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CASE REPORT

Double Pylorus with Occult Gastrointestinal Bleeding

WH Kwan, WH Yeung, TM Chan, CS Cheng

Department of Diagnostic Radiology, Ruttonjee Hospital, and Tang Shiu Kin Hospital, Hong Kong

ABSTRACT

Double pylorus denotes an accessory canal connecting the distal stomach to the duodenal cap. It is usually an acquired condition associated with peptic ulcer disease at or before the time of fistula formation. We report a patient with double pylorus and chronic gastritis presenting with occult gastrointestinal bleeding.

***Key Words**: Barium meal, Double pylorus, Endoscopy, Gastrointestinal bleeding*

INTRODUCTION

There are many synonymous terms to describe the occurrence of a double canal connecting the stomach and duodenal cap, including double pylorus, peripyloric gastroduodenal fistula, and antral duodenal fistula. These two pyloric channels are separated by a bridge of tissue covered by gastric epithelium. Double pylorus is an uncommon condition, which can be congenital, but is usually acquired as a result of ulcer disease.[1] We present the clinical, radiological and endoscopic findings of a case of double pylorus with occult gastrointestinal bleeding.

CASE REPORT

A 54-year-old man was found to have a rapid drop in haemoglobin when he presented with fever and multiple joint pain due to an attack of gout. He had a history of gouty arthritis for 10 years, treated with medical therapy, and alcoholic liver disease. The patient had no epigastric pain, melaena, or other gastrointestinal symptoms. Physical examination revealed pallor and multiple joint swelling with tophi formation. No epigastric tenderness was demonstrated. Rectal examination was negative for melaena.

His haemoglobin level dropped from 11.0 g/dL to 7.4 g/dL within a month. Blood count indicated a normochromic normocytic anaemia. There was rouleaux formation with an increased reticulocyte count. Stool was positive for occult blood.

Barium meal examination showed that there was an accessory pyloric canal originating from the lesser curvature of the gastric antrum to the superior part of the duodenal cap (Figure 1 and Figure 2). This canal was relatively deprived of normal rugal folds and was distensible. No gastric or duodenal ulcer niche was seen. Endoscopic examination confirmed the double pylorus (Figure 3) and showed chronic haemorrhagic gastritis in the antrum. No peptic ulcer was identified. Histology of the septum of the double pylorus demonstrated chronic gastritis and presence of Helicobacter pylori. A diagnosis of acquired double pylorus with chronic gastritis was made. The patient was treated with

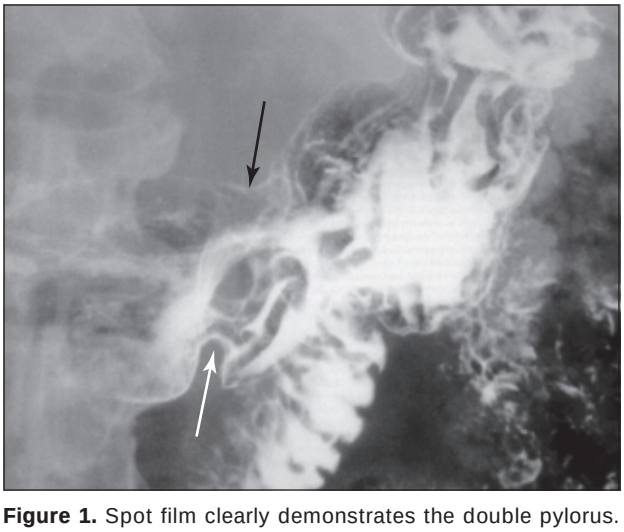

Figure 1. Spot film clearly demonstrates the double pylorus. The false channel connects the lesser curvature of the prepyloric antrum with the duodenal bulb (black arrow) above the original pyloric channel (white arrow).

Correspondence: Dr. WH Kwan, Department of Diagnostic Radiology, Ruttonjee Hospital, 266 Queen's Road East, Hong Kong.
Tel: 2291 1167; Fax: 2574 7557;
E-mail: kwanwh0@yahoo.com

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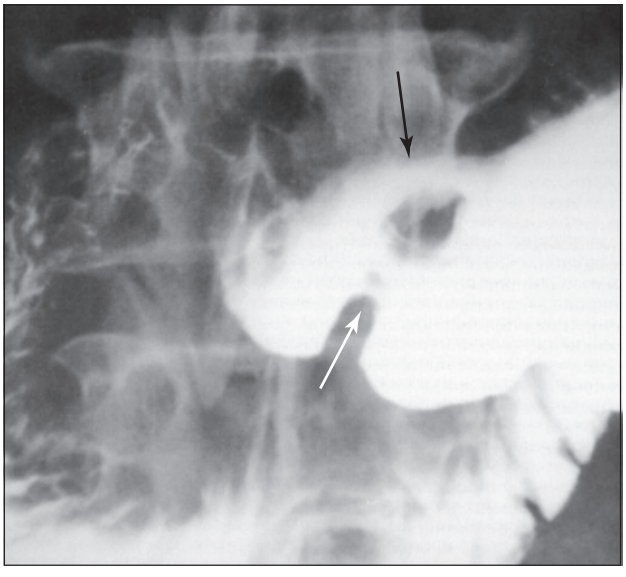

Figure 2. Spot film shows a double contrast view of the accessory (black arrow) and true pyloric channels (white arrow). There is an absence of normal mucosal folds in the accessory channel.

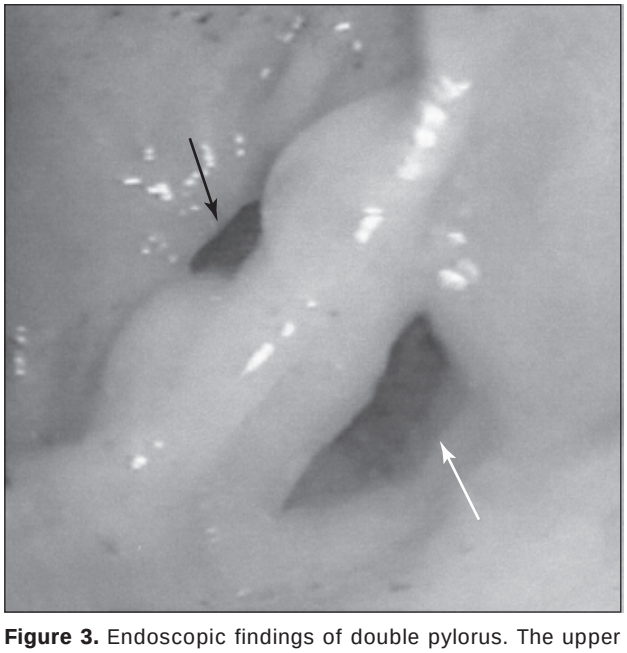

Figure 3. Endoscopic findings of double pylorus. The upper accessory channel (black arrow) and the lower true pyloric canal (white arrow) are shown.

appropriate medication and recovered uneventfully. Normal haemoglobin levels and the absence of gastrointestinal symptoms was noted on follow-up.

DISCUSSION

Double pylorus is an uncommon condition. The first case studied endoscopically was described by Smith and Tuttle in 1969.[2] The condition has been more frequently recognised in recent years with direct visualisation of the duodenum and pylorus during endoscopic examination. It is more common in male patients, similar to peptic ulcer disease. Most cases occur in patients older than 50 years, as seen in this case.

Double pylorus is generally an acquired condition related to peptic ulcer disease or gastric inflammation. Perforation of an antral ulcer through the muscle layers into the lumen of the first part of the duodenum occurs, with re-epithelialisation of the resultant fistula.[3] The role of H pylori, strongly associated with duodenal ulcer and gastric ulcer, has not been elucidated in double pylorus.[4] The clinical picture is non-specific. Patients are either asymptomatic or present with peptic ulcer symptoms. They can also present with gastrointestinal bleeding, as in this case.

The radiological features are characteristic. There are two channels connecting the gastric antrum to the superior fornix of the duodenal bulb. The fistula usually arises from the lesser curvature of the antrum. This can be explained by the predominance of peptic ulcer at the lesser rather than greater curvature. In most cases, an active ulcer is seen in close proximity to the fistula, either at the prepyloric region or in the duodenal bulb. Ulcers in the gastric region are much more common than in the duodenal region. The inferior aspect of the duodenal bulb usually exhibits minimal or no deformity. It is sometimes difficult to distinguish between double pylorus and marked pyloric deformity.[5] Prone barium-filled views of the pylorus with compression can be helpful in these instances. Gastric carcinoma has been reported as presenting as double channel pylorus in an upper gastrointestinal series.[6] Congenital double pylorus is reported in 4% to 9% of cases.[1,7] However, it is not associated with peptic ulcer disease and is recognised early in life. It is associated with gastric duplication, which is more common in the greater rather than the lesser curvature. Other congenital anomalies such as an aberrant pancreatic duct in the antral wall, and malrotation of the gut can be associated defects. Differential diagnosis of double pylorus includes a large mucosal fold and polyps.

Endoscopy is required to confirm the two channels detected on radiological examination and to ascertain its nature (congenital or acquired) by biopsy. Hegedus et al considered that barium studies identify the diagnosis of double pylorus more readily than endoscopy.[3] Other reports suggest endoscopy is superior to radiology in detecting the abnormality.[1] Some cases not detected on barium studies are diagnosed

by endoscopy. In fact, the condition has been diagnosed more frequently with the widespread use of upper gastrointestinal endoscopy.[1]

Histologically, both canals are lined by gastric mucosa of the antral type. The two channels are separated by a septum. In the original canal, there is intact submucosa and muscularis mucosa. Intestinal metaplasia and fibrosis of both the pyloric septum and the acquired canal occurs. The muscularis mucosa and submucosa are not definable in the acquired canal. A congenital origin is suggested by the presence of the muscularis mucosa and submucosa layers in the second channel. Peptic ulcer symptoms are usually relieved at or before the establishment of the gastroduodenal fistula.[8] This may be due to a pyloroplasty-like drainage effect, improving gastric emptying. The disease responds well to medical treatment, irrespective of whether the fistula remains patent or not. H pylori infection may play a role and, accordingly, there may be a place for antibiotic therapy for refractory cases. Surgical intervention is usually not required.

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