

Early Gastric Cancer, the Mexican Way

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INTRODUCTION

Gastric cancer is a common worldwide disease and the second leading cause of cancer death, affecting one million people per year^[1]. The incidence is highest in men of Northeast Asia (Japan, Korea and China), with intermediate incidence in Europe and South America, the low incidence regions are North America, Africa, South Asia and Oceania^[2]. Countries with high incidence of gastric cancer have implemented screening programs for high-risk groups, but clinical evidence is insufficient to recommend this practice in the rest of the world^[1]. In Japan survival is good (52%), partly as a result of early detection screening programs, compared with survival of only 20-25% reported in countries like USA, China and some countries in Europe^[3]. Survival is better in patients with resectable disease. Mexico is considered a low-risk area with a mortality rate associated with gastric cancer of 5.0 for every 100,000 people^[4].

Early gastric cancer (EGC) was described in 1962 and is defined as gastric adenocarcinoma restricted to the mucosa or submucosa, regardless lymph node involvement is (T1 any N)^[5]. In Japan EGC represents up to 50% of gastric cancers diagnosed. In Mexico, reports from tertiary centers have shown a relative frequency of presentation of 2-5% of EGC of the total gastric carcinomas^[6-8]. The National Cancer Center of Japan reports a 5-year survival of 99% when the tumor is confined to the mucosa and 96% when there involucre of the submucosa. Clinically EGC can present with warning signs such as anemia (5-15%) or weight loss (4-40%)^[9].

Outside Japan, the endoscopic diagnosis of EGC is challenging for several reasons, presents subtle mucosal changes, associated with unfamiliar endoscopists with special endoscopic techniques (vital and digital chromoendoscopy and magnifying endoscopy) used in high-incidence countries and little knowledge of the development of the same. Together has led to designated the EGC as a "pseudo-disease"^[10]. Authorities in the diagnosis of EGC have designed strategies to detect it and have shared the basic principles for the detection and characterization of EGC and thereby eliminate misconceptions^[11-13]. EGC endoscopic diagnosis can be divided in two steps, detection and caracterización^[11]. Here we present a EGC case detected at a third level hospital in Mexico and its management.

ABSTRACT

Gastric cancer is a common disease worldwide, is the second leading cause of cancer death. Early gastric cancer (EGC) is defined as an adenocarcinoma confined to the mucosa or submucosa, regardless of its lymph node involvement (T1 any N), the National Cancer Center of Japan reports a 5-year survival of 99% when the tumor is confined to the mucosa and 96% when there involucre of the submucosa, hence the importance of early detection of this entity, even in countries where the incidence is low, like Mexico, the capacity to detect a EGC becomes a difficult task, because for the difficulty to suspected the diagnosis and the management. Here we present the case of a patient with EGC properly detected by endoscopy, allowing appropriate management.

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Key words: Gastric ulcer; Early gastric cancer; Gastric adenocarcinoma

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CASE REPORT

This is a woman of 78 years old with a history of gastric peptic ulcer that required vagotomy, pyloroplasty and gastrotomy 20 years earlier. In December 2012, she presented to our institution with melena, abdominal pain and weight loss of 3 kg, the hemoglobin at presentation was 11.1 g/dL, MCV=89.3 fL, MCH=30.5 pg. Endoscopy was performed (Figure 1A), which reported a healed ulcer lesion in the posterior wall of the medium gastric body, with poorly defined margins and folds converging toward depression, interrupted with mucosa ending in "clubbing" shape. Chromoendoscopy was performed with 0.5% indigo carmine, which became evident a mildly depressed lesion of 2 cm in diameter, extended surface type (Figure 1B).

The histopathological diagnosis were a poorly differentiated carcinoma with diffuse signet ring cell and chronic atrophic gastritis with complete intestinal metaplasia (Figure 2).

Tomographic study was performed which tested negative for metastatic lesions and without locoregional compromise. Subsequently we performed linear endoscopic ultrasound (EUS) reporting a heterogeneous hypoechoic lesion with irregular margins located in the mucosa and submucosa. T1 N0 MX (Figure 3).

The patient underwent subtotal gastrectomy with lymph node resection (Figure 4), with reports of posterior wall lesion with diffuse carcinoma with signet ring cells, poorly differentiated, with submucosal invasion, negative margins, without lymphovascular or

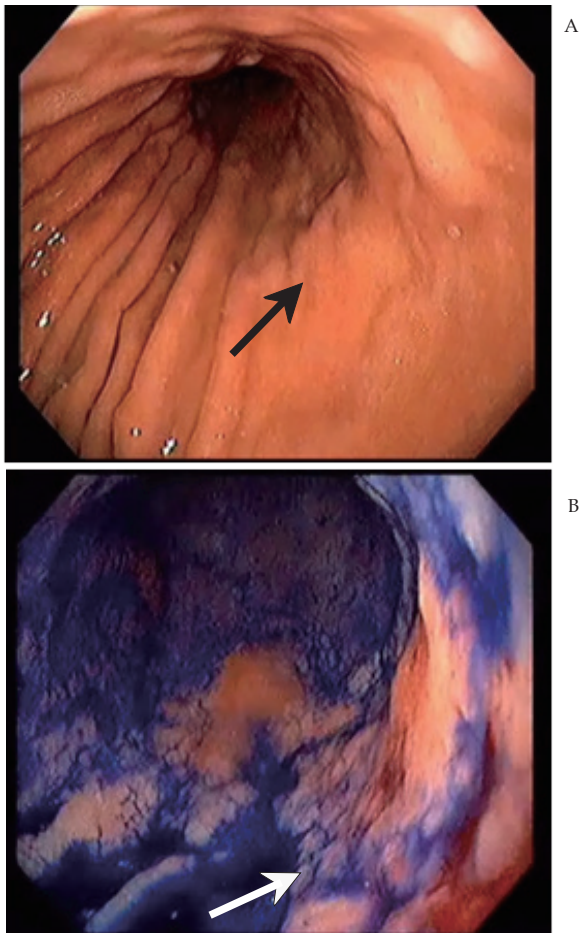


Figure 1 A. Conventional white light endoscopy, B. Chromoendoscopy (indigo carmine), slightly depressed lesion of approximately 2 cm in length.

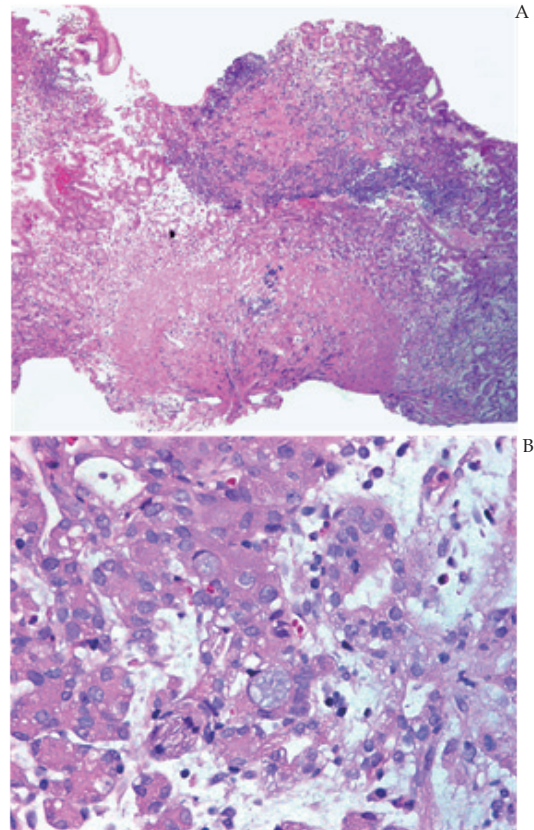


Figure 2 Gastric biopsy tissue sample. A. Macroscopic view from gastric biopsy. B. Microscopy from gastric biopsy tissue sample where there are signet ring cells (Hematoxylin and Eosin staining).

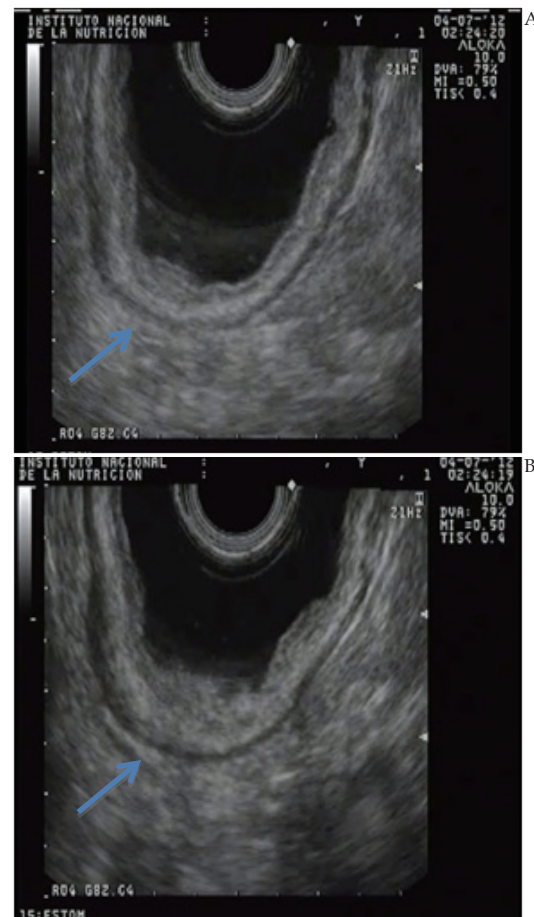


Figure 3 EUS images, delimiting the depth of the gastric lesion.

neural invasion, with 11 ganglia without metastasis.

The final histopathological diagnosis was type 0-IIc EGC^[14], 3×5 cm, poorly differentiated adenocarcinoma (carcinoma diffuse signet ring cells) T1b.

The follow up of the patient has been clinically for external consultation and to date no postoperative complications or data suggesting disease recurrence has been submitted.

DISCUSSION

The importance of this case lies in the description and endoscopic findings (white light endoscopy, chromoendoscopy and EUS) that led to an early diagnosis of EGC with further management. In our country, most EGC reports have been made retrospectively^[7,8] or when gastrectomy was performed as part of the management of other gastric diseases^[15].

In Mexico, the National Cancer Institute has studied retrospectively 21 cases of patients with EGC, with mean age of onset of 58 years (33-84 years old), 57.1% were women, the most common presenting symptoms were epigastric pain(66.6%), weight loss (33.3%) and melena (33.3%), 14 patients underwent surgery with subtotal gastrectomy and 1 wedge resection, only 2 patients of

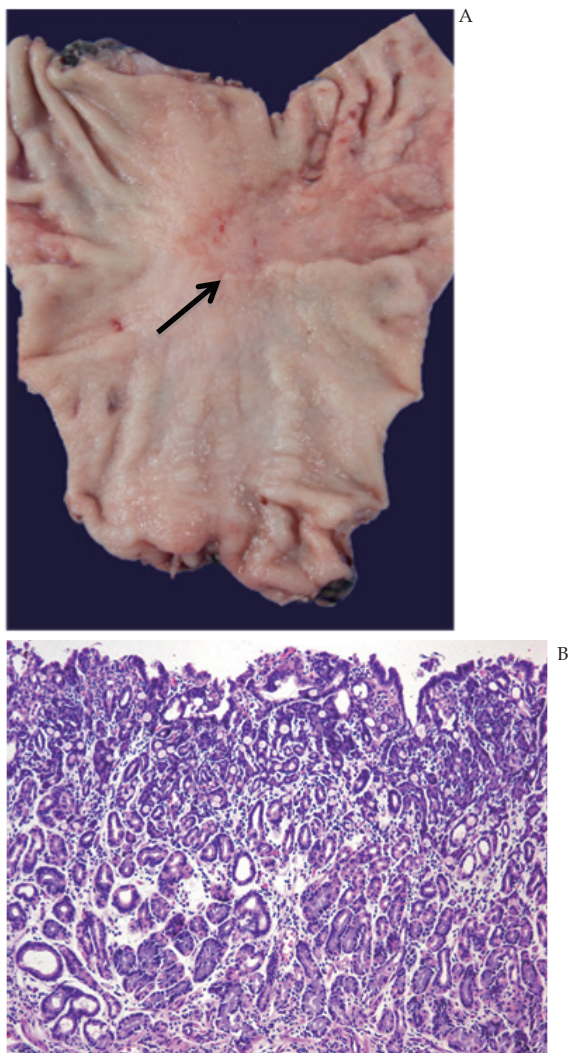


Figure 4 Product of subtotal gastrectomy and final histopathology report. A. Macroscopic image of subtotal gastrectomy, showing superficial lesion (arrow) EGC depressed type IIc lesion. B. Histopathological results showing diffuse and poorly differentiated carcinoma with signet ring cells, with submucosal invasion (Hematoxylin and Eosin staining).

21 underwent EUS, and 3 underwent laparotomy staging. The 5-year overall survival rate was 66.4%^[8].

In the present case, the patient was within the range of the age group that has been reported in our country, belongs to the more frequent sex and the symptoms at presentation were among the 3 most frequent reported in Mexico^[8].

Outside Japan, the endoscopic diagnosis of EGC is challenging for several reasons, the lesions presents subtle mucosal changes, endoscopists unfamiliar with special endoscopic techniques (chromoendoscopy) used in high-incidence countries and little knowledge of their development, also in Western countries gastric cancer is diagnosed according to the degree of invasion (when the lesion has invaded the submucosa) unlike Japan where the diagnosis is based on the structure (grade of cellular atypia or structural changes) rather than the degree of invasion, this determines differences in "diagnosis" between Western (including Mexico) and Eastern pathologists. This has created discrepancies in concepts such as "pseudo-disease"^[10] or miss concepts of EGC^[13]. To carry out the right diagnosis and the possibility of endoscopic treatment there should be taken into account several aspects, since adequate preparation for endoscopy (use of mucolytic and anti-foaming substances)^[12], use antiperistaltic medication, and use systematic protocols for visualize the whole mucosa of the stomach (40 photographs covering the total gastric mucosal^[16] or other simpler protocols^[11]), the use of chromoendoscopy, endoscopy equipment with enhanced image (narrow-band imaging NBI) and EUS are improving diagnostic capabilities and better characterization of EG^[17].

In Japan, endoscopic submucosal dissection has become the first choice of treatment in the management of EGC, which gives the patient a prognosis comparable to surgical resection and excellent quality of life. In Mexico there is only one report of endoscopic submucosal dissection of an EGC^[18]. However, gastrectomy remains globally the most used therapeutic strategy with respect to EGC (except Eastern countries).

In Mexico, the survival rate of the EGC is 66.4% at 5 years, which contrasts with the results of the Japanese population, this desfavorable results probably reflect different prevalences of other prognosis factors^[8].

CONCLUSION

Given the low incidence of gastric cancer in our country may not justify a program of early detection of gastric cancer, so the systematization in the diagnosis and characterization is not likely to advance significantly in the coming years, but it is important to note that despite this, in centers where experienced people there, even with lack of existence of protocols for detection of EGC, can reach adequate detection in patients with known risk factors, with suggestive symptoms and offer to this patients a successful diagnosis and management.

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