

Evolution of Acquired Double Pylorus:A Case Report

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Abstract

Double pylorus, a form of gastroduodenal fistula consisting of an accessory canal extending from the distal stomach to the duodenal bulb, is mostly an acquired lesion following a penetrating ulcer. We report a 75 year-old woman with acquired double pylorus secondary to gastric ulcers, followed by destruction of the septum between the pylorus and the fistulous tract, thus forming one large gastroduodenal orifice noted after serial endoscopic follow-up of 4 years' duration. (J Intern Med Taiwan 2004; 15: 130-133)

Key Words : Peptic ulcer, Double pylorus, Gastroduodenal fistula

Introduction

Double pylorus is an uncommon but not rare condition consisting of a double communication between the stomach and the duodenum. The majority of reported cases of double pylorus are acquired as a complication of peptic ulcer disease. Long-term endoscopic follow-up of acquired double pylorus has been rarely reported¹⁻². We report an elderly woman of acquired double pylorus secondary to peptic ulcer disease without *Helicobacter pylori* (*H. pylori*) infection, followed by perforation of the septum between the pylorus and the fistulous tract, thus forming one large opening. These changes were documented by serial endoscopies over a 4 years' period.

Case Report

A 75 year-old female with a 10-year history of diabetes mellitus and hypertension, presented with epigastric pain and fullness in March 1999. Upper gastrointestinal endoscopy showed multiple ulcers in the antrum of the stomach. Biopsy specimens taken from the antral ulcers demonstrated inflammatory changes without *H. pylori* infection. She was placed on a proton pump inhibitor treatment (lansoprazole 30 mg once daily) for 2 months. The patient remained well until December 2001, when she

again had intermittent epigastric pain. Repeat endoscopy showed two pyloric openings connecting the antrum of the stomach with the duodenal bulb (Fig. 1). There was also a large ulcer within the accessory fistulous tract. Both canals were easily passed through by the endoscope. Urease tests were negative for *H. pylori*. An upper gastrointestinal series demonstrated 2 apparently separate streams of barium from the antrum into the duodenal bulb (Fig. 2). The third endoscopy after 4 months of outpatient medical therapy (lansoprazole 30 mg once daily for the first 2 months and ranitidine 150 mg twice daily for the last two months) showed that the septum between the pylorus and the fistula had disappeared to coalesce into one large gastroduodenal communication (Fig. 3) with complete healing of the ulceration within the fistulous tract. No *H. pylori* infection was found. The patient has remained asymptomatic to date.

Discussion

Double pylorus may be either a congenital or an acquired abnormality. In congenital forms, there is the normal history of both channels, absence of an ulcer and normal muscle layer in the septum between two channels³⁻⁴. Most cases of acquired double pylorus are attributed to ulceration either gastric⁵ or duodenal⁶. Acquired double pylorus secondary to peptic ulcer diseases occurs predominantly in males in their fifth or sixth decade of life. Malignant tumors resulting in formation of double pylorus appear to be extremely rare⁷⁻⁸.

Clinical symptoms of acquired double pylorus are similar to those caused by peptic ulcers and can occur before, at the time of, or after the fistula formation. Some patients have relief of the symptoms with improvement of gastric emptying after the formation of the fistula. While some patients have persistent symptoms after the fistula formation, resulting in duodenal reflux and maintenance of the ulcer.

Diagnosis of double pylorus is based on upper gastrointestinal endoscopy and barium meal study. At endoscopy, two separate openings communicating the antrum of the stomach and the duodenal bulb can be seen. The characteristic radiographic appearance of double pylorus consists of two channels of barium between the stomach and the duodenum divided by a radiolucent band represented by the pyloric septum. The locations of the accessory fistulas connecting the stomach and the duodenum have been classified into three types : type 1 joins the body of the stomach to the first part of the duodenum; type 2 connects the posterior aspect of the stomach to the third or fourth part of the duodenum⁹ and type 3 connects the distal antrum with the duodenal bulb¹⁰. Type 3, as in this case, is the most common presentation.

Most patients of acquired double pylorus respond well to medical therapy, but about 10% to 20% of the patients with underlying diseases including diabetes mellitus, chronic obstructive pulmonary disease, chronic renal failure, chronic rheumatism and

systemic lupus erythematosus, may be refractory to treatment¹¹. Surgical intervention should be reserved for those patients with intractable pain or hemorrhage. *H. pylori* may play an important role in the pathogenesis of peptic ulcer disease, but *H. pylori* eradication therapy in the patients with acquired double pylorus resulting from *H. pylori* associated peptic ulcer disease was reported to have no significant benefit for relief of symptoms, prevention of ulcer recurrence, and fistula closure compared with uninfected patients².

There were scattered reports of double pylorus with endoscopically proven formation of a large opening after perforation of the septum between the pylorus and the fistulous tract¹⁻². The possible mechanisms of septal perforation may be related to ulceration within the fistulous tract resulting in the destruction of the septum or may be a result of mechanical damage arising from intraluminal food bolus. Although convergence of double pyloric canals resulting in one large gastrointestinal passage can predispose to bile reflux, its clinical significance needs further observation.

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Fig.1. Endoscopic image showing two openings communicating the antrum of the stomach and the duodenal bulb (arrowhead: pyloric canal, arrow: accessory fistula)

Fig.2. Upper gastrointestinal series revealing two communications connecting the gastric antrum and the duodenal bulb (arrowhead: pyloric canal, arrow: accessory fistula)

Fig.3. Endoscopic image showing a large opening between the stomach and the duodenum

後天性雙胃幽門之演變：一病例報告

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摘 要

雙胃幽門是一種胃及十二指腸之間的管，主要是在胃的遠端及十二指腸球部形成另一通道，大部分是由消化性潰瘍貫穿造成。文獻中，較少有長期追蹤之病例報告，我們報告一 75 歲女性病患，4 年內經過多次胃鏡追蹤，由起初的胃潰瘍，演變成雙胃幽門，最後因雙幽門的中隔破壞之後，而在胃及十二指腸之間形成一大通道。