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Unveiling Gastroduodenal Fistula: A Comprehensive Exploration

Nadir Bir Gastroduodenal Fistül: Literatürün Gözden Geçirilmesi

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Öz

Gastroduodenal fistül (GDF), genellikle peptik ülserlere bağlı olarak ortaya çıkan ve çoğunlukla elektif olarak teşhis edilen nadir bir durumdur. Bu makale, 79 yaşında, tipik olarak belirti göstermeyen bir erkekte, GDF'nin perforasyonla kendini gösterdiği sıra dışı bir vakayı sunmaktadır. Bu vakanın özelliği, akut karın belirtileriyle gelen alışılmadık bir tablo sergilemesidir. Yapılan cerrahi inceleme, prepilorik bölgeden duodenumun dördüncü kısmına kadar uzanan yeni bir fistül yolunu ortaya çıkarmıştır. Bu beklenmedik bulgu, GDF'nin farklı şekillerde ortaya çıkabileceğini göstererek, bu nadir durumun tanı ve tedavisinde daha gelişmiş yöntemlere ihtiyaç olduğunu vurgulamaktadır.

Anahtar Kelimeler: Akut Karın, Çift Pilor, Gastroduodenal Fistül

Abstract

Gastroduodenal fistula (GDF) is a rare pathology, often associated with peptic ulcers and typically diagnosed electively. This article presents an unprecedented case of GDF perforation in a 79-year-old male, deviating from the asymptomatic norm. The unique feature lies in the acute abdominal presentation, challenging conventional understanding. The intricate surgical exploration revealed a novel fistulous tract extending from the prepyloric region to the fourth part of the duodenum. This atypical manifestation underscores the need for deeper research into GDF's diverse presentations, contributing to enhanced diagnostic and treatment strategies for this rare medical phenomenon.

Keywords: Acute Abdomen, Double Pylor, Gastroduodenal Fistula

Introduction

Gastroduodenal fistula, also known as double pylor (1, 2), is an exceedingly rare pathology that can manifest congenitally or acquired (3). Typically diagnosed during gastroscope examinations, this anomaly exhibits a prevalence ranging from 0.001% to 0.04%, with a higher incidence observed in males (4). Its acquired pathogenesis is commonly recognized as a complication of peptic ulcers (5). The majority of reported cases are identified as elective endoscopic findings, often treated with anti-ulcer therapies (5, 6). However, instances requiring urgent surgical intervention are exceptionally rare.

Gastroduodenal fistula is a significant pathology within the digestive system that can lead to severe health complications. The occurrence of this condition in children, particularly in association with the ingestion of multiple foreign bodies, presents a novel and noteworthy clinical feature that has not been previously explored (7).

The acquired pathogenesis, primarily acknowledged as a complication of peptic ulcers, renders Gastroduodenal fistula a complex condition requiring further investigation into its origin and progression. A deeper understanding of this condition could contribute to the development of effective treatment modalities and the formulation of preventive strategies (6).

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In conclusion, Gastroduodenal fistula, though rare, is a condition with the potential for serious consequences, such as peritonitis, sepsis, and multiorgan failure, especially when presenting acutely. Highlighting these risks underscores the clinical importance of timely diagnosis and intervention in managing this condition. The information presented in this article aims to enhance the general understanding of this pathology and stimulate further research in the field.

Herein, we present a case of Gastroduodenal Fistula perforation, an unprecedented occurrence in the medical literature.

Case

A 79-year-old male patient with a conventional-open surgery history in 1999 due to peptic ulcer perforation presented with intermittent epigastric pain complaints for the past 3-4 months. Approximately 12 hours prior to admission, he experienced sudden-onset, diffuse abdominal pain. Physical examination revealed generalized rigidity and a board-like abdomen. Laboratory findings indicated an elevated white blood cell count (WBC: 27.000/µL), high C-reactive protein (CRP: 220 mg/L), partial urea and creatinine elevation, and a fivefold increase in amylase. Radiological assessments, including a plain abdominal (PA) X-ray showing subdiaphragmatic free air, and a contrast-free abdominal computed tomography (CT) scan revealing diffuse fluid and air densities within the abdomen, did not identify any additional pathologies. Due to acute abdominal symptoms, the patient underwent emergency surgery.

During the operation, a thorough examination of the stomach, duodenum, small bowel loops, and colon revealed no pathology. Subsequently, the gastrocolic ligament was dissected, entering the

omental bursa, where widespread intestinal content was observed and aspirated. Exploration unveiled a fistulous tract between the posterior surface of the gastric antrum and the fourth part of the duodenum, along with a perforation in the middle of the fistulous tract, an occurrence not previously encountered (Figure 1-A). After mobilizing the duodenum by partially disrupting the Treitz ligament, the perforated fistula was sutured and approximated with polyglactin, followed by closure and division using staplers (Figure 1-B, 1-C respectively). Subsequently, supportive serosal stitches buried the roots of the fistulous tracts in the antrum and duodenum separately (Figure 1-D). The uncomplicated patient tolerated oral intake opened on the 4th postoperative day, and on the 8th postoperative day, he was discharged without complications. A follow-up upper gastrointestinal endoscopy at the 5th postoperative week revealed no pathology.

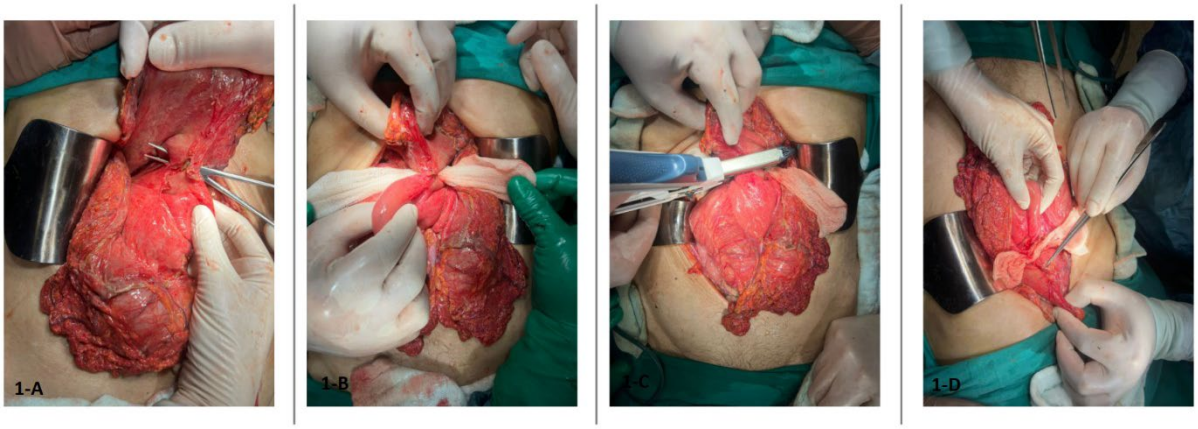

Figure 1. Gastroduodenal fistula perforation operation. 1-A: Fistula between the posterior antrum and the 4th continent of the duodenum and the perforated area above it. 1-B: Release and suspension of the fistula tract and primary repair of fistula perforation. 1-C: Transecting the gastrodudenal fistula with a linear cutting occluder. 1-D: Placing support sutures

Discussion

Gastroduodenal Fistula (GDF) has a well-documented historical background, beginning with Dittrich's first description in 1847, followed by significant advancements by Ludin and Hanganutz in 1924 and 1930, respectively (8). Notkin's work later established GDF's relevance in modern medical literature, highlighting its clinical implications and providing a basis for its recognition in practice.

Traditionally, GDF has been associated with benign gastrointestinal conditions, often linked to chronic peptic ulcers and rarely presenting with acute symptoms (9). However, recent literature suggests that GDF can manifest through various types, including gastrocolic, gastroduodenal, and gastrojejunocolic fistulas, each with unique clinical presentations and implications. The acute nature and extent of complications associated with GDF are significant, with documented complications such as sepsis, peritonitis, hemorrhage, and multiorgan failure, especially when undiagnosed or untreated. The frequency of these complications remains low but is clinically impactful, necessitating early identification and timely surgical intervention.

In our case, the GDF's unique pathway from the prepyloric region to the fourth part of the duodenum, coupled with acute abdominal symptoms, sets it apart from typical presentations. The fistulous tract perforation leading to an acute abdomen adds a layer of complexity that is rarely seen in GDF cases. Unfortunately, the patient's acute state prevented preoperative upper gastrointestinal endoscopy, thus complicating the diagnostic process. Surgical exploration required meticulous dissection to preserve critical vascular structures and minimize further risk.

This case exemplifies the need for a heightened clinical awareness of atypical GDF presentations and suggests the importance of including GDF in differential diagnoses of acute abdomen in elderly patients, particularly when chronic gastrointestinal conditions are present. Expanding upon current literature, this case underlines that while GDF is often asymptomatic or presents mildly, the potential for severe and life-threatening complications underscores its clinical importance.

Conclusions

In conclusion, our article highlights a distinctive case of GDF, deviating from the conventional asymptomatic profile and emphasizing the need for deeper exploration into its diverse presentations. The surgical intricacies and rarity of acute presentations underscore the uniqueness of our findings, contributing to the evolving landscape of gastroenterological literature.

Conflict of interest statement

The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

Written consent: Verbal and written consent was obtained from the patient regarding the case presentation on 05.06.2023.

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