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**Case Report**

# A rare combination of ileal duplication cyst with mesenteric cyst in 8 months old child: a case report

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## ABSTRACT

Enteric duplication cysts are rare congenital lesions that can develop anywhere along the alimentary tract and vary greatly in presentation, size, location and symptoms. Duplications most commonly arise from the mesenteric border of the intestine and are frequently single. These are classified as cystic or tubular. Mesenteric cysts are rare intra-abdominal lesions occurring during childhood period, which may vary in presentation and can be asymptomatic or can present as obstruction, perforation or bleeding. The diagnosis of duplication cyst is difficult due to absence of obvious pathognomic signs. Abdominal ultrasound and computed tomography may aid in diagnosis. Radiological imaging may not be sufficient and high index of suspicion is needed to diagnose such cases. We herein are presenting the rare case of combination of mesenteric cyst with enteric duplication cyst in 8 months old child who reported to surgical emergency with complaints of bleeding per rectum. Ileal duplication cysts are rare anomalies which are often underreported because of their vague symptomatology and radiological features are often not diagnostic. A high index of suspicion is always needed to pick up the diagnosis based on history, examination and radiological findings.

**Keywords:** Enteric duplications cyst, Mesenteric cyst, Laparotomy, Melaena

## INTRODUCTION

Enteric duplication cysts are congenital lesions that are rare and can develop anywhere along the alimentary tract. They are most frequently observed in terminal ileum with incidence of 1:4,500 births.[1,2] Enteric duplication cysts are characterized by presence of gastrointestinal mucosal lining (ectopic gastric mucosa in 20-30% cysts), a smooth muscle layer and a common wall with gastrointestinal tract that usually show no communication with the lumen of gastrointestinal tract.[3]

Duplication cysts most commonly seen to be arising from the mesenteric border of the intestine and are frequently single. These are classified as cystic (type I: 79%) or tubular (type II: 21%). Cystic duplication cysts are more common and usually present as abdominal masses or as acute abdomen in early childhood. Tubular duplications cysts run parallel to gastrointestinal tract with communication with it.[4] Mesenteric cysts are intra-abdominal lesions, rarely occurring during childhood period, and may present as asymptomatic mass to acute abdomen.

Mesenteric cysts may occur anywhere in the mesentry of the gastrointestinal tract from the duodenum to the rectum and may extend from base of the mesentry to the retroperitonuem.[5] It is difficult to diagnose, due to absence of obvious pathognomic signs. Radiological investigations like abdominal ultrasound and computed tomography may aid in diagnosis. Complete surgical excision is the mainstay treatment of choice or alternatively excision or

marsupialization of the cyst. We herein present the rare case of mesenteric cyst with enteric duplication cyst in 8 months old child.

## CASE REPORT

8 months old male child diagnosed case of mesenteric cyst on prenatal ultrasound. CECT abdomen was done postnatally which reported thin walled nonenhancing intraperitoneal lesion about 70×59×55 mm likely mesenteric cyst. Patient was having no symptom except for palpable swelling and the patient was kept in follow up. At about 8 months of age attendants of the patient started complaining melaena. Patient was immediately admitted in emergency and all baseline investigations were sent which were within normal range.

On examination, patient was vitally stable, having palpable swelling in the umbilical region which was firm and mobile. On digital rectal examination blood on gloved finger was seen. USG abdomen was done which reported well defined cystic lesion likely mesenteric cyst. CECT abdomen also reported similar findings suggestive of mesenteric cyst. On the suspicion of enteric duplication cyst as patient was having melaena, patient was taken for emergency laparotomy. Intra-operatively the child was having 15 cm of duplicated small intestine about 40 cm proximal to ileocecal wall with proximal blind end and distally opening with normal lumen of the small intestine sharing common blood supply.

Another cystic lesion of about 6×5 cm was present over the mesentery of small intestine sharing common blood supply with small intestine about 5 cm proximal to duplication cyst. Segment of the ileum containing both the cysts was removed and primary anastomosis was done. Postoperative period was uneventful and child was discharged on 6$^{th}$ postoperative day.

Histopathology reported proximal cyst as mesothelial cyst. Sections from other cyst (duplicated segment) having duplicated lumina with separate intestinal wall layers. Lining mucosa of one opening is having lymphoid hyperplasia whereas lining mucosa of other opening is showing glandular hyperplasia with occasional ectopic gastric mucosa.

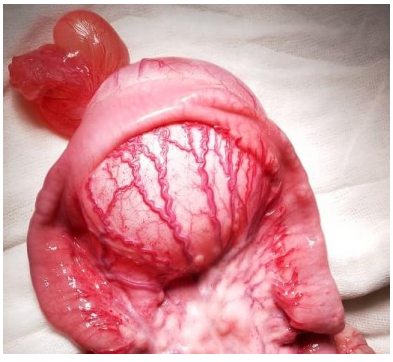

**Figure 1: Mesenteric cyst.**

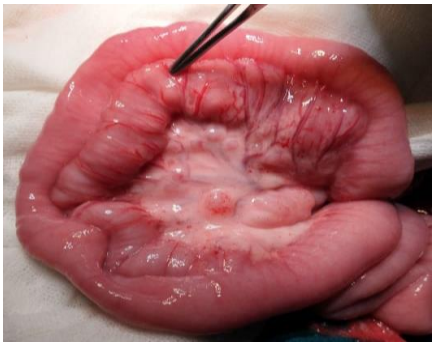

**Figure 2: Duplicated ileum.**

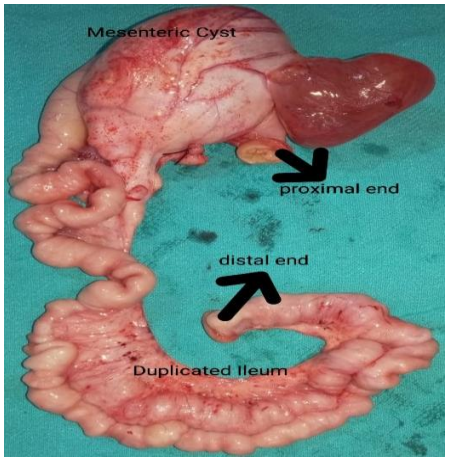


**Figure 3: Resected specimen with mesenteric cyst (proximal) and duplicated ileum (distal).**

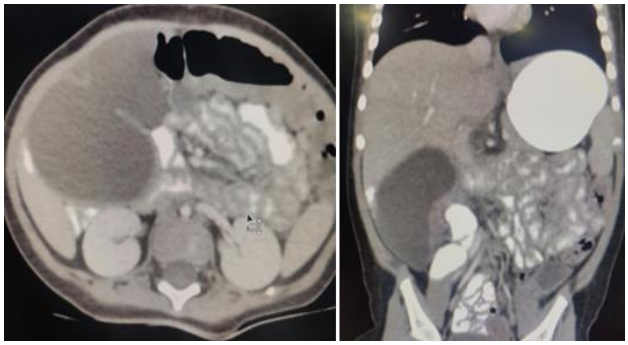

**Figure 4: CT showing mesenteric cyst, transverse and coronal view.**

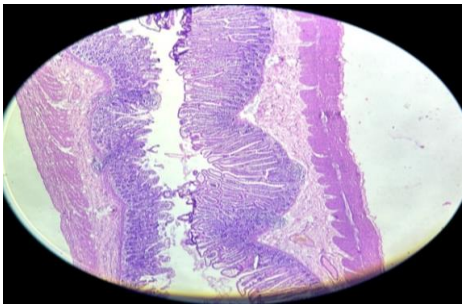

**Figure 5: Histopathology showing ileal mucosa.**

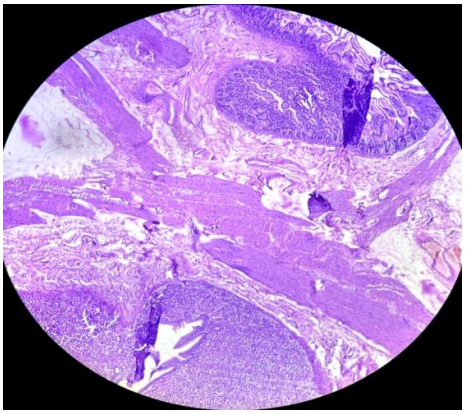

**Figure 6: Histopathology showing duplicated lumina with occasional gastric mucosa.**

## DISCUSSION

Enteric duplication cysts (EDCs) are rare congenital cystic malformation that occur in communication with native gastrointestinal tract sharing common blood supply. They are found in about 0.2% of all children and most of the cases are seen within 2 years of age.[6,7] Due to rise in prenatal ultrasound screening in second trimester, the percentage of early diagnosis is increasing before the onset of symptoms.[8,9] The symptoms usually depends upon the size, location, the type of mucosal layer, communication with adjacent bowel and inflammation.[10] Of all the gastrointestinal tract, ileum is most commonly involved in enteric duplication cysts.[11] Midgut duplication usually present with abdominal pain, vomiting, abdominal distension, asymptomatic palpable mass and bleeding.[4] The cysts with ectopic gastric mucosa or pancreatic tissue can have ulceration, perforation or acute bleeding with melaena.[12]

Ultrasound plays a major role and is commonly performed for diagnosis and surgical planning. Ultrasound demonstrates the cystic nature of EDCs, which appear as a hollow structure with anechoic content on mesenteric side, round shaped or tubular. Other diagnostic modalities like plain abdominal X-ray, Computerized tomography (CT), Magnetic resonance imaging (MRI) can aid in the diagnosis and localization of the duplication cyst. Technetium-99 m pertechnetate scan can be used to rule out hypertrophic gastric mucosa in the duplication cyst and may differentiate them from mesenteric cysts.[13] Management of EDCs entails laparotomy with resection of the cyst and the adjacent bowel segment with primary anastomosis.[13]

Urgent surgical intervention in required in enteric duplication cysts as ectopic gastric mucosal secretion may lead to ulceration of intestinal mucosa, massive bleeding and even bowel perforation. Treatment in asymptomatic patients is somewhat controversial but to prevent late complications, they have to be removed surgically. As our patient had both mesenteric cyst and enteric duplication cyst which was bleeding, laparotomy was done with resection of the segment containing both the cysts with primary anastomosis. The post-operative and follow up period was uneventful.

## CONCLUSION

Ileal duplication cysts are rare anomalies which are often underreported because of their vague symptomatology and radiological features are often not diagnostic. A high index of suspicion is always needed to pick up the diagnosis based on history, examination and radiological findings. The concomitance of mesenteric cysts with enteric duplication cyst is extremely rare and should be kept in mind in a child presenting with intra-abdominal palpable swelling with history of melaena.

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## REFERENCES

1. Sharma S, Yadav AK, Mandal AK, Zaheer S, Yadav DK, Samie A. Enteric Duplication Cysts in Children: A Clinicopathological Dilemma. J Clin Diagn Res. 2015;9(8):EC08-11.
2. Schalamon J, Schleef J, Höllwarth ME. Experience with gastro-intestinal duplications in childhood. Langenbecks Arch Surg. 2000;385(6):402-5.
3. Erginel B, Soysal FG, Ozbey H, Keskin E, Celik A, Karadag A, et al. Enteric Duplication Cysts in Children: A Single-Institution Series with Forty Patients in Twenty-Six Years. World J Surg. 2017;41(2):620-4.
4. Rasool N, Safdar CA, Ahmad A, Kanwal S. Enteric duplication in children: clinical presentation and outcome. Singapore Med J. 2013;54(6):343-6.
5. Dequanter D, Lefebvre JC, Belva P, Takieddine M, Vaneukem P. Mesenteric cysts. A case treated by laparoscopy and a review of the literature. Surg Endosc. 2002;16(10):1493.
6. Murty TV, Bhargava RK, Rakas FS. Gastroduodenal duplication. J Pediatr Surg. 1992;27(4):515-7.
7. Uzun MA, Koksal N, Kayahan M, Celik A, Kilicoglu G, Ozkara S. A rare case of duodenal duplication treated surgically. World J Gastroenterol. 2009;2:882-4.
8. Gupta A, Chakaravarthi K, Pattnaik B, Kaman L. Duplication cyst of ileum presenting as acute intestinal obstruction in an adult. BMJ Case Rep. 2016;2016:bcr2016214775.
9. Foley PT, Sithasanan N, McEwing R, Lipsett J, Ford WD, Furness M. Enteric duplications presenting as antenatally detected abdominal cysts: is delayed resection appropriate? J Pediatr Surg. 2003;38(12):1810-3.
10. Cavar S, Bogović M, Luetić T, Antabak A, Batinica S. Intestinal duplications--experience in 6 cases. Eur Surg Res. 2006;38(3):329-32.

11. Iyer CP, Mahour GH. Duplications of the alimentary tract in infants and children. J Pediatr Surg. 1995;30(9):1267-70.
12. Sakamoto K, Hasegawa S, Yamazaki Y, Makino T, Suda T, Imada T. Ileal duplication presenting as perforation: report of a case. Surg Today. 2000;30(5):445-7.
13. Schwesinger WH, Croom RD 3rd, Habibian MR. Diagnosis of an enteric duplication with pertechnetate 99mTc scanning. Ann Surg. 1975;181(4):428-30.

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