Case Report

Ruptured Duplication Cyst of Transverse Colon

Laraib Rasul, Navira Javed, Naeem Liaqat, Shoaib Tarrar, Jawad Abbasi
Department of Pediatric Surgery, Holy Family Hospital, Rawalpindi, Pakistan

Abstract

Duplication cysts of gastrointestinal tract are rare congenital abnormalities found in 0.2% of children. We report a rare case of a ruptured duplication cyst of transverse colon in a 7-year-old female child who presented with abdominal pain and mass in the right iliac fossa. We assumed it as an appendicular mass; however, it turned out to be a ruptured duplication cyst of transverse colon. Only two cases of duplication cyst of transverse colon have been reported yet in the literature.

Keywords: Duplication cyst, gastrointestinal, ruptured, transverse colon

Introduction

Duplication cyst of gastrointestinal tract is a group of lesions that contain smooth muscle wall and enteric mucosa, found commonly on the mesenteric border of the intestine. It is more common in females, with a male-to-female ratio of 1.0:2.3.[1] Patients may present at any age, but 80% present in the first 2 years of life. Abdominal sites of duplication cyst include ileum (30%), ileocaecal valve (30%), stomach (8%), jejunum (7%), colon (7%) and rectum (5%).[2,3] Transverse colon is an exceptionally rare location for duplication cyst.[4]

Case Report

A 7-year-old female child presented with the complaints of pain in the right iliac fossa, for the last 7 days. The pain was sudden in onset, continuous, severe, non-radiating and relieved by intravenous pain killers. There was no history of nausea, vomiting, anorexia and urinary complaints. Rest of her history was unremarkable. On examination, she was in good physical health and was tachycardic. Abdominal examination revealed generalised tenderness in the abdomen with guarding and a tender mass of 6 cm × 5 cm was palpable in the right iliac fossa. Her complete blood count showed leucocytosis (total leucocyte count 26.7×10^9) with predominantly granulocytosis. Her abdominal ultrasound suggested an appendicular mass with abscess formation. Abdominal exploratory laparotomy revealed a perforated duplication cyst of transverse colon which was adherent to the caecum and appendix and contained 20 cc of foul-smelling pus [Figure 1]. There was no communication

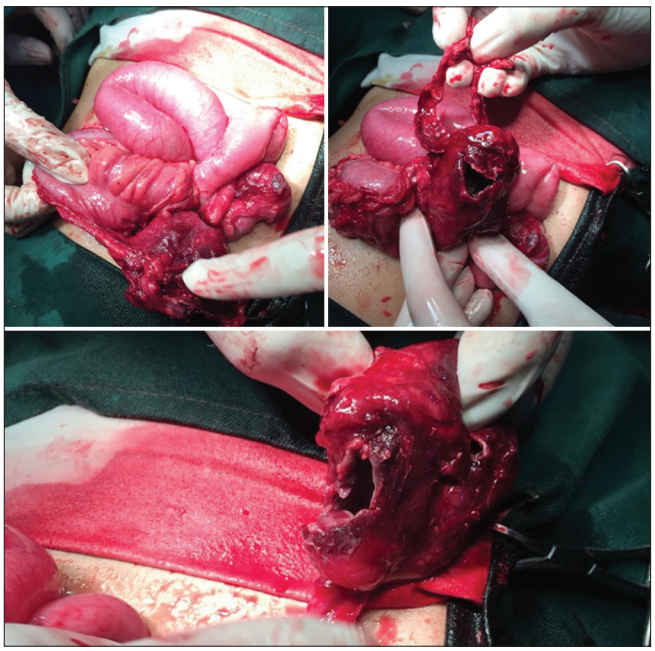

Figure 1: Ruptured duplication cyst of transverse colon

Address for correspondence: Dr. Laraib Rasul,
Holy Family Hospital, Rawalpindi, Pakistan.
E-mail: laraib.ru@gmail.com

Received: 05-06-2020 **Revised:** 12-07-2020 **Accepted:** 13-09-2020 **Available Online:** 18-02-2021

Access this article online

Quick Response Code:

Website: www.afrjpaedsurg.org

DOI: 10.4103/ajps.AJPS_81_20

How to cite this article: Rasul L, Javed N, Liaqat N, Tarrar S, Abbasi J. Ruptured duplication cyst of transverse colon. Afr J Paediatr Surg 2021;18:109-10.

Table 1: Details of previously reported cases of duplication cysts of transverse colon

Author	Year	Gender	Age	Findings	
				Pre-operative	Operative
Dutheil-Doco *et al*.[4]	1998	Female	7 years	Abdominal mass close to the pancreas	Duplication cyst was separate from the transverse colon, had its own mesentery, which was expansion of the transverse mesocolon
Piolat *et al*.[10]	2005	Female	1 DOL	Pneumoperitoneum on abdominal plain radiograph	Perforated duplication cyst of transverse colon

of the cyst with the transverse colon lumen. Excision of the duplication cyst was done along with appendectomy, and samples were sent for histopathology. Her post-operative recovery remained uneventful, and biopsy report confirmed it as duplication cyst of gastrointestinal tract.

Discussion

Duplication cysts of gastrointestinal tract are rare congenital abnormalities found in 0.2% of children.[5] As defined by LADD, duplication cysts are defined as a group of lesions that contain a smooth muscle wall and enteric mucosa, found commonly on the mesenteric border of the intestine.[5] This congenital malformation involves the mesenteric side of the associated alimentary tract and may share common blood supply with the native bowel. It can be divided into two types: (a) communicating and (b) non-communicating. Majority of the duplications are cystic in nature (53%–85%), whereas the remaining are tubular and generally longer in size with a tendency to communicate with the gut lumen. The exact aetiology of enteric duplication is unknown, however abortive attempts of twinning, split notochord, persistence of embryonic diverticula, recanalisation and fusion of longitudinal folds have all been attributed as the origin of this rare anomaly.[1,6] Others include intra-uterine trauma or hypoxia. Only 7% of gastrointestinal duplications arise from the colon. Colonic duplication appears to be associated with various congenital anomalies, most commonly genitourinary anomalies. Malignant transformation of duplication cyst in adulthood has been sporadically reported.[7]

Patients may present with bowel obstruction, intussusception and palpable abdominal mass. Perforation of the duplication cyst presents with the complaints of bleeding per rectal and peritonitis.[3,6] In our case, the patient presented with peritonitis and a palpable abdominal mass in the right iliac fossa mimicking complicated acute appendicitis. Imaging findings of duplication cysts are well known. Upper gastrointestinal imaging, ultrasonography and computed tomography (CT) scan are usually done for diagnosis.[1] In our case, these investigations were not carried out and exploratory laparotomy was done as the patient had developed signs of peritonitis. Barium studies demonstrate filling defect or rarely communication between the cyst and neonatal bowel. Ultrasonography shows a double-layered wall composed of an echogenic mucosal layer and a thick hypo-echoic muscular layer (muscular rim sign). On CT, these cysts can manifest as smooth, rounded, fluid-filled cysts or a tubular structure with slightly enhancing wall. Magnetic resonance imaging and endoscopic ultrasonography are other diagnostic modalities.[8,9]

Duplication cysts require surgical intervention, cystic or tubular duplication cysts are treated by segmental resection, along with adjacent intestine. A long tubular duplication is managed by mucosal stripping through a series of multiple incisions as its excision may lead to short bowel syndrome. Only two cases of duplication cyst of transverse colon have been reported yet [Table 1].[4,10]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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