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Rare Presentation of Metachronus Chylo-Lymphatic Mesenteric Cyst and Mesenteric Dermoid Cyst in Same Patient

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ABSTRACT

A mesenteric cyst is defined as any cyst located in the mesentery; it may or may not extend into the retroperitoneum, which has a recognizable lining of endothelium or mesothelial cell. Mesenteric cyst can occur anywhere in the mesentery of gastrointestinal tract from duodenum to rectum. A mesenteric cyst is one of the rarest abdominal tumors, with approximately 822 cases recorded since 1507. The incidence is between 1 per 100,000 to 1 per 250,000 hospital admissions. We are presenting a female patient, who was operated for mesenteric cyst more than 2 years back. She had presented to us with mesenteric dermoid cyst. She was successfully operated. The patient was followed-up for a long 10 years and she is absolutely normal. But finding two variants of mesenteric cysts in one individual is extremely rare.

Keywords: Mesenteric cyst, Metachronus, Chylo-lymphatic, Retroperitoneum, Dermoid

INTRODUCTION

Mesenteric cysts are rare benign intra-abdominal tumours with an incidence of 1 case per 100,000 to 250,000 hospital admission [1-4]. Often they present with abdominal pain, vomiting and abdominal mass. In-spite of variable and non-specific clinical symptoms and signs, often they are discovered during abdominal radiological examination. But sometimes either accidentally they are discovered during investigations for other reason or during laparotomy for the management of one of the complications. The aetiology of such cysts remains unknown but several theories regarding their development exist.

Tillaux triad named after the French surgeon Paul Jules Tillaux can be seen in cases of mesenteric cyst. It consists of the following signs are a fluctuating swelling near the umbilicus, swelling freely mobile in the direction perpendicular to the attachment of mesentery and with a zone of resonance around the swelling [5].

Mesenteric cysts are of 4 variants such as:

1. Developmental cyst
2. Traumatic: Blood cysts
3. Infective: Tuberculous mesenteric cold abscess following caseation and
4. Neoplastic: According to the cause.

But developmental cysts include basically the following 4 types:

1. **Chylo-lymphatic cyst:** Most common type, thin wall, lined by flat endothelium, clear chylous fluid present, separate blood vessels.
2. **Enterogenous cyst:** Thick wall, lined by columnar, mucinous fluid present and common blood supply.
3. **Urogenital remnant cyst**
4. **Dermoid cyst (mature cystic teratoma):** Contain developmentally mature skin with its accompanying structures: hair follicles, sweat glands, hair and often bits of other tissues. They are almost always benign. Dermoid cyst rarely present as mesenteric cysts [6].

In 2000, some researchers suggested a classification for mesenteric cysts based on histopathological features:

A. **Cysts lymphatic origin:** Simple lymphatic cyst, lymphangioma

B. **Cysts of mesothelial origin:** Simple mesothelial cyst, benign cystic mesothelioma and malignant cystic mesothelioma

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C. **Cysts of enteric origin:** Enteric cyst and enteric duplication cyst

D. Cysts of urogenital origin

E. **Mature cystic teratoma:** Dermoid cysts

F. **Pseudo-cysts:** Infectious, traumatic cysts

Complete surgical excision of the cyst is the treatment of choice. Due to the rarity of this entity and the lack of specific symptoms and signs, sometimes correct pre-operative diagnosis is difficult. Knowledge of these lesions is important due to the various complications associated with suboptimal or delayed surgical management.

CASE SUMMARY

Mrs. Banabali Mishra, w/o Mr. RR Kamal Tripathy, 24 years female from Balangir, Orissa got admitted in surgery department, MIMS, Nellimarla, on 6th December 2006 (MR No. 518277 and IP No. 44978). She had come with the complaint of abdominal pain, vomiting and constipation for last 2 years but symptoms were more severe for last 3 months. Abdominal pain was intermittent type, dull aching in nature, around the umbilicus and left side of the abdomen. Pain was not related to food and also did not have any diurnal variation. Vomiting was sometimes associated with abdominal pain. Often associated with constipation, but pain used to reduce after passing motion. There was no history of loss of appetite but there was history of loss of weight. Usually bowel and bladder habits were normal. There was no history of jaundice.

PAST HISTORY

She was suffering from similar type of abdominal pain during early days of 2004. For which she was investigated and found to have mesenteric cyst. She underwent operation (exploratory laparotomy and total excision of the mesenteric cyst) on 19-04-2004 at Medical college hospital, Burla, Orissa. There was a mass of 4" × 3" from the mesentery containing serous fluid and chylous in nature. Mass was excised and sent for HPE. Post-op was uneventful.

Then the HP report was a cyst of 8 × 5 cm was embedded in the mesentery. Outer wall was smooth with inner wall showing papillary folds. Microscopically, cyst wall showed fibro collagenous tissue, adipose tissue, capillaries and contained chyle inside the cyst. Features were in consistent with chylo-lymphatic mesenteric cyst.

Eight months after surgery, she started having attacks of severe abdominal pain, around umbilicus, lasting from hours to days but used to get relief with medical treatment. Since then she has been treated symptomatically and used to get relief with treatment, with varying periods of symptom free life.

Then on 29-09-2006, U.S Scan was repeated and found that there was an oval, hypoechoeic lesion measuring 23 mm × 30 mm × 46 mm (volume:16.4 ml) seen in left para-umblical region, below the umbilicus. Rest of the abdomino-pelvic scan was normal.

Urine - R & M/E - NAD, ESR - 15 mm/1 h (Wastergren).

She was advised surgery after the scan, but patient neglected.

PERSONAL HISTORY

She is a teacher, by profession, married since 6 months. No H/O menstrual irregularity or whitish discharge, LMP was 20 days back. No H/o allergy. No H/o chronic diseases like DMT /HTN. But she has lost weight nearly 6 to 7 kg in last 2 years.

GENERAL CONDITION

Average built, weight: 45 kg, BP: 110/80 mm Hg, pulse: 100/min, temp: N and no lymphadenopathy.

Systemic examination revealed CVS: S1 S2 no murmurs, resp: NBS, No as P/A: Abdomen was scaphoid, soft. No organomegally. There was a mass over the supra pubic region and lower abdomen mainly on the left side. It was well defined, firm, restricted movement with mild tenderness over left central abdomen **(Figure 1)**. No ascitis. P/R & P/V: NAD.

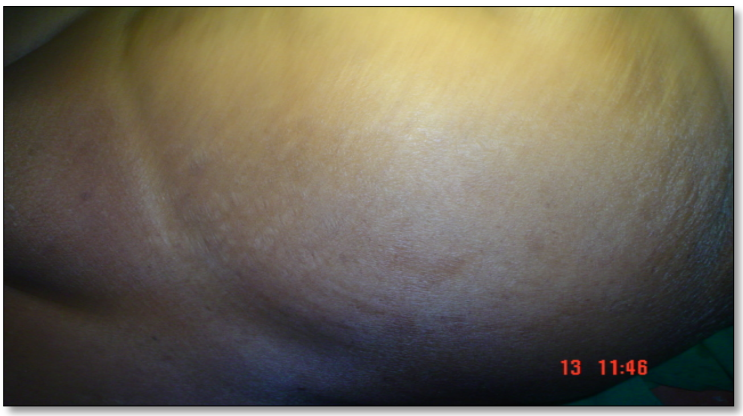

Figure 1. The fullness on left side of the lower abdomen and pubic region.

INVESTIGATIONS

Urine: R & M/E- NAD, blood: CBC: Hb% - 12.8g%, BT: 1'10", CT: 2'30", TC: 8,800/cells/cumm, DC: P-66%, L-29, E-05%, ESR: 48 mm/1st hour, Serology: HIV-Negative and Hbs Ag-Negative, RBS: 88 mg% and Blood Grouping and Rh typing-'O'+ve.

US scan and CECT scan of abdomen (8-12-06) showed a contrast enhanced soft tissue density mass lesion, with solid and cystic components, is seen at the level of aortic bifurcation on the left side measuring 4 × 4 × 5 cm **(Figure 2)**.

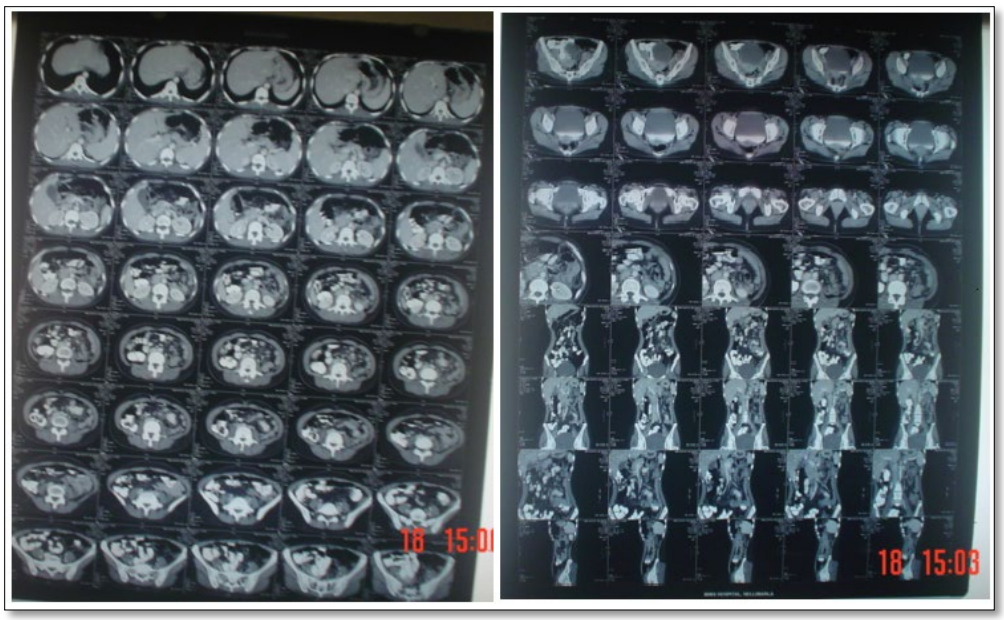

Figure 2. Showing the CT scan findings of the mesenteric cyst.

Impression: Mesenteric dermoid cyst with small bowel adherence to the posterior aspect of anterior abdominal wall **(Figure 3)**.

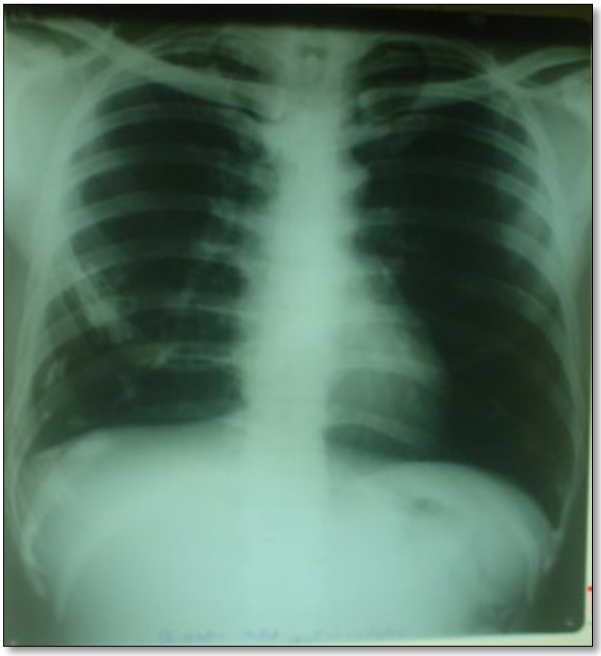

Figure 3. X-ray chest was within normal limits.

TREATMENT

After preparation, Exploratory Laparotomy was done on 13-12-2006. Two to three lobulated masses partly cystic and partly solid mass was present in the mesentery, close to intestinal wall with lots of omental adhesions and angulations. Hence, excision of mesenteric dermoid cyst along with adjacent loop of small gut was done. End to end anastomosis of small intestine was done. Post-op was uneventful. HPE report came as Mesenteric Dermoid cyst. No evidence of any malignancy **(Figures 4 and 5)**.

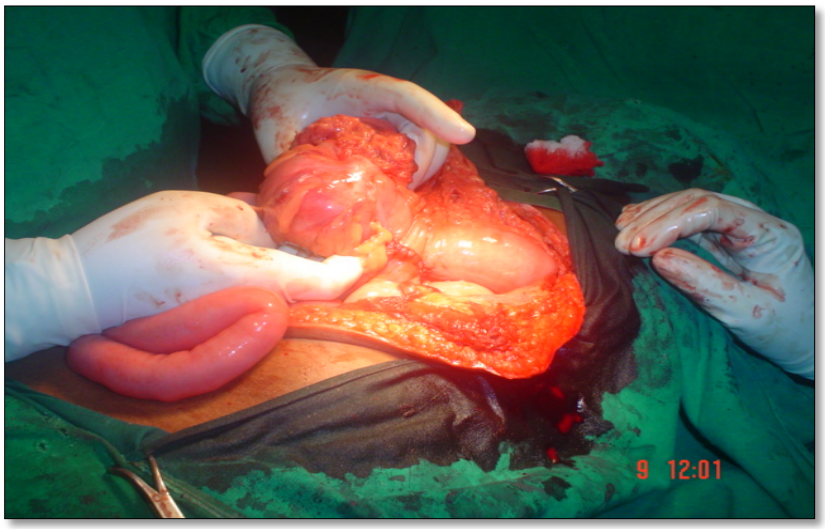

Figure 4. Dermoid cyst shown on exploratory laparotomy.

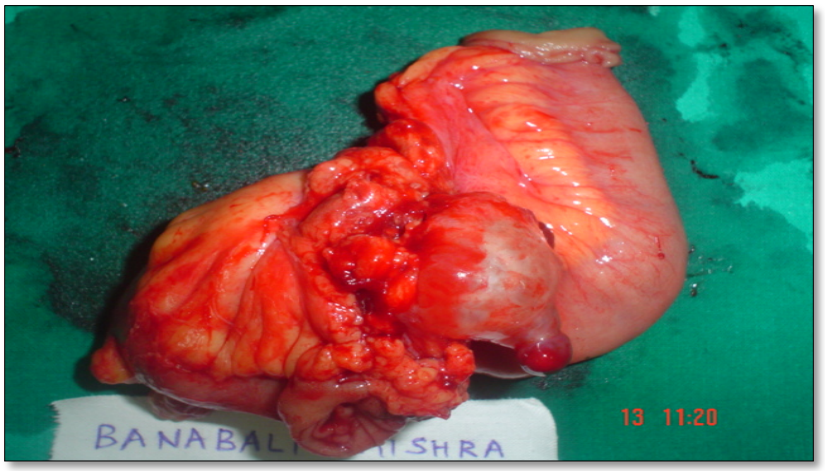

Figure 5. Resected specimen with the mesenteric dermoid cyst.

DISCUSSION

A mesenteric cyst is defined as a cyst located in the mesentery lined by endothelial or mesothelial cells; may or may not extend in to retro-peritoneum. Mesenteric cysts are rare surgical conditions occurring 1 in 200,000 to 1 in 350,000 hospital admission [7]. Italian Anatomist Benevenni first described mesenteric cyst in an 8 years old boy in 1507, while performing autopsy. Later on, Rokitansky published a case of chylous mesenteric cyst with description on 1842 and Tillaux performed the first surgery on mesenteric cyst successfully in 1880 [8]. Mesenteric cysts can occur anywhere in the mesentery GIT from duodenum to rectum. In a review of a series of 162 patients, 60% occurred in small bowel mesentery, 24% in large bowel mesentery, and 14.5% in the retro-peritoneum and indefinite in 1.5% cases [9]. Mesenteric cysts can be simple or complex, unilocular or multilocular. The size varies from few millimeters to few centimeters in diameter. They may contain serous, hemorrhagic, chylous or infected fluid, hair teeth or pus, depending on the type of mesenteric cyst [10].

Mesenteric cyst may occur in patients of any age. Approximately, one-third of cases occur in children younger than 15 years. The cyst may present either as a non-specific abdominal feature, as an incidental finding or as an acute abdomen. They are often asymptomatic and found incidentally while patients are undergoing work-up or

receiving treatment for other conditions, such as appendicitis, small-bowel obstruction, or diverticulitis.

Exact etiology of mesenteric cyst has yet to be ascertained, but failure of the lymph nodes to communicate with the lymphatic or venous systems or blockage of the lymphatic as a result of trauma, infection and neoplasm are said to be contributing factors [11]. The most accepted theory, proposed by Gross, is benign proliferation of ectopic lymphatic in the mesentery that lack communication with the remainder of the lymphatic system [12].

Although patients may present with lower abdominal pain, the symptoms are often variable and non-specific and include pain (82%), nausea and vomiting (45%), constipation (27%) and diarrhea (6%). An abdominal mass may be palpable in up to 61% of patients [13].

Complications associated with mesenteric cysts include volvulus, spillage of infective fluid, intussusceptions, herniation of bowel into an abdominal defect and obstruction [14].

Mesenteric cyst should be evaluated with complete history, clinical examination, blood investigations like CBC, RFT, FBS, LFT and radiological investigations (X-ray abdomen erect, ultrasound abdomen (USG) and computed tomography (CT) scan (in selected cases) to reach a provisional diagnosis. The clinical diagnosis may be confirmed by diagnostic laparoscopy or laparotomy. Of course histopathological examination of the excised specimen shall finally confirm the diagnosis.

The treatment of choice is complete excision of the cyst (total cystectomy), to avoid recurrence and possible malignant transformation. Bowel resection may be necessary in cases where cysts are close to bowel structures with common blood supply, like enterogenous cysts or any other cyst involve blood vessels that supply the bowel. Once removed, mesenteric cysts rarely recur, and patients have an excellent prognosis. Malignant cysts occur in less than 3% of cases [15]. This can be performed either by open method or laparoscopically.

CONCLUSION

Mesenteric dermoid cysts are very much uncommon. Metachronous presentation of chylo-lymphatic and dermoid mesenteric cysts are extremely rare. Rarely these cysts can become malignant. They can present asymptomatically or with signs and symptoms suggestive of other intra-abdominal pathology. Pre-operative diagnosis can be difficult, but can be made with expert ultra-sonography or contrast CT scanning. Histopathological examination of the tumor will give accurate diagnosis. Optimal treatment for definitive management is intact removal of the tumor, wherever possible.

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