DOUBLE PYLORUS: CASE REPORT AND REVIEW OF THE LITERATURE

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SUMMARY: Double pylorus is an unusual condition in which a double communication between the gastric antrum and the duodenal bulb occurs. It may be congenital, or it may be acquired complication of peptic ulcer disease. We present a case of double pylorus in a gentleman with epigastric pain and previous history of peptic ulcer disease. The relationship between Helicobacter pylori and this disease was assessed. A review of the literature, the role of associated diseases and the role of H. pylori are discussed.

DESCRIPTORS: **Double pylorus. Gastroduodenal fistula. Upper digestive endoscopy. Helicobacter pylori.**

Double pylorus is a rare condition consisting of a gastroduodenal fistula extending from the gastric antrum to the duodenal bulb through an accessory canal. In the majority, it is due to a complication of peptic ulcer disease; however, it can also be congenital. It usually presents on the lesser curvature of the gastric antrum and on a superior wall of the duodenal bulb. It is commonly an endoscopic finding, since the clinical presentation is similar to other peptic diseases[1,3,5-7,9].

In most patients, double pylorus responds well to medical treatment such as H2-antagonist, antacid, or proton pump inhibitors, regardless of whether or not the fistula remains patent[6,9,16].

In this article, we describe one case of acquired double pylorus, the common associated diseases, and the possible relationship with infection by H. pylori.

CASE REPORT

A 61-year-old male with a history of a previous gastric ulcer treated with H2-antagonist and antacid presented with epigastric pain. He had undergone surgical treatment and radiotherapy for laryngeal tumor seven years ago. He also had been treated for high blood systemic pressure. His physical examination revealed no alterations.

The endoscope Olympus GIF-130 was used to perform an upper gastrointestinal endoscopy. (Fig 1) It was introduced easily through the left piriform sinus. A small deformity with scarring retraction on the right piriform sinus and arytenoid was observed, however, no lesion suggesting tumoral recurrence was found. The exam revealed a mild erythematous gastritis of the antrum. The presence of two channels with access to the duodenal bulb and separated by a tissue bridge were also noted. The pyloric ring was deformed and had a scar in the anterior wall and lesser curvature. The channel near the greater curvature had a smaller diameter, minor deformity, and presented contractions, suggesting that it could be the true pyloric ring. Urease tests and a histopathological exam were positive for H. pylori. Biopsies from the cicatricial area were taken, and the pathological exam revealed chronic inflammation. The patient was treated with antibiotics (amoxicillin and metronidazole) for H. pylori and proton pump inhibitors and has been asymptomatic for one year.

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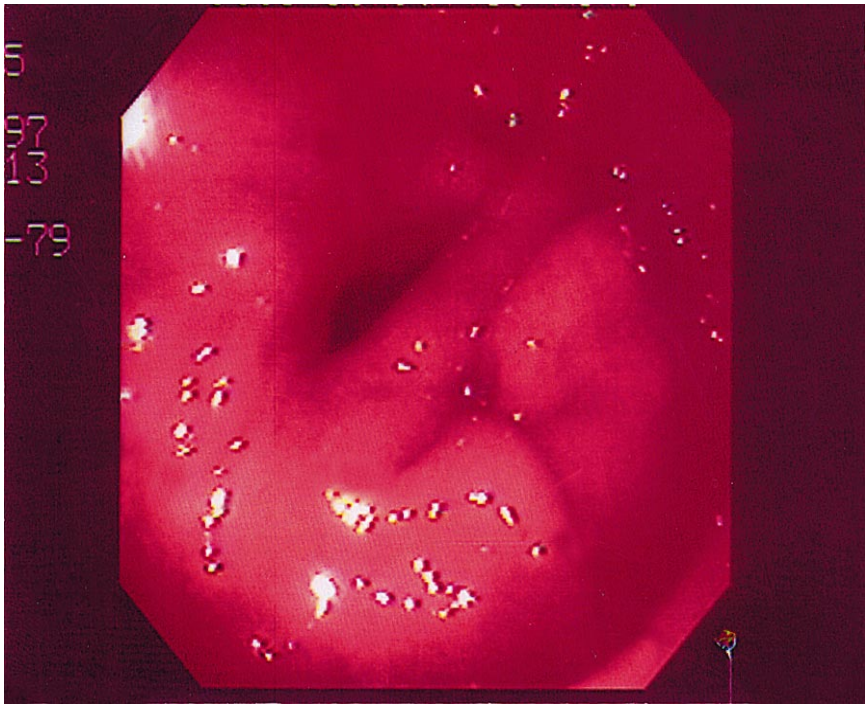

Figure 1: Endoscopic view of a double pylorus. The bridge between the two channels is easily visualized.

DISCUSSION

The prevalence of double pylorus varies from 0.06 to 0.4%; however, its real incidence remains unknown[5,9]. It occurs more often in men (2:1), as well as with other peptic diseases[5,9]. It can also be called: peripyloric gastroduodenal fistula, double channel pylorus, pyloric duodenal fistula, and antral duodenal fistula[1,3,5-7,9,14,16].

Double pylorus can be congenital or acquired. The first case of congenital double pylorus was published by Christien et al., in 1971[2]. Only few more cases have been reported since then[15]. In congenital double pylorus, an error of canalization seems to occur. The diagnosis is based on the normal histology of both channels, in the absence of an ulcer, and also by the endoscopic findings. The bridge between the two channels has normal muscle layer, differing from acquired double pylorus[10].

The majority of reported cases of double pylorus are acquired and are attributed to complications of ulcers at the antrum-pyloric area or at the duodenal bulb. Most of them are consequences of gastric ulcer, and only few cases are due to duodenal ulcer[1,5-7,9,14,16]. In this patient, the previous history of gastric ulcer and the presence of scar tissue at the endoscopic examination indicated that the lesion was acquired.

The pathological explanation for this fistula is that the peptic ulcer at the gastric antrum or at the duodenal bulb causes adhesion between the adjacent walls of stomach and duodenum with posterior penetration along the muscular layer, leading to a fistulous tract that becomes epithelized[1,5,6,9].

Diagnosis of double pylorus is important because of the possibility of recurrent ulcers that can occur, probably due to a failure of formation of epithelium in the fistulous tract[1,6,14]. The reasons for development of double pylorus are not known, but many systemic diseases contributing to poor healing may be associated, such as diabetes mellitus[2,10,14-16]. In diabetes the lack of microcirculation can be the cause[16]. Other affections such as chronic obstructive pulmonary disease, chronic renal failure, chronic rheumatism, and systemic lupus erythematosus can also be related to poor healing[8,11,13,16]. Additionally, drugs used for long periods by the patients, including steroid or non-steroid anti-inflammatory analgesics, may play a role in the formation of the fistula. In the present case, the fact that the patient underwent radiotherapy, and the stress caused by the treatment of his laryngeal tumor may be related to this fistula.

The clinical symptoms of acquired double pylorus are similar to those caused by the peptic ulcer disease and can occur before, at the time of, or even after the fistula formation. A few patients report relief of the symptoms after the fistula formation, which is attributed to the improvement of gastric emptying through the fistula, which acts as a gastroduodenostomy. On the other hand, when these symptoms persist even after the formation of the fistula, it may be implied that the accessory pylorus does not have adequate function, resulting in duodenal reflux and maintenance of the ulcer[4,6,12-14].

The majority of the patients respond well to medical treatment, regardless of whether the fistula is open or closed. However, refractory symptoms can occur in about 20% of the patients, and surgical treatment is necessary[6,9,13,14,16]. With the use of potent inhibitors of acid production such as the proton pump inhibitors, we believe that this number may be reduced.

In this patient, the urease test and the histological examination for H. pylori were positive. It is known that

H. pylori plays a role in the pathogenesis of the duodenal ulcer disease and in the majority of peptic gastric diseases. Based on literature, H. pylori may be responsible for refractory cases and the lack of healing. So, sharing the opinion of other authors[6,] we believe that the antibacterial therapy must be considered in order to decrease the risk of new ulcer formation, and also to improve the healing of the fistula.

In conclusion, acquired double pylorus is a rare complication of peptic ulcer disease that can be associated with other diseases and H. pylori colonization. Therefore, the adequate treatment consists of the correction of these factors.

RESUMO

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SAFATLE-RIBEIRO, A .V . et al. – Duplo Piloro: Estudo de caso e revisão da literatura **Rev. Hosp. Clín. Fac. Med. S. Paulo 54 (4)**: 131 - 134, 1999.

Duplo piloro é condição rara em que se forma dupla comunicação entre o antro gástrico e o bulbo duodenal. Pode ser congênito ou adquirido como complicação de doença cloridropéptica. Apresentamos caso de duplo piloro adquirido em paciente masculino com epigastralgia e história prévia de úlcera péptica. A pesquisa do *Helicobacter pylori* foi positiva em amostras de tecido gástrico. Foi realizada revisão da literatura e discutido o papel de doenças associadas e do *Helicobacter* pylori na etiopatogenia desta afecção.

DESCRITORES: **Duplo piloro. Fístula gastroduodenal. Endoscopia digestiva alta. *Helicobacter pylori.***

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