CASE REPORT

Infected mesenteric cyst

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SUMMARY

Mesenteric cyst is a rare condition. Presentation with non-typhoid spontaneous infection in an unusual area makes it even more a rare situation with mesenteric cyst. Its diagnosis is mainly based on the imaging modalities. However, there are difficulties in diagnosis when it is present in an uncommon area and rare known complications. Mesenteric cyst can present with few uncommon emergency conditions which pose difficulties in diagnosis as well as treatment options as mentioned in this case.

BACKGROUND

Mesenteric cysts are the benign cystic lesions in the mesentery of small bowel, most commonly seen in the ileal mesentery with a incidence of <1/1 00 000.¹ Although mesenteric cyst was first described in the year 1507, since then very few cases are reported in the literature especially spontaneous non-typhoid infection of the mesenteric cyst, uncommon sites and uncommon mode of presentation. Here, we report an infected mesenteric cyst involving the mesentery of the jejunum and its diagnostic difficulty. Because of the rarity of presentation site as well as diagnostic and treatment difficulty, we wanted to share it among the faculty to make them aware of the possible variations in the presentation of such case.

CASE PRESENTATION

A 22-year-old female patient presented with intermittent left upper abdominal pain, fever and left upper abdomen mass of 6 months, which were insidious in onset and then gradually increased in severity; there was high grade fever and continuous abdominal pain over the last 15 days. There was no significant past and family history. On examination the patient was febrile, tachycardic and per abdominal examination revealed solitary, smooth surface, well-defined, soft tender mass palpable in the left hypochondrium extending into epigastrium. All borders were well made out except the superior which did not move with respiration and had no independent mobility. Investigations revealed a total count of 16 000/ml, ultrasonography showed a well-defined cystic lesion with uniform low level internal echoes in left para-aortic region adjacent to tail of pancreas measuring about 10×10×9 cm, without vascular uptake. Contrast-enhanced CT (CECT) abdomen showed a well-defined cystic lesion arising from the tail and body of pancreas with displaced bowel loops suggestive of pseudopancreatic cyst or gut duplication cyst (figure 1). At exploratory laparotomy, a well-defined cyst was present adjacent to the pancreas arising in the root

of the mesentery of jejunum (figure 2). The cyst was enucleated completely in toto without rupture and without compromising bowel vascularity (figure 3). On cut opening the specimen, there was thick pus within with well-formed thick cyst wall (figure 4). On culturing the pus, there was *Pseudomonas* growth; organisms were sensitive to amikacin, imipenem, vancomycin and gentamycin. The patient was treated according to pus culture and sensitivity report. No postoperative complications were found. Diagnosis was confirmed by histopathology examination of specimen (figure 5). The patient was discharged on the eighth postadmission day in a fair condition.

INVESTIGATIONS

- ▶ Routine blood investigations
- ▶ Ultrasonography
- ▶ CECT abdomen

DIFFERENTIAL DIAGNOSES

- ▶ Pseudopancreatic cyst
- ▶ Gut duplication cyst

TREATMENT

The cyst was enucleated completely in toto without rupture and without compromising bowel vascularity. The patient was treated according to pus culture and sensitivity report.

OUTCOME AND FOLLOW-UP

There were no postoperative complications. Diagnosis was confirmed by histopathology examination of specimen (figure 5). The patient was discharged on the eighth postadmission day in a fair condition.

Figure 1 Contrast-enhanced CT abdomen showing cystic lesion.

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Figure 2 Intraoperative picture showing cyst.

DISCUSSION

Mesenteric cysts are the benign cystic lesions in the mesentery of small bowel, most commonly seen in the mesentery of ileum with an incidence of one in 100 000–250 000 hospital admissions.¹ It is most commonly seen in the second decade of life, more common in women compared to men with 1 : 2 ratio.^{1 2}

Mesenteric cyst is most commonly seen in the mesentery of the ileum³; however, other uncommon sites are mesocolon and mesentery of jejunum. There are five types of mesenteric cysts, among them the most common is the chylo-lymphatic variety which is thought to arise due to the abnormal development of the lymphatics without efferent communication, degeneration of lymphatics, obstruction of lymph ducts, injury of lymph ducts, degeneration of lymph nodes, proliferation of ectopic lymphoid tissues and failure of mesenteric leaves to fuse have been considered however not proved. Another variety is enterogenous, which thought to arise due to the sequestration of the developing bowel into the developing mesentery. Other rare

Figure 4 Cut-opened cyst showing well-formed cyst wall.

varieties are simple or mesothelial, urogenital remnant and teratomatous.^{2–5}

Mesenteric cysts are also classified according to their aetiology and histological characteristics as (1) fetal and developmental cysts, (2) traumatic or acquired cysts, (3) neoplastic cysts and (4) infectious or degenerative cysts.⁶ Among them, fetal and developmental cysts, as well as neoplastic cysts, are true cysts that are formed by endothelial cells. Traumatic cysts and infectious and degenerative cysts are classified as false cysts that are lined with a fibrous cystic wall with inflammatory cells. The sizes of mesenteric cysts are diverse. Aydinli *et al*⁷ reported a giant mesenteric cyst in the mesentery of the ileum whose size was 30×20×10 cm, and the volume of serous fluid filling the inside was 2500 ml.

Mesenteric cyst most commonly present with painless abdominal mass around the umbilicus with typical mobility, that is, perpendicular to the attachment of the root of mesentery unless complicated² or with abdominal symptoms such as abdominal pain (55–82%), palpable abdominal lumps (44–61%) and abdominal distention (17–61%).³ However, in our patient's case, mass was in the left hypochondrium which was not mobile, hence diagnosed as pseudopancreatic cyst; even investigations supported this diagnosis. Mesenteric cyst can present with emergencies like the rupture of the cyst into peritoneum causing peritonitis, infection, haemorrhage, volvulus, perforation and ileus.³

Figure 3 Enucleated cysts in total.

Figure 5 Histopathology picture of cyst wall.

In our patient's case, pain in the abdomen and fever can be explained as because cyst was infected; but, there was no emergency condition suggesting laparotomy. However, the cyst is infected by the non-typhoid organism, that is, *Pseudomonas*.

Most of the suspected mesenteric cysts can be diagnosed by the imaging modalities like ultrasonography (USG), CECT abdomen, MRI abdomen or diagnosed accidentally. However, in our patient's case, USG and CECT abdomen failed to diagnose accurately. Considering the treatment enucleation or partial excision with cauterising, the remaining epithelial surface to prevent recurrence is the treatment for the most chylolymphatic variety of cysts without compromising the blood supply to bowel. But, the blood to enterogenous variety cyst and bowel adjacent is supplied by same vessels, so requires the resection and anastomosis of the bowel, which is supplied by that segment of mesentery to prevent ischaemic damage of bowel.^{2-4 8} The choice of treatment for mesenteric cysts is complete surgical resection with or without bowel resection.⁹ When short bowel syndrome is anticipated, simple aspiration or marsupialisation may be considered, but are generally not recommended because of frequent recurrence and infection.¹⁰ In our case, we have done a complete excision of cyst in toto without rupture by separating one leaf of mesentery. Histologically, the inner wall of a mesenteric cyst has been reported to be composed primarily of columnar or cubic endothelial cells, but the endothelial cell layers are incomplete in some cases.¹¹

Contributors All the authors have contributed significantly for the article.

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Learning points

- Mesenteric cyst can occur in uncommon sites.
- Complications during and postsurgery have to be evaluated.
- Accurate diagnosis is not possible until histological evaluation.

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