

Double Pylorus in a Cirrhotic Patient: A Case Report and Review of the Literature

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ABSTRACT

Double pylorus (DP) is a rare condition characterized by the presence of two openings from the gastric antrum to the duodenal bulb, which may be congenital or acquired. Herein, we describe a case of DP in a cirrhotic patient.

KEYWORDS

Double pylorus; Cirrhosis; Upper gastrointestinal endoscopy

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INTRODUCTION

Duplication of the pylorus or, as more frequently termed double pylorus (DP), is an uncommon condition characterized by two communicating channels between the gastric antrum and the first part of the duodenum.^{1,2}

From 1969 until 2010, approximately 91 cases of DP were reported in the literature.² Although most cases have arisen from complications of peptic ulcer disease,^{3,4} DP may also be a congenital condition.⁴

In this article, we describe the case of a 66-year old Iranian cirrhotic male patient with an incidental finding of DP detected during endoscopy evaluation for cirrhosis.

CASE REPORT

A 66-year old cirrhotic gentleman was referred to the endoscopy ward for evaluation of cirrhosis and possible esophageal varices. The patient was asymptomatic and appeared healthy; he had no history of epigastric pain, previous gastrointestinal bleeding or peptic ulcers.

In physical exam, all vital signs were normal and no ascites were detected. He was on no regular medications.

Sonography showed high echogenicity of the liver which favored a diagnosis of cirrhosis. An Olympus gastroscope was inserted into the esophagus, stomach and duodenum with the following findings. The esophagus had distal redness with no erosion or varicosity and residual food materials were noted in the stomach. Large fundal varicose veins and congestive gastropathy were present in addition to a small prepyloric erosion. The pylorus had double orifices, of which both could be intubated with the endoscope and led to the duodenal bulb with multiple erosions and deep anterior ulceration.

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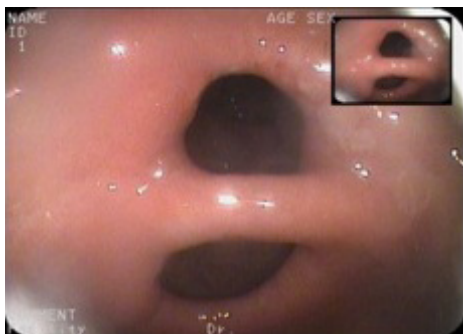


Fig 1: Two opening in the pyloric area



Fig 2: White based ulcer in one of the pyloric openings



Fig 3: Double pylorus

DISCUSSION

Double pylorus (DP) is a rare endoscopic or radiologic finding, reported in 0.06%-0.4% of upper gastrointestinal endoscopies,³ however the real incidence remains unknown.⁴ Most often, DP is an incidental finding during endoscopy or radiology.^{2,3,5}

The male:female ratio of DP is about 2.^{1,3,4,6,7} In a review of 60 cases of DP, Eschar et al. found that the mean age of patients was 59.6 years (range 28-89 years).⁸

DP can present with epigastric pain, dyspepsia,

vomiting, and gastrointestinal bleeding due to an associated ulcer.^{9,10} According to a follow-up study by Hu et al., the fistula will either remain open in the majority of patients (60%), converge to form a large single pylorus in 25% of patients, and is closed in 5%.²

DP may be acquired or congenital,³ of which the acquired form is more common. The most common acquired forms result from a gastric ulcer that has eroded and created a fistula between the lesser curve of the gastric antrum and duodenal bulb, near the anatomic pylorus.^{3,11-13} In unusual forms, an ulcer can penetrate from the posterior part of the antrum to the third or fourth part of the duodenum.¹⁴ Rarely, acquired DP has been described in patients with malignant gastric or duodenal ulcers.^{8,15} The reasons for development of the fistula remain unclear, but many systemic diseases such as diabetes mellitus, chronic renal failure, chronic rheumatism, systemic lupus erythematosus, and chronic obstructive pulmonary disease may be associated with it.^{2,4,14} A long history of corticosteroids, NSAIDs, and alcohol consumption may prohibit healing, leading to fistula formation.^{2,3,16,17}

The first case of congenital DP has been described by Christien et al. in 1971.^{4,15} Its etiology is probably due to the failure of the pyloric lumen to reanalyze during the early stages of embryonic life.¹⁵ The true incidence of congenital DP may be underestimated because a great majority may remain undetected for many decades.¹⁵ The diagnosis of congenital form of double pylorus depends on the presence of mucosa, lamina propria, and muscularis mucosa, with no signs of chronic penetrating ulcer or inflammation on biopsy.^{8,15} Congenital duplications are usually located in the greater curvature rather than the lesser curvature, which is the characteristic location for the development of acquired DP.¹⁵

Treatment recommendations include avoidance of ulcerogenic medications, treatment with intensive acid reduction therapy (e.g. high dose proton pump inhibitor), and *H. pylori* eradication, though no significant benefit has been shown with symptom resolution, decreasing ulcer recurrence, or fistula

closure.²

In general, surgical intervention is not a treatment choice. However it should be considered for patients with refractory symptoms, recurrent ulcers, other complications, and in those who take strong anti-ulcer medications.³ Endoscopic treatment is also feasible by using a biliary sphincterotomy³ to cut the bridge between the two openings.

Our case had a deep peptic ulcer at the anterior wall of the bulb, which made the possibility of a peptic etiology for the additional opening to the duodenum more likely. On the other hand, the round or regular shape of the rim of the two openings possibly favored a congenital etiology. In either case, DP by itself and particularly in combination with cirrhosis is a rare finding. To our knowledge, only a few cases of DP in patients with liver diseases have been reported in the literature.^{18,19}

CONFLICT OF INTEREST

The authors declare no conflict of interest related to this work.

REFERENCES

1. Lee BC, Jasmi AY. Double pylorus. *Med J Malaysia* 2003;**58**:440-2.
2. Peixoto P, Sadio A, Cancela E, Castanheira A, Ministro P, Silva A, et al. Acute upper bleeding due to an unusual complication of peptic ulcer disease – double pylorus. *Rev Esp Enferm Dig* 2010;**102**:451-3.
3. Arhan M, Oztas E, Ibis M, Sezgin S, Ozin Y. A rare endoscopic finding: acquired double pylorus. *Surg Endosc* 2010;**24**:244–5.
4. Safatle-Ribeiro AV, Ribeiro Júnior U, Habr-Gama A, Gama-Rodrigues JJ. Double pylorus: Case report and review of the literature. *Rev Hosp Clin Fac Med Sao Paulo* 1999;**54**:131–4.
5. Jiménez F. Double pylorus...?? To be or not to be. Case report and review of the literature. *Acta Gastroenterol Latinoam* 2000;**30**:191-4.
6. Almeida N, Romãozinho JM, Ferreira M, Amaro P, Tomé L, Gouveia H, et al. Double pylorus with bleeding gastric ulcer—a rare event. *Rev Esp Enferm Dig* 2008;**100**:600-1.
7. Polloni A, Marchi S, Bellini M, Costa F, Bonifazi V, Tumino E, et al. Double pylorus: report of two cases and review of the literature. *Ital J Gastroenterol* 1991;**23**:360-3.
8. Wiseman SM, Tan D, Hill HC. Double Pylorus: an unusual endoscopic finding. *Endoscopy* 2005;**37**:277.
9. Tanswell IJ, Kossakowski T, Townson G. Electronic Clinical Challenges and Images in GI. *Gastroenterology* 2008;**135**:e7-8.
10. Saha AK, Pattnaik S. Double pylorus. *Indian J Gastroenterol* 1999;**18**:38.
11. Hu TH, Tsai TL, Hsu CC, Lu SN, Hsiao M, Changchien CS. Clinical characteristics of double pylorus. *Gastrointest Endosc* 2001;**54**:464-70.
12. Akazawa Y, Mizuta Y, Osabe M, Nakamura T, Morikawa S, Isomoto H, et al. A Case of Double Pylorus Caused by Recurrent Gastric Ulcers: A Long-Term Endoscopic Observation. *Dig Dis Sci* 2005;**50**:2125–8.
13. McGrew W, Spear M, Sutton W, Dunn GD. Acquired double pylorus. *South Med J* 1984;**77**:1167-70.
14. Czajkowski A, Rosolowski M, Lukaszyc A. Double pylorus: strong evidence for the acquired etiology of this rare abnormality. *Endoscopy* 2007;**39**:E84.
15. Mylonas A, Papaziogas B, Paraskevas G, Fragos E, Gigis P, Papaziogas T. Congenital double pyloric ostium in the adult. *Surg Endosc* 2002;**16**:1639.
16. Ehrhardt D, LÖhr M, Liebe S. Double pylorus as a cause of gastrointestinal bleeding. *J R Soc Med* 1999;**92**:253-4.
17. Hunt RH, Jewell DP. Acquired double pylorus. *Br Med J* 1978;**1**:759.
18. Lee TH, Park SH. Double pylorus secondary to recurrent ulcer: serial endoscopy follow-up. *Endoscopy* 2008;**40**:E226.
19. Kwan WH, Yeung WH, Chan TM, Cheng CS. Double Pylorus with Occult Gastrointestinal Bleeding. *J HK Coll Radiol* 2001;**4**:157-9.