National Board of Examination - Journal of Medical Sciences
Volume 1, Issue 6, Pages 387–392, June 2023
DOI 10.61770/NBEJMS.2023.v01.i06.009

CASE REPORT

Tuberculous mesenteric cyst of the small intestine in a 16-year-old male without history of abdominal tuberculosis: A rare presentation

Sai Sampath Kumar Vasantham[1,*] and Jameel Akhter[2]

[1]*Resident, Department of General Surgery, Apollo Hospital, Greams Road, Thousand Lights, Chennai, Tamil Nadu 600006*
[2]*Consultant, Department of General Surgery, Apollo Hospital, Greams Road, Thousand Lights, Chennai, Tamil Nadu 600006*

Accepted: 19-May-2023 / Published Online: 01-June-2023

Abstract
One mesenteric cyst in every 250,000 admissions to a hospital is a benign intra-abdominal tumor. We report a 16 year old male who came to our outpatient department with complaints of vague pain in the abdomen. Imaging revealed it as mucinous cystic neoplasm, infected mesenteric cyst or hydatid cyst. Diagnostic laparoscopy was performed and it confirmed the cyst originating from mesentery, as they were huge, laparotomy was performed. Following which the histopathologic report was different from what was expected, it was reported as an tuberculous mesenteric cyst. Following recovery patient was referred to infectious diseases specialist and was started on Anti Tuberculous Treatment.

Keywords: Mesenteric cyst, mucinous cystic neoplasm, infected mesenteric cyst, hydatid cyst, surgery, tuberculous cyst

*Corresponding author: Sai Sampath Kumar Vasantham
Email: saimbbsdavao2013@gmail.com

Introduction

Mesenteric cyst are rare benign intra-abdominal tumors with an incidence of 1 case per 250,000 hospital admissions [1]. During an abdominal radiological examination, they are discovered accidentally due to their non-specific and variable clinical signs and symptoms. These cysts have no known etiology, but there are a few theories about how they develop. Complete careful extraction of the cyst is the treatment of choice. Correct preoperative diagnosis is difficult due to its rarity and lack of specific symptoms. Due to the numerous complications that result from poor surgical management, having knowledge of these lesions is essential.

Case Report

A 16 year old male, native of Assam presented to our outpatient department with complaints of global vague abdominal pain of 6 months duration, particularly postprandial, not associated with fever, chills, cough, loss appetite, loss of weight, hematemesis, melena, jaundice. No significant family history was mentioned. On examining the patient, he was well built, with stable vital signs, anicteric. On examining the abdomen, two well- defined oval shaped, intra abdominal lump, one lump with the left hypochondrium and other lump confined within the right iliac fossa, non tender on palpation, with well defined margins. It was mobile from side to side. His laboratory values were all within the normal range. Chest X Ray was unremarkable, Ultrasound whole abdomen revealed an intra- abdominal cystic masses within the left hypochondrium and right iliac fossa. Based on the features on the ultrasonography “Mesenteric Cyst” was diagnosed provisionally. CECT Abdomen was contemplated along with ultrasonography, which revealed Thick walled multiloculated complex mesenteric cystic lesion seen in the right abdomen abuting the iliocolic artery, and left abdomen abbuting the firts jejunal branch of superior mesenteric artery? mucinous cystic neoplasm? infected mesenteric cyst? hydatid cyst (Figure 1). Therefore, patient was prepared for Diagnostic laparoscopy and proceed, a 5mm laparoscope was placed in the palmer’s point, revealed 2 huge cystic lesions and no other significant pathology within the abdominal cavity, another 5mm left lumbar port placed for manipulating the bowel, which confirmed cystic lesion arising from mesentery, as the cystic lesions were huge, exploratory laparotomy was performed, it revealed an hard cystic lesion approximately 8* 5cm within the jejunal mesentery along the first jejunal artery, 15 cm from the DJ flexure, another cystic lesion observed within the ileal mesentery abuting the iliocolic artery approximately 10*6 cm and 20 cm from the ileocecal junction (Figure 2).

Careful dissection was performed protecting the vasculature of the small bowel, the proximal mesenteric cyst as was completely occluding the first jejunal artery hence it was decided to go along with bowel resection of, involved segment followed by side to side Jejuojujunal anastomosis, the distal mesenteric cyst came out en block without affecting the ileocolic artery. Following excision of the cyst, the mesenteric rents were closed to prevent internal hernia. Patient tolerated the

procedure well and recovered without any untoward events. Histopathology examination showed sections of matted lymph nodes and parinodal soft tissue and mesenteric tissue with numerous epitheloid granulomas with multinucleated gaint cells and extensive areas of necrosis. Sinus tract is also seen from the overlying mesothelium. Stains for fungus and AFB Tb are negative an impression of MESENTERIC CYST with lymph nodal and mesenteric tissue with necrotizing granulomatous inflammation with sinus tract formation and mesenteritis (Figure 3). Gene Xpert MTB of the cyst contents were positive to Mycobacterium Tuberuloisis, following which patient was discharged on Post Op Day 5 and was advised to undergo Anti Tuberculous Treatment and with regular follow up.

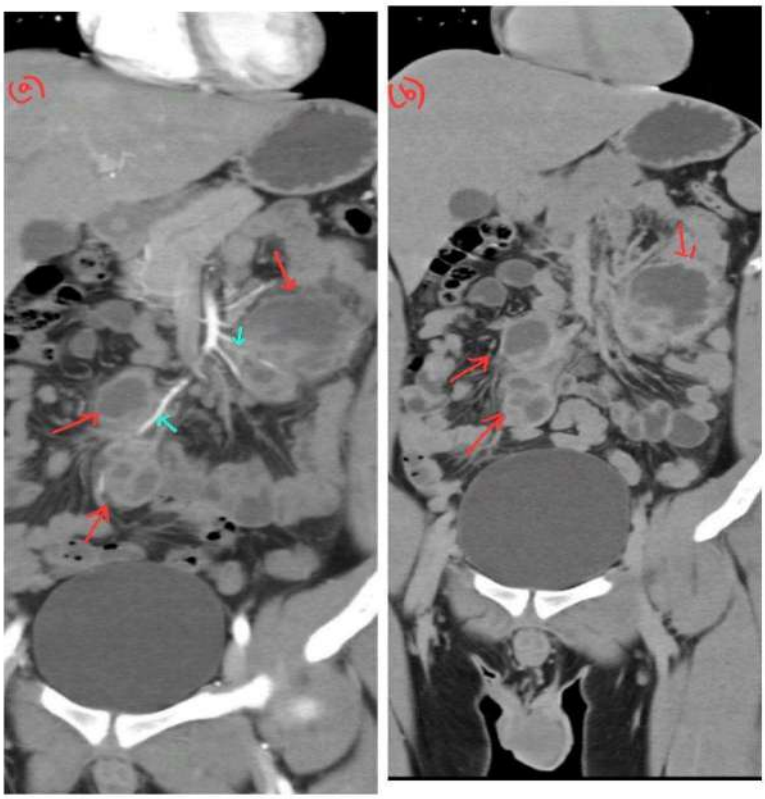

Figure 1. **a)** Contrast enhanced CT abdomen showing 7*5*4 cm multiloculated cystic mesenteric lesion, with thick septations on left side of abdomen (red arrow on left), the jejunal branches of the superior mesenteric artery being involved (blue arrow on left). 7*4*3.5 cm multiloculated mesenteric cyst on the right side of the abdomen (red arrows on right), the cystic lesion is saddling the ileocolic branch of the superior mesenteric artery. **b)** CT abdomen without contrast.

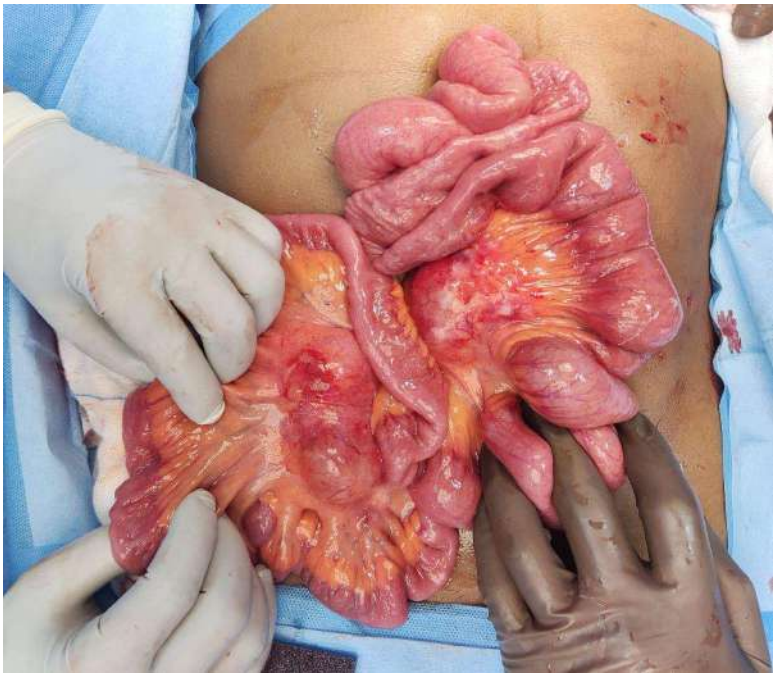

Figure 2. Intraoperative picture of the above said findings, left sided mesenteric cyst was 20cm from the DJ flexure, the right sided mesenteric cyst was 25 cm from the ileocecal valve.

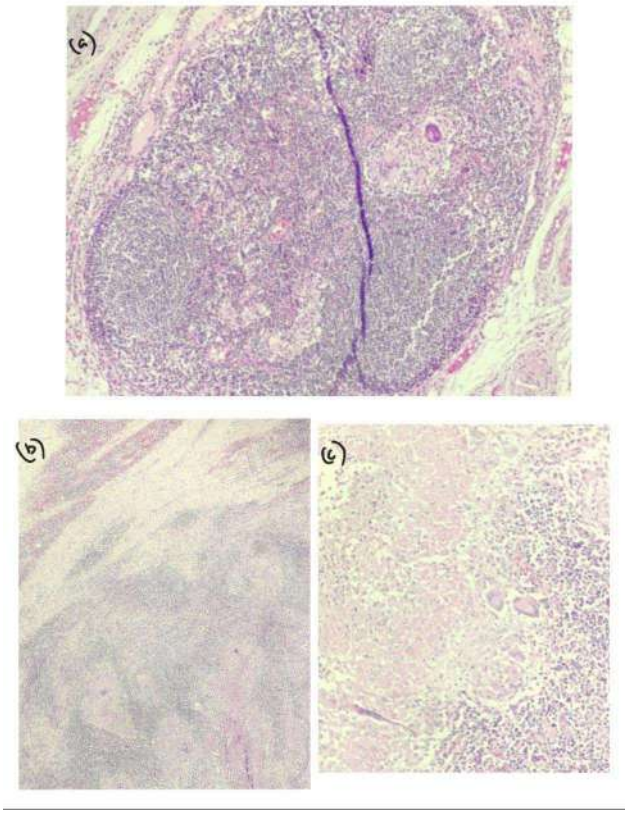

Figure 3. **a)** Well defined epithelioid granulomas. **b)** Numerous epithelioid granulomas with extensive areas of necrosis. **c)** Magnified granuloma showing multinucleated giant cells.

Discussion

An Italian anatomist Benevenni first described a mesenteric cyst while performing an autopsy on an 8- year old boy in 1507 [2]. In 1842, Rokitansky published the first accurate description of a chylous mesenteric cyst, and in 1880, Tillaux performed the first successful surgery for a mesenteric cystic mass.[2] Mesenteric cysts are a rare surgical condition that causes between one and three million hospital admissions each year [3].

Any cyst in the mesentery is considered a mesenteric cyst. The retroperitoneum, which has its own endothelium or mesothelium cell lining, may or may not contain it. From the duodenum to the rectum, mesentery cysts can occur anywhere in the digestive tract. In a review series of 162 patients, 60% of mesenteric cysts were found in the small bowel mesentery, 24% in the large bowel mesentery, and 14.5% in the retroperitoneum [4]. Mesenteric cysts can be single or multiple, unilocular or multilocular, and they may contain fluid that is infected, hemorrhagic, serous or chylous. They can go in size from a couple of millimeters to few cm in measurement, notwithstanding, on occasion might be enormous to such an extent that it might mimic ascites secondary to abdominal tuberculosis [5].

Although the exact cause of the mesenteric cyst has not been determined, infection, trauma and neoplasm are thought to be contributing factors, which does not allow lymph nodes to communicate with the lymphatic and vascular system [6]. Patients of any age may develop a mesenteric cyst. Roughly 33% of mesenteric cyst cases happen in children younger than 15 years. The cyst may manifest as an acute abdomen, a non-specific abdominal feature, or an incidental finding [7]. Pain, nausea and vomiting, constipation, and diarrhea, among other non- specific symptoms, are the most common. Up to 61% of patients an abdominal mass is palpable [7].

Mesenteric cyst needs to be assessed with thorough history, clinical assessment, blood examination and radiological investigations to arrive at a diagnosis. The diagnosis is confirmed on laparotomy and affirmed with histopathology [8]. In order to avoid a malignant transformation, complications, or recurrences, surgical excision is the preferred treatment. Laparoscopy should be the preferred method, but an intestinal loop resection along with “en bloc” resection of cyst may be required if the lesion cannot be safely enucleated [9].

Conclusion

On the other hand, tuberculous mesenteric cysts typically are multiple or have multiple locations and are associated with mesenteric lymphadenopathy. Due to their rarity, these mesenteric cysts are difficult to diagnose clinically, but prompt surgical excision and histopathological diagnosis will warrant the patient to necessary Anti Tubercular treatment [5].

Conflicts of interest

The authors declares that they do not have conflict of interest.

Funding

No funding was received for conducting this study.

References

1. Miliaras S, Trygonis S, Papandoniou A, Kalamaras S, Trygonis C, Kiskinis D. Mesenteric cyst of the descending colon: report of a case. Acta Chir Belg. 2006;106(6):714-716. doi:10.1080/00015458.2006.11679990
2. Mohanty SK, Bal RK, Maudar KK. Mesenteric cyst--an unusual presentation. J Pediatr Surg. 1998;33(5):792-793. doi:10.1016/s0022-3468(98)90224-x
3. Al-Haifi MB, Abdulsmad AM, Juma TH. Laparoscopic excision of mesenteric cyst: case report. Kuwait Medical Journal. 2007 Jun;39(2):167.
4. Saviano MS, Fundarò S, Gelmini R, et al. Mesenteric cystic neoformations: report of two cases. Surg Today. 1999;29(2):174-177. doi:10.1007/BF02482245
5. Zamir D, Yuchtman M, Amar M, Shoemo U, Weiner P. Harefuah. 1996;130(10):683-727.
6. Beahrs OH, Judd ES Jr, Dockerty MB. Chylous cysts of the abdomen. Surg Clin North Am. 1950;30(4):1081-1096. doi:10.1016/s0039-6109(16)33090-0
7. Prakash A, Agrawal A, Gupta RK, Sanghvi B, Parelkar S. Early management of mesenteric cyst prevents catastrophes: a single centre analysis of 17 cases. Afr J Paediatr Surg. 2010;7(3):140-143. doi:10.4103/0189-6725.70411
8. Borisa AD, Bakhshi GD, Tayade MB, Pawar NH, Nikam NN, Gupta A. A rare case of tuberculous mesenteric cyst masquerading as chylolymphatic mesenteric cyst. Bombay Hospital Journal. 2008;50(3).
9. Yasoshima T, Mukaiya M, Hirata K, et al. A chylous cyst of the mesentery: report of a case. Surg Today. 2000;30(2):185-187. doi:10.1007/s005950050040