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JCIMCR OPEN ACCESS Journal of Clinical Images and Medical Case Reports

ISSN 2766-7820

Case Report

Open Access, Volume 6

Double pylorus presented with upper gastrointestinal bleeding

***Corresponding Author: Elham Zare**

Department of Internal Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Email: elhamzr56@gmail.com

Received: Jun 26, 2025

Accepted: Jul 22, 2025

Published: Jul 29, 2025

Archived: www.jcimcr.org

DOI: www.doi.org/10.52768/2766-7820/3710

Abstract

Double pylorus is a rare endoscopic finding, often secondary to chronic peptic ulcer disease and mucosal fistulization. It may become evident incidentally or during an investigation of upper gastrointestinal (GI) bleeding. Our case was a hemodynamically unstable woman who presented with hematemesis. Gastrodeudenoscopy evaluation revealed a double pylorus with a visible vessel in the bulb region. We successfully controlled the bleeding endoscopically, and the patient was discharged in stable condition. Double pylorus may be rarely observed in patients with recurrent or complicated peptic ulcers. Recognition of this anomaly is essential for appropriate management.

Background

Double pylorus or gastroduodenal fistula is a rare anatomical condition characterized by two channels between the gastric antrum and the duodenal bulb. While it may be congenital [1], most cases are acquired and occur mainly secondary to chronic peptic ulceration and fistula formation. The true incidence of the condition remains unclear, as it is often asymptomatic and may go undiagnosed for extended periods. The reported incidence rates were between 0.001% and 0.4% in upper gastrointestinal endoscopies [2,3]. Some studies suggest an incidence of approximately 0.02% to 0.08%, with a higher occurrence in males [4,5]. Many cases of double pylorus are asymptomatic and discovered incidentally during endoscopic procedures performed for other reasons. When symptoms are present, they may include epigastric pain, nausea and vomiting, and/or gastrointestinal bleeding. In this report, we present a case of upper gastrointestinal bleeding with double pylorus.

Case presentation

A woman in her 60s presented to the emergency department with multiple episodes of hematemesis. She had been a known case of rheumatoid arthritis for nearly 10 years. She was taking 5 mg prednisone daily, but not in a regular manner. The patient denied the use of nonsteroidal anti-inflammatory drugs (NSAIDS), any prior abdominal surgery, and a history of peptic ulcer disease. Upon admission, her physical examination revealed signs of hypovolemia, including cold sweating and pallor. She was hypotensive (BP 80/55 mmHg) and tachycardic (heart rate of 120 beats per minute), with a hemoglobin level of 8.2 g/dL. She received intravenous fluids, iso group iso Rh packed cells, and a pantoprazole infusion.

Following stabilization, an urgent esophagogastroduodenoscopy was performed. The endoscopy revealed two openings between the gastric antrum and duodenal bulb, consistent with a double pylorus. The endoscope advanced through both ducts without resistance. A Non-Bleeding visible vessel was identified at the bulb and successfully clamped with a hemoclip. No active bleeding was noted post-procedure. The patient remained hemodynamically stable and was discharged with oral PPI therapy and outpatient gastroenterology follow-up.

Discussion

Double pylorus (DP) is an uncommon endoscopic finding defined by two separate channels connecting the gastric antrum to the duodenal bulb [6]. This condition may be congenital or acquired, with the latter being significantly more common.

Congenital double pylorus (CDP) is extremely rare and thought to arise due to incomplete recanalization of the pyloric canal during embryonic development. Since its first description in 1971, only a handful of CDP cases have been reported in the literature [7]. Normal histology of both channels, a bridging muscular septum, the absence of peptic ulcer disease, and no

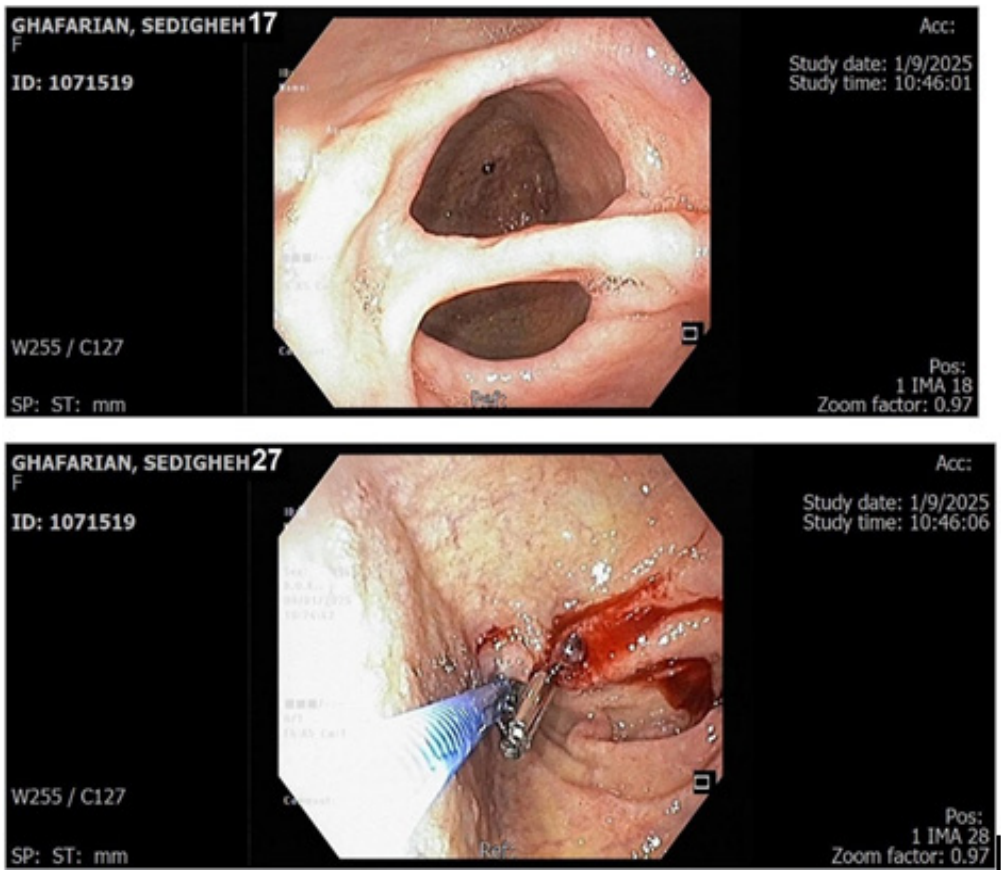

Figure 1: (A) Endoscopic view from the antrum demonstrating the anatomic pylorus (P) and antroduodenal fistula (F). **(B)** A non-Bleeding visible vessel duodenal ulcer.

radiologic or endoscopic signs of ulceration support a diagnosis of congenital double pylorus [8]. The presence of other congenital anomalies such as heterotopic pancreatic tissue, pancreas divisum, or gastric duplication may further support this diagnosis [9-11].

Acquired double pylorus (ADP), in contrast, typically results from a penetrating gastric or duodenal ulcer that forms a fistulous tract between the antrum and the duodenal bulb. The second duct is commonly located in the lesser curvature of the gastric antrum, near the anatomic pylorus, separated from the native pylorus by a mucosal bridge, which is prone to ulceration. Although there were earlier reports, double pylorus was recognized as a distinct clinical entity starting in 1969 [6]. Factors suggested to be associated with ADP include peptic ulcer disease, long-term NSAID or corticosteroid use, Helicobacter pylori infection, and systemic conditions such as diabetes mellitus, cirrhosis, and autoimmune disorders [12-15]. While double-contrast imaging can reveal its presence, the appearance may mimic polyps or tumours. Endoscopy is the preferred diagnostic method, showing two openings in the pyloric region [13].

Management of DP depends on the underlying cause. In ADP, the focus is on treating the peptic ulcer with proton pump inhibitors, eradicating H. pylori, and withdrawing ulcerogenic drugs. Spontaneous closure is rare, and most fistulae remain open, though they may become functionally fused with the native pylorus over time. Endoscopic or surgical intervention is considered for patients with refractory symptoms and recurrent ulcers, and only if complications such as obstruction, bleeding, or perforation arise [5,16].

Among the limited cases reported, gastrointestinal (GI) bleeding as the presenting symptom, manifesting as hematemesis or melena, is uncommon but clinically significant [17]. Peixoto et al. (2010) describe a 73-year-old male with diabetes mellitus type 2, chronic renal failure, hypertension, and chronic osteoarticular degenerative disease who was on long-term NSAID therapy. He presented with melena due to an active gastric ulcer that had formed a gastroduodenal fistula, resulting in a double pylorus. This case illustrates the role of chronic NSAID use in fistula formation and GI bleeding in patients with rheumatologic comorbidities [18].

Conclusion

This case highlights the importance of considering ADP in patients with underlying rheumatologic disease and corticosteroid consumption and emphasizes the role of endoscopy in accurate diagnosis.

Patient's perspective

I was terrified when I saw blood and had to be rushed to the hospital. Thankfully, the doctors found the source quickly and treated it during the endoscopy. I am feeling much better now and am grateful for the care I received.

Learning points

Double pylorus is a rare but essential endoscopic finding often secondary to chronic peptic ulceration. It can present with upper gastrointestinal bleeding, requiring endoscopic intervention. Recognition during endoscopy is crucial for proper diagnosis, management, and follow-up.

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