Gastric Heterotopia in the Rectum

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Abstract

Gastric heterotopia, which is not uncommonly seen, occurs anywhere in the alimentary tract as well as in the mediastinum, scrotum and spinal cord. Gastric heterotopia in the rectum, however, is rarely reported, with only about 40 cases published in the English literature. Although it is a rare entity, it may be the source for significant problems such as rectal bleeding, abdominal and rectal pain and malignancy. Therefore, it is important to recognize this entity. Here, we report an additional case of gastric heterotopia in the rectum of 65 year-old female and review the literature.

Keywords: Gastric; Heterotopia; Rectum

Introduction

Gastric heterotopia is not uncommonly seen in the esophagus or small intestine. However, gastric heterotopia in the rectum is a rare entity. Although histopathologic finding is straightforward for correct diagnosis, gastric heterotopia is identified as polyp, diverticula or ulcer endoscopically. Awareness of this entity can direct us to correct diagnosis.

Case Report

A 65 year-old female presented with bowel habit changes. The patient did not have rectal bleeding nor pain. Perianal fistula and ulceration were not identified, either. On colonoscopy, three polyps were found (4 to 8 mm in range) in the cecum, transverse colon and rectum, respectively. These polyps were removed with cold snare. The histopathological evaluation revealed that the polyp in the cecum was tubular adenoma and that the polyps in the transverse colon and rectum were hyperplastic polyps. An area of congested mucosa measuring approximately 3 cm in diameter was noted in the rectum. This patch of mucosa was demarcated by both color and texture when compared to the remainder of the rectal mucosa. Biopsies were taken for histopathological evaluation.

A sharp demarcation is seen between the rectal mucosa (left) and gastric mucosa (right) on microscopic examination (Fig. 1-A). The mucosa of the rectum shows crypt epithelia which have basally-located nuclei and purple cytoplasm. On the other hand, the mucosa on the right side shows foveolar type surface epithelium with underlying glands composed of parietal and chief cells (Fig. 1-B, C and D). Warthin-starry stain (not shown) for Helicobacter pylori did not identify microorganism in the mucosal surface.

Discussion

Gastric heterotopia has been described anywhere in the alimentary tract and even in the mediastinum [1], scrotum [2] and the spinal cord [3]. Embryologically, gastric heterotopia in the foregut is explained as the failure of developmental descent of the stomach [4]. However, gastric heterotopia distal to the foregut is explained by the pluripotential ability of primitive intestinal canal lining cells which can develop into any kind of cells in the alimentary tract [4].

Interestingly, local injury or inflammation can cause acquired changes (for example, pyloric epithelial lining) in

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some organs such as lower esophagus, duodenal bulb and gallbladder that can imitate gastric heterotopia. This type of changes is currently considered as metaplasia, that is, adaptive substitution of native cells by other cell types that are better able to withstand an adverse environment [5]. Unlike gastric heterotopia which consists of full mucosal thicknesses of specialized foveolar epithelium and gastric glands composed of chief and/or parietal cells, gastric metaplasia is of partial thickness with only foveolar epithelium and intermingles with the native tissue.

Since the first report by Ewell and Jackson [6] in 1939 in the English literature, 47 cases of gastric heterotopia in the rectum have been reported so far to the best of our knowledge [7-10]. In literature, slight male predominance is observed (male: female, 28:19) and wide range of patients’ age is reported (1 day to 68 years, including current case). Majority of cases are located more than 5 cm above from the anal verge. However, lesions less than 2 cm above from the anal verge do occur.

The most common symptoms of gastric heterotopia in the rectum are painless rectal bleeding, perineal ulcer, anal pain, abdominal pain and melena in the decreasing order of frequency [7, 11-13].

Endoscopically, rectal gastric heterotopia is identified as polyp, diverticula and ulcer, but Ikematsu et al. mentioned it can mimic early depressed cancer [14]. On microscopic examination, oxyntic type mucosa is most commonly seen, followed by mixed type, indefinite type and pyloric type mucosa from which adenocarcinoma arise [4, 7].

Of note is the identification of Helicobacter pylori in gastric heterotopias in the rectum [12, 15]. Dye et al. reported the resolution of chronic active gastritis after the eradication of Helicobacter pylori [16].

Definitive therapy is surgical excision, but H2 antagonist has been used to control rectal bleeding due to the multiple lesions in large intestine [13]. Symptomatic resolution almost always ensues the surgical excision and no recurrence has been reported. However, closer follow-up is recommended since the heterotopic lesion has shown neoplastic transformation in a case [4].

Grant

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Conflict of Interest

The authors have no conflict of interest.

References