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Ileal duplication A Rare Cause of Bowel Obstruction

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ABSTRACT
Rare congenital gastrointestinal tract abnormalities are known as GSDs. Children under the age of two are diagnosed with GSD in 85% of cases. Although lesions can occur anywhere from the oral cavity to the anus, the ileum is the most often affected area. Although GSD can sometimes be long and tubular, cystic masses are the most typical form of the disease. The clinical presentation of GSD in adults is varied and it is rarely part of the differential diagnosis. In this case report, we described a patient with ileal duplication who was 28 years old. Despite physical examinations and radiological tests the diagnosis might be made during the procedure. Ileal duplication, ileus and intestinal obstruction.

INTRODUCTION

Uncertain factors can rise to infrequent congenital deformities known as gastrointestinal (GI) duplications. The small intestine is where they are most frequently discovered, however they can be found anywhere in the digestive tract, from the mouth cavity to the anus[1]. There are two types of duplications tubular and cystic. Roughly 85% of patients manifest clinically prior to becoming two years old[2]. The most common symptoms include palpable abdominal mass, nausea, vomiting and recurrent abdominal discomfort[3]. It can be difficult to diagnose GIS duplication before surgery, and radiologic examinations might not be enough on their own. Adults with gastrointestinal duplication may develop malignancy, volvulus, intussusception, hemorrhage, blockage or perforation[4]. The objective of this case report was to assess the literature as well as the clinical and histopathological characteristics of gastrointestinal duplication and its management.

Case presentation: When he came to our emergency room a 28 year old single male complained of weight loss, nausea, vomiting and abdominal pain. His family history and health had been ordinary. His issues have continued for the past two weeks. He had been experiencing these episodes for approximately a year and had visited several ERS but had received no resolution. In this period, he also lost a few pounds. He was experiencing pain in the lower left quadrant and around the umbilicus. A year ago he experienced diarrhea and dark feces.

The patient's abdominal examination revealed distention and rigidity with tenderness in the left lower quadrant. The laboratory results included WBC 11500 mm^{-1}3-32% haematocrit and platelets 350000. An abdomen X-ray revealed a few apparent intestinal gas shadows. The results of the ultrasonography (US) were not noteworthy. Over the previous year, he has had an enteroclysis, three abdominal US tests, four abdominal tomography scans and one contrast enhanced MR imaging. According to these examinations, there may be modest intestinal wall thickening and a closed fistula between small bowel loops caused by inflammatory bowel disease or Meckel's diverticulitis.

Operative procedure and findings: Under general anesthesia with full aseptic precautions mid line incision was given, on opening the peritoneal cavity a remnant of VID as entrocystoma or vitelline cyst connected to anterior abdominal wall beneath the umblicus, other end of VID remnant found to be attached to a limb of duplicated ileum was seen which was excised and taken out On further exploration a duplication of bowel loop was found at terminal ileum One feet from IC junction, duplication was almost of 10 cm. There was perforation in the lower limb of dulicated (ileal) bowel loop(2*1) the dulpicated bowel loops was excised and end to end anastomosis of normal ileal loops was done. A healthy segment of ileum 1.5 ft from anastomosis was exteriorized as loop Ileostomy, drain kept in pelvic cavity, hemostasis achieved and abdomen closed in layers and antiseptic dressing done. The pathology report said that heterotopic pancreas was present in the periintestinal fatty tissue and that tubular small bowel duplication was observed, with tissue sections bordered by gastric type epithelium. No signs of intestinal metaplasia were present. After notifying the patient about the upcoming publication of the case study in a scientific journal, a consent agreement was obtained Fig 1-2-3.

Post operative events: Patient was clinically stable One blood transfusion was done post operation. Ileostomy was functional on 3rd day patient was orally allowed on 4th day and drain was out on 6th day. The patient made an uneventful recovery and was discharged after 14 days. A re-continuation surgery of the bowel was performed 3 months later. There were no any post-operative complication reported.

DISCUSSION

GI duplication was originally defined by Fitz[4]. In an inner epithelium resembling the digestive tract 1937,

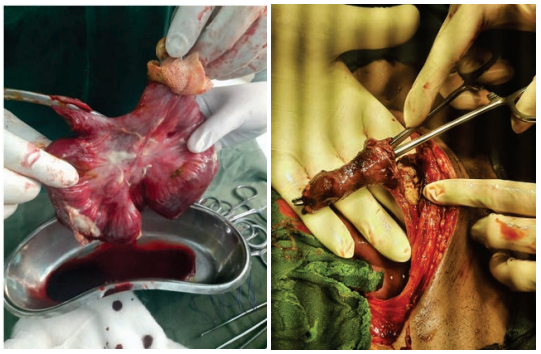

Fig 1. Peritoneal cavity

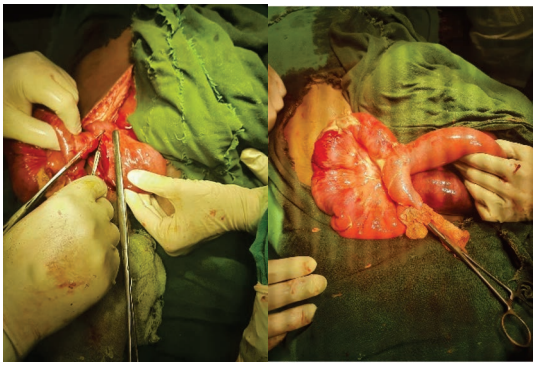

Fig. 2: Entrocystoma

Fig. 3: Anterior abdominal

Ladd defined GI duplication as the presence of epithelium and a well-developed smooth muscle layer close to the gastrointestinal tract. The ileum is the most often occurring site of GI duplications in the small intestine[1-5]. In our instance, the ileum was the site of the duplication. Approximately one in every 10,000 live infants is affected[4]. Cystic or tubular types are both possible, while tubular types are less common[5-6]. In our case, the duplication was tubular in nature. Roughly 85% of those affected experience symptoms prior to turning two, with the other patients staying asymptomatic and untreated until they reach adulthood[2]. Despite multiple examinations, our patient continued to have symptoms but the diagnosis couldn't be confirm. It was said that the incidence rate of this kind of duplication found to be 1 in 500[1]

Diverse gastrointestinal system duplications present with different signs and symptoms. The most common symptoms are bleeding, distention, nausea, palpable mass and abdominal pain[2-4-5-6-7]. Since the ileum is difficult to examine endoscopically, diagnosing GI duplications, especially those of the ileum, can be challenging. Diagnostic aids that may be used include barium X-rays, US and CT scans. Although normal gastrointestinal mucosa distinguishes duplications from other abdominal cystic mass diseases, ectopic gastric mucosa is present in one-third of duplication cases[8]. Ectopic stomach mucosa can cause bleeding, fistula development, peptic ulcers and perforation. 99 MTC pertechnetate is retained by the stomach mucosa and can reveal bowel duplications integrating ectopic gastric mucosa, depending on the mucosal width[9]. Pathologic analysis of the materials in our case showed a history of dark stool and ectopic stomach mucosa. Although laparoscopy has been shown to be useful in diagnosing recurrent abdominal pain, we think its applicability in the diagnosis of patients, like the one we have, may be limited.

Children's duplications are benign, however adults have occasionally had rare cases of malignant transformation[1-4]. Sometimes the diagnosis can only be made after surgery, even with advances in diagnostic techniques as in our case. GI duplication can cause perforation, bleeding, intussusception and volvulus. In addition to hypertrophic ileal duplication, malignancy, GIST and Crohn's disease should be considered in the differential diagnosis of ileum duplications.

While simple excision and partial resection are also options, complete resection is the recommended surgical technique. Patients who are asymptomatic and are accidentally found can be observed without surgery. Both the neighboring segment of the small intestine and the 10 cm duplication were completely removed. Pancreatic mucosa may also be duplicated in addition to the stomach mucosa.

CONCLUSION

Even in adult cases of unexplained stomach pain, we believe that gastrointestinal duplications should be examined as part of the differential diagnosis. If such a duplication is found, we believe that total resection is the appropriate course of treatment because cancer may be involved.

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