

CASE REPORT

Mucinous mesenteric cyst of the sigmoid mesocolon: a rare entity

Sreenivas Rao Challa, Debadutta Senapati, Taraka Krishna Nulukurthi, Jaahnavi Chinamilli

Department of General Surgery, Konaseema Institute of Medical Sciences & Research Foundation, Amalapuram, Andhra Pradesh, India

Correspondence to
Dr Taraka Krishna Nulukurthi,
tarakb4u@gmail.com

Accepted 3 February 2016

SUMMARY

Mesenteric cysts are rare and occur in patients of any age. They are asymptomatic and found incidentally or during the management of their complications. They commonly originate from the small bowel mesentery, although a proportion has been found to originate from the mesocolon (24%) and retroperitoneum (14.5%). A mesenteric cyst originating in the sigmoid mesocolon is a very rare finding.

BACKGROUND

Mesenteric cysts are rare clinical entities. They commonly originate from the small bowel mesentery, although a proportion has been found to originate from the mesocolon (24%) and retroperitoneum (14.5%).¹ They are a rare cause of abdominal pain and are discovered incidentally. If symptomatic, patients with these cysts present with abdominal pain, vomiting and low backache. Performing a thorough physical examination, and conducting radiological investigations such as ultrasonography (USG) and CT, are the key to diagnosis. A mesenteric cyst originating in the sigmoid mesocolon is a very rare finding.^{2–5} We report the case of a man who presented with right lower quadrant abdominal pain and low backache. USG of the abdomen and pelvis showed a hypoechoic space occupying lesion in the right flank. Contrast CT of the abdomen showed a loculated cystic lesion seen in the right iliac fossa, causing mild compression of the ileocaecal junction. Laparotomy was performed and the cyst resected along with a part of the sigmoid colon. Histopathology identified it as a benign mucinous mesenteric cyst.

CASE PRESENTATION

A 47-year-old man presented with vague intermittent lower abdominal pain and low backache of 2-month duration. He had no history of abdominal distension, vomiting, diarrhoea, melena or mucoid stools. Nor had he a history of abdominal trauma. His bladder and bowel habits were normal. Vitals were stable and other systemic examinations were normal. On local examination, tenderness was present on deep palpation in the right iliac fossa. There were no abnormalities in the per-rectal examination.

INVESTIGATIONS

Laboratory investigations showed haemoglobin of 10.3 g/dL and erythrocyte sedimentation rate (ESR)

26 mm/1st hour. Serum glucose, liver function tests, blood urea and serum creatinine were normal.

USG of the abdomen showed a 6×5 cm hypoechoic lesion in the right flank below the right kidney, with no other abnormalities.

Coronal (figure 1) and axial (figure 2) contrast enhanced computerised tomography (CECT) sections of the abdomen showed a cystic lesion with a thin enhancing wall showing loculations and enhancing intervening thin septae measuring 6.1×5.4 cm near the ileocaecal junction, likely a lymphangioma or enteric cyst.

DIFFERENTIAL DIAGNOSIS

- ▶ Lymphangioma
- ▶ Mesenteric cyst
- ▶ Retroperitoneal cyst
- ▶ Hydatid cyst

TREATMENT

After the necessary preoperative work up, laparotomy via a midline incision was performed. Intraoperatively, an 8×6 cm mass with solid and cystic components present in the sigmoid mesocolon close to its mesenteric border, sharing a common blood supply with the segment of the sigmoid colon, was seen (figures 3 and 4). The caecum was found adherent to the mesentery of

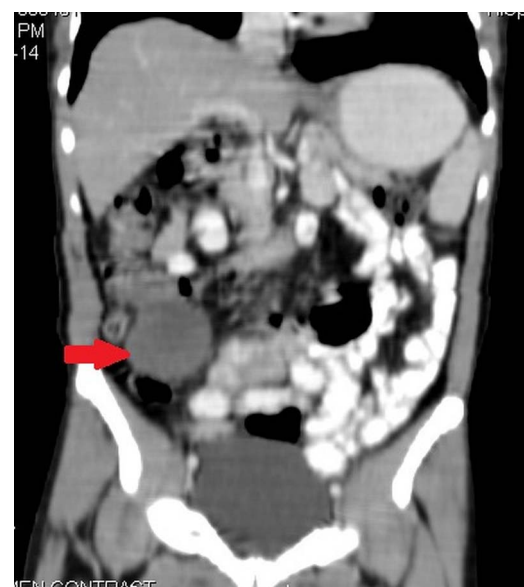


Figure 1 A cystic lesion (arrow) with enhancing wall showing loculations and intervening septa, measuring 6.1×5.4 cm, near ileocaecal junction (coronal view).



To cite: Challa SR, Senapati D, Nulukurthi TK, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2015-210411

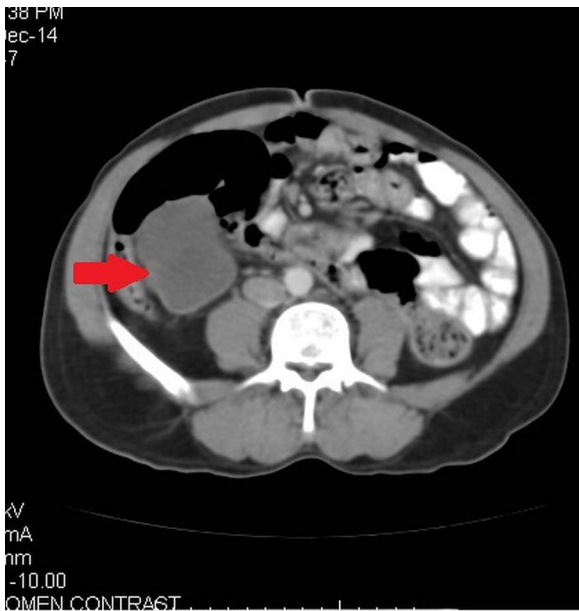


Figure 2 The same cystic lesion with wall enhancement near the ileocaecal region (axial view).

the sigmoid. The small bowel mesentery and sigmoid mesentery were adherent to each other. There was no ascites and no enlarged lymph nodes in the mesentery. The liver, spleen, colon and stomach were normal. The cystic mass along with a part of the sigmoid colon and its mesentery was resected and intestinal continuity was restored with a colo-colic anastomosis. Haemostasis was achieved and the incision closed.

OUTCOME AND FOLLOW-UP

Post-operative recovery was uneventful; the drain was removed in 48 h and the patient was discharged on the fourth post-operative day. Histopathology evaluation revealed a benign mucinous mesenteric cyst with the wall of the cyst lined by tall columnar mucin secreting cells with a focal collection of lymphomononuclear infiltrate in the wall ([figure 5](#)). After 6 months of follow-up, the patient was doing well and postoperative CT scan was insignificant.

DISCUSSION

Mesenteric cyst is a rare cystic disease that occurs within the abdominal cavity, with a prevalence of 1/100 000 to 250 000 among adult hospitalised patients.⁶ This cyst is a rare cause of

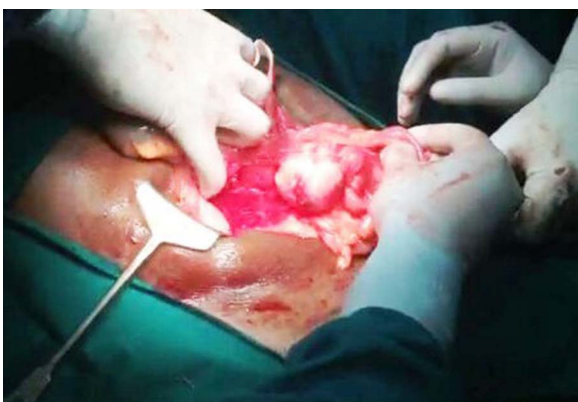


Figure 3 Showing a cystic lesion in the sigmoid mesocolon.

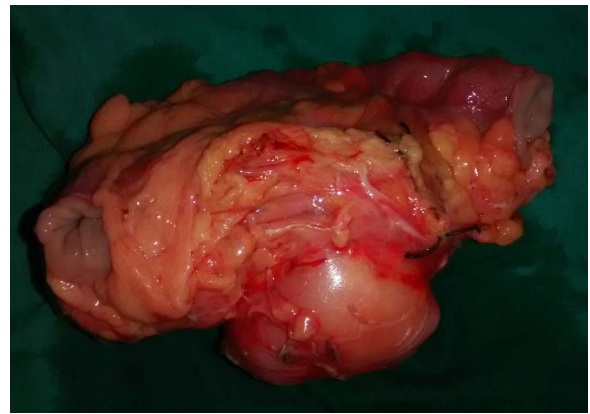


Figure 4 Resected specimen showing the cystic lesion (*arrow*) along with resected part of the sigmoid colon.

abdominal pain. A mesenteric cyst in the sigmoid mesocolon is even rarer. Mesenteric cysts were first described by Benevieni, a Florentine anatomist, in 1507.⁷ In 1880, Tillaux performed the first successful resection of a cystic tumour of the mesentery.⁷ The usual location of the cyst is the mesentery of the small intestine, commonly the mesentery of the ileum. Mesenteric cysts usually occur in the fifth decade, and have a female preponderance. Cystic lymphangioma is the only exception, and that occurs in the first decade of life, and has a male predominance. The aetiology of mesenteric cysts is variable. They usually arise from failure of lymph nodes to communicate with the lymphatics or venous system, or blockage of draining lymphatics as a result of trauma, neoplasm or infection.^{8 9}

Beahrs *et al*,¹⁰ in 1950, classified mesenteric cyst into four categories: embryonic and developmental cysts, traumatic cysts, neoplastic cysts and infective and degenerative cysts. Later, Ros *et al*⁹ proposed a histological classification into five groups correlated with radiological findings of the cysts, namely, lymphangiomas, enteric duplication cysts, enteric cysts, mesothelial cysts and non-pancreatic pseudocysts.

Proposed updated classification of mesenteric cysts and cystic tumours¹¹ is as follows:

CLASSIFICATION OF MESENTERIC CYSTS:

1. Cyst of lymphatic origin
 - A. Simple lymphatic cyst
 - B. Lymphangiomas
2. Cysts of mesothelial origin
 - A. Simple mesothelial cysts
 - B. Benign cystic mesotheliomas
 - C. Malignant cystic mesotheliomas

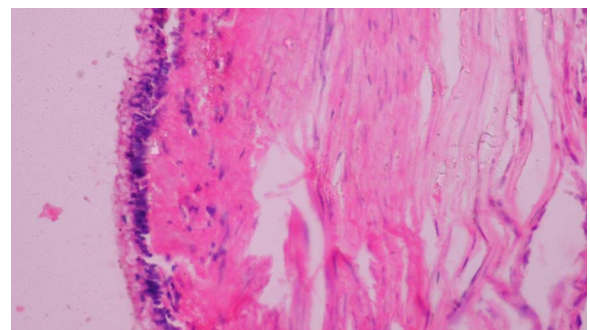


Figure 5 Histopathology study showing cyst wall lined with tall columnar mucin secreting cells with lymphomononuclear infiltrate.

Table 1 Reported cases of mesenteric cysts in sigmoid mesocolon

SI No	Author	year	Age/sex	Presentation	Management	Histopathology
1.	Smith et al	1995	29/F	Lump	Excision	Urogenital remnant of Müllerian type pseudocyst
2.	Lida et al	2003	31/F	Abdominal pain	Excision	pseudocyst
3.	Wang et al	2012	26/M	Abdominal pain	Lap excision	Duplication cyst
4.	Bhandarwar et al	2013	42/M	Abdominal pain	Lap excision	Lymphatic cyst
5.	Kumar et al (2 cases)	2014	48/F 62/F	Abdominal pain Abdominal pain	Lap excision Lap excision	Lymphatic cyst Lymphatic cyst
6.	Our case	2015	45/M	Abdominal pain	Resection of the cyst along with a part of the sigmoid colon	Mucinous cyst

3. Cysts of enteric origin
 - A. Enteric duplication cysts
 - B. Enteric cysts
4. Cysts of urogenital origin
5. Non-pancreatic pseudocysts
 - A. Cysts of traumatic origin
 - B. Cysts of infectious origin
6. Non-neoplastic cysts
 - A. Hydatid
 - B. Tuberculous cyst
7. Mucinous cystic neoplasms
 - Mucinous cystadenoma
 - A. Borderline malignant mucinous cystic neoplasm
 - B. Mucinous cyst adenocarcinoma
8. Miscellaneous neoplasms

As most mesenteric cysts have no symptoms, they are frequently discovered by chance, on USG or CT, and their detection is unlikely on a physical examination or by haematological tests.⁶ Sometimes, they may manifest with symptoms such as diffuse abdominal pain, sensation of fullness or pressure in the abdomen, or due to other complications such as torsion, rupture, haemorrhage of cysts, herniation of bowel into abdominal defect and obstruction. Malignant transformation is rare but has been described in up to 3% of cases.¹

Accurately diagnosing a mesenteric cyst depends on performing a thorough physical examination and appropriate radiological studies.^{9 12 13}

Diagnostic laparoscopy is another modality at the surgeon's disposal, if the location and characteristics of the lesion cannot be assessed adequately with radiological evaluation. Surgical excision is the mainstay of treatment for both, benign and malignant cysts. The surgical procedure differs according to the range of the lesion and extent of intrusion into the surrounding organs.⁶ Enucleation is adequate in the majority of mesenteric cysts but, sometimes, bowel resection may be necessary in cases where cysts are close to bowel structures or involving blood vessels that supply the bowel.⁹ Mesenteric cysts have a very low recurrence rate (0–13.6%) and patients have an excellent prognosis.¹⁴ Laparoscopic resection has a high success rate with low incidence of postoperative complications.

Although mesenteric cysts are rare and difficult to diagnose prior to surgery, attributable to absence of symptoms, in most cases, they must be considered in the differential diagnosis of a cystic lesion within the abdominal cavity.⁶ Although most are benign, surgical resection needs to be considered because these cysts have the possibility of malignant transformation.⁶

After an extensive literature research, we could find only five previously reported cases of mesenteric cysts of the sigmoid mesocolon (table 1).¹⁵

Learning points

- ▶ Mesenteric cysts arising from the sigmoid colon are very rare, and benign in most cases; however, they should be considered as a possibility in cases of cysts occurring in the abdominal cavity.
- ▶ Patients who are symptomatic generally present with pain, abdominal distress or low backache, a palpable mass, nausea and vomiting.
- ▶ Cysts are misdiagnosed as some other more common abdominal conditions.
- ▶ Ultrasonography and CT are the most useful imaging modalities for diagnosing mesenteric cysts.
- ▶ Complete surgical excision is the treatment of choice. Following surgery, prognosis is excellent and recurrence is low.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Kurtz RJ, Heimann TM, Beck AR, et al. Mesenteric and retroperitoneal cysts. *Ann Surg* 1986;203:109–12.
- 2 Smith GL, Thorpe PA, Karimjee S, et al. An abdominal cyst. *Postgrad Med J* 1995;71:637–8.
- 3 Iida T, Suenaga M, Takeuchi Y, et al. Mesenteric pseudocyst of the sigmoid colon. *J Gastroenterol* 2003;38:1081–5.
- 4 Wang JH, Lin JT, Hsu CW. Laparoscopic excision of mesenteric duplication enteric cyst embedded in sigmoid mesocolon mimicking retroperitoneal neurogenic tumor in adults. *Surg Laparosc Endosc Percutan Tech* 2012;22:e294–6.
- 5 Bhandarwar AH, Tayade MB, Borisa AD, et al. Laparoscopic excision of mesenteric cyst of sigmoid mesocolon. *J Minim Access Surg* 2013;9:37–9.
- 6 Park SE, Jeon TJ, Park, et al. Mesenteric pseudocyst of the transverse colon: unusual presentation of more common pathology. *BMJ Case Rep* 2014;2014. pii: bcr2013202682.
- 7 Dursun AS, Gokhan A, Volkan S, et al. Laparoscopic enucleation of mesenteric cyst: a case report. *Mt Sinai J Med* 2006;73:1019–20.
- 8 Walker AR, Putnam TC. Omental, mesenteric and retroperitoneal cysts: a clinical study of 33 new cases. *Ann Surg* 1973;178:13–9.
- 9 Ros PR, Olmsted WW, Moser RP Jr, et al. Mesenteric and omental cysts: histologic classification with imaging correlation. *Radiology* 1987;164:327–32.
- 10 Beahrs OH, Judd ES Jr, Dockerty MB. Chylous cysts of the abdomen. *Surg Clin North Am* 1950;30:1081–96.
- 11 Metaxas G, Tangalos A, Pappa P, et al. Mucinous cystic neoplasms of the mesentery: a case report and review of literature. *World J Surg Oncol* 2009;7:47.
- 12 Hassan M, Dobrilovic N, Korelitz J. Large gastric mesenteric cyst: case report and literature review. *Am Surg* 2005;71:571–3.
- 13 Egozi EI, Ricketts RR. Mesenteric and omental cysts in children. *Am Surg* 1997;63:287–90.
- 14 Bliss DP Jr, Coffin CM, Bower RJ, et al. Mesenteric cysts in children. *Surgery* 1994;115:571–7.
- 15 Kumar A, Jakhmola CK, Arora NC, et al. Mesenteric cyst in sigmoid mesocolon—a rare location and its laproscopic excision. *Med J Armed Forces India* 2015;71(Suppl 2):S425–8.

Copyright 2016 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow