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Case Report

Adenomyoma in the gastric antrum misdiagnosed as stromal tumor: a case report and literature review

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Abstract: Gastric adenomyoma (AM) is a rare benign tumor of the stomach characterized by smooth muscle matrix insertion into gastric adenoid tissue. We report a case of a 59-year-old woman with gastric antrum AM hospitalized in our hospital due to intermittent upper abdominal pain, ongoing for one year. Gastroscopy revealed a submucosal mass approximately 2 centimeter (cm) in diameter in the gastric antrum. Histopathological examination showed that the arrangement of the gland was irregular, the smooth muscle bundles wrapped around the glands, and a small number of lymphocytes were infiltrated.

Keywords: Adenomyoma, antrum, gastroscopy, ultrasound endoscopy

Introduction

Gastric adenomyoma (AM) is a rare benign tumor of the stomach, composed of glands and cysts, arranged into columns, flat epithelial cells and a prominent smooth muscle matrix. Patients with gastric AM may have asymptomatic or nonspecific gastrointestinal symptoms, including upper abdominal pain [1], vomiting [2, 3] and dyspepsia.

Case report

A 59-year-old woman was hospitalized for intermittent epigastric pain for one year. She has been healthy and has no history of smoking or drinking. Abdominal physical examination showed slight tenderness in the upper abdomen. Laboratory examination and tumor markers, including CA-199, CEA, and AFP were normal. Abdominal doppler ultrasound and chest X-ray examination were also normal.

Gastroscopy revealed a submucosal mass about 2 cm in diameter located in the anterior wall of the gastric antrum (**Figure 1A**). The rest of the stomach, esophagus, and duodenum are normal. Because the mass was located in the submucosa, no pathological biopsy was performed. Then we performed endoscopic ultrasonography, revealing a hypoechoic oval mass originating from the submucosa, the cross-sectional size of which was about 2.2 × 1.3 cm, the internal echo was uneven, and the gastric muscle and serosa layer of the stomach were continuous and intact (**Figure 1B**).

After gastroscopy and endoscopic ultrasonography, we assess that the mass may be a gastrointestinal stromal tumor. In order to determine the diagnosis and appropriate treatment, endoscopic submucosal dissection (ESD) was performed with the informed consent of the patient. During the operation, it was found that there was a small amount of adhesion between the tumor and the muscle layer of the gastric antrum, and the gastric mass was successfully removed (**Figure 2A-C**). Tissue hematoxylin-eosin staining showed that the tumor was mainly located in the submucosa and there was smooth muscle bundles around the glands, diagnosing the gastric AM (**Figure 2D**).

Discussion

Gastric AM is not a new tumor, it is a smooth muscle disorder and hyperplasia hamartoma. The cause may be that epithelial buds are lost

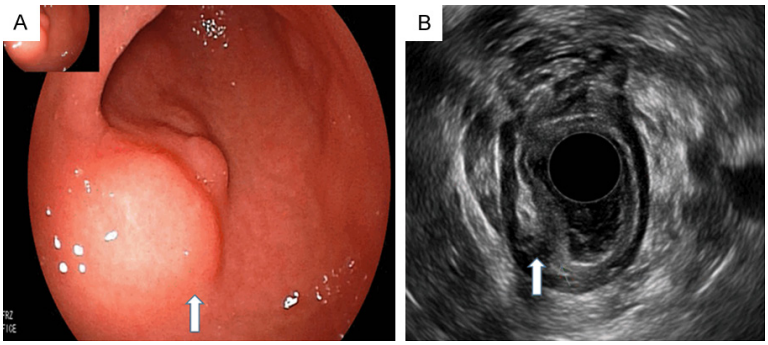

Figure 1. Gastric adenomyoma of Gastroscopy and Ultrasound Endoscopy. A. Gastroscopy showing a mass in the gastric antrum; B. Ultrasound Endoscopy showing the mass originating from the submucosa layer of stomach.

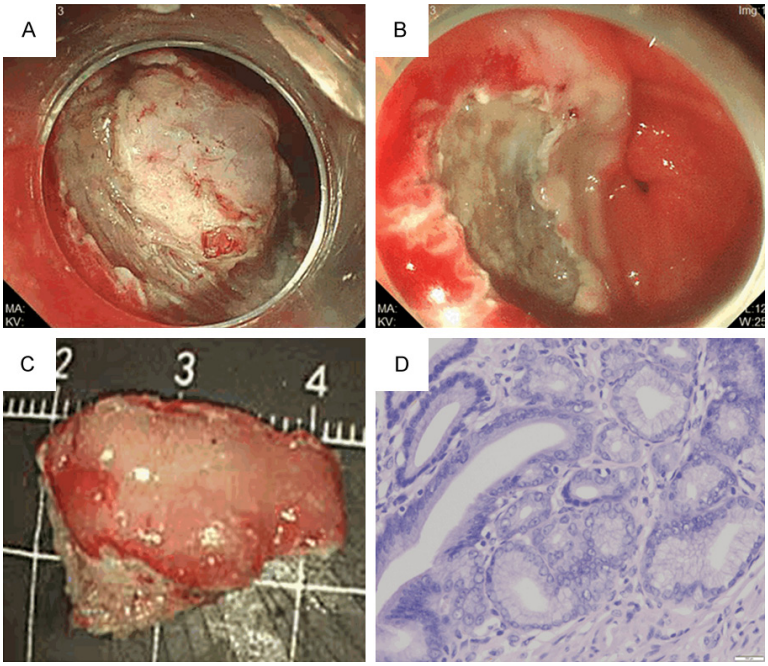

Figure 2. Gastric adenomyoma ESD and histopathological examination. A-C. The ESD procedure of Gastric adenomyoma; D. Microscopy showing glands and cyst surrounded by smooth muscle (H&E, × 200).

in the stomach wall during embryonic development, and differentiate into gastric AM. Sometimes gastric AM may consist of hyperplastic Brunner's gland and vagal pancreas, including cysts, glands, and smooth muscle bundles [4]. Gastric AM is characterized by cubic epithelial cells and columnar epithelial cells around the cystic cavity and tubular structure embedded within the smooth muscle matrix [1]. The disease can be divided into three types: (1) AM contains the Brunner's gland, also known as Brunner adenoma; (2) about 33% of AM also have ectopic pancreas, so some scholars tend to call this AM ectopic pancreas; (3) there is no Brunner's gland nor ectopic pancreas.

Our AM case belongs to type 3. AM mostly occurs in the duodenum, and sometimes in the stomach. Gastric AM mainly occurs in the gastric antrum and can also be located in the pylorus [5, 6]. The diameter of AM is usually less than 3 cm, but a few can be greater than 5 cm. It can be solitary or diffuse, and the incidence has nothing to do with gender. Most patients have no clinical symptoms and a few patients have only mild symptoms, including upper abdominal pain [1], dyspepsia, vomiting [2, 3], occasional upper gastrointestinal bleeding [7], and localized peritonitis [8]. Although there are new diagnostic techniques, including CT and endoscopic ultrasonography [9], preoperative diagnosis of gastric AM is still difficult. Endoscopy alone cannot distinguish between gastric AM and gastrointestinal stromal tumors, lipomas, gastrointestinal autonomic neuromas, nor lymphomas. Histopathological examination is still the gold standard for the diagnosis of gastric AM. Our patient was misdiagnosed with gastrointestinal stromal tumor after gastroscopy and endoscopic ultrasonography, but with the pathological examination of the specimen it was finally diagnosed as gastric AM.

In short, although gastric AM is rare, it needs to be considered frequently in the differential diagnosis of gastric submucous lesions. Despite the continuous development of modern diagnostic techniques, the diagnosis of gastric AM is still challenging.

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Disclosure of conflict of interest

None.

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