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"Perforated Tubular Duplicated Descending Colon Causing Constipation"- An Accidental Finding.

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Abstract
Background*: Alimentary tract duplications are rare congenital lesions that can occur anywhere from the mouth to the anus and have a reported incidence of approximately 1 in 4500 live births. Symptoms and clinical presentations vary greatly. The presentation varies according to age and location. The treatment finally is surgical; total resection when possible should be the aim of the intervention.*
Keywords*: Chronic constipation, duplicated descending colon, anomaly, perforated*

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I. Introduction

Alimentary tract duplications are uncommon congenital anomalies that usually present during the first decade of life as an acute abdomen or bowel obstruction [1]. Among all duplications, colonic duplication is more rare, constitute about 13% of all duplications and complete duplication of the colon in adults is very rare and difficult to diagnose preoperatively. Only a few cases have been reported in the literature [2,3,4]. In children, several cases of duplication of colon associated with duplication of the lower genitourinary tract have been reported [5]. However, these case reports are extremely rare in adults [6].
Herein, we report a case of tubular duplication of the descending colon in an adult.

II. Case Report

A 30-year-old male patient came to surgical OPD with chief complaints of pain abdomen since 10 days, which was intermittent, colicky type. He had a history of constipation since 2 years. Patient was undergoing treatment for trichotillomania since 2 months. There was no history of fever, vomiting, bloody stools, burning micturition. All routine investigations were within normal limits. On examination, a firm retroperitoneal mass of about 5*5cm noted in the right hypochondrial region with ill-defined margins, non-mobile was noted.

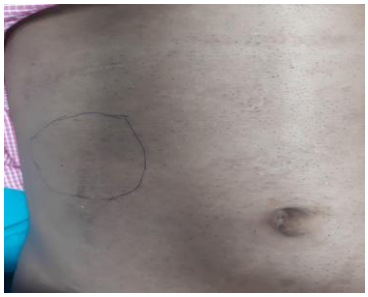


Fig 1. Showing palpable mass in the right lumbar region.

CECT abdomen showed a long segment of about 7*5cm in the upper abdomen, suggestive of ileal trichobezoar.

Exploratory laparotomy was done showing a firm to hard encapsulated mass of impacted feces in retroperitoneal region medial to distal part of ascending colon (hepatic flexure). The capsule was opened and a hard faecal mass of size 8×5cm was extracted. When the fibrous capsule was explored, the lower end of the capsule was continuous with the tubular structure which was traced retroperitoneal, retromesentric and was connecting with the proximal part of descending colon about 7cm from splenic flexure. Tubular structure had mucosal folds similar to colonic mucosal folds and since it was continuous with descending colon also, it was concluded as a tubular duplicated part of descending colon.

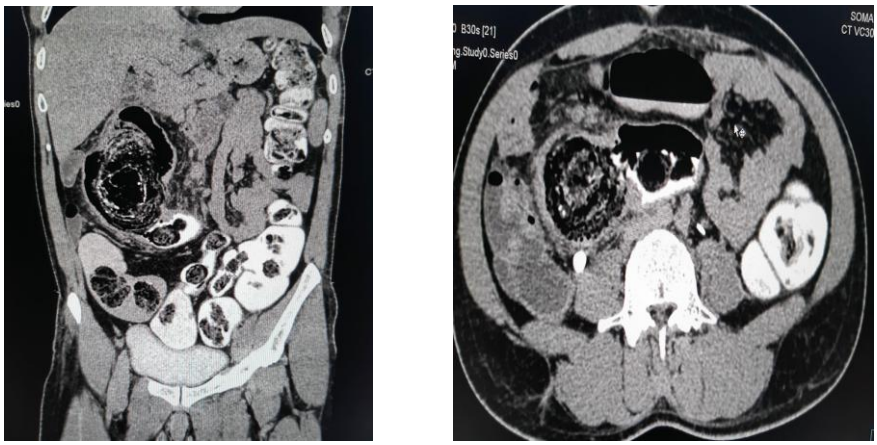
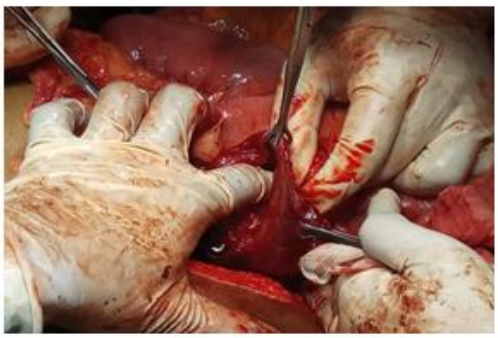


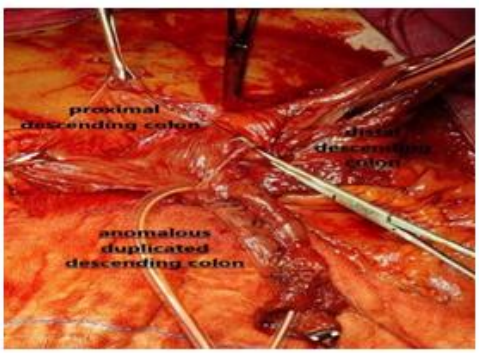
Fig 2. CECT Abdomen suggestive of Ileal trichobezoar in the right upper quadrant.

Segmental resection of descending colon including the duplicated part and end-to-end anastomosis was done.

Specimen was sent for histopathological study suggestive of

Non-specific colitis and diverticulitis with ischemic necrosis of colonic segment.





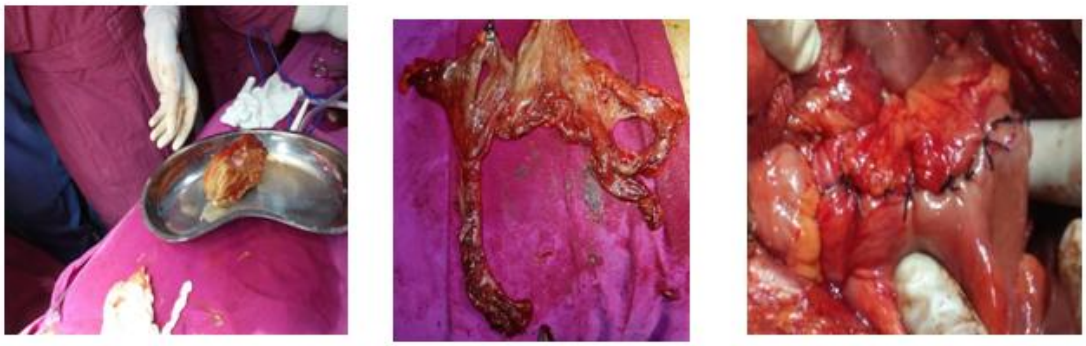


Fig 3. Proximal and distal ends of descending colon with duplicated part of descending colon. End- to- end anastomosis.

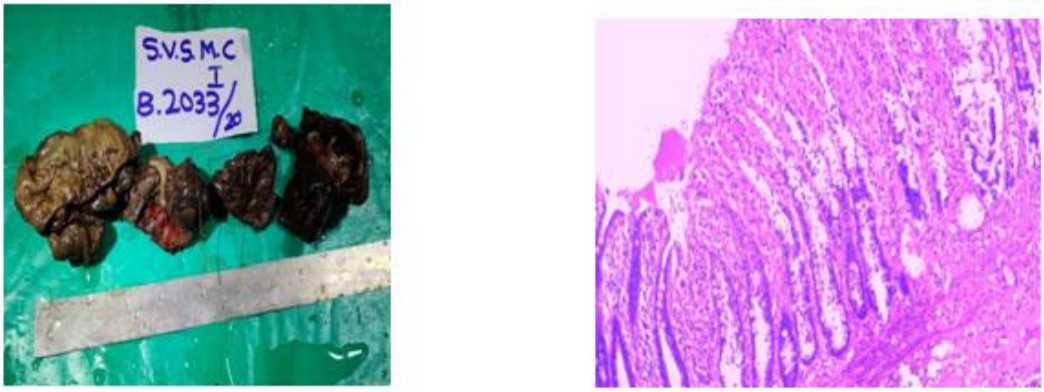


Fig 4. Non-specific colitis and diverticulitis with ischemic necrosis of colonic segment .

III. Discussion

Alimentary tract duplications are rare congenital lesions normally diagnosed in newborns and children (although in adulthood it occurs with the same frequency). They can occur anywhere from the mouth to the anus with a reported incidence of approximately 1 in 4500 live births[1,2]. They are rare anomalies, detected in 1 of every 4,500 autopsies, and a study in the largest number of cases analyzed 96 infants and children with 101 gastrointestinal (GI) duplications [7]. The most common site of GI duplication is the ileum (30%), followed by the ileocecal valve (30%), jejunum (8%), colon (6%–7%), and rectum (5%) [3]. The anatomical types of GI duplications include the cystic type (90%) and the tubular type (10%). The tubular type includes the double-barreled type (80%) and the Y- or T-shaped type (20%) [8]. Therefore, tubular colonic duplications in adults are very rare, and in our literature review, only 17 cases have been reported [4]. Tubular and Y-shaped total colonic duplications in adults are extremely rare, and we have not found any other cases.

The clinical presentations are related to the location and size of the duplication, the presence of gastric mucosa or pancreatic tissue, and the anatomical type such as cystic or tubular type [9]. These anomalies are frequently encountered during laparotomy for other expected common diseases such as intussusception, appendicitis, GI bleeding, intestinal perforation and obstruction. Therefore, more than 67% of GI duplications are diagnosed within the first year of life [9]. However, if GI duplication is not accompanied by other anomalies such as imperforated anus, perineal abscess, and genitourinary malformation, it is occasionally diagnosed in adulthood because of silent symptoms [3]. Tubular type of colonic duplication has only one connection with the native bowel, and the other side is usually formed by blind ending pouch, or perianal and genitourinary fistula, and imperforated anus [4]. In this case, colonic duplication was noted with a blunt end. Because the distal end of the colonic duplication was too narrow to pass feces adequately for decades, it presented as asymptomatic.

GI tract duplications including colonic duplications are difficult to diagnose preoperatively regardless of their location. A radiologic study including a plain abdominal film, ultrasonography and CT can be helpful in detecting the cystic lesion of colonic duplication [10], but it is difficult to determine other conditions such as a small bowel mass, pancreatic tumor and Meckel`s diverticulum. Technetium-99m scintigraphy can be used to detect heterotopic gastric mucosa in cases of bleeding [9]. Colonoscopy is a very useful diagnostic tool for double-barreled type and cystic type of colonic duplication [4]. However, in case of tubular type, it may not be

diagnostic because in such cases, the distal orifice of the duplicated colon is very small or absent and it may appear similar to the diverticulum.

Surgical resection is the standard treatment option for GI duplication in order to avoid possible complications such as obstruction, bleeding, intussusception, perforation and malignant change [4]. Cystic type of GI duplication can be resected completely. If the lesion is located on the mesenteric side, combined resection of the native bowel is recommended so as to avoid injury to the mesenteric blood vessels [4]. In double-barreled type of GI duplication, the long segment is mostly involved; hence, complete resection can cause short bowel syndrome. Therefore, in such cases, selective mucosal stripping can be a successful treatment option. It is a good method that helps to avoid extensive bowel resection and ensures removal of ectopic mucosa [9]. In tubular type of GI duplication, it can be resected completely in most cases, and in these cases, both the native and duplicated bowel often share the blood supply, and therefore, it is important that ligation of blood vessels to the duplicated bowel should be performed close to the duplicated bowel wall [4]. When combined resection including the native bowel is needed, the range of surgical resection should not go beyond to eliminate the patient's symptoms [9]. Although malignant change in the duplicated bowel has rarely been reported in adulthood, resolution of symptoms and prevention of recurrence are thought to be more important for retaining the normal anatomy than extensive resection [10].

IV. Conclusion

Colonic duplication in adulthood is extremely rare and it can often be misdiagnosed due to unexpected symptoms such as abdominal mass, constipation, and vaginal discharge. Therefore, when a duplicated bowel is found incidentally on diagnostic laparotomy due to different diagnosis for another disease, and when the patient complains of nonspecific symptoms including chronic abdominal pain, constipation, palpable mass, even if there is perianal, urinary in adults and when radiologic findings reveal an intra-abdominal mass attached to the bowel wall, GI duplication should always be considered, and the surgical procedure should be performed adequately according to the type of duplication.

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