Case report

ENTERIC DUPLICATION CYSTS IN A 15 YEAR OLD CHILDREN: A RARE CASE REPORT

ABSTRACT:

INTRODUCTION: Enteric duplication cysts are rare congenital malformations in children and can develop anywhere along the gastrointestinal tract from mouth to the rectum, the ileum is the most common site followed by oesophagus, jejunum, stomach, and duodenum.

PRESENTATION OF CASE: A 15-year-old boy was admitted to our hospital with the complaint of cramping intermittent pain mainly in his right lower abdomen for 2 days. Ultrasonogram of the abdomen showed a hollow structure in the right iliac fossa with perforation. After initial resuscitation emergency exploratory laparotomy was performed which revealed Enteric duplication cysts.

DISCUSSION: Once the diagnosis of Enteric duplication cysts has been made, treatment is necessary to improve the symptoms and to prevent serious complications, including intestine obstruction, intussusception, or hematochezia.

CONCLUSION: In conclusion, this case of an intestinal duplication cyst presented with an acute abdomen. Although such conditions are more common in children and extremely rare in adults, they have to be considered for a differential diagnosis of acute abdomen.

KEYWORDS: Enteric duplication cysts, gastrointestinal tract, Ultrasonography

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INTRODUCTION

"Enteric duplication cysts are rare congenital malformations in children and can develop anywhere along the gastrointestinal tract, from the mouth to the rectum. The ileum is the most common site (33%) followed by the oesophagus (20%), colon (13%), jejunum (10%), stomach (7%), and duodenum (5%)".[1,2] "They are usually detected prenatally or in the first years of life. Enteric duplication cysts are considered a very rare condition, particularly in adults".[3] "Enteric duplication cysts are typically located at the mesenteric boundary of the gastrointestinal tract".[4] "Enteric duplication cysts are believed to occur between the 4th and 8th weeks of embryonic development"[9]. "Their aetiology is still unknown; several theories have been proposed to explain their pathophysiology, but no single hypothesis can justify all duplications, locations, and associated anomalies. Split notochord theory is often postulated" [10,11].

"The duplication cysts of the small intestine can be categorized into three types based on the anatomy of the cyst: saccular cysts (Type I: 79%), tubular cysts (Type 2: 21%), and small intramural cysts. The saccular type is the most common and usually does not communicate with the native gastrointestinal tract. Tubular cysts are more commonly found in the colon. Small intramural cysts often occur near or at the ileocecal valve and protrude into the enteric lumen".[8]

"Ultrasonography is the most used imaging method for the diagnosis of enteric duplication cysts. Magnetic resonance and computed tomography scans are less frequently used but can be

helpful in cases of difficult surgical approach" [5,6]. "The histopathological examination of the specimen is confirmatory for ascertaining the intestinal origin of the cyst, showing epithelial lining inside and a layer of smooth muscle in the wall, resembling some part of the gastrointestinal tract" [7] (fig. 5)

PRESENTATION OF CASE

A 15-year-old boy was admitted to our hospital emergency ward with a complaint of cramping intermittent pain mainly in the right lower abdomen for 2 days. The pain was acute in onset and gradually progressive in nature. The pain initially started in the right iliac fossa and then spread all over the abdomen. The pain was aggravated by food intake and was relieved after taking medications. The pain was also associated with vomiting. The patient had two episodes of bilious vomiting. He was afebrile on touch.

The patient was a known case of Down syndrome diagnosed in childhood at around 6 years of age. There was no past history of any acute illness and also there was no history of any surgery in the past. On examination, his pulse rate was 100/min and BP was 110/70mmHg in the right arm in a supine position. Most laboratory investigations were within normal limits except for elevated white blood counts. On palpation, the patient had generalized tenderness all over the abdomen along with guarding and rigidity. The skiagram of the abdomen showed free gas under both domes of the diaphragm. Ultrasonogram of the abdomen showed a hollow structure in the right iliac fossa with perforation and A cystic formation with a parietal stratification of three alternating layers (gut sign). (Fig.1) After initial resuscitation emergency exploratory laparotomy was performed which revealed a duplication cyst originating from the mesenteric side of the ileum, sharing a common muscularis layer with the adjacent ileum. (Fig. 2-4)

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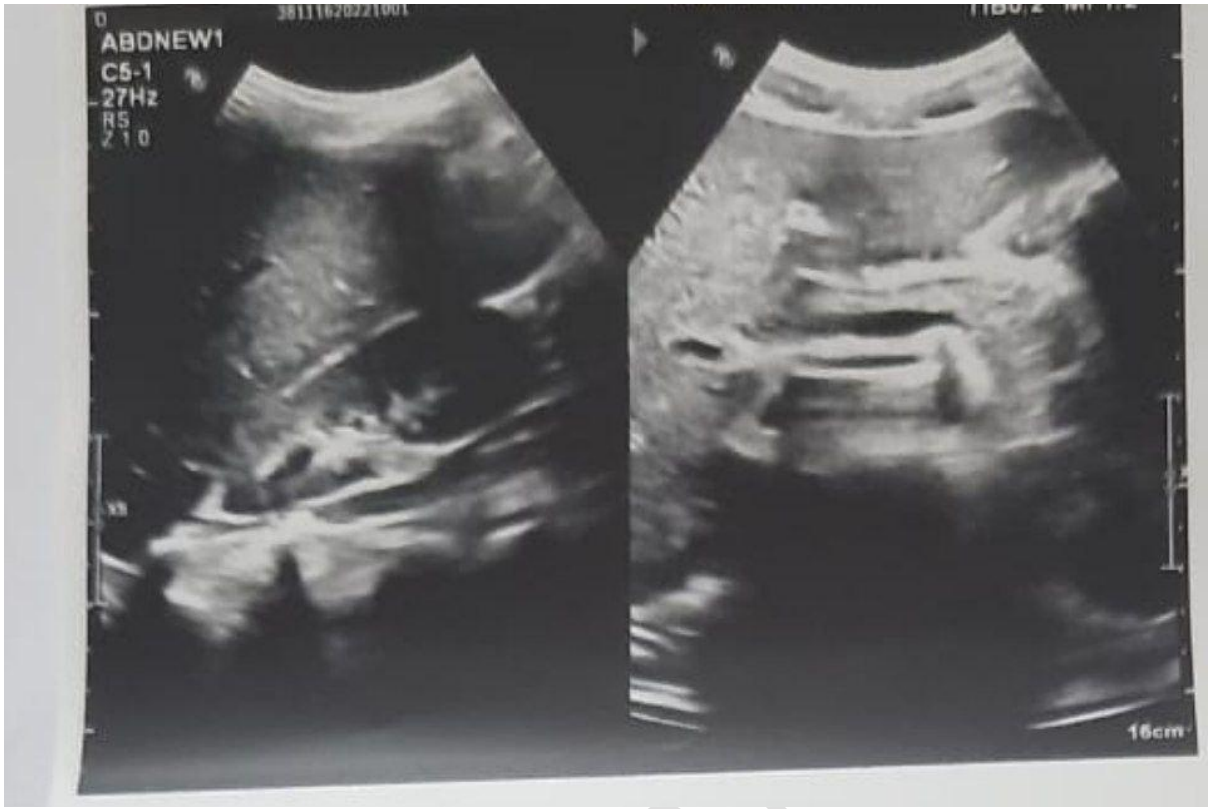

Fig. 1. Ultrasonogram of the abdomen: A cystic formation with a parietal stratification of three alternating layers (gut sign).

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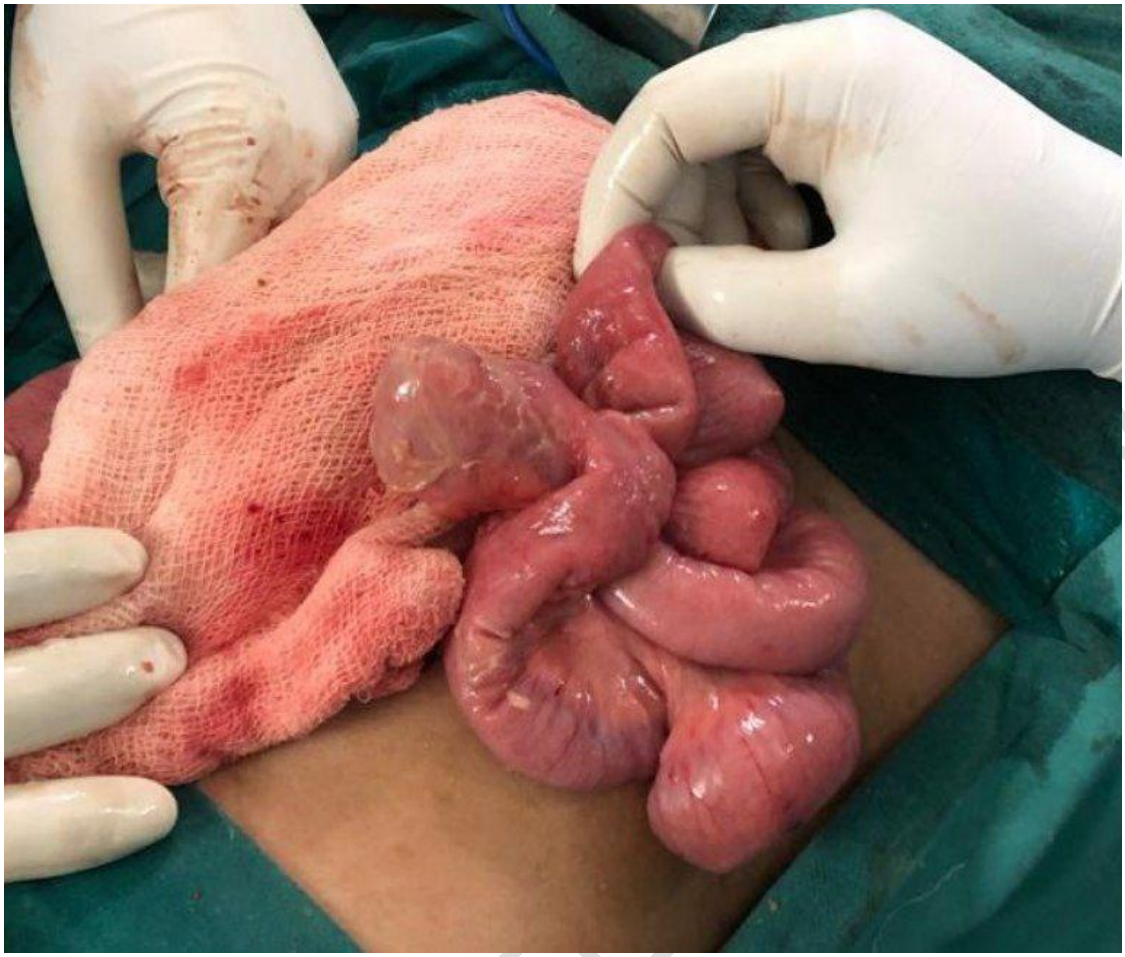

Fig.2. A duplication cyst originating from the mesenteric side of the bowel, sharing a common muscularis layer with the adjacent bowel.

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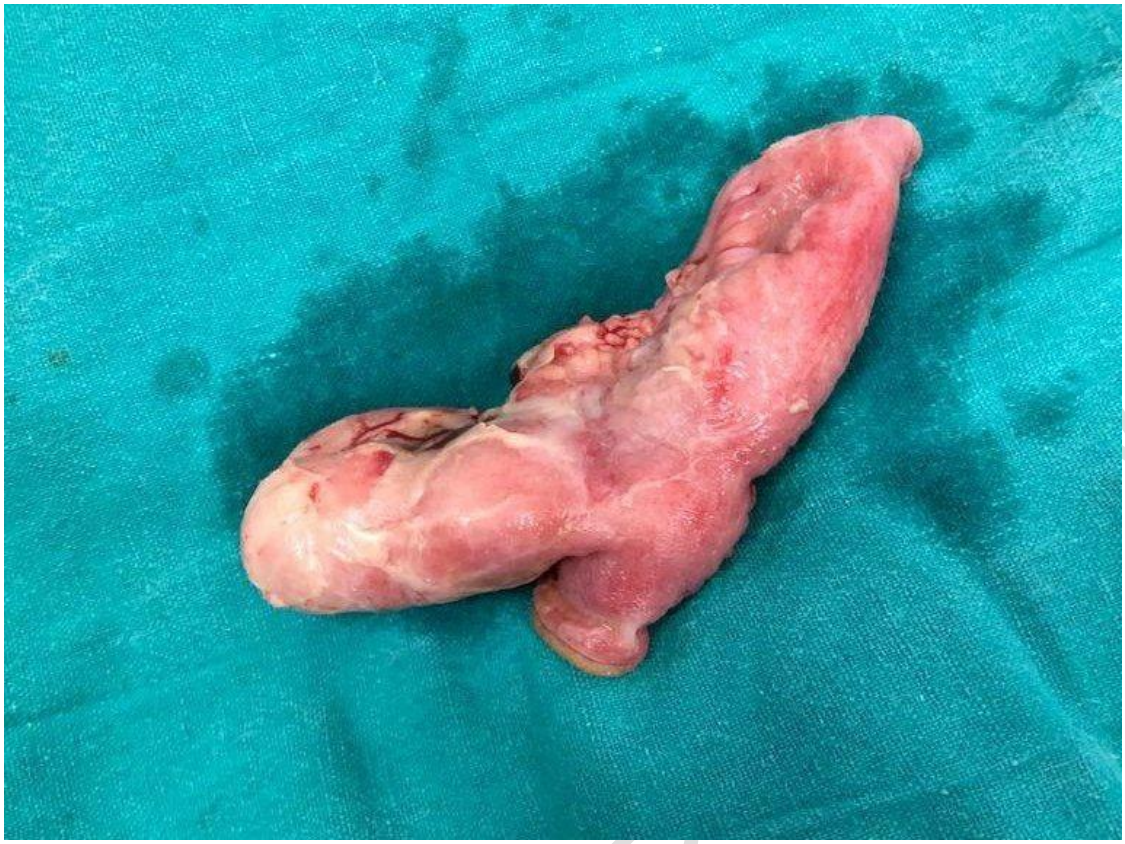

Fig.3. Surgical specimens

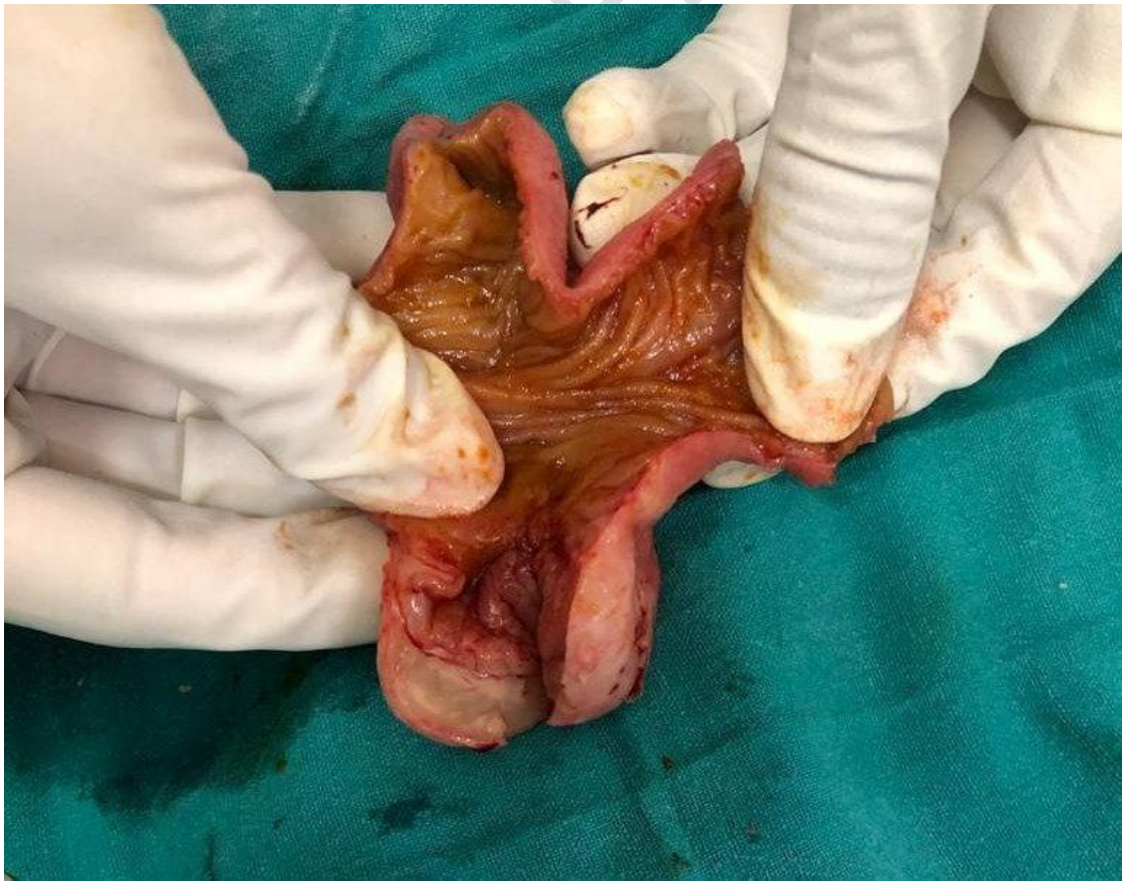

Fig.4. Resected material A tubular duplication cyst protruding into the enteric lumen.

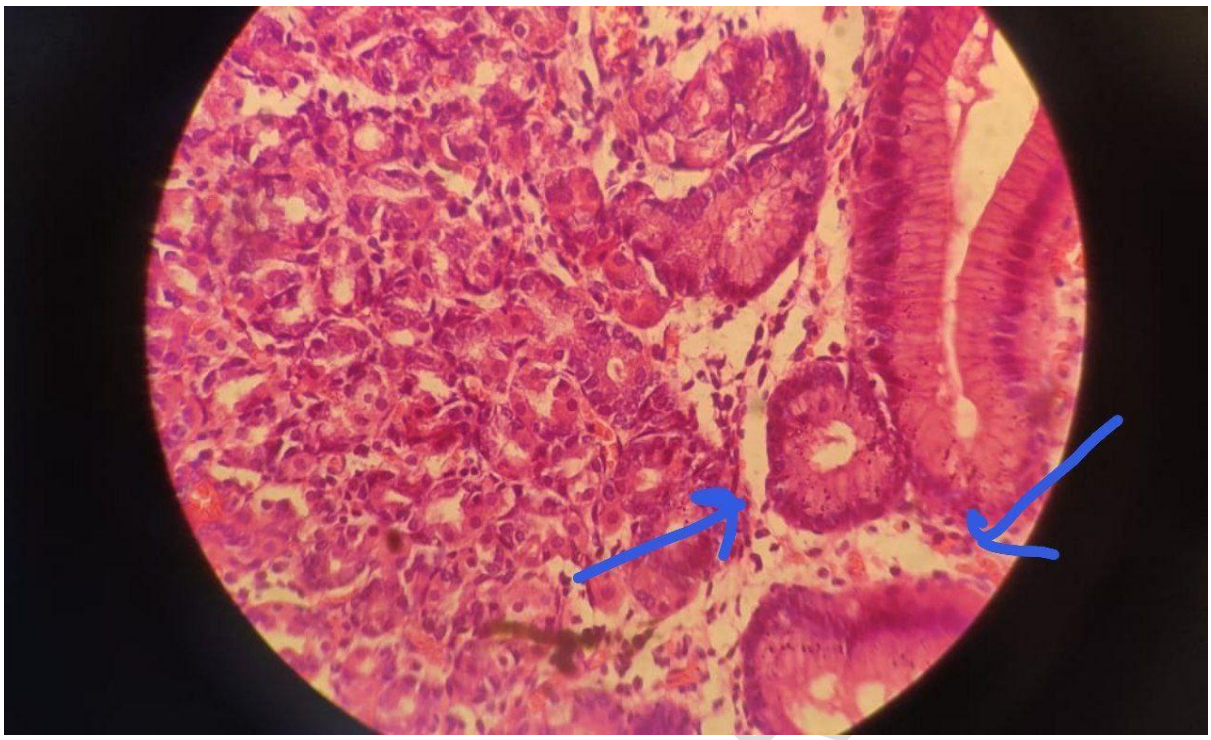

Fig.5. Histopathological examination of specimen: intestinal origin of the cyst, showing epithelial lining inside and a layer of smooth muscle in the wall

Post-operative course was uneventful and the patient was discharged from the hospital on post-operative day 5. Histopathological examination confirmed the diagnosis of an enteric duplication cyst arising from the ileum.

DISCUSSION:

"Once the diagnosis of Enteric duplication cysts has been made, treatment is necessary to improve the symptoms and to prevent serious complications, including intestine obstruction, intussusception, or hematochezia. The treatment approach for most Enteric duplication cysts is surgical resection. Resection can be performed through traditional open-access approaches, as well as thoracoscopic and laparoscopic approaches". [12] Currently, minimally invasive surgery is becoming the elective approach, and most of the cysts can be resected successfully. Ultrasonography is the method of choice to diagnose gastrointestinal Enteric duplication cysts. Although a double-wall sign in a cyst is the most typical for diagnosis of Enteric duplication cysts. The diagnosis is confirmed by histological examination.

CONCLUSION:

In conclusion, this case of an intestinal duplication cyst presented with an acute abdomen. Although such conditions are more common in children and extremely rare in adults, they have to be considered for a differential diagnosis of acute abdomen. Surgery is the treatment of choice in intestinal duplication cysts to avoid complications.

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CONSENT

As per international standards or university standards, patient consent has been collected and preserved by the authors.

ETHICAL APPROVAL

As per international standard guidelines written ethical approval has been collected and preserved by the authors.

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Details of the AI usage are given below:

1.

2.

3.

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