

Duodenocolic fistula

Duodenokolik fistül

Yeliz Çağan Appak¹ Ömer Yılmaz² Gökhan Pekindil³ Semin Ayhan⁴ Erhun Kasırğa¹

¹Celal Bayar University Faculty of Medicine, Department of Pediatric Gastroenterology, Manisa, Turkey

²Celal Bayar University Faculty of Medicine, Department of Pediatric Surgery, Manisa, Turkey

³Celal Bayar University Faculty of Medicine, Department of Radiology, Manisa, Turkey

⁴Celal Bayar University Faculty of Medicine, Department of Pathology, Manisa, Turkey

Abstract

Most of the gastrointestinal fistulas appear in connection with inflammatory bowel disease, malignancy, peptic ulcer and pancreatitis, but acute or iatrogenic gastrointestinal fistulas can also develop in the aftermath of surgical interventions. In this case report, the examination of the 7-year-old male patient admitted with symptoms of vomiting, diarrhea and malnutrition showed that he had duodenocolic fistula. Fistula considered to be connected with previous appendectomy operation or may also be associated with duodenal ulcer which may develop before appendectomy or with stress after the operation. The patient was treated by an operation to clear off the duodenocolic fistula and by support of appropriate nutrition. Therefore, gastrointestinal fistulas should be considered as diagnosis for the patients who have a history of previous operation and admitted with symptoms of malnutrition and malabsorption.

Keywords: Fistula, duodenocolic, appendectomy, malnutrition.

Öz

Gastrointestinal fistüllerin çoğu inflamatuvar barsak hastalığı, malignite, peptik ülser ve pankreatit ile ilişkilidir, fakat akut veya iatrojenik gastrointestinal fistüller cerrahi girişimler sonrasında da gelişebilir. Bu olgu sunumunda kusma, ishal ve malnütrisyon bulguları ile başvuran 7 yaşında erkek hastada duodenokolik fistül saptandı. Fistülün önceki apendektomi ile ilişkili olabileceği veya apendektomi öncesi veya stress nedeni ile operasyon sonrası gelişmiş bir duodenal ülsere bağlı olabileceği düşünüldü. Hastada duodenokolik fistül cerrahi olarak kaldırıldı ve uygun beslenme ile desteklendi. Bu yüzden, operasyon öyküsü olan, malnütrisyon ve malabsorpsiyon bulguları ile başvuran hastaların tanısında gastrointestinal fistüller düşünülmelidir.

Anahtar Sözcükler: Fistül, duodenokolik, apendektomi, malnütrisyon.

Introduction

Gastrointestinal fistulas may result from complication of many diseases, but may also develop consequent to surgical interventions (1, 2). Development of fistula from the caecum to other bowel segments is more often observed following appendectomy, but duodenocolic fistula is an extraordinary complication (3). The losses caused by the fistula lead rapidly to malnutrition and thus, the risk of mortality is high for these patients (4).

Case Report

Seven-year-old male patient admitted because of his ongoing complaints for 3 months. He was vomiting whatever he had eaten for 1 to 3 times and suffering from watery defecation for 6 or 7 times a day.

His body weight was 16.7 kg (<3 p) and body length was 114 cm (3-10 p). On physical examination, he was severely malnourished, had abdominal distention, hyperactive bowel sounds and transverse incision scar in the right lower quadrant. The complete blood count, biochemical values and electrolytes were all in normal limits. Acute phase reactants, autoantibodies and tuberculin skin test were negative. Test for fecal occult blood and parasitological examination of feces were negative. He had no steatorrhea and his ophtalmoscopic examination was normal.

Celiac serology was negative, sweat test was normal and there was no cystic fibrosis mutation. He had no history of foreign body ingestion. Three months ago, the patient had had an operation of appendectomy at another hospital and his complaint of vomiting had started one week after the operation. We started nasojunal nutrition for the patient, who was vomiting and could not get oral feeding. Double contrast abdominal computerized tomography scan showed an

Corresponding Author: Yeliz Çağan Appak
Celal Bayar University Faculty of Medicine, Department of
Pediatric Gastroenterology, Manisa, Turkey
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enhanced duodenal wall thickness, an image of bulk at duodenum, an extension with high liquid density at surrounding soft tissues at second part of the duodenum. Barium swallow study revealed coarsening at second and third part of the duodenum, and defective storage that could be connected to the existence of mass within the lumen of second part of the duodenum. Permission was obtained from the child's parents for the endoscopic procedure. Endoscopy of the upper gastrointestinal system revealed a polypoid mass in the second part of the duodenum and the pathological examination of the mass showed an inflammatory process that resulted in vanishing of the villus of the duodenum and flattening of the mucosa. The colonoscopy confirmed an image of a mass in hepatic flexure of the colon, pathological result of the biopsy was concordant with hamartomatous lesion. Abdominal exploration was performed to the patient as massive lesions were noticed at the duodenum and colon. The exploration proved common intestinal adhesions between ascending colon and duodenum. When adhesions were removed, fistula was detected between duodenum and distal part of ascending colon, and polypoid structures had developed towards both duodenum and colon inside the fistula (Figure-1a). Fistula tract was separated from the duodenum with a sharp dissection (Figure-1b). Duodenal wall was sutured primarily. Resection and anastomose was performed to the 15 cm long colon segment on the colon side of the fistula tract due to narrowness. Following the operation, the patient's vomiting and diarrhea improved and he began to gain weight.

Written informed consent was obtained from the patient for publishing the individual medical records.

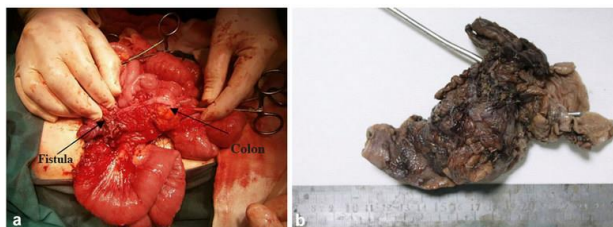


Figure-1. a. Duodenocolic fistula detected during the operation. **b.** Macroscopic view of the duodenocolic fistula after surgical resection (the plug passes through the fistula tract).

Discussion

It is known that enterocutaneous fistulas associated with appendicitis are rarely observed in adults and extremely rare in children (3). Recently, a 53-year-old man was reported with a duodenal fistula associated with periappendiceal abscess (4). However, duodenocolic fistula which is secondary to appendectomy operation

has not been previously reported in English language literature.

Certain diseases such as inflammatory bowel disease, celiac disease, cystic fibrosis, tuberculosis, amebiasis, colonic and duodenal diverticulum that may cause malnutrition together with fistula were excluded by laboratory findings and histological manifestations. In these patients, it is important to consider the presence of a fistula and confirmation of the diagnosis is quite difficult.

The most observed complications of appendectomy are infection, intraabdominal abscess, intestinal obstruction and fistula formation. Post-operative fistulas may develop generally in connection with cancer surgery, adhesions at operations where bowel cleaning could not be made for emergency reasons, at repeating operations, and in cases when wounding is not noticed during trauma surgery. In addition; malnutrition, sepsis, shock, circulatory failure, vasopressor treatment, corticosteroid treatment, associated diseases and technical difficulties during surgical anastomosis, may be predisposing factors in the formation of fistulas (5). In this case, we were unable to obtain detailed information about the surgical operation as appendectomy was performed at another hospital. In addition, we could not be able to get information about the situation of the appendix as it was not sent to the pathology laboratory for examination. In our operation, fistula was detected between the second part of duodenum and hepatic flexure of colon and there was no problem at the stump or around of the appendix. On physical examination, he had no drained scars on the abdomen. Fistula that is thought to be iatrogenic may be associated with the appendectomy. On the other hand, it may also be associated with duodenal ulcer which may develop before appendectomy or with stress after the operation.

Small intestine fistulas generally have high outflow and fistulas resulting from colon have low outflow (6). Malnutrition is a characteristic of high outflow fistulas, and it could particularly ease the formation of sepsis. Our patient was also diagnosed to have duodenocolic fistula, and considered to have high outflow which was thought to be the reason of malnutrition. Liquid and electrolyte balance, nutritional support and sepsis control should be performed carefully for the patients having fistula (7). Some fistulas can be closed spontaneously if there is no anatomic reason to remain open. If a fistula does not get closed in 30 or 40 days, then surgical intervention should be considered (8). Post-operative, low outflow fistulas that are related to partial anastomosis leakages may be closed with appropriate conservative approaches (5).

Fistulas that are possible to develop in gastrointestinal system should be taken into account in the etiology of cases admitted with symptoms of malnutrition and malabsorption, and with a history of operation.

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