Case report

Chylolymphatic Mesenteric Cysts Presenting with Acute Intestinal Obstruction -3 Case Reports

Abstract

A Chylolymphaticcysts is a cyst contains both chyle and lymph, usually present within the mesentery lined with a thin endothelium or mesothelium. The incidence is between 1:100,000 to 1:250,000 hospital admissions. Chylolympatic cysts are rare intra-abdominal tumours, may occur in the mesentery of the gastrointestinal tract from the duodenum to the rectum. 25% of the mesenteric cyst occur in children 10 year of age and constitute 7.3% to 9.5% of all abdominal cysts.

Herein we report 3 cases of Chylolympatic mesenteric cysts in paediatric age group of 6-10 years and all are symptomatic. All three cases presented with acute intestinal obstruction due to volvulus or twist of multilocular cysts and treated by explorative laparotomy, segmental bowel resection along with the excision of the mesenteric cystic mass and end to end anastomosis of the bowel.

Keywords

Acute intestinal obstruction, Chylolympatic cysts, Mesenteric cyst.

Introduction

Chylolympatic mesenteric cysts are rare entities, lined by flat endothelium, containing, chylous and serous milky white fluid. They are single or multiple, unilocular or multilocular cyst and usually locate in the root of mesentery of the terminal ileum.

They found 60% located in the mesentery of small bowel, 24% located in the mesentery of the large bowel and 14.5% were in retroperitoneal. The most accepted theory by Gross, and it is the results of benign proliferation of ectopic lymphatics in the mesentery that lack communication with the lymphatic system. Clinically Chylolympatic cysts may present as an asymptomatic abdominal mass, incidental findings during laparotomy or rare present with volvulus and acute intestinal obstruction. [1,2,3]

Surgical excision remains the mainstay for the treatment of the cyst with an excellent result in 20% to 60% of the cases bowel resection and anastomosis is needed along with the excision of the mesenteric cysts. [2,4]

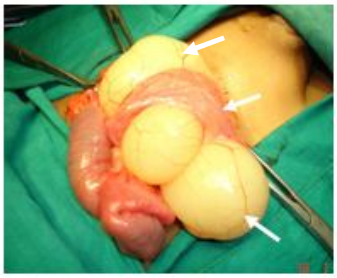
Case presentation

Case Report 1

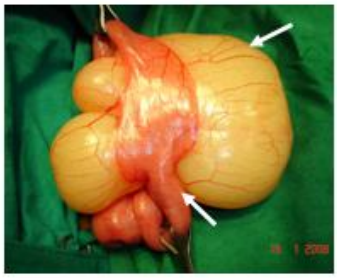
A 6 years old boy was admitted in our centre on 16/01/2008, with complains of severe pain in abdomen, distension of abdomen and vomiting of 2 days' duration. On clinical examination of a child, having abdominal distension, palpable abdominal mass and little tenderness all over the abdomen. His plain abdominal x-ray shows multiple air-fluid levels and on ultrasonography of abdomen showed multiloculated cystic lesion in to the gut and dilated small bowel loops which suggestive of acute intestinal obstruction.

We performed explorative laparotomy through mid-line incision. After exploration we found a large multilocular cystic mass, milky white in colour,in the terminal ileal mesentery, causing volvulus of the small bowel, leading to acute intestinal obstruction. A segment of 12-15 cm in length was having multiple cysts, yellowish white in colours, ranging 5-10 cm in size. Resection of the involved ileal segment 12-15 cm along with multiple cysts was excised and ileo-ileal anastomosis was done in two layers with 2.0 vicryl. Gross examination revealed a large multicystic mass in the mesentery. Post-operative recovery was uneventful and boy discharge on 8th postoperative day and no recurrence

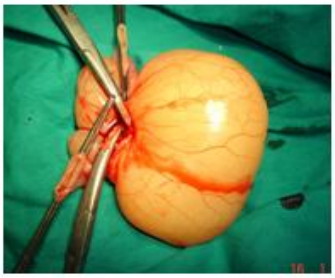
was noted during follow up for 10 years. Histopathology study revealed multilocular cysts lined with endothelium and cysts were filled with chylous and lymph fluid, which confirms the Chylolympatic cyst. [Figure 1,2,3]



Case 1, Fig-1- Intra operative photographs Showing Chylolymphatic cyst of mesentery



Case 1, Fig-2, Multi-loculated Chylolymphatic cyst of size 5x10 cm

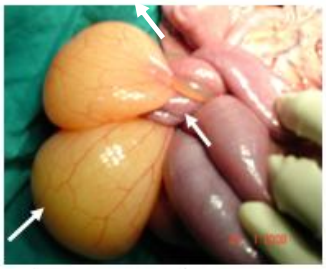


Case 1, Fig-3, Excised specimen of Chylolymphatic cyst

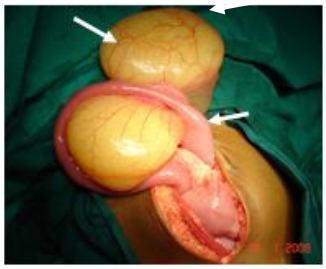
Case Report 2

A 6 years old girl was admitted in our centre on 23/01/2008, with complains of pain in abdomen, distension of abdomen and vomiting last 2 days. On clinical examination of girl having abdominal distension, palpable abdominal lump and tenderness all over the abdomen. Her all laboratory investigation was normal. Her plain x-ray abdomen showed multiple air-fluid levels and abdominal ultrasonography showedmultiloculated cystic lesion in the small bowel segment and dilated small bowel loop and all findings suggestive of acute intestinal obstruction.

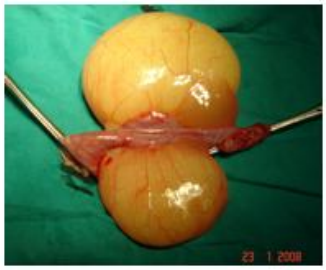
Midline explorative laparotomy performed, after opening the abdomen to our surprise, we saw a big segment of small bowel having multiple cystic mass in the mesentery, resulted in volvulus of small bowel causing acute intestinal obstruction. There was 200 cc haemorrhagic fluid in the abdomen due to volvulus & obstruction. Untwisting of volvulus was done, there was no gangrene of small bowel. A ileal segment of 12-15 cm length was having multiple cysts of yellowish white in colour, filled with chylous& lymph. Cyst Size of 5-10 cm located in the mesentery. Resection of the involved segment of ileum along with multiple cysts was done with ileo-ileal anastomosis. Post-operative recovery was uneventful and girl discharged home on 8th post-operative day. Histopathology revealed a multipleChylolymphatic mesenteric cysts. [Figure 1,2,3]



Case 2, Fig-1- Intra operative photographs Showing Volvulus of small bowel Due to Chylolymphatic cyst



Case 2, Fig-1- Intra operative photographs Showing untwisting of volvulus

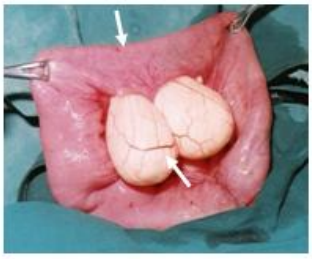


Case 2, Fig-3, Excised specimen of Chylolymphatic cyst

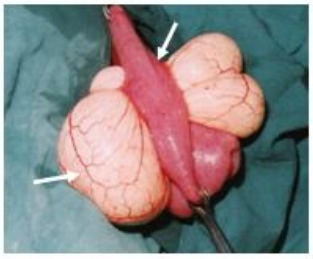
C..se Report 3

A 8 years old girl was admitted in our centre in the year 1995, with complains of severe abdominal pain, distension of abdomen, vomiting and constipation since last 2 days. On clinical examination she was having abdominal distension and palpable abdominal lump. Here abdominal x-ray showed multiple air-fluid levels suggestive of acute intestinal obstruction.

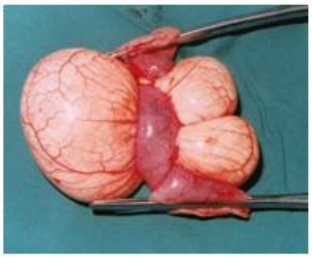
We performed explorative laparotomy,showed a multiloculated segment of ileum causing small bowel obstruction. A ileal segment of 15 cm was involved with multiple white egg coloured cysts in the mesentery, 200 cc of haemorrhagic fluid aspirated through the abdominal cavity. So resection of the involved segment along with multiple cyst and end to end anastomosis done with hand sewen in two layers. Post-operative recovery was good and girl discharged on 8th postoperative day. Histopathological report showed the Chylolymphatic mesenteric cyst, cysts containing chylous& lymph and lined by endothelium. [Figure 1,2,3]



Case 3, Fig-1- Intra operative photographs Showing Milky white color of Chylolymphatic cyst



Case 3, Fig-2- Intra operative photographs Chylolymphatic cyst of size 5x10 cm



Case 2, Fig-3, Excised specimen of Chylolymphatic cyst

Discussion

Chylous cysts are variants of mesenteric cysts and constitute 7.3% to 9.5% of all abdominal cysts. There are very few cases of paediatricChylolympaticcyst reported in the literature. Beabrs et al. classified mesenteric cyst in to four groups based on etiology.

1. Embryonic or developmental. 2.Traumatic or acquired.3.Neoplastic 4. Infective or degenerative

Histopathological classification by de parrot et al in 2000 proposed followingclassification.

1. Lymphatic origin - Simple cyst and lymphatic cyst Chylolymphatic
2. Mesothelial origin – Simple, benign and malignant cystic mesothelium
3. Enteric origin- Enteric duplication cysts
4. Urogenital origin
5. Mature cystic teratoma or dermoid cysts
6. Pseudocysts- Infection or traumatic cysts. [1,2,3,4]

In 1942 van Rokitansky first reported the case of chylous mesenteric cyst and in 1880, Tillaux achieved the first successful surgical excision of a cystic mass in the mesentery. Mesenteric cyst are most commonly solitary and multilocuated, containing chylous, serous or haemorrhagic fluid. [2,5,6]

Clinically mesenteric cysts may present as an asymptotic abdominal mass or incidental findings during laparotomy or it may present acute intestinal obstruction and volvulus. Ultrasonography and

CT abdomen are the investigation of choice. Mesenteric cysts may vary in size from 4 cm to 30 cm. Chylolymphaticcyst of size more than 10 cm are considered as giant Chylolymphaticcyst. [1,2]

Complete surgical excision of the affected ileal segment along with mesenteric cystic mass and ileo-ileal anastomosis with an excellent result. 20-60 % of the cases bowel resection and anastomosis in needed along with excision of the mesenteric cyst. The recurrence following complete excision of the mesenteric cyst in very rare. [2,3]

The different surgical approaches used are marsupialization, sclerotherapy, drainage, enucleation, percutaneous aspiration and excision of the cyst with or without resection of the involved gut. All our patients underwent exploratory laparotomy and complete excision of the involved gut. [3,4,6]

Conclusion

Chylolympatic cysts are very rare entity and treatment involves excision of cyst with or without resection of bowel is the gold standard treatment offering complete cure.

References

1.Pithawa AK, Bansal AS, Kochar SP. "Mesenteric cyst: A rare intra-abdominal tumour". Med J Armed Forces India. 2014 Jan;70(1):79-82. doi: 10.1016/j.mjafi.2012.06.010. Epub 2012 Oct 23. PMID: 24936122; PMCID: PMC4054796.

2.Kazi Md Noor-ul Ferdous, S M Mahmud, Sadia Sultan, Ferdousi Akter, Nusrat Jahan Mona, Mesenteric Cysts in Children: Review of 55 Cases in A Tertiary Hospital, Annals of International Medical and Dental Research E-ISSN: 2395-2822 | P-ISSN: 2395-2814 Vol-9, Issue-2 | March- April 2023 DOI: 10.53339/aimdr.2023.9.2.16

3. Priya K. Pai, HallberaGudmundsdottir, Nathan C. Hull, Paul G. Thacker, Denise B. Klinkner, Chylolymphatic mesenteric cyst with midgut volvulus in an adolescent: a peculiar presentation, Radiology Case Reports,Volume 17, Issue 2,2022,Pages 420-422,ISSN 1930-0433,https://doi.org/10.1016/j.radcr.2021.10.066.

4.Gafar AM, Batikhe MY. Surgical management for mesenteric cysts in pediatric patients: a single center experience. Int Surg J 2018;5:1217-21

5.Ghritlaharey RK, More S. Chylolymphatic Cyst of Mesentery of Terminal Ileum: A Case Report in 8 Year-old Boy. J Clin Diagn Res. 2014 Nov;8(11):ND05-7. doi: 10.7860/JCDR/2014/9748.5121. Epub 2014 Nov 20. PMID: 25584262; PMCID: PMC4290281.

6. Rattan KN, Nair VJ, Pathak M, Kumar S. Pediatricchylolymphatic mesenteric cyst - a separate entity from cystic lymphangioma: a case series. J Med Case Rep. 2009 Nov 9;3:111. doi: 10.1186/1752-1947-3-111. PMID: 19946589; PMCID: PMC2783052.

7.Paramythiotis, D., Bangeas, P., Karakatsanis, A. et al. Ideal treatment strategy for chylous mesenteric cyst: a case report. J Med Case Reports 12, 317 (2018). https://doi.org/10.1186/s13256-018-1716

8.Sehrawat, Roopali MD*; Bansal, Nalini MD, DNB, PDCC*; Kour, Harshita MS, DNB†; Sinha, Anand MS, MCh†. A Giant PediatricChylolymphatic Cyst: An Extremely Rare Entity. JPGN Reports 4(1):p e274, February 2023. | DOI: 10.1097/PG9.0000000000000274

9.Shyamendra Pratap Sharma, Sarita Chowdhary, Pranay Panigrahi, Management of Mesenteric Cysts in Pediatric Population: Five-year Experience in Tertiary Care Center, DOI https://doi.org/ 10.1055/s-0040-1718611 ISSN 0379-038X