

Gastric lipoma and pyloric obstruction in a 51-year-old woman

Lipoma gástrico y obstrucción pilórica en una mujer de 51 años

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ABSTRACT

Gastric lipoma is considered a rare condition that may constitute a challenging diagnosis. A 51-year-old woman presented dysphagia and abdominal pain, and an upper digestive endoscopic study disclosed a gastric tumor located in the submucosa of the pyloric antrum. Conclusive diagnosis was established after repeated endoscopic biopsies, and the patient was subjected to an atypical gastrectomy, which evolved into a pyloric stenosis. This complication was appropriately corrected and the patient remains symptomless, under outpatient surveillance.

Key words. Atypical gastrectomy. Benign tumor. Gastric lipoma. Pyloric obstruction.

RESUMEN

Lipoma gástrico es un hallazgo muy raro que suele constituir un desafío diagnóstico. Una mujer con 51 años presentó disfagia y dolor abdominal; en una endoscopia digestiva superior se encontró un tumor gástrico submucoso localizado en el antro pilórico. Se hicieron biopsias *endoscópicas* para establecer el diagnóstico. Esta paciente se sometió a una gastrectomía atípica, que ocasionó estenosis del píloro. Esta complicación fue adecuadamente tratada, y la paciente se mantiene sin síntomas con control ambulatorio.

Palabras clave. Gastrectomía atípica. Lipoma gástrico. Obstrucción pilórica. Tumor gástrico benigno.

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INTRODUCTION

Gastrointestinal lipomas more frequently occur in the colon (60-75%) and the small intestine (up to 31,2%)¹⁻⁷ Only 5% of them are found in the stomach, which accounts for less than 1% of the gastric tumors, and 2% to 3% of benign tumors of this organ^{2,4-10}. They can be under recognized or misdiagnosed by more common masses⁵ like gastrointestinal stromal tumor, leiomyoma, fibroma, neurilemmoma, adenomyoma, Brunner's gland adenoma, and heterotopic pancreas². The first description of gastric lipoma is attributed to Cruveilhier (1842)⁸. There are only about 220 cases of gastric lipomas described in the literature^{2,5,8} around 10% are intramural or subserosal, while the vast majority have origin in the submucosa^{5,7-10}. The etiology of lipoma remains unknown^{2,6,8} and it may constitute an acquired condition or an embryological misplacement⁶. The tumor is constituted by well differentiated adipocytes with a fibrous capsule, and if sectioned it grossly appears as an yellowish tissue^{2,3,5,7,10}. Although more commonly located in the gastric antrum (75%)², these tumors may be found at any site of the stomach⁴⁻¹⁰. Gastric lipoma is a rare benign condition, which may mimic malignancy of the stomach.

CASE REPORT

A 51-year-old Brazilian woman was admitted because of a severe epigastric pain associated with episodes of vomiting, dyspepsia, dysphagia and weight loss of 5 kg during 8 months. Her body mass index was 19.81Kg/m², and the routine laboratory determinations were unremarkable. She underwent three endoscopy studies that disclosed an antral mass with around 3 cm (Fig. 1A-B). PET/CT images revealed a spherical hypoattenuating mass (31 mm x 20 mm) with fat density, without enhanced metabolism, at the antrum; and the ecoendoscopy study found a submucosal homogeneous hyperechoic mass (27 mm x 20 mm) on the same site. The specimens obtained from two routine endoscopic biopsies revealed normal mucosa. Another biopsy was performed – guided by endoscopic ultrasound, and revealed mature fat tissue at the submucosa, and diagnosis of submucosal lipoma was characterized (Fig. 1C-D). She

underwent an atypical gastrectomy by laparoscopic route, and employing linear staplers (Fig. 2A-B) to remove the gastric mass along with a wide free surgical margin. Grossly, the aspect of transected tumor was yellow and adipose (Fig. 2C-D), with a capsule. On the fifth postoperative day, the patient presented with vomiting and dysphagia, and the endoscopic evaluation revealed a pyloric substenosis, corrected by dilation. After an uneventful evolution, she was discharged to home; nevertheless, five days later, she claimed of anorexia and recurrent vomiting, and another endoscopy detected pyloric obstruction. Therefore, the patient was submitted to a pylorotomy, and was discharged to outpatient surveillance on the third postoperative day, asymptomatic and accepting solid foods.

DISCUSSION

This 51-year-old female presented with clinical features typical of gastrointestinal obstruction and her age was in accordance with the mean age of patients at diagnosis of gastric lipomas^{5,8}. However, no specific symptoms could hardly contribute to raise suspicion about gastric lipoma, and the final diagnosis was based on imaging investigation and further histopathology studies. The upper digestive endoscopy showed a submucosal mass measuring about 3 cm in diameter. The first two biopsy procedures did not furnished enough tissue to histopathology analysis, phenomenon that is frequently reported in literature^{3-5,8,9}. The tissue samples from the third biopsy, which was guided by endoscopic ultrasound, revealed the origin of the tumor – a classical lipoma. Surgical approach was done, as most of the authors recommend for symptomatic patients^{3-5,7-9,11}. The occurrence of pyloric stenosis was an expected complication of the atypical gastrectomy, because the tumor resection was performed at the antrum, and with a large free surgical margin. Gastric lipomas predominate in people over than 50 years of age^{2,5,8,11} and appear as solitary and asymptomatic masses⁵⁻¹⁰. However, patients with gastric lipomatosis have been reported as an exceeding rare condition¹². The symptoms depend on localization and size of the tumor and of associated entities^{2,7-10}. Those lipomas de-

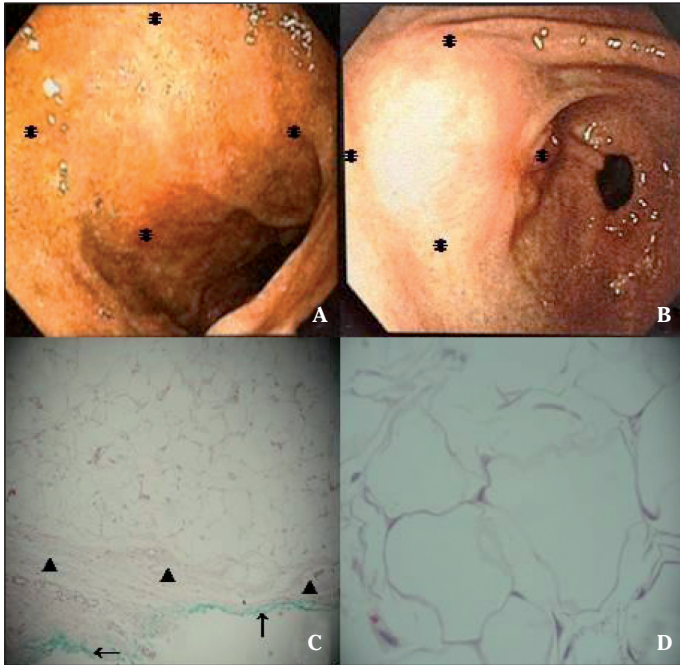


Figure 1. A and B: Endoscopy view of the submucosal antral mass (asterisks), measuring around 3 cm of diameter; **C:** Photomicrography of gastric sample, showing normal mucosa (arrows) and mature fat tissue typical of lipoma on the submucosa (arrowheads); **D:** Sample of lipoma in a high magnification view.

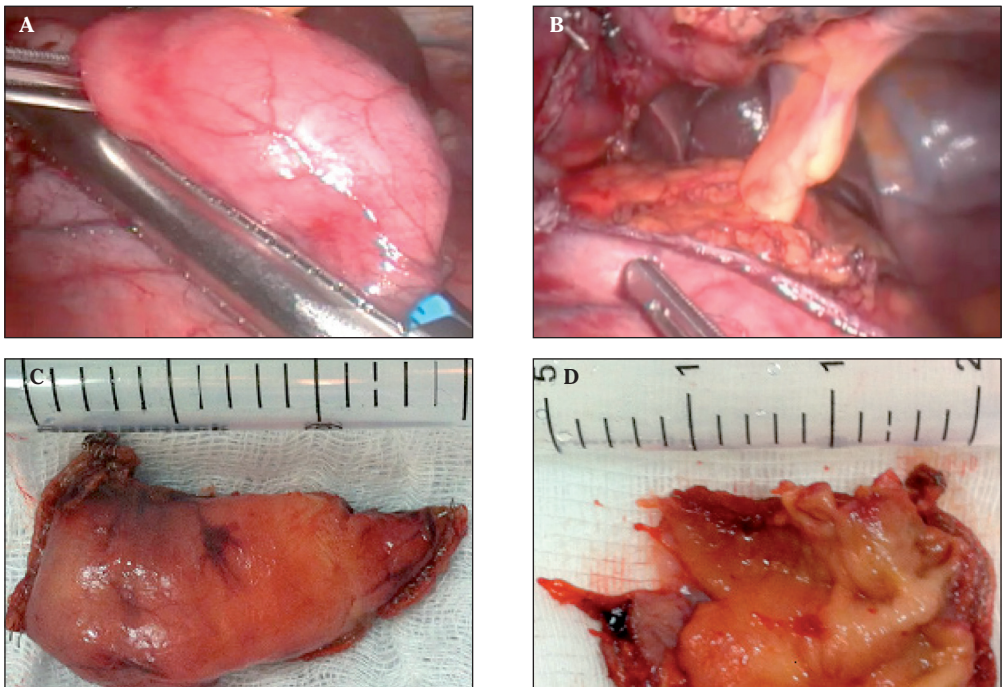


Figure 2. A and B: Gastrectomy done by laparoscopic route, and using linear staplers to remove the submucous lipoma with a wide surgical margin; **C and D:** Gross aspect of the transected tumor, which appears yellow and adipose, surrounded by a capsule.

veloped at the antrum and the body of the stomach may origin intussusceptions into the pylorus causing obstruction and pain; while voluminous tumors may be associated with venous stasis, resulting in ulceration and hemorrhage⁶⁻¹⁰. Lipomas larger than 2 cm usually cause symptoms (diarrhea, obstruction, intussusception, hemorrhage)^{2,4,5,7,10}. The most common symptoms are dyspepsia, epigastric pain, upper gastrointestinal bleeding (usually by ulceration and necrosis), obstruction and intussusception³⁻¹¹. Because of the absence of symptoms, in the vast majority of cases gastric lipoma constitutes an endoscopic finding^{3,5,6,8,10} and the tumor often appears as a smooth, yellowish submucosal mass with or without ulceration^{3-5,10}. Classical imaging aspects like “tenting”, “cushion sign” and “naked fat sign” are useful to diagnose submucosal lipomas.^{2-7,11} To perform a successful endoscopic biopsy of submucosal lipomas can be a challenging task^{2,4,5,9}. In general, these biopsies only reveal a normal gastric mucosa^{2,3,6,8,9}. The use of electrocautery to elicit a local mucosal ulceration, before the biopsy procedure, might be of some utility⁵. Computerized tomography (CT) is a highly specific tool that can contribute to diagnosis^{2,3-9,10}. In CT images, the lipoma typically appears as a mass that is isodense (-70H to -120H) with fat^{3,4,6,7,9,10}. Endoscopic ultrasound is useful to diagnosis of gastric lipoma, showing the hyperechoic density of the tumor in the submucosa^{2,3-10}. Gastric lipomas do not have malignant potential^{2,4-6,9} however, synchronous gastric carcinomas have been very rarely described^{6,9}. Treatment of gastric lipoma, is controversial^{4,9} but resection is the best choice for symptomatic tumors^{2-5,8,10}. Laparoscopic route is used for tumors up to 6 cm in diameter^{2,7}. Pedunculated lipomas smaller than 3 cm may be excised by upper digestive endos-

copy route^{4,7,8,11} but mere observation is an alternative^{2,4,7,10,11}. Hemorrhages can be treated by endoscopic clipping⁵.

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