CASE REPORT

Successful Management of Ileocecal Junction Duplication Cyst in a Pediatric Patient: A Case Report

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ABSTRACT

Duplication cysts of the gastrointestinal tract are rare congenital anomalies that can present with intestinal obstruction in children, requiring early diagnosis and surgical management to prevent complications. We report a pediatric case presenting with recurrent vomiting, abdominal distension, and a history of abdominal massage. The vomitus was bilious with milk particles, and the patient passed mucus occasionally mixed with blood, without fever or abdominal tenderness. Nasogastric decompression yielded bilious content. Ultrasound excluded intussusception but suggested bowel obstruction, which was confirmed by barium follow-through demonstrating distal small bowel blockage. Exploratory laparotomy revealed a 2ч2 cm cystic lesion at the ileocecal junction resembling adjacent mucosa. Complete resection with end-to-end anastomosis and mesenteric lymph node excision was performed. Histopathological examination confirmed a duplication cyst. The patient had an uneventful recovery. This case emphasizes considering duplication cysts in pediatric obstruction and highlights surgical excision as definitive treatment with excellent outcomes.
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INTRODUCTION

Gastrointestinal duplications are rare congenital anomalies that can occur anywhere along the alimentary tract, characterized by a well-developed smooth muscle coat and gastrointestinal mucosa lining (1). Ileocecal junction duplication cysts are particularly uncommon, accounting for approximately 6–13% of all gastrointestinal duplications (2). These cysts often present with nonspecific symptoms such as vomiting, abdominal distension, and intestinal obstruction, making diagnosis challenging and potentially leading to complications such as intussusception, volvulus, or perforation (3). Diagnosis typically involves clinical suspicion supported by imaging studies, with ultrasonography often being the initial modality of choice (4). Management is primarily surgical, aiming for complete excision while preserving bowel continuity (5).

CASE REPORT

A 10-month-old female infant was brought to the emergency department with a five-day history of intermittent vomiting and abdominal distension. Her parents reported five episodes of yellow vomitus containing milk particles in the past 24 hours, along with mucus in the stool, sometimes accompanied by blood. The infant had a history of frequent abdominal massages performed by her parents to alleviate perceived discomfort.

Upon examination, the infant was afebrile and showed no signs of abdominal tenderness, with vital signs within normal limits for her age. She appeared lethargic but continued to drink fluids. A nasogastric tube was inserted, draining yellow fluid with food particles.

Initial ultrasonography did not reveal a classic "target sign" suggestive of intussusception but indicated an obstruction. A barium follow-through examination confirmed a distal small bowel obstruction (Fig. 1). Exploratory laparotomy revealed a round, cystic mass measuring approximately 2x2 cm at the ileocecal junction, sharing a common wall with adjacent bowel tissue (Fig. 2).

The surgical team performed a complete excision of the cystic mass and an end-to-end anastomosis to restore bowel continuity. Mesenteric lymph nodes were also excised for histopathological examination, which confirmed the diagnosis of an ileocecal junction

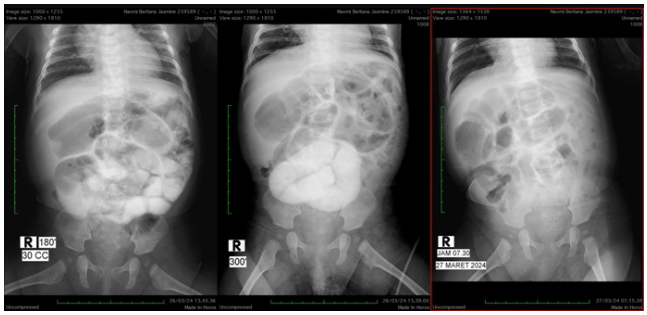

Figure 1: Barium follow-through study showing distal small bowel obstruction with delayed contrast progression at the ileocecal region.

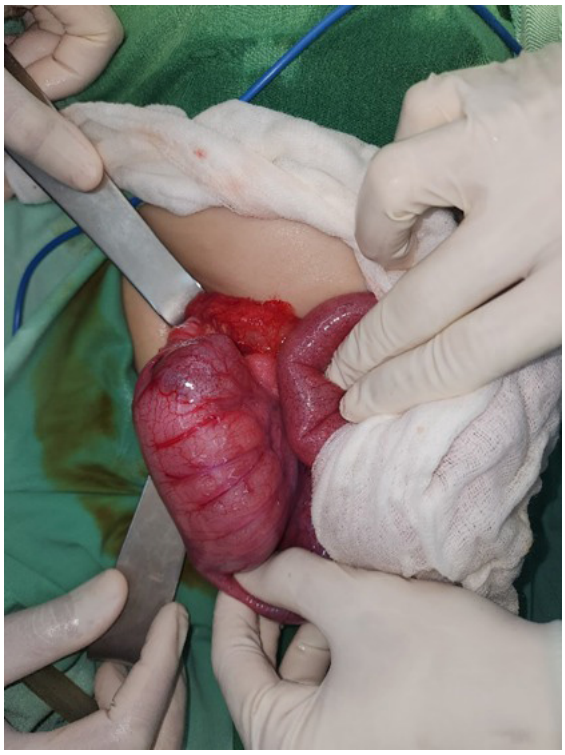

Figure 2: Intraoperative photograph demonstrating a round cystic mass (approximately 2 x 2 cm) at the ileocecal junction sharing a common wall with adjacent bowel tissue.

duplication cyst (Fig. 3).

Postoperatively, the patient experienced a smooth recovery, with oral feeds gradually reintroduced and well-tolerated. She was discharged in good condition on postoperative day 7, and follow-up evaluations at 1 month and 6 months post-surgery showed excellent outcomes with no recurrence or complications.

This case underscores the importance of considering ileocecal junction duplication cysts in pediatric patients with nonspecific gastrointestinal symptoms and highlights successful surgical management leading to complete symptom resolution.

DISCUSSION

Ileocecal duplication cysts are rare congenital anomalies that pose diagnostic and therapeutic challenges

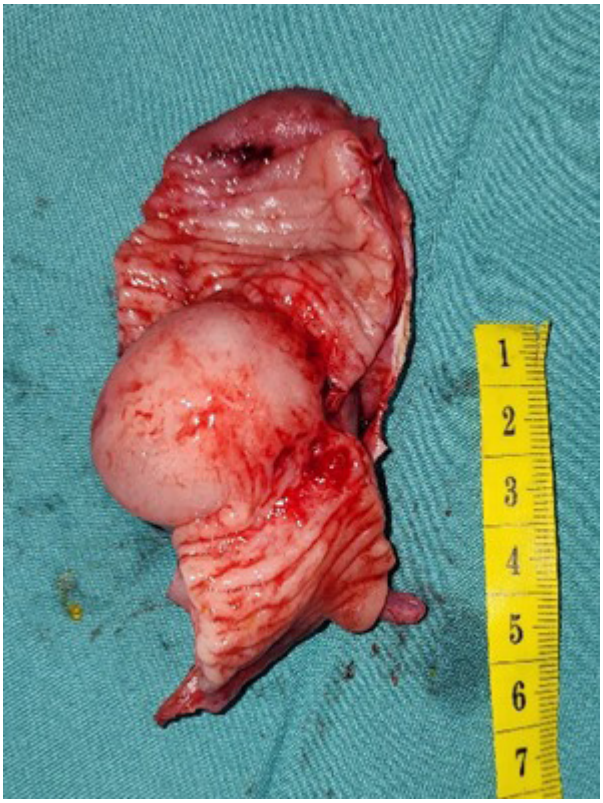

Figure 3: Macroscopic segment of intestinal tissue, longitudinally opened, measuring 5 cm in length. A cavity was found on the other end a diameter of approximately 2 cm, cecum, 2 cm. One lymph node tissue measuring 1.1 x 0.7 x 0.5 cm, whitish-brown in color. Features are consistent with Ileocecal duplication cyst and chronic lymphadenitis with sinus histiocytosis.

in pediatric patients. Gastrointestinal duplications have an estimated incidence of approximately 1 in 4500 live births and can occur anywhere along the gastrointestinal tract, with the ileum being the most common site (1). Ileocecal junction involvement is particularly rare, representing about 6–13% of cases (2).

The clinical presentation is often nonspecific, as seen in our patient, and may include vomiting, abdominal distension, or features of bowel obstruction (3). Such variability may delay diagnosis and increase the risk of complications including obstruction, bleeding, or perforation.

Imaging plays an important role in evaluation. Ultrasonography is typically the first-line modality and may demonstrate the characteristic "gut signature" sign, although findings may be inconclusive in some cases (4). In such situations, contrast studies can help confirm obstruction and guide further management, as demonstrated in this case.

Definitive diagnosis is usually established intraoperatively, with histopathological confirmation. Complete surgical excision remains the treatment of choice, as it prevents recurrence and complications such as bleeding or malignant transformation (5). Segmental resection with primary anastomosis is often preferred, particularly when the cyst shares a common wall with

adjacent bowel.

CONCLUSION

In conclusion, ileocecal junction duplication cysts, though rare, should be considered in the differential diagnosis of pediatric bowel obstruction. Timely diagnosis and appropriate surgical management can lead to excellent outcomes, as demonstrated in this case. Future research should focus on developing more sensitive preoperative diagnostic techniques and exploring minimally invasive surgical approaches for managing these challenging cases.

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