

Chylous Mesenteric Cyst Presenting as Acute Abdomen

Manish Verma¹, Yajnadatta Sarangi², Omparkash³, Parmail Chaudhary⁴, M G Vashist⁵, Sunil Kumar Yadav⁶

¹Professor, Department of Surgery, PGIMS, Rohtak, Haryana, India

^{2,3}Junior Resident, Department of Surgery, PGIMS, Rohtak, Haryana, India

^{4,5}Senior Resident, Department of Surgery, PGIMS, Rohtak, Haryana, India

⁶Assistant Professor, Department of Surgery, PGIMS, Rohtak, Haryana, India

Abstract: *Mesenteric cysts are rare pathologic entity. Mesenteric cysts can occur anywhere in the mesentery of the gastrointestinal tract from the duodenum to the rectum. The main stay treatment is the complete surgical excision. A case of chylous mesenteric cyst, who presented with features of acute abdomen, is being described.*

Keywords: Mesenteric cyst, chylous cyst, lymphatic cyst

1. Introduction

A mesenteric chylous cyst is defined as a cyst in the mesentery of the gastrointestinal tract anywhere from duodenum to rectum. They may extend from the base of mesentery into retroperitoneum [1]. These are rare benign intra-abdominal tumors with an incidence of 1 per 250,000 hospital admission [2]. Mesenteric cysts are mostly located in the mesentery of the small bowel in 66% of the cases, mesentery of large intestine (ascending and transverse colon) in 33%. Less than 1% of the cases have been reported in the mesentery of the descending colon, sigmoid or rectum (around 1%) [3-4]. The presentation varies from asymptomatic or vague abdominal pain to acute abdomen. The main stay treatment is the complete surgical excision. A case of chylous mesenteric cyst, who presented with features of acute abdomen, is being described.

2. Case Report

A 28 year old female presented to emergency department of our institute with chief complaint of abdominal distension since 1 day associated with abdominal pain of 7 days duration. There was no history of fever, vomiting or bowel trouble. On examination, the abdomen was distended with signs of peritonitis. On radiological investigations, there was no sign of pneumoperitoneum. However, on ultrasonography, the abdomen was filled with free fluid (3+). All solid viscera including uterus and adnexa were normal. Exploratory laparotomy was performed. Whole of the peritoneal cavity was filled with 1litre of milky white of fluid. Mesentery of bowel starting from jejunum to sigmoid colon and retroperitoneum was studded with various sizes (largest 5cmX5cmX4cm) of whitish color of cystic structures containing fluid level.



Cysts larger than 4cm (2 in number) were excised and sent for histopathological examination which further confirmed our diagnosis as chylous cysts. Also, the fluid (from cyst) biochemistry shows an elevated level of cholesterol and triglycerides. Post operative period was uneventful and the patient was discharged after 10 days of hospitalization.

3. Discussion

Mesenteric cysts are rare pathologic entity. These are mostly benign having very rare risk of malignant transformation [1]. Based on their contents, they can be divided into serous, chylous, hemorrhagic, and chylolymphatic [5]. Contents are generally serous when the cyst involves the distal small bowel or colonic mesentery and chylous when it is located in the proximal small bowel mesentery. Mesenteric cysts can occur anywhere in the mesentery of the gastrointestinal tract from the duodenum to the rectum, but most commonly

localized in the mesentery of the small intestine followed by mesentery of the large intestine and retroperitoneum [6]. In our case whole of the mesentery starting from jejunum to mesentery of sigmoid colon and retroperitoneum contain cyst filled with chylous content.

There are several schools of thought for pathogenesis of lymphatic cyst of mesentery. They represent benign proliferations of ectopic lymphatic (lacking communication with the main lymphatic system) or enlarged embryonic lymphatic channels (due to the failure of joining the venous system). It has also been proposed that non-fusion of the leaves of mesentery results in accumulation of lymphatic fluid within this space. These may also be formed secondary to abdominal trauma or previous abdominal surgery [7]. The cysts may be asymptomatic or manifest with abdominal pain, distended abdomen, lump abdomen, intestinal obstruction, obstructive uropathy or rarely rupture mimicking acute abdomen. Incidental finding of cysts has also been reported in literature [8].

The definite diagnosis of these lesions is difficult prior to surgical exploration as the presentation is varied and no pathognomic radiological finding. A fluid–fluid level has been reported as a characteristic finding (resulting from an upper fluid level due to chyle and a lower fluid level due to heavier lymph) but is not always confirmatory [8,9]. The diagnosis is based on histopathological findings. These cysts can be uniloculated or multiloculated having thick fibrous wall (permeated by chronic inflammatory cells and lymphoid aggregates) and can also lined by single layer endothelium. Laboratory tests of cyst fluid can determine the biochemical composition while the presence of chylomicrons, cholesterol, and triglycerides is diagnostic for chyle [10]. Small asymptomatic cysts does not require any surgery. However, follow up is advised in view of complications and the risk of malignant transformation. In cases of large chylous cyst, especially symptomatic, complete excision is advised. Preferred technique is enucleation. Resection of intestine is sometimes necessary due to dense adhesions with mesenteric vessels. Partial excision, drainage and deroofting have also been described as potential treatment options. [7-9][11]

4. Conclusion

Chylous mesenteric cyst usually represent a diagnostic dilemma and therefore they should always be considered as a differential while encountering any patient presenting with features of acute abdomen or an intra-abdominal mass. Surgical excision remains the mainstay of treatment with excellent results.

References

- [1] Lee DLP, Madhuvrata P, Reed MW, Balasubramanian SP. Chylous mesenteric cyst: A diagnostic dilemma. *Asian J Surg.* 2016;39:182–6.
- [2] Miliras S, Trygonis S, Papanoniou A, Kalamaras S, Trygonis C, Kiskinis D. Mesenteric cyst of the descending colon: report of a case. *Acta Chir Belg.* 2006;106:714–716.

- [3] Bhandarwar AH, Tayade MB, Borisa AD, Kasat GV, Laparoscopic excision of mesenteric cyst of sigmoid mesocolon, *J. Minimal Access. Surg.* 9 (1) (2013) 37–39.
- [4] A.A. Al-Mulhim, Laparoscopic excision of a mesenteric cyst during pregnancy, *JLS 7 (1) (2003) 77–81.*
- [5] Rattan KN, Nair VJ, Pathak M, Kumar S. Pediatric chylolymphatic mesenteric cyst—a separate entity from cystic lymphangioma: a case series. *J Med Case Rep* 2009;3:111
- [6] 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;7:140–43
- [7] Batool T, Ahmed S, Akhtar J. A giant lymphatic cyst of the transverse colon mesentery. *APSP J Case Rep.* 2010;1:7.
- [8] Ho TP, Bhattacharya V, Wyatt MG. Chylous cyst of the small bowel mesentery presenting as a contained rupture of an abdominal aortic aneurysm. *Eur J Vasc Endovasc Surg.* 2002;23:82–3
- [9] Wang J, Fisher C, Thway K. Combined mesothelial cyst and lymphangioma of the small bowel: A distinct Hybrid intra-abdominal Cyst. *Int Surg J Pathol.* 2014;22(6):547–51
- [10] Paramythiotis et al. *Journal of Medical Case Reports.* 2018;12:317
- [11] Javed A, Pal S, Chattopadhyay TK. Chylolymphatic cysts of the mesentery. *Trop Gastroenter.* 2011;32:219–21.