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Case Report / Caso Clínico

Gastric Schwannoma: A Case Report

Schwannoma gástrico. Reporte de un caso

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ABSTRACT
Introduction: Schwannomas are benign, slow-growing, Mesenchymal Tumors (MT) that originate in the Schwann cells of the nerves of the Meiisner and Auebarch plexuses. Although they can appear in any location, they are rare in the gastrointestinal tract (GIT). **Case report:** Our case is the presentation of a gastric Schawnnoma with favorable evolution and a good prognosis after a complete resection. **Conclusion:** It is relevant to present this to keep it in mind in the differential diagnosis of subepithelial gastric tumors.

Keywords: Gastric Schwannoma, Gastrointestinal stromal tumors, Immunohistochemistry.

RESUMEN
Introducción: Los schwannomas son tumores mesenquimatosos benignos de crecimiento lento, se originan en las células de Schwann de los nervios de los plexos Meiisner y Auebarch. Aunque pueden aparecer en cualquier localización, son poco frecuentes en el tracto gastrointestinal. **Caso clínico:** Nuestro caso es la presentación de un schawnnoma gástrico con evolución favorable y buen pronóstico tras su resección completa. **Conclusión:** La importancia de presentarlo radica en tenerlo presente en el diagnóstico diferencial de los tumores gástricos subepiteliales.

Palabras Clave: Schwannoma gástrico, Tumores del estroma gastrointestinal, Inmunohistoquímica.

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1. Clinical case

A 61-year-old female with a medical history of type 2 diabetes mellitus treated with hypoglycemic agents. No family history of cancer. She presents dyspepsia with clinical symptoms of postprandial distress syndrome, evolving for one year without alarm signs. No abnormalities were found in her lower digestive tract and hepatobiliary system. Physical examination: Good general condition. Abdomen: Soft, depressible, not painful, no masses, no visceromegaly, and the rest of the physical examination showed no irregularities.

In the blood tests, no deviations were observed.

(Figure 1). Computed Tomography (CT) of the Abdomen and Pelvis, there is evidence of thickening of the gastric antrum wall associated with an exophytic growth tumor, measuring 79 x 84 x 88 mm. Enlarged lymph nodes are observed in the hepatic hilar region, celiac trunk, and peripheral areas

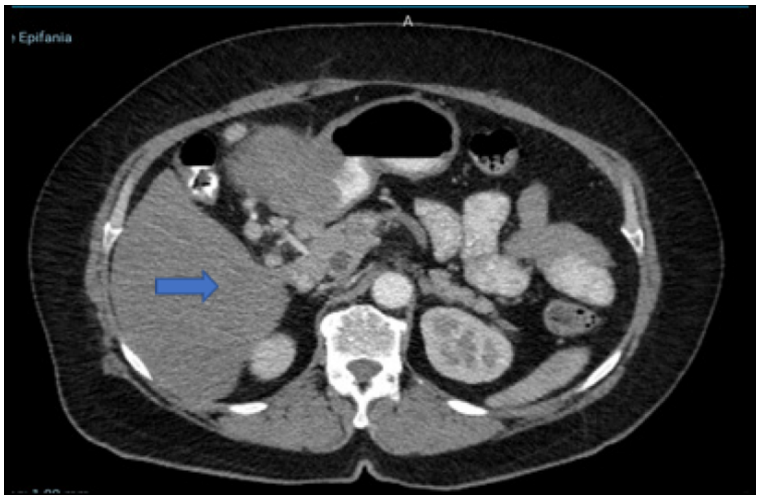

Figure 1. Computed tomography (CT) abdomen-pelvis
Source: Hospital SOLCA Núcleo Machala

Upper Endoscopy (EGD): At the level of the antrum, on the greater curvature, there is a 4 cm subepithelial lesion covered with mucosa, suggesting a Gastrointestinal Stromal Tumor (GISTs) based on its appearance (Figure 2).

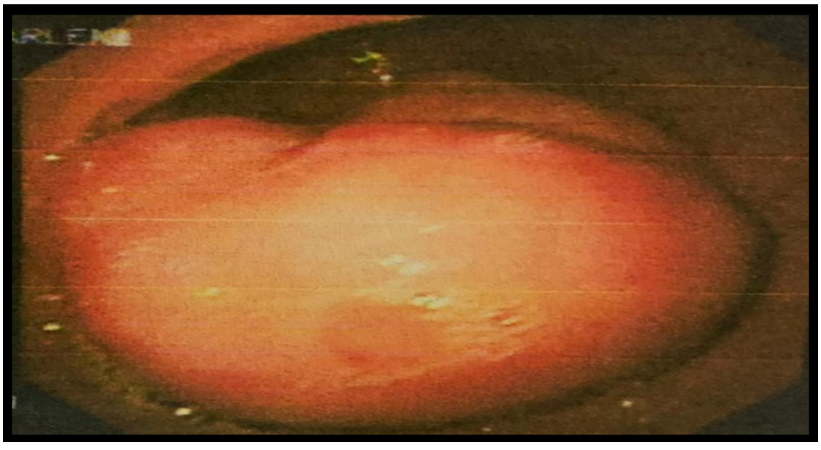

Figure 2. Subepithelial lesion in the antrum, seen on upper endoscopy
Source: Hospital SOLCA Núcleo Machala

An endoscopic ultrasound was performed: In the antrum, a hypoechoic lesion measuring 3 x 4 cm originates in the fourth layer (muscularis propria). It appeared heterogeneous with anechoic areas inside and irregular contours. A 19 G ACQUIRE needle puncture of the lesion is performed for pathological examination (Figure 3).

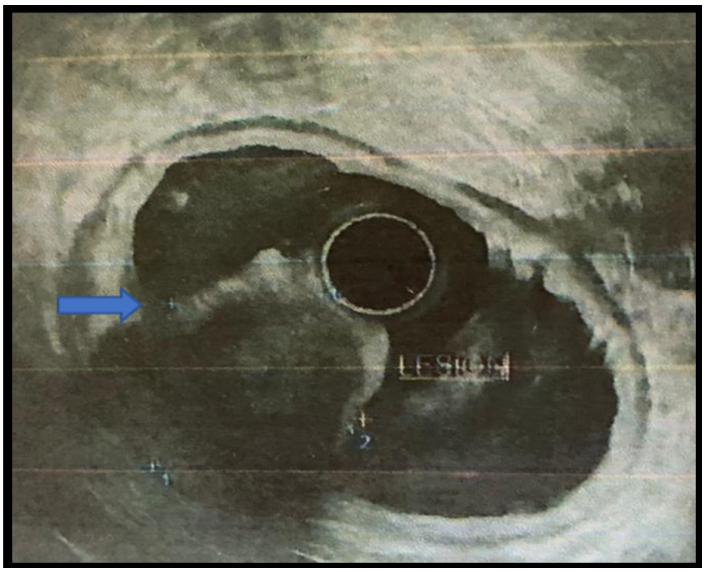

Figure 3. Subepithelial lesion in the antrum, seen on endoscopic ultrasound
Source: IECED GUAYAQUIL (Instituto Ecuatoriano de Enfermedades Digestivas)

The histopathological report describes infiltration of polymorphonuclear neutrophils and mononuclear leukocytes, as well as a fragment of smooth muscle with a neoplastic appearance formed by smooth, fusiform, bipolar muscle fibers with oval nuclei that preserve the nucleocytoplasmic ratio. Immunohistochemistry (IHC) reveals S100 positivity and desmid positivity, while Smooth Muscle Actin, CD34, and CD117 (c-Kit) are negative. This establishes the diagnosis of Gastric Schwannoma (GS).

As definitive treatment, open surgery is performed: Subtotal gastrectomy. Anatomopathological report: Gastric Schwannoma with perigastric lymph nodes showing reactive follicular hyperplasia. In the 24-month follow-up, the patient remains asymptomatic regarding digestive symptoms.

2. Discussion

Gastrointestinal subepithelial tumors are divided into 3 main groups: Neurogenic (schwannomas, neurofibromas), myogenic (leiomyomas and leiomyosarcomas), and GISTs. Differential diagnosis is crucial as they differ in prognosis [3].

Schwannomas are slow-growing benign mesenchymal tumors that originate from Schwann cells of the Meissner and Auerbach plexuses. They are uncommon. Their most common location in the gastrointestinal tract is the stomach (at the greater curvature and antrum), followed by the colon and rectum [3, 5].

Gastric Schwannomas are rare, having a frequency of 0.2% among all gastric tumors, 6.3% of mesenchymal gastric tumors, and 4% of benign gastric tumors. They are more prevalent in women, with a male-to-female ratio of 1:3 and an average age at diagnosis of 57 years [6,12].

The clinical presentation of Gastric Schwannomas can vary greatly. Most are asymptomatic and are diagnosed incidentally. Symptomatic patients often present with abdominal pain, followed by upper gastrointestinal bleeding. Less frequently, they may present with a palpable abdominal mass (3%), loss of appetite (anorexia) (3%), or dyspepsia (1.8%) [6].

Upper Endoscopy (EGD) and the biopsies obtained from it have low yield.4 They often reveal sessile subepithelial tumors covered with mucosa of normal appearance and exophytic growth.7 Endoscopic ultrasound identifies a hypoechoic lesion, either homogeneous or heterogeneous, often with a marginal halo, located in the fourth layer and sometimes in the third layer. Fine-Needle Aspiration (FNA) is the initial diagnostic method, providing a diagnosis in 85.2% of cases. However, in instances where the obtained tissue is insufficient or nonspecific, core needle biopsy may yield better results [3, 8].

Another diagnostic tool used is contrast-enhanced CT, which shows a heterogeneously hypervascular tumor that enhances with contrast, with areas of necrosis. However, radiological findings are nonspecific and are often described as gastrointestinal stromal tumor [7, 13].

Histologically, Gastric Schwannomas are encapsulated tumors containing abundant spindle cells with a prominent lymphoid aggregation characterized by Antoni A and Antoni B areas. Shah AS et al 9. demonstrated that the diagnosis can only be confirmed based on immunohistochemistry (IHC), where GS shows positivity for S-100, vimentin, and glial fibrillary acidic protein, and negativity for CD117 and Smooth Muscle Actin (SMA) [3, 9, 10, 15].

Regarding treatment, surgery is the only curative treatment for GS, and the specific type of procedure depends on the size and location of the lesion. Both conventional and laparoscopic techniques have shown satisfactory results. Lymph node resection is not necessary as SMA rarely presents lymphatic spread or malignant transformation. Endoscopic options are not viable in most cases as the lesion usually arises from the Auerbach plexus, and growths tend to involve the entire muscular layer. The recurrence rate is very rare, so surveillance is not required [7, 10, 14].

3. Conclusions

Schwannomas are benign, slow-growing, mesenchymal tumors that originate in the Schwann cells of the nerves of the Meiisner and Auebarch plexuses. They are uncommon in the gastrointestinal tract. They should be taken into consideration in the differential diagnosis of subepithelial lesions detected during endoscopy.

4. Abbreviations

MT: Mesenchymal Tumors

GIT: Gastrointestinal Tract

CT: Computed Tomography

GIST: Gastrointestinal Stromal Tumors

IHC : Immunohistochemistry

GS: Gastric Schwannomas

SMA: Smooth Muscle Actin

EGD: Esophagogastroduodenoscopy

5. Administrative information

5.1. Additional Files

None declared by the authors

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5.3. Author contributions

Conceptualization, methodology, project administration, supervision and writing-draft/original: Darío Montes N. Formal analysis, visualization, writing – review and editing: Nixon Cevallos R. Investigation and validation: Rubén Montes N. All the authors read and approved.

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5.5. Availability of data and materials

The data are available upon request to the corresponding author.

5.6. Statements

5.6.1. Consent for publication

Written informed consent for the present study was obtained from the patient.

5.6.2 Conflicts of Interest

The authors declare no conflicts of interest.

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