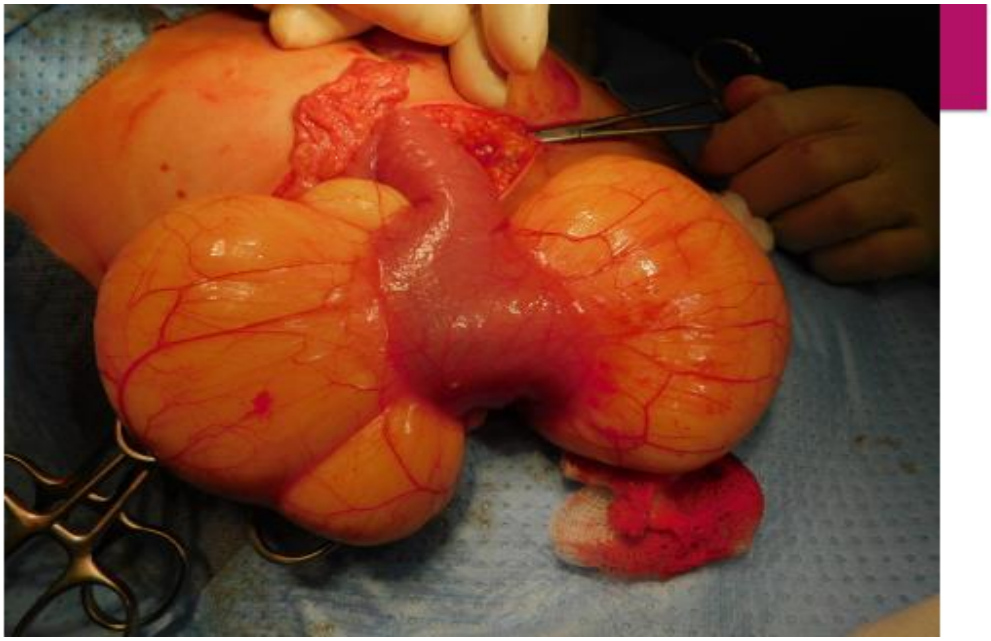
3. A band of resonance around the cyst.

Although our patient had a large cyst in the small bowel the triad could not be demonstrated because it was stuck in the pelvic cavity. Mesenteric cysts can vary in size from 4 cm to 36 cms., influencing the presentation of the lesion.[3]

Most of the mesenteric cysts are asymptomatic and are discovered incidentally during intervention for other pathologies like appendicitis. Some cases present with non-specific symptoms like pain (82%)including low back ache, nausea and vomiting (45%), constipation (27%), and diarrhea(6%). 61% may have a palpable abdominal mass. [1,4] About 10% present with acute complications like bowel obstruction, volvulus, torsion, intracystic bleed or spillage of infective fluid or shock. [3,4] Clinical examination findings depend on the size of the cyst.

If small in size, they might not be clinically palpable at all, whereas a large cyst might be easily examined unless it is deep inside the pelvis like it was in our case. There is a chance of malignancy in only 3 % of these cysts. [1]

Diagnosis is based on a careful clinical examination and radiological modalities of ultrasonography and CT. Our patient had an unusual presentation and an ovarian cyst rather than a mesenteric cyst was expected, influenced by the patient's presentation and radiological findings. Treatment is removal of the cyst by laparotomy or laparoscopy. Enucleation can be done, without removing the bowel, if possible. But if the cyst cannot be separated safely from the bowel because it is too close to it or if there is danger of hampering the blood flow of the adjacent bowel it is necessary to remove the bowel along with the cyst, completing the surgery by end-to-end anastomosis of the cut bowel ends. Marsupialization is another way to remove the cyst especially if it is large and the adjacent bowel blood flow is not compromised. Care is to be taken to close the mesenteric defect to avoid bowel herniation and obstruction post -operatively. The recurrence rate after surgery is low varying from 0 to 13.6%.[5]



Conclusion

Mesenteric cyst is a rare intra-abdominal cyst. It might present with non-specific findings. Even if the cyst is from the small bowel it might be fixed in the pelvic cavity causing pain and tenderness. A large mesenteric cyst from the small bowel mesentery might not be clinically palpable if it is stuck in the pelvic cavity becoming immobile and not following the Tillaux triad. If it is present in the pelvis it can be misdiagnosed as an ovarian cyst. Surgical removal is curative and includes enucleation, resection with or without adjacent bowel resection and anastomosis.

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