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GI IMAGE

Gastric Schwannoma

Julian Drago[1] · Ignacio Fuente[1] · Demetrio Cavadas[1] · Axel Beskow[1] · Fernando Wright[1]

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Case Report

A 31-year-old woman was referred to Hospital Italiano de Buenos Aires for dyspepsia and mild abdominal discomfort of several months of evolution. Her past medical record was unremarkable as well as her physical examination and laboratory. An upper gastrointestinal endoscopy was performed evidencing a 3 × 3 cm mass on the anterior gastric wall covered by normal mucosa. An endoscopic biopsy was carried out revealing moderate chronic gastritis in the anatomopathological exam. For better assessment of this tumor, an endoscopic ultrasound (EUS) was carried out evidencing an hypoechoic well delimited lesion arising from the submucosa. A CT scan with distension technique (PnCT) was performed identifying an homogenous mass, measuring 3.1 × 3.2 × 3.6 cm arising from the anterior gastric wall (Fig. 1). With the presumptive diagnosis of gastric stromal tumor, the patient was considered candidate for resection and underwent an initial laparoscopic approach. During exploration, we identify the tumor that occupied 80% of the anterior wall of the gastric body (Fig. 2). A wedge resection was performed by previously opening the anterior gastric wall and after the tumor was excised, the gastrotomy was closed with intracorporeal continuous suture of non-absorbable material. Oral intake was reinstated during first postoperative day and the patient was discharged at postoperative day 3. No complications were noted. Anatomopathological exam of the resected specimen revealed gastric schwannoma. Gross examination of the resected specimen revealed a full resection with adequate margins. The microscopic evaluation evidenced a submucosal lesion with fusocelular proliferation and lymphoid accumulations. In order to differentiate it from GIST, an immunohistochemical analysis was carried out demonstrating negative CD 34, CD 117 and AML surface antigens and positive expression of S100 and GFAP which is consistent with schwannomas (Fig. 3). No evidence of recurrence was noted during 24 months of follow-up.

Discussion

GI schwannoma are rare gastrointestinal mesenchymal tumors that originates from Schwann cell of peripheral nerve's sheat. The most common location in the GI tract is the stomach, representing 0.2% of all gastric tumors.[1] Although its clinical presentation is not specific being asymptomatic in most cases, when symptomatic, the most common clinical presentation includes upper gastrointestinal bleeding, abdominal pain and weight loss. Computed tomography (CT), upper gastrointestinal endoscopy, and EUS are the mainstays in preoperative assessment. Upper GI endoscopy is useful to identify the lesion but endoscopic biopsies are often nondiagnostic due to the normal tissue overlying the tumor's submucosal location. Endoscopic ultrasound (EUS) allows a precise evaluation of this type of tumors allowing to determine tumor's origin and therefore establish whether it corresponds to an extrinsic compression or if it develops from the layers of the stomach.

PnCT is a useful imaging technique for evaluating esophageal and gastroesophageal tumors which is essential in preoperative planning of schwannomas given that distention of the stomach allows an accurate evaluation of their size, location and local extension.[2] Gastric schwannomas appeared as submucosal lesions with endoluminal or exophytic growth patterns. PnCT provides key preoperative information especially when the possibility of contacting the gastroesophagic junction (GEJ) or the pylorus is present. Consequently, the location and size of the tumor are determining factors in which type of surgery to perform. Therefore, atypical resection,

✉ Julian Drago
julian.drago@hospitalitaliano.org.ar

[1] General Surgery Department, Hospital Italiano de Buenos Aires, Juan D. Perón 4190, C1199ABD Buenos Aires, Argentina

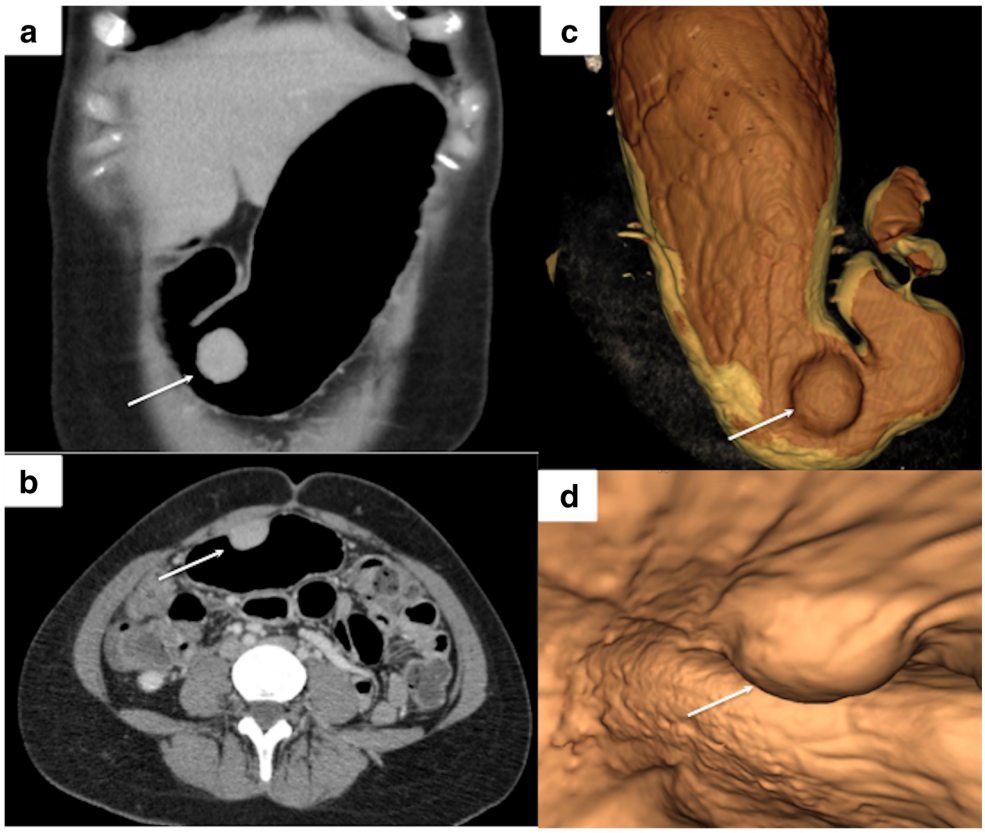

Fig. 1 CT scan with distension technique showing an homogenous mass measuring 3.1 × 3.2 × 3.6 cm arising from the anterior gastric wall. Coronal (**a**), axial (**b**), and axial and reconstructive (**c** and **d**) views

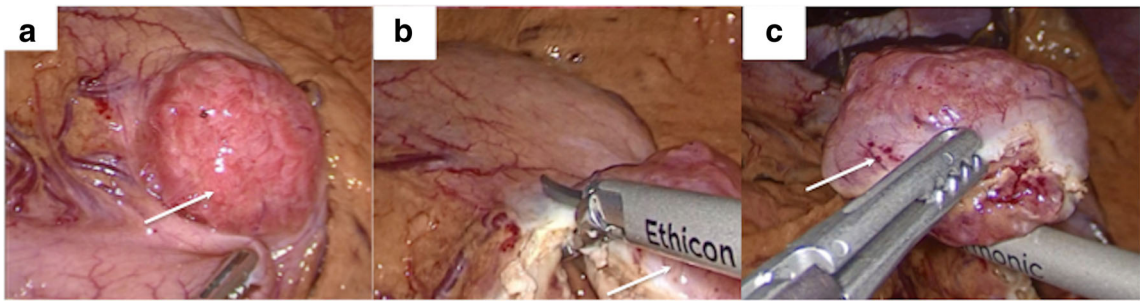

Fig. 2 Laparoscopic image showing the resection of the gastric Schwannoma. During the exploration, the implantation base of the tumor occupied 80% of the anterior wall of the gastric body (**a**). An atypical gastrectomy was performed by previously opening of the anterior gastric wall (**b** and **c**)

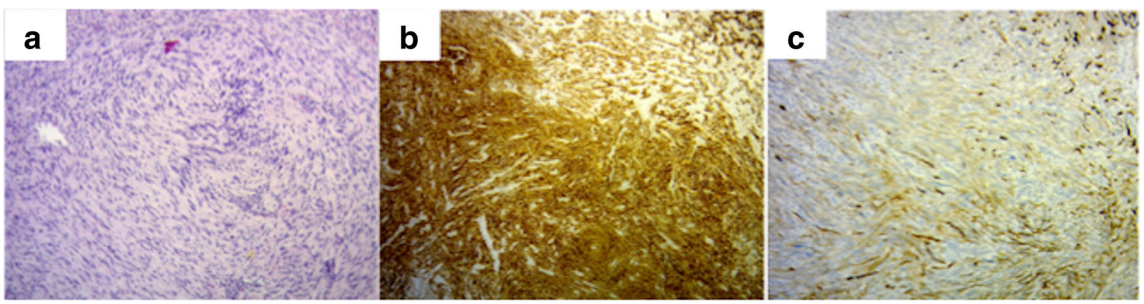

Fig. 3 Anatomopathological and immunohistochemical exam evidencing a fusocelular pattern on the H&E (**a**) and S100 (**b**) a GFAP (**c**) positive expression establishing the diagnosis of gastric schwannoma

subtotal or even total gastrectomy, are acceptable options based on the localization and size of the tumor. According to published evidence, laparoscopic approach is the one of choice.[1] Lymph node resection is not necessary as these tumors rarely have lymphatic dissemination and malignant transformation is very rare, and there are only few cases reported in the literature. Schwannomas can be distinguished from GIST by histological exam of the resected specimen followed by an immunohistochemical analysis. This type of tumors shows diffuse and strong expression of S100 protein Glial fibrillary acid protein (GFAP).[3]

In summary, gastric schwannomas are very rare tumors that have to be taken into account in the differential diagnosis of more frequent mesenchymal gastric tumors, such as GIST, and PnCT is key in preoperative planning.

Author's Contribution All authors have contributed to the design of the work, data acquisition and analysis data, revision for important intellectual content and final approval of the version to be published.

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