

# Sigmoid colon duplication seen as a rare cause of ileus in adult: case report

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## ABSTRACT

Intestinal duplications are congenital anomalies usually seen in infancy. Since it is congenital, they often become symptomatic in childhood. Usually diagnosed by adulthood. Those seen in childhood are mostly seen in the part from the oral cavity to the middle of the transverse colon, which is defined as the foregut and midgut embryologically. In our case report, we presented a female patient who was diagnosed both in adulthood and presented with ileus caused by duplication in the sigmoid colon. A 24-year-old female patient was admitted with the complaints of intermittent constipation and inability to pass gas and stool for 3 days. It was thought that the pathology observed in the sigmoid colon in the abdominal CT with contrast was due to torsion. Urgent surgery was decided for the patient. During the operation, it was observed that there was duplication in the sigmoid colon and torsion developed due to this. The patient underwent anterior resection and end-to-end anastomosis. She was discharged with surgical recovery in the postoperative period. Intestinal duplications are congenital anomalies that are usually seen in infancy. However, although rarely, it can be detected in adulthood, as in the patient we presented. Duplication anomalies should be kept in mind in the differential diagnosis of patients with chronic constipation and abdominal pain.

**Keywords:** Sigmoid colon, duplication, ileus

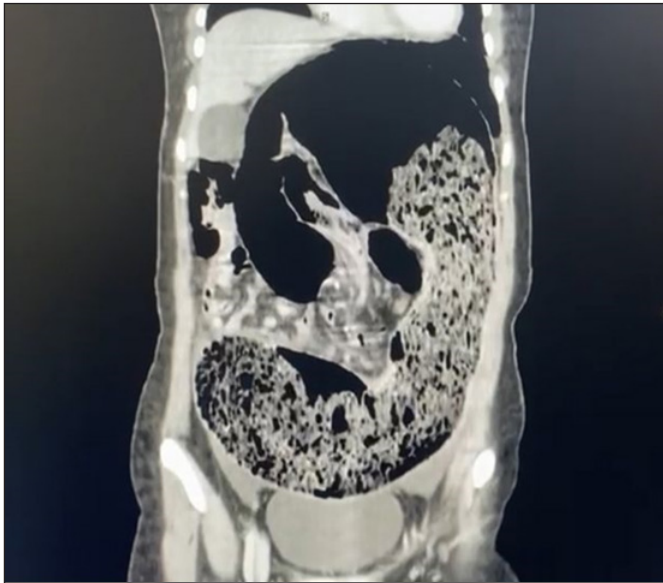
## INTRODUCTION

Intestinal duplications are congenital anomalies that are seen with a high rate under 2 years of age. It is seen in approximately 0.005-0.025% of births (1). It is usually observed in the intestinal tract up to the middle of the transverse colon and rarely seen in the sigmoid colon (2). Duplications may be cystic or tubular in nature. The patient's complaints vary according to the location of the duplication (3). It may present with acute or chronic symptoms. Preoperative diagnosis is difficult. A pathognomonic finding cannot be found with imaging methods. Definitive treatment is surgery. Definitive diagnosis can be made by pathological examination of the resected intestinal segment. In our case report, we planned to present a 24-year-old female patient who was seen in adult age and presented with ileus, and to discuss the diagnosis and treatment of intestinal duplication.

## CASE REPORT

A 24-year-old female patient presented to the emergency department with complaints of abdominal pain, nausea,

vomiting and inability to pass gas and stool. Except that she had occasional constipation and abdominal pain in her history, there was no feature in her history and family history. On physical examination, there was abdominal distension and tenderness in the lower quadrants. There were no pathological findings except leukocytosis and CRP elevation in laboratory results. As a result of physical examination and tests done for the patient, sigmoid colon volvulus was suspected on computed tomography (**Figure 1**). Emergency surgery was decided for the patient. Peroperatively, it was observed that the possible duplication of the sigmoid colon, which ended with a blunt tip, which was approximately 40 cm long and reached a diameter of 10 cm at its widest point, caused obstruction and the proximal intestinal loops were dilated. No perforation observed. Resection and end-to-end anastomosis were performed to this structure and the sigmoid colon to which it is associated (**Figure 2**). The patient, who had no problems in the postoperative follow-up, was discharged with surgical recovery. Pathological examination of the surgical specimen was consistent with sigmoid colon duplication.



**Figure 1.** Volvulus-like image on tomography



**Figure 2.** Sigmoid colon and duplication resection material

## DISCUSSION

Gastrointestinal system duplications are very rare congenital anomalies that can occur in any part of the digestive tract. It is seen in approximately 0.005-0.025% of births. Diagnosis rate has increased with the use of intrauterine ultrasonography. Symptoms are observed in 67-80% of patients, mostly before the age of 2 years. Although it is seen in the abdomen at a rate of 80%, it can also occur in the thorax. Duplications seen in

the digestive tract are most frequently observed in the ileum (30-35%) and the least in the colon (7-20%) (4-6). In the colon, it is most commonly observed in the transverse colon (3). Duplications may be cystic (80%) or tubular (20%) structurally (2,7). The low incidence of tubular colonic duplications explains that most patients remain asymptomatic until adulthood, as was the case in our patient. The patient we presented had a 24-year-old sigmoid colon duplication presenting with ileus.

Classification of gastrointestinal duplications depends on their morphology and region of origin. In 1969, McPherson et al. (8) classified for colonic duplications. Accordingly, type 1 is simple cystic, type 2 is diverticular, type 3 is tubular colonic duplication. This classification can also be used to evaluate the duplication structurally. Tubular sigmoid colon duplication was also detected in the patient we presented.

Symptoms of intestinal duplications may vary depending on the region and type of duplication. Abdominal pain, constipation, swelling in the abdomen, rectal bleeding, volvulus are the symptoms and signs that can be seen. Although less common, Kang M et al. (9). It has also been reported that malignancy can also develop on the basis of duplication.

There is no definite finding that can diagnose intestinal system duplications with imaging methods. Even in duplications in the colonic tubular structure, duplication may be overlooked during colonoscopy due to the narrow junction with the colon or the fact that it is covered with stool. Contrast-enhanced abdominal tomography and barium enema can provide more information than other methods. However, there is still no definitive preoperative imaging method. In patients with chronic symptoms, surgery is important in terms of elimination of symptoms and diagnosis. Since some of the patients present with the clinic of acute abdomen, the diagnosis can be made during the operation and with the pathological examination in the postoperative period. In the case we presented, the patient who had ileus in the preoperative period was thought to have sigmoid colon volvulus as a result of tests. The tomography finding was that there may be sigmoid colon duplication, cyst, mass and volvulus. In the exploration, sigmoid colon torsion was observed due to duplication in the sigmoid colon. Accordingly, the proximal intestinal loops were dilated. The patient underwent anterior resection and end-to-end anastomosis, including duplication. Pathological evaluation was consistent with sigmoid colon duplication. No malignancy was detected.

## CONCLUSION

Most of the duplications in the gastrointestinal tract are seen and treated under the age of 2 years. As in the rare case we presented, it may remain asymptomatic until adulthood and present with acute or chronic symptoms. Intestinal duplications should be kept in mind in adults with symptoms such as abdominal pain and constipation or in the differential diagnosis of bowel obstructions.

## ETHICAL DECLARATIONS

**Informed Consent:** Written informed consent was obtained from all participants who participated in this study.

**Referee Evaluation Process:** Externally peer-reviewed.

**Conflict of Interest Statement:** The authors have no conflicts of interest to declare.

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## REFERENCES

1. Polydorides AD. Colon: colonic duplications, cysts, and congenital diverticula. In: Greenson JK, editor. Diagnostic pathology: gastrointestinal. 3<sup>rd</sup> ed. London: Elsevier Health Sciences; 2019. p. 364-5. Section 5.
2. Mourra N, Chafai N, Bessoud B, Reveri V, Werbrouck A, Tired E. Colorectal duplication in adults: report of seven cases and review of the literature. *J Clin Pathol* 2010; 63: 1080-3.
3. Wu X, Xu X, Zheng C, Li B. Tubular colonic duplication in an adult: case report and brief literature review. *J Int Med Res* 2018; 46: 2970-5.
4. Heiss K. Intestinal duplications. In: KT Oldham, PM Colombani and RP Foglia (eds). *Surgery of infants and children: Scientific principles and Practice*. Philadelphia: Lippincott-Raven, 1997, pp.1265-76.
5. Puligandla PS, Nguyen LT, St-Vil D, et al. Gastrointestinal duplications. *J Pediatr Surg* 2003; 38: 740-4.
6. Holcomb GW 3<sup>rd</sup>, Gheissari A, O'Neill JA Jr, Shorter NA, Bishop HC. Surgical management of alimentary tract duplications. *Ann Surg* 1989; 209: 167-74.
7. Kekez T, Augustin G, Hratic I, et al. Colonic duplication in an adult who presented with chronic constipation attributed to hypothyroidism. *World J Gastroenterol* 2008; 14: 644-6
8. McPherson AG, Trapnell JE and Airth GR. Duplication of the colon. *Br J Surg* 1969; 56: 138-42.
9. Kang M, An J, Chung DH, Cho HY. Adenocarcinoma arising in a colonic duplication cyst: a case report and review of the literature. *Korean J Pathol* 2014; 48: 62-5.