

CASO CLINICO

DETECCIÓN INCIDENTAL DE CÁNCER DE ESTÓMAGO EN PIEZA QUIRÚRGICA DE SLEEVE GÁSTRICO: REPORTE DE CASO Y REVISIÓN DE LA LITERATURA

INCIDENTAL DETECTION OF STOMACH CANCER IN SURGICAL PIECE OF GASTRIC SLEEVE: CASE REPORT AND LITERATURE REVIEW

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RESUMEN

Introducción. Los cánceres gástricos, imponen una carga de salud global considerable, la ausencia de estrategias de detección temprana conlleva a un pronóstico desfavorable, especialmente en estadios finales. **Caso clínico.** Se presenta el caso de una paciente con antecedentes de síndrome metabólico, con endoscopia preoperatoria que reportó hernia hiatal, gastropatía y gastritis crónica antral. Posteriormente fue tratada con sleeve gástrico, sin complicaciones, con reporte de pieza histológica de estómago que reporta adenocarcinoma en la pared gástrica corporal como hallazgo incidental. **Resultados.** Se logró detección de patología oncológica gástrica que permitió manejo oportuno, impactando directamente en la calidad y sobrevivencia del paciente. **Conclusión.** Este hallazgo subraya la importancia de la realización de endoscopia digestiva alta a todo paciente a quien se realizará cirugía bariátrica, para descartar lesiones premalignas y/o tumorales tempranas. Sobre todo, en aquellos pacientes llevados a bypass gástrico, dado que quedará un estómago residual cuyo abordaje endoscópico será complejo. De igual forma, se destaca la necesidad de enviar el espécimen quirúrgico a estudio patológico.

PALABRAS CLAVE: Gastrointestinal, Cirugía bariátrica, Cáncer gástrico, Diagnóstico tardío, Adenocarcinoma, Endoscopia, Biopsia.

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ABSTRACT

Introduction. Gastric cancers, impose a considerable global health burden in the absence of early detection strategies, leading to poor prognosis especially in late stages.

Clinical case. We present the case of a patient with a history of metabolic syndrome, with preoperative endoscopy that reported hiatal hernia, gastropathy and chronic antral gastritis. Subsequently she was treated with gastric sleeve, without complications, with report of intraoperative histological piece of stomach that reports adenocarcinoma in the gastric body wall as incidental finding. **Results.** Detection of gastric oncologic pathology was achieved, which allowed timely management, directly impacting the quality and survival of the patient. **Conclusion.** This finding underscores the importance of performing upper endoscopy in all patients undergoing bariatric surgery, to rule out premalignant and/or early tumor lesions. Especially, in those patients who will undergo gastric bypass, since there will be a residual stomach whose endoscopic approach will be complex. Likewise, the need to send the surgical specimen for pathological study is emphasized.

KEYWORDS: Gastrointestinal, Bariatric surgery, Gastric cancer, Late diagnosis, Adenocarcinoma, Endoscopy, Biopsy

INTRODUCTION.

Gastric cancer remains a constant challenge in daily medical and surgical practice. Despite the global decline in its incidence, it remains a significant public health problem and is frequently diagnosed at advanced stages. Gastrointestinal tract (GT) cancers account for more than a quarter (26%) of the global cancer incidence and more than a third (35%) of all cancers. With an estimated 4.8 million new cases and 3.4 million deaths worldwide in 2018. Among these, Gastric cancer (GC) stands out as the main malignant tumor in the TG, where more than 95% of tumors are gastric adenocarcinoma. It is currently the fifth

<i>Factores de riesgo cáncer gástrico</i>	
<i>Modificables</i>	<i>No Modificables</i>
Dieta no saludable	Edad avanzada
Consumo de alcohol	Sexo Masculino
Tabaquismo	Genética
Ingesta alta en Sal	Anemia Perniciosa
infección por el HP	Grupo sanguíneo A

Table 1. Gastric cancer risk factors: Modifiable and non-modifiable

Obesity and gastroesophageal reflux disease are associated with the development of proximal gastric cancer, a type that is more prevalent in North America and Western Europe⁸, therefore diets high in salt, nitrites, canned foods, red meats and processed meats have been linked to an increased risk of GC^{9, 12}. Non-modifiable factors include: advanced age, male sex, familial aggregation, pernicious anemia, blood

most common cancer and the third leading cause of cancer-related death globally.

Multiple risk factors for the development of GC have been identified, both modifiable and non-modifiable (**Table 1**), however, the primary determinant of GC is infection with *Helicobacter pylori*, a gram-negative bacillus that infects approximately 50% of the population.

The WHO has classified it as a type 1 carcinogen, capable of increasing the risk of developing AC in infected individuals up to six times that of non-infected individuals. 4, 6 furthermore, low socioeconomic status, lack of public services, overcrowding, and poor hygiene are factors that accelerate the development of this carcinogen.

Obesity is an important modifiable factor since a body mass index greater than 40 kg/m² is related as a risk factor for developing cancer, the accumulation of adipose tissue in the abdominal circumference is a direct predictor of cancer risk⁷.

type A13, 15 GC is a potentially lethal disease involving multiple factors with a long natural history, and to date, we do not know a single cause of this cancer.

Japanese guidelines for early diagnosis of GC recommend the use of endoscopy or contrast-enhanced upper gastrointestinal series for opportunistic screening, emphasizing that the former is more sensitive than the latter. Upper gastrointestinal endoscopy (UGE) and forceps biopsy are considered the methods of choice for diagnosing gastric cancer. The Sydney biopsy protocol

consists of taking 5–8 biopsies to ensure an adequate sample for histological and molecular analysis. The European Association for Endoscopic Surgery guidelines support the use of preoperative UGE in all bariatric procedures, especially Roux-en-Y gastric bypass. The American Association guidelines, on the other hand, suggest this procedure only for symptomatic patients. The most common macroscopic findings in early gastric cancer identified by endoscopy are lesions exhibiting a depressed morphology, followed by the elevated type. In addition, other relevant macroscopic findings include the observation of a color change

Towards reddish tones^{16, 17} compared with other factors, gastritis Atrophic metaplasia (AG) and intestinal metaplasia (IM) exponentially increase the risk of GC. For this reason, individuals with these findings are considered high risk.¹⁸

CLINICAL CASE

This is a 36-year-old female patient with grade III morbid obesity (BMI 47.7), attributed to caloric excess limiting her functional capacity, with a medical history of prediabetes, dyslipidemia, and metabolic syndrome. She underwent medical treatment for more than two years, which failed. After multidisciplinary management, bariatric surgery was indicated. Before the surgical procedure, preoperative laboratory tests were performed and found within normal limits, except for an upper gastrointestinal endoscopy, which

reported a small hiatal hernia and mild superficial gastropathy in the antrum. The pathology and biopsy reports indicated the presence of mild, non-atrophic chronic antral gastritis without intestinal metaplasia, as well as the detection of *Helicobacter pylori* infection, for which treatment was initiated. In addition, a total abdominal ultrasound and chest x-ray were reported within normal limits. On physical examination, a palpable thyroid and acanthosis nigricans were noted, with no other abnormalities. In April 2022, the patient underwent a laparoscopic sleeve gastrectomy; the surgery proceeded without complications. The surgical specimen was removed, and a drain was placed in the peritoneal cavity. On the third postoperative day, the patient showed adequate progress, with no signs of systemic inflammatory response, good pain control, and oral tolerance, and hemodynamic stability. Therefore, the patient was discharged. A follow-up appointment was scheduled for an outpatient clinic, and the patient was provided with a dietary plan, recommendations, and education on warning signs.

In April 2022, the patient underwent laparoscopic sleeve gastrectomy. The surgery was uneventful, with the surgical specimen removed and a drain left in the peritoneal cavity. On the third postoperative day, the patient's progress was satisfactory, with no systemic inflammatory response, good pain modulation, oral tolerance, and

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hemodynamic stability. Therefore, the patient was discharged. A follow-up appointment was scheduled for an outpatient clinic, and the patient was provided with a dietary plan, recommendations, and education on warning signs.

Twenty days later, the patient returned to the outpatient clinic for postoperative follow-up. She was in good general condition. The pathology report revealed a stomach labeled "gastric sleeve" with non-ulcerated gastric adenocarcinoma

of intestinal type, poorly differentiated and infiltrating up to the subserosal connective tissue, with a tumor size of 4 x 3.5 cm, and evidence of lymphovascular and perineural invasion. In addition, findings of severe chronic corporal gastritis (follicular) with atrophy and multifocal colonic intestinal metaplasia were identified, with negative proximal and distal resection margins for tumor involvement. Given the high risk of extension, the patient was hospitalized, and an appointment was scheduled for an oncology board where it was decided that she required a laparoscopic total gastrectomy with lymph node dissection and Roux-en-Y reconstruction. This procedure was carried out 2 months later.

DISCUSSION.

Recommendations regarding the need for upper gastrointestinal endoscopy (UGE) before bariatric surgery vary by surgical society. The European Association for Endoscopic Surgery suggests UGE for all bariatric procedures, with particular emphasis on Roux-en-Y gastric bypass. In contrast, the American Association for Gastrointestinal Endoscopy recommends endoscopy only for symptomatic patients scheduled for bariatric surgery. 19, 20 Recommendations from several German surgical societies state that all patients undergoing bariatric surgery should undergo upper gastrointestinal endoscopy, whereas the American Society for Metabolic and Bariatric Surgery advocates a more individualized

approach. There are no recommendations from the International Federation for the Surgery of Obesity or any Asian organization. 21 Like any diagnostic procedure, UGE has a potential for false-negative results. A possible general definition of missed or overlooked gastric cancer would be one that is not detected during endoscopy and is subsequently diagnosed up to 3 years later. This definition is based on the hypothesis that the tumor doubling time for gastric cancer is 2 to 3 years. Therefore, it could be assumed that any cancerous lesion in the stomach should be visible at least 3 years before its initial presentation.

In a retrospective cohort study of 28,064 patients undergoing upper gastrointestinal endoscopy, 116 (0.41%) were subsequently diagnosed with upper gastrointestinal cancer. Twenty-nine cases were observed in which the neoplastic lesion was missed, being diagnosed in the patient within the first year after the initial endoscopy. In addition, 26 cases were recorded in which the lesion was likely missed, as the diagnosis was made between the first and third year after endoscopy 23. Failure to detect upper gastrointestinal cancer during endoscopy is relatively common. A meta-analysis of 10 studies involving 3,787 patients with upper gastrointestinal cancer revealed that the neoplastic lesion was missed 6.4% of the time one year before diagnosis and 11.3% of the time three years before diagnosis 24.

In a national registry-based study

conducted in Poland between 2012 and 2018, a missed diagnosis rate of 6% was observed. Missed cancer was defined as a case in which the patient had undergone upper gastrointestinal endoscopy (UGE) and the diagnosis was made only after 6 months, but before 36 months, after the initial endoscopy.

A retrospective, population-based study was conducted in Norway to analyze the specific risk of missed gastric cancer during upper gastrointestinal endoscopy. The results indicated that, among 730 patients with gastric cancer, 9.2% of cases were missed between 6 and 36 months before diagnosis. Distinctive features of missed cancers include location in the upper stomach, diffuse histology according to the Lauren classification, and a higher probability of missed neoplastic lesions in patients who had previously undergone Billroth II gastrectomy.

In the case presented in this report, the patient represents an example of gastric cancer missed during routine upper gastrointestinal endoscopy performed as part of the preoperative evaluation for bariatric surgery. In relation to this topic, a German study involving 801 patients undergoing upper gastrointestinal endoscopy (UGE) before bariatric surgery revealed various abnormal endoscopic findings. Abnormalities were found in 65.7% of patients, with gastritis being the most common finding at 32.1%, followed by gastroesophageal reflux at 24.8%. It is relevant to note that malignant neoplasms were identified in 0.5% of all patients. In another study carried out at the Leipzig

hospital, Germany, between 2011 and 2017, 636 patients were included who underwent preoperative upper gastrointestinal endoscopy prior to bariatric surgery. The most important endoscopic findings were: H. pylori gastritis in 22.4%, esophageal reflux in 21.9%, Barrett's esophagus 15%, gastric or duodenal polyps in 6.8%, peptic ulcer in 3.5%, esophageal cancer 0.5%, gastric cancer 0.2% 28. In the case of this patient, the cancer was detected by histopathological examination of the gastric sample removed during the gastric sleeve procedure. Regarding the frequency of this situation, a meta-analysis that included 48 articles and reported the results of post-surgical pathology found malignancy in 0.4% of cases^{29,31}

CONCLUSION.

Our case report highlights the importance of screening endoscopy in the prevention and early diagnosis of gastric cancer and suggests greater adherence to clinical practice guidelines for GC risk classification. Furthermore, it emphasizes the importance of a complete preoperative evaluation, including upper gastrointestinal endoscopy, given that the failure to detect gastric cancer during this procedure, followed by the discovery of the disease in a postoperative biopsy, is a rare but significant circumstance. Although upper gastrointestinal endoscopy is considered the method of choice for the early detection of gastric lesions, several factors may contribute to the failure to

detect neoplastic lesions. Retrospective studies have revealed that gastric cancer may occasionally be missed during preoperative endoscopy, with failure rates ranging from 6.4% one year before diagnosis to 11.3% three years before diagnosis. This phenomenon can be attributed to various factors, such as the specific location of the lesion, the histology of the tumor, and in some cases, the performance of the procedure by endoscopists not specialized in gastroenterology.

The importance of this case report lies in emphasizing the usefulness of a thorough preoperative evaluation that includes upper gastrointestinal endoscopy, considering the possibility of missing neoplastic lesions, and highlighting the importance of postoperative biopsies for greater sensitivity in the detection of gastric cancer.

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