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Importance of immunohistochemistry in the differential diagnosis of gastric stromal tumors: gist vs. schwannoma

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INTRODUCTION

The intention of this work is to present a recent case treated in our center. A 77-year-old woman who underwent a laparoscopic subtotal gastrectomy due to the suspicion of a GIST tumor (gastrointestinal stromal tumor), in which the anatomy study the definitive pathology showed the finding of gastric Shawnnoma.

The clinical, histopathological and immunohistochemical characteristics of these tumors will be reviewed.

CASE REPORT

A 77-year-old woman with a history of obesity, atrial fibrillation, and high blood pressure. She begins a study due to epigastric pain with dorsal irradiation that is difficult to control. The diagnosis was completed after performing abdominal CT with intravenous contrast that reported a tumor compatible with gastric GIST **(Figures 1, 2).** Upper gastrointestinal endoscopy with biopsies reported a mesenchymal tumor with negative immunohistochemistry for DOG1 and CD117. The possibility of "full thickness" transmural endoscopic resection was evaluated, which was rejected due to the large size of the lesion and its extraluminal extension to the subserosal plane. The case was presented in a multidisciplinary oncology committee, deciding on minimally invasive laparoscopic surgical resection. Intraoperatively, a polypoid-type extraluminal growth mass of about 5 cm was observed on the anterior face of the gastric body, close to the lesser curvature, whose wide implantation base made it impossible to perform an atypical gastrectomy, opting for a subtotal gastrectomy **(Figure 3).**

The patient presented a very torpid postoperative period, requiring two reoperations. She was finally able to be discharged after a slow but progressive evolution. Although CT imaging tests and magnetic resonance imaging can guide us in the differential diagnosis, the definitive diagnosis is fundamentally based on histological and immunohistochemical analysis [(1)].

The pathology study **(Figure 4)** confirmed the diagnosis of Schwannoma with practically transmural involvement, with subserosal infiltration that ruled out the possibility of endoscopic resection. This technique should be considered in cases of submucosal involvement, in which infiltration with saline facilitates dissection of the muscularis propria and allows en bloc excision of the lesion [(2)]. The immunohistochemical profile of the lesion was as follows: S-100, Nestin and SOX-10 positive, with c-KIT, CD34, DOG-1, desmin, actin

and beta catenin negative, ruling out GIST and supporting the diagnosis of Schwannoma. Gastric schwannoma or neurinoma is usually detected by chance due to its paucisymptomatic evolution, although it can rarely present with digestive bleeding or pain secondary to compression of neighboring organs [3,4].

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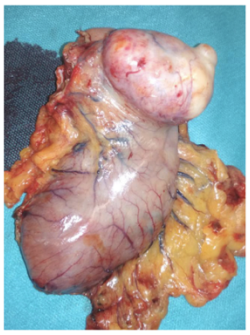

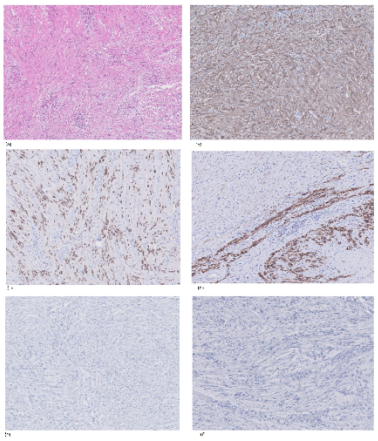

Figure 1. Axial section. Tumor size of more than 5 cm in diameter.

Figure 2. Sagittal section showing a large exophytic tumor dependent on the gastric antrum.

Figure 3. Surgical specimen.

Figure 4. Histopathological findings. (a) Hematoxylin-eosin: spindle cell lesion with hypercellular and hypocellular areas; (b) Immunohistochemistry Protein S100 positive; (c) SOX10 positive immunohistochemistry; (d) Immunohistochemistry Glial Fibrillary Acidic Protein (AGFP) positive; (e) CD117 negative immunohistochemistry; (f) DOG1 negative immunohistochemistry.