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Case Report

“Mesenteric cyst: A rare intra-abdominal tumour”

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Case report

A 7-year-old boy, native of West Bengal presented with history of dull aching pain on left side of abdomen of five months duration, particularly after meals. A lump was noticed on left side of abdomen by parent of child, which was increasing gradually. There was no history of fever, vomiting, jaundice, maleana, haematemesis, bleeding per rectum, dysuria, haematuria, chronic cough, haemoptysis, bony pains, seizures or worm infestation. There was no family history of similar disease or any congenital anomaly. On clinical examination vital parameters were found within normal limit with no pallor, icterus, pedal oedema, lymphadenopathy. Per abdomen examination revealed a well-defined oval shape, intra-abdominal lump, extending from left hypochondrium to left iliac fossa, cystic in consistency, non-tender, with well-defined margins. It was slightly mobile from side to side. Laboratory tests found haemoglobin count of 14.2 g%, PCV of 33%, WBC count of 9200/cm, and platelet count of 1,76,000/cm. His blood differential showed 68% neutrophils, 24% lymphocytes, 6% eosinophils, and 2% basophils. His liver function tests, basic metabolic panel, amylase and lipase levels, and urinalysis were within normal limits. A chest radiograph showed no infiltrates in lungs. Ultrasound abdomen revealed an intra-abdominal cystic mass, measuring 11.5 × 7.2 × 6.5 cm in dimension, with thick fluid of finely granular echogenicity on left side of abdomen with an enhancing peripheral rim. Based on clinical features and ultrasound study of abdomen diagnosis of “Mesenteric Cyst” was made. CECT abdomen was contemplated after USG abdomen, however, could not be done as CECT facility was not available at that time in hospital. Therefore, patient was prepared for exploratory

Introduction

Mesenteric cysts are rare benign intra-abdominal tumours with an incidence of 1 case per 250,000 hospital admission.¹ Because of variable and non-specific clinical symptoms and signs, they are discovered either accidentally during an abdominal radiological examination 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. Complete surgical excision of the cyst is the treatment of choice. Due to the rarity of this entity and the lack of specific symptoms, correct pre-operative diagnosis is difficult. Knowledge of these lesions is important due to the various complications associated with suboptimal surgical management.

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Fig. 1 – Mesenteric cyst extending from costal margin to brim of pelvis.

laparotomy and excision of cyst. Patient underwent exploratory laparotomy, which revealed a big lobulated mesenteric cyst in mesentery of sigmoid, extending in mesentery of descending colon. Few epicolic and paracolic lymph nodes were slightly enlarged. Complete enucleation of cyst carried out leaving the large intestine intact (Figs. 1–3). One each epicolic and a paracolic lymph node were also taken out for HPE. Post-operative period was uneventful. Cut section revealed multi-loculated cyst with varying wall-thickness, filled with dark brown fluid probably due to haemorrhage in the cyst (Fig. 4). Histopathological examination showed that Cyst wall was lined by flattened benign epithelium with no

granuloma or malignant feature, so opinion was consistent with clinical diagnosis of benign mesenteric cyst. Histopathological examination of lymph node showed reactive follicles with Sinus histiocytosis and there was no evidence of metastatic malignancy or granuloma. Regular follow up of patient for 1 year showed no recurrence and patient was symptom free.

Discussion

Mesenteric cysts are rare surgical condition occurring approximately in 1/200,000–350,000 hospital admission.²

Fig. 2 – Mesenteric cyst arising from mesentery of sigmoid colon.

Fig. 3 – Mesenteric cyst excised completely.

Italian anatomist Benevanni first described this entity performing an autopsy in an 8-year-old boy in 1507, while Rokitsky published the first accurate description of a chylous mesenteric cyst in 1842 and Tillaux performed the first successful surgery for a cystic mass in the mesentery in 1880.³

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. In a review series of 162 patients, 60% of mesenteric cysts occurred in the small-bowel mesentery, 24% in the large-bowel mesentery, and 14.5% in the retroperitoneum while it was indefinite in 1.5% of cases.⁴ Mesenteric cysts can be simple or multiple, unilocular or multilocular, and they may contain hemorrhagic, serous, chylous, or infected fluid. They can range in size from a few millimetres to few cm in diameter, however, at times may be so large that it may mimic tubercular ascites.⁵

Exact aetiology of mesenteric cyst has yet to be ascertained, but failure of the lymph nodes to communicate with

Fig. 4 – HPE shows cyst wall lined by flattened benign epithelium. With no evidence of malignancy or granuloma.

the lymphatic or venous systems or blockage of the lymphatics as a result of trauma, infection, and neoplasm are said to be contributing factors.⁶ The most accepted theory, proposed by Gross, is benign proliferation of ectopic lymphatics in the mesentery that lack communication with the remainder of the lymphatic system.⁷

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 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, although patients may present with lower abdominal pain and symptoms that are frequently associated with other abdominal conditions. The symptoms are variable and non-specific and include pain (82%), nausea and vomiting (45%), constipation (27%), and diarrhoea (6%). An abdominal mass may be palpable in up to 61% of patients.⁸

Mesenteric cyst should be evaluated with complete history, clinical examination, blood investigations and radiological investigations (X-ray abdomen erect, ultrasound abdomen (USG) and computed tomography (CT) scan in selected cases) to reach a provisional diagnosis. The diagnosis is proven on laparotomy and has to be histologically confirmed. Secondary complications associated with mesenteric cysts include volvulus, spillage of infective fluid, herniation of bowel into an abdominal defect, and obstruction.⁹ The treatment of choice is complete excision to avoid recurrence and possible malignant transformation. Bowel resection may be necessary in cases where cysts are close to bowel structures or 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.¹⁰

Total cystectomy is the therapeutic Method of choice. Open method is preferred. The advent of laparoscopic surgery has allowed resection of these cysts to be achieved without full laparotomy. Laparoscopic exploration is done using four ports after insufflation with Veress needle and excision of cyst is done using cautery scissors and blunt dissection. Endobags are then used to retrieve the cyst. Laparoscopic excision allows early return of patient to his work.^{11–14}

Conflicts of interest

All authors have none to declare.

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