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Case Report

Early-stage intestinal-type gastric adenocarcinoma as an incidental finding: case report and review of literature

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ABSTRACT

Gastric cancer is the malignant neoplasm in which gastric resection is the only viable strategy for long-term survival. Gastric carcinoma typically does not produce symptoms, therefore presenting as either advance or metastatic disease at the time of diagnosis. The most common early symptoms tend to be abdominal pain and weight loss. Adequate surgical resection is the only curative therapeutic option in patients with resectable gastric cancer. We present the case of a 66-year-old male patient who initially presented with abdominal pain and one episode of gastrointestinal bleeding, for which an endoscopic biopsy was conducted which reported intestinal-type gastric adenocarcinoma. Subtotal gastrectomy with Billroth II anastomosis was then performed without reported complications. Patient remains asymptomatic 3 months following the surgical intervention in surveillance with ambulatory care.

Keywords: Gastric cancer, Pain abdominal, Biopsy, Gastrectomy

INTRODUCTION

According to GLOBOCAN 2018, gastric cancer is the sixth most common cause of cancer and the fifth cause of death by cancer worldwide. Gastric cancer is one of the main contributors of the burden of disability adjusted life years among all other types of malignancies. Gastric resection or total gastrectomy is considered to be the only strategy for long term survival and remission.[1-6]

East Asia and Eastern Europe are hotspots of incidence, while North America and Northern Europe are among the regions with the least cases reported. The Lauren classification for gastric adenocarcinomas discerns 3 main types based on histological features which are the following: intestinal-type, diffuse-type and indeterminate-type. Intestinal-type (or well-differentiated) is reported more frequently in zones where gastric cancer is endemic, arises in the middle and upper thirds of the stomach, and is more common in adult males of advance age with metaplasia. Diffuse-type (or poorly differentiated) is more frequent in low-risk areas and is more common in younger individuals which are mainly female. Gastric cancer is a disease considered to have an unfavorable prognosis due to its high mortality rates, only been surpassed by pulmonary cancer in most countries especially in those where gastric cancer is considered to be epidemic.[7-13] Intestinal-type gastric adenocarcinoma is associated with environmental factors that prevail during the early stages of life. A diet deficient in fruits and

vegetables and Helicobacter pylori infection are factors that have been associated with damage to the gastric mucosa and atrophic gastritis. Additional lesions to the gastric mucosa induced by intraluminal bacteria, bacterial activation of procarcinogens or consumption of other procarcinogens that can induce the development of gastric metaplasia, dysplasia, and ultimately carcinoma. In contrast, diffuse-type proximal gastric adenocarcinoma, which is also prevalent in high and low risk regions throughout the world, can be associated to other factors not yet identified. Patients with intestinal-type gastric cancer have more frequently an overexpression of the epidermal growth factor receptor, ErbB-2 and ErbB-3. Moreover, diffuse lesions have been associated with anomalies in the fibroblast growth factor system including the oncogene K-sam.[14-17]

CASE REPORT

A 66-year-old male with previous history of chronic alcoholism and epigastric pain of one-year progression treated with analgesics was admitted to the emergency department for presenting severe abdominal pain and one episode of hematemesis. An esophagogastroduodenal series was performed which revealed findings compatible with gastroesophageal reflux grade 3, suggestive of a gastric ulcer of neoplastic origin (Figure 1). Esophagogastroduodenoscopy was also performed revealing antral mucosa with a mosaic-like pattern, a prepyloric ulcer-like lesion on the anterior wall and greater curvature, and deformed pylorus. Biopsy specimens were then obtained from these lesions reporting intestinal-type adenocarcinoma (Lauren classification) and invasive well-differentiated tubular adenocarcinoma (WHO classification), with invasion limited to the lamina propria.

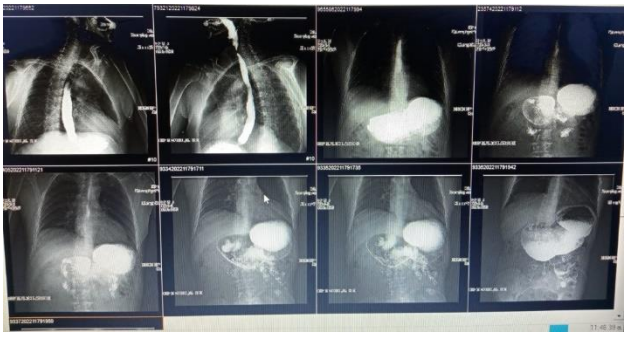

Figure 1: Esophagogastroduodenal series showing a discrete increase of gastric volumen with a 5 x 3.6 cm ulcer crater of irregular margins and circular shape located at the body of the stomach.

The patient was then surgically intervened where a pyloric tumor attached to both pancreas and retroperitoneum was observed and subsequently resected 2 cm from the distal margin and with resection of the gastric antrum and 2 cm of the first portion of the duodenum (Figure 2). A subtotal gastrectomy with Billroth II anastomosis in antecolic and isoperistaltic manners was carried out.

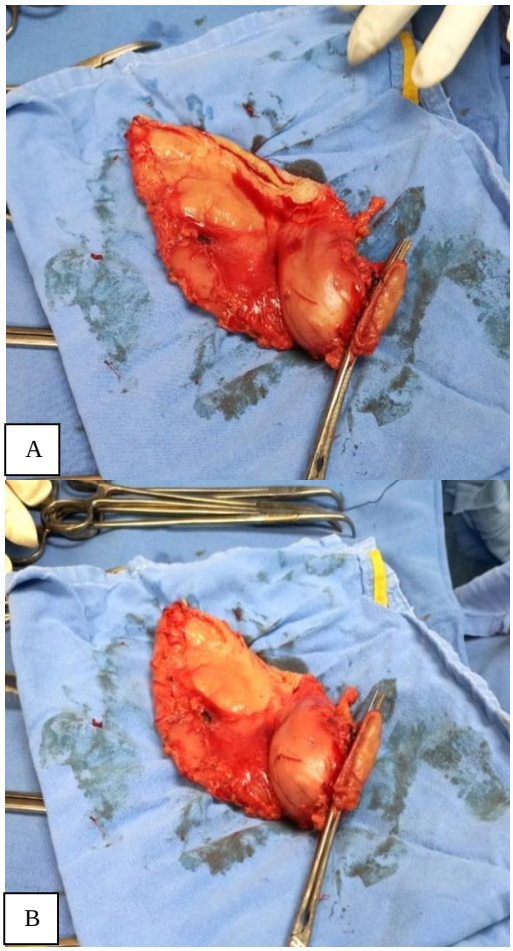

Figure 2 (A and B): Resected segment of pyloric tumor with 2 cm of distal margin.

Thereafter, surgical specimens were sent to the pathology department reporting intestinal-type adenocarcinoma (Lauren classification), well-differentiated invasive adenocarcinoma (WHO classification), proximal and distal resection margins negative to neoplasm. The patient was then discharged after adequate postoperative recovery. He currently remains asymptomatic 3 months following the surgical intervention in surveillance with ambulatory care.

DISCUSSION

Gastric cancer can be classified into intestinal-type and diffuse-type. The most common etiology of intestinal-type is an underlying *H. pylori* infection that can eventually develop into atrophic gastritis and intestinal metaplasia.[2-4]

Gastric carcinoma typically does not produce symptoms when the disease is superficial and surgically curable, therefore when symptoms manifest the disease is usually either locally advanced or metastatic. As the tumor

becomes larger in size, an insidious pain can present usually in the upper abdomen that can vary from a vague postprandial fullness sensation to severe abdominal pain. On the contrary, anorexia (associated with nausea) is generally not an initial symptom. Weight loss and abdominal pain were the most reported initial symptoms in a review of 18,365 patients conducted by the American College of Surgeons.[7-13]

An upper gastrointestinal series is often the first diagnostic procedure executed to evaluate symptoms associated with the upper gastrointestinal tract. Less than 3% of all gastric ulcers that are evaluated through endoscopic examination and biopsy are classified as malignant. Therefore, if the radiographic characteristics of an ulcer are deemed to be benign and complete healing can be demonstrated in a subsequent exam, endoscopic examination may no longer be required.

Nonetheless, if an upper gastrointestinal tract procedure indicates the possible presence of a tumor or a lesion that has completely healed in 6 weeks, an endoscopic examination and biopsy should be carried out. Computed tomography (CT) can outline the extension of the primary tumor and reveal the presence of lymphatic or distant metastasis, However, comparisons between CT and laparotomy findings indicate that preoperative explorations tend to underestimate the extension of the disease, mostly because of radiographically undetectable metastasis in lymph nodes, liver and omentum.[14-17]

Adequate surgical resection is the only curative therapeutic option in patients with resectable gastric cancer with the objective of the intervention being to achieve complete resection of the tumor maintaining adequate longitudinal and circumferential resection margins. Subtotal gastrectomy is the gold standard for treatment in early-stage gastric cancer localized in the lower-third of the stomach. The results of the 2 randomized studies carried out in Europe demonstrated that subtotal gastrectomy for lower-third gastric cancer had similar results regarding long-term survival to total gastrectomy, with lower morbidity and mortality rates and with higher postoperative quality of life.[7-13]

Generally, if subtotal gastrectomy is chosen as the surgical intervention for resection the following procedures can be carried out as reconstruction methods: Billroth I gastroduodenostomy, Billroth II gastrojejunostomy with or without Braun anastomosis and Roux-en-Y gastrojejunostomy.

Possible long-term complications of distal subtotal gastrectomy are symptomatic gastroesophageal reflux disease and gastric stump cancer (GSC), however, it has been reported that the impact of partial gastrectomy for benign peptic disease in survival was so weak that prophylactic endoscopic monitoring was not rewarded until 15 to 20 years after the surgical intervention.[7-13]

CONCLUSION

Gastric cancer is a globally important malignancy because of the high mortality rate and unfavorable prognosis. Gastric cancer typically does not produce symptoms, therefore presenting as either advance or metastatic disease at the time of diagnosis. We presented the case of a 66-year-old male patient with histopathological diagnosis of intestinal type gastric adenocarcinoma localized at the anterior wall of the gastric antrum.

The patient previously presented with epigastric pain of one-year progression and an episode of upper gastrointestinal.

Thereafter, an esophagogastroduodenal series and an esophagogastroduodenoscopy were performed. Finally, a subtotal gastrectomy with Billroth II anastomosis was carried out. Surgical specimens were studied and reported intestinal-type adenocarcinoma and distal resection margins negative to malignancy. The patient currently remains asymptomatic 3 months following the surgical intervention in surveillance with ambulatory care.

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