

Case Report

The Case of the “Double Pylorus”AYUSH SUTARIA¹, SHAMIM EJAZ¹, IRINA M. CAZACU^{1,2},
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ABSTRACT: A 68-year-old female with a history of small cell carcinoma of the lung and peptic ulcer disease presented for evaluation of dysphagia after undergoing radiation and chemotherapy. Esophagogastroduodenoscopy (EGD) revealed a radiation-induced esophageal stricture and incidentally a “double pylorus (DP)” with an adjacent similar opening cephalad to the pylorus. There was no evidence of perforation or traumatic injury leading to this finding and upon intubation, both openings led to the duodenal bulb that appeared to be normal. No endoscopic and surgical intervention was offered as patient was asymptomatic.

KEYWORDS: *Incidental double pylorus, anatomical variant, asymptomatic patient.*

Introduction

Double pylorus (DP), also referred to as pyloric duplication or double-channel pylorus, is a rare anatomical anomaly characterized by the presence of two distinct channels connecting the gastric antrum to the duodenal bulb.

DP is an extremely rare endoscopic finding that is often discovered incidentally in 0.001% to 0.4% of upper gastrointestinal endoscopies [1].

The etiology of double pylorus may be either congenital or acquired [2].

The acquired form is more common and typically results from a gastric ulcer that erodes the tissue and forms a fistula between the prepyloric antrum and the duodenal bulb.

Rarely, DP can be caused by a penetrating gastric cancer or a duodenal bulb ulcer [3].

It occurs more frequently in males compared to women [4] and the lesser curvature is the most common location [5].

We herein report a case of acquired double pylorus in a patient with a history of small cell carcinoma of the lung and peptic ulcer disease who presented for evaluation of dysphagia after undergoing radiation and chemotherapy.

Case Report

A 68-year-old female with a history of small cell carcinoma of the right lung, chronic obstructive pulmonary disease and peptic ulcer disease presented for evaluation of a new onset dysphagia.

The patient was initially diagnosed with small cell carcinoma of the lung with mediastinal metastases causing esophageal obstruction.

A percutaneous endoscopic gastrostomy (PEG) was performed for nutrition and the patient started radiation and chemotherapy with carboplatin and etoposide.

The treatment resulted in significant symptomatic improvement.

The patient was able to resume oral intake and had been tolerating solid foods well for 2 months without any dyspepsia until she presented with new onset dysphagia to solid food.

An esophagram was done that showed a significant stricture in the mid esophagus that may have been secondary to either radiation or tumor involvement.

The patient then underwent EGD with dilation to the mid esophagus.

The stricture appeared to be radiation-induced and biopsies showed no evidence of malignancy.

Surprisingly, during the EGD, two pyloric openings into the duodenal bulb were seen instead a single normal pyloric opening (see Figures 1,2).

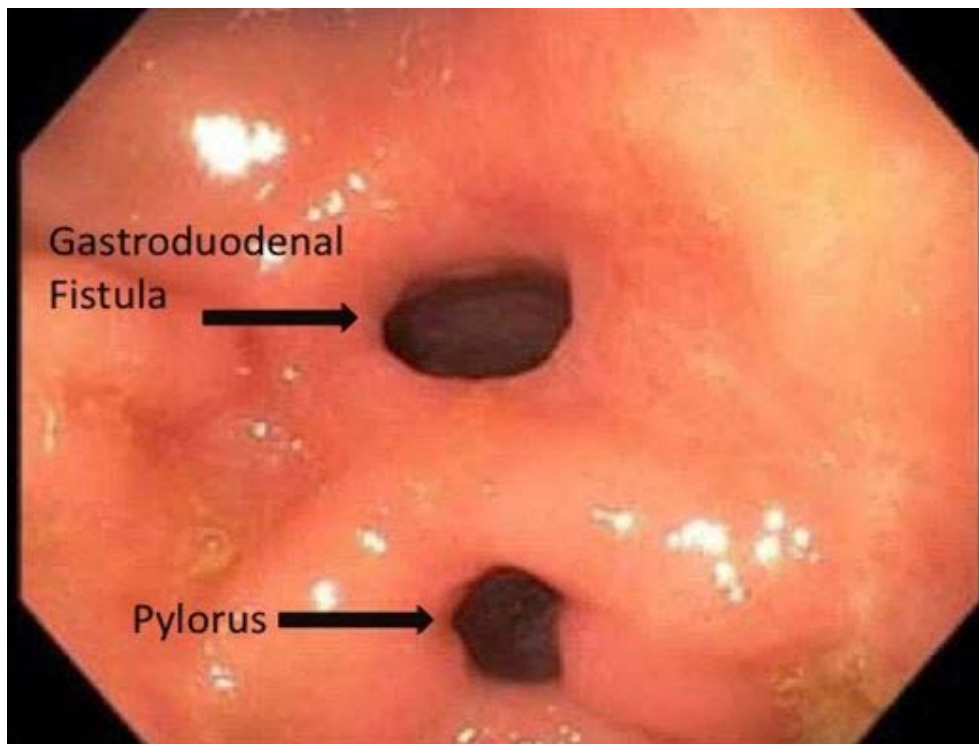


Figure 1. Endoscopic view from the antrum demonstrates double pylorus. The cephalad opening represents the acquired pylorus (gastroduodenal fistula). The two openings are separated by a bridge from tissue.



Figure 2. Normal pylorus from another patient.

There was no evidence of perforation or traumatic injury leading to this finding.

The endoscope was able to easily pass via both of the pyloric channels and the duodenal bulb appeared to be normal (see Figure 3).

The rest of the stomach mucosa was normal appearing, with no evidence of gastritis or ulceration.



Figure 3. Normal duodenal bulb seen after intubation of the native and the acquired pylorus.

This is a case of a double pylorus creating a gastroduodenal fistula, most likely acquired from her prior history of peptic ulcer disease.

The patient underwent four subsequent endoscopies for serial dilation of her radiation induced stricture and all of them showed that the double pylorus has remained unchanged.

Discussion

Double pylorus also referred to as gastroduodenal fistula is a rare anomaly consisting of a channel connecting the gastric antrum to the duodenal bulb in addition to the pyloric valve.

The condition is very rare and has a reported endoscopic prevalence in-between 0.02% and 0.4% [5].

The congenital DP occurs during early stages of embryonic development and it is caused by tubular duplication of the pylorus, with ectopic gastric mucosa found in the duplicated pyloric channel [6].

It can be associated with other congenital abnormalities such as pancreas divisum [7] or ectopic pancreas [8].

The congenital DP is an incidental finding in patients undergoing upper gastrointestinal endoscopy and does not require any treatment [2].

The overwhelming majority of DP cases are acquired as a result of peptic ulcer disease causing a fistula from the antrum into the duodenum [5].

Accordingly, acquired double pylorus can be caused by long standing peptic ulcer disease, but only by chronic use of NSAID or corticosteroid or penetrating gastric cancer.

As this patient is currently asymptomatic with the double pylorus and there is a smooth well-healed track with no gastric outlet obstruction or ulceration, no endoscopic or surgical intervention is required.

The patient should avoid NSAID use and she should be screened and treated for *Helicobacter pylori* to prevent any future ulceration in this area.

If there is an active ulceration at the site of the DP, treatment of the ulcer with antisecretory agents is necessary.

Surgical or endoscopic intervention may be considered in cases with non-healing or recurrent ulcers, persistent symptoms, gastric outlet obstruction or any other complications [9].

Conclusion

Double pylorus is an uncommon endoscopic finding that may be associated with congenital anomalies, *Helicobacter pylori* infection, peptic ulcer disease, and the prolonged use of ulcerogenic medications.

Awareness of this condition is important for endoscopists to prevent potential complications during side-view endoscopic procedures such as ERCP and EUS.

Conflict of interest

None to declare.

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