

Heterotopic Gastric Mucosa in the Rectum Treated by Endoscopic Submucosal Dissection: A Case Report

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Abstract

Heterotopic gastric mucosa can be defined as the presence of gastric mucosa outside the stomach and is rarely seen in the rectum. In patients with heterotopic gastric mucosa in the rectum, the best method for diagnosis and treatment is complete excision of the lesion, either surgically or endoscopically, since it can both cause symptoms and have a minimal risk of neoplastic degeneration. We present the case of a 27-year-old female who presented with the complaint of rectal bleeding and itching and underwent endoscopic submucosal dissection after a flat depressed lesion was detected in the rectum.

Keywords: Endoscopic submucosal dissection, heterotopic gastric mucosa, rectum

INTRODUCTION

Heterotopic gastric mucosa (HGM) (also called gastric heterotopia, ectopic gastric mucosa) can be defined as the presence of gastric mucosa outside of the stomach. It can occur anywhere along the length of the gastrointestinal tract, from the oral cavity to the anal canal. It is most commonly seen in the esophagus, duodenum, and Meckel's diverticulum in the gastrointestinal tract, but it can rarely be seen in the rectum.¹ Here, we present the case of a 27-year-old female who presented with the complaint of rectal bleeding and itching and underwent endoscopic submucosal dissection (ESD) after a flat depressed lesion was detected in the rectum.

CASE PRESENTATION

A 27-year-old female patient was referred to our hospital for ESD after a wide-based depressed flat lesion in the rectum. The patient had occasional rectal bleeding and itching in the anal region for the last 3 months. The patient had no known chronic disease. Physical examination and digital rectal examination were normal. Laboratory tests were normal except for mild iron deficiency anemia. We decided to perform ESD, because the patient was symptomatic and there was a possible risk of malignancy. Abdominal and pelvic magnetic resonance imaging was performed before ESD and it was reported as normal. After obtaining an informed consent form for definitive diagnosis and treatment, it was decided to perform ESD for the patient. In the colonoscopy, a lesion of approximately 3.5 cm in size was detected on the posterior wall of the rectum at a distance of 7 cm from the anal canal, sharply separated from the normal mucosa, raised from the mucosa and depressed in the middle (type 0-IIa-IIc according to Paris classification) (Figure 1). The lesion was completely removed en bloc without complications by ESD for both diagnostic and therapeutic reasons. The histopathological evaluation of the resected specimen revealed gastric mucosa. The entire polypoid lesion consisted of gastric mucosa containing parietal cells, chief cells, and foveolar-type epithelium. Intestinal metaplasia was not observed in PAS/AB histochemical staining. *Helicobacter pylori* was not seen in Giemsa histochemical staining. Dysplasia or malignancy were not observed (Figure 2). At the sixth month

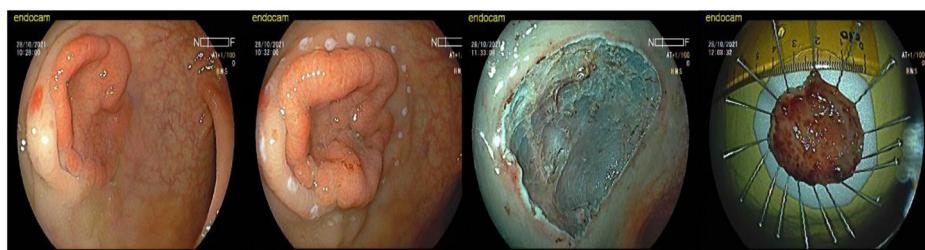


Figure 1. Endoscopic view of slightly elevated nongranular superficial depressed lesion sharply separated from normal mucosa.

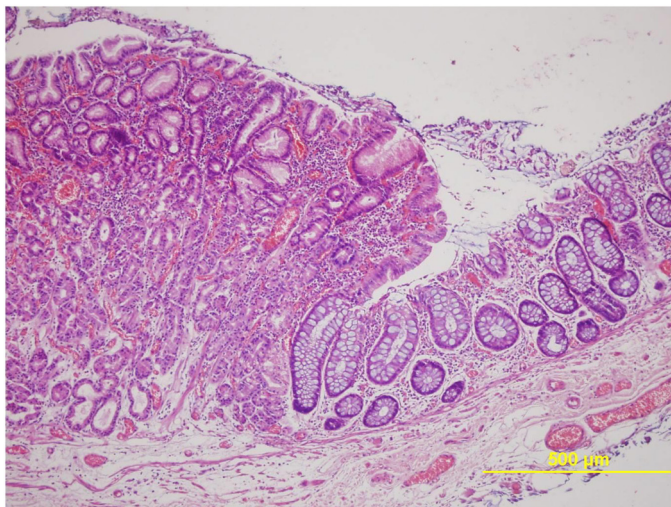


Figure 2. Full-thickness heterotopic gastric mucosa which is represented in transition with the colonic mucosa. Gastric mucosa consisting of chief cells, parietal cells, and foveolar epithelium. HE $\times 100$. HE, hematoxylin and eosin.

follow-up after ESD, the patient's complaints of bleeding and itching in the anal region improved, and no recurrence was observed in the lesion in the rectoscopic examination (Figure 3).



Figure 3. Endoscopic view at the 6-month follow-up.

MAIN POINTS

- Heterotopic gastric mucosa can be defined as the presence of gastric mucosa outside of the stomach.
- Heterotopic gastric mucosa in the rectum is a rare condition and may cause uncomfortable symptoms such as bleeding and itching in patients.
- There is a small risk of developing malignancy from these lesions. Therefore, complete removal of the lesions, if possible, is necessary for both diagnosis and treatment.

DISCUSSION

The term HGM refers to the presence of stomach tissue in an anatomical region different from the organ of origin. Although it can be seen in the esophagus and duodenum with a frequency of 8% and 11%, respectively, HGM in the rectum is an extremely rare condition.² Since the first description in 1939,³ approximately 80 cases of HGM have been reported in the rectum and anus.⁴ The majority of these lesions are localized in the right posterior wall of the rectum, and 16 cases have been reported in the middle and proximal rectum.⁴ In our case, the lesion was 7 cm from the anal canal and on the posterior wall of the rectum.

Although different mechanisms have been described to explain the presence of HGM in the gastrointestinal tract, the mechanism of HGM formation is not fully understood. Heterotopic gastric mucosa can be congenital but also can be acquired. While an error in the positioning of endodermal stem cells during the embryological development of the gastrointestinal tract is considered congenital, the erroneous differentiation of pluripotent stem cells into the gastric mucosa following mucosal damage for various reasons, rather than a positioning error, may be considered as acquired HGM.^{4,5}

Heterotopic gastric mucosa in the rectum can sometimes be asymptomatic and is discovered incidentally during endoscopy. However, it often presents with symptoms such as gastrointestinal bleeding, diarrhea, tenesmus, anal pain and burning or pruritus of the anus.^{4,6,7} Clinical findings in symptomatic patients depend on the size and location of the lesion. In the rectum, HGM lesions can be seen macroscopically as slightly raised flat or polypoid lesions, erythematous patches, rectal ulcers, and diverticulum.^{4,7} These lesions are usually sharply separated from the normal mucosa. Heterotopic gastric mucosa can occur at multiple sites in the gastrointestinal tract and is sometimes associated with other intestinal or extraintestinal malformations.⁴ Rarely, malignant tumors may develop from the heterotopic gastric mucosa in the colon.⁸

Especially in symptomatic patients, complete excision of the lesion, if possible, provides both diagnosis and treatment. For this purpose, while these lesions were mostly surgically removed before 1990, with the developments in endoscopic methods, endoscopic mucosal resection or ESD started to be applied more frequently in the following years.⁴ The higher risk of malignancy, especially in nonpolypoid depressed lesions, requires complete removal of these lesions. Gastroenterology guidelines recommend ESD for removal of colonic and rectal lesions larger than 20 mm without suspected submucosal invasion.⁹ To our knowledge, there are only 3 cases treated with endoscopic submucosal dissection in the literature.^{4,10,11} In our patient, after the lesion was en bloc removed with ESD, the patient's symptoms improved and no recurrence was observed in the control.

In conclusion, HGM in the rectum is a rare condition and may cause uncomfortable symptoms such as bleeding and itching in patients. There is a small risk of developing malignancy from these lesions. Therefore, complete removal of the lesions, if possible, is necessary for both diagnosis and treatment. For this reason, we think that ESD is the appropriate treatment method for lesions larger than 20 mm.

Informed Consent: Written informed consent was obtained from the patient who participated in this study.

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