Case Report

Jejunal Polyps out of Place: A Case of Gastric Heterotopia of the Jejunum

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Heterotopia is the presence of mature physiologic tissue in an atypical location. Gastric heterotopia has been described in several locations throughout the gastrointestinal tract such as the esophagus, duodenum, gallbladder, Meckel’s diverticulum, and other areas within the small bowel and rectum. Gastric heterotopia of the small intestine can be asymptomatic or present in various ways with symptoms of obstruction, ulceration or bleeding, perforation, intussusception, or pain [1]. Gastric heterotopia beyond the ligament of Treitz is rare but should be considered in the differential diagnosis of polyloid lesions in young patients presenting with gastrointestinal bleeding or symptoms of obstruction [2].

1. Introduction

Heterotopia is the presence of normal physiologic tissue in an atypical location. Gastric heterotopia has been described in various locations throughout the gastrointestinal tract, including the small intestine. Gastric heterotopia of the small intestine typically is asymptomatic but may present in several ways with symptoms of obstruction, bleeding, perforation, intussusception, or pain. However, gastric heterotopia is rare beyond the duodenum except for its frequent association with Meckel’s diverticulum. This entity should be considered in the differential diagnosis of polyloid lesions presenting with symptoms of bleeding or obstruction especially in younger patients. We present a case of gastric heterotopia of the jejunum in a patient with a prior history of Meckel’s diverticulectomy after he presented with obstructive symptoms. His symptoms improved following resection of two jejunal polyps via antegrade double-balloon assisted enteroscopy with fluoroscopy. On histopathological examination, findings were consistent with gastric heterotopia. This case highlights the importance of considering gastric heterotopia in the differential diagnosis of polyloid lesions located beyond the ligament of Treitz in younger patients presenting with obstructive symptoms.

2. Case Presentation

A 33-year-old gentleman presented with lower abdominal pain, occasional nausea, emesis, and inability to pass stool or flatus. He did not have any fever or chills. His past medical history was notable for Meckel’s diverticulectomy secondary to gastrointestinal bleeding which ultimately required ileal resection and stapled anastomosis ten years previously. The pathology following operative intervention did not demonstrate any ectopic gastric mucosa. He did not have any additional pertinent past medical, family, or social history.

His vital signs were within normal limits. Physical examination was notable for a minimally distended abdomen with tympany on percussion. Laboratory investigations were unremarkable. Coronal and axial computed tomography enterography of the abdomen and pelvis with contrast (Figure 1) demonstrated a 0.8 cm jejunal polyp in the proximal jejunum just past the ligament of Treitz. He subsequently underwent an antegrade double-balloon assisted enteroscopy with fluoroscopy which revealed a 1.5 cm sessile polyp without bleeding at the ligament of Treitz in addition to a 0.7 cm sessile polyp in the proximal jejunum (Figure 2) which were then resected.
Histopathology demonstrated nodular areas of gastric fundic heterotopia without dysplasia. Oxyntic glands with chief cells (arrows) and parietal cells (asterisks) are shown at high magnification (Figure 3). A diagnosis of gastric heterotopia of the jejunum was made. Following endoscopic resection, the patient was advised to avoid aspirin or nonsteroidal anti-inflammatory medications and to monitor hemoglobin annually for anemia.

### 3. Discussion

Heterotopia is defined as the presence of normal physiologic tissue in an anatomic location where it is not normally found. Gastric heterotopia is not an uncommon lesion and can be found in several areas throughout the gastrointestinal tract. However, gastric heterotopia is rare beyond the duodenum except for its frequent association with Meckel’s diverticulum [3]. Gastric heterotopia of the small intestine may be asymptomatic or present with symptoms of intestinal obstruction, ulceration or bleeding, perforation, intussusception, or pain [1]. Gross appearance is characteristically a mucosal nodularity or polypoid lesion [2, 4]. Peptic ulceration in the area of heterotopia followed by inflammation and fibrosis may result in the formation of a stricture. Polyps can cause intussusception. On microscopic examination, the surface is lined by gastric foveolar epithelium with gastric glands, typically with fundic type mucosa [2].

It is important to differentiate gastric heterotopia from gastric metaplasia. Gastric metaplasia is an acquired lesion and is usually seen in association with chronic inflammatory conditions such as inflammatory bowel disease. Unlike heterotopia which is a macroscopic lesion seen on radiographic imaging or endoscopy, ultimately requiring confirmation by biopsy, metaplasia is a microscopic lesion [2].

The typical treatment for gastric heterotopia includes endoscopic or surgical resection to prevent complications. This case is unique in that the patient had two foci of gastric intestines. 

**Figure 1:** Coronal (a) and axial (b) computed tomography enterography of the abdomen and pelvis with contrast demonstrating a 0.8 cm jejunal polyp in the proximal jejunum just past the ligament of Treitz.

**Figure 2:** Antegrade double-balloon assisted enteroscopy with fluoroscopy demonstrating a semisessile polyp without bleeding at the ligament of Treitz.

**Figure 3:** Histopathology with nodular areas of gastric fundic heterotopia without dysplasia. Oxyntic glands with chief cells (arrows) and parietal cells (asterisks) are shown at high magnification.
| Author          | Age | Sex | Presenting features and diagnosis                                                                 | Duration | Gross appearance                                                                 | Size                                                                 | Treatment                                                                 |
|-----------------|-----|-----|-----------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| Ahn, et al. [10]| 5   | F   | Vomiting, abdominal pain; diagnosed with intussusception of proximal jejunal loops                  | 2 weeks  | Polypoid lesions with erosions on the proximal jejunum                              | Variable-sized with largest nearly obstructing jejunal lumen         | Endoscopic resection                                                    |
| Ali, et al. [7]  | 23  | M   | Melena, nausea, and vomiting                                                                          | Unknown  | Jejunal diverticulum with white mucosal plaques 50 cm from pylorus                   | Unknown                                                              | Midline laparotomy and endoscopic wedge resection                        |
| Al-Jaadan, et al. [6] | 1  | F   | Episodic abdominal distension, vomiting, diarrhea, and failure to thrive                               | 3 years  | Dilated segment of proximal jejunum followed by 8 cm narrowed segment with thickened walls | 38 cm dilated segment of proximal jejunum                           | Laparotomy with en-bloc small bowel resection                            |
| Bhattacharya, et al. [1] | 52 | F   | Intermittent cramping, abdominal pain, and vomiting                                                   | Unknown  | Mucosal, broad-based, polypoid mass                                                  | 4 × 2.7 × 0.4 cm                                                      | Exploratory laparotomy with partial resection of jejunum                |
| Chinnery, et al. [3] | 17 | F   | Postprandial vomiting and weight loss                                                                  | 3 months | Jejunal stricture 15 cm distal to ligament of Treitz                               | 2 cm in length                                                       | Surgical excision                                                       |
| Isbister, et al. [18] | 16 | F   | Abdominal pain and vomiting                                                                            | 1 week   | Perforation and ulcer involving the jejunum, 25 cm from duodenojejunal flexure       | 2.5 cm in diameter                                                   | Laparotomy with surgical resection                                       |
| Jimenez, et al. [8] | 4  | M   | Abdominal pain and melena                                                                              | 3 days   | Large polypoid mass occupying 50% of the lumen                                      | 9 × 4 cm                                                            | Laparotomy with en-bloc small bowel resection                            |
| Khan, et al. [11] | 36 | F   | Abdominal pain and vomiting                                                                             | Unknown  | Tumor mass filling the entire lumen of the jejunum                                   | 3 cm in diameter                                                     | Surgical resection                                                      |
| Kimpton, et al. [12] | 7  | F   | Episodic abdominal pain and vomiting                                                                   | 4 years  | Elongated, serpiginous mucosal tumors                                               | 8 × 3 cm and 6 × 3 cm                                                 | Surgical resection                                                      |
| Lee, et al. [13]  | 25  | M   | Postprandial abdominal pain and vomiting                                                               | 3 weeks  | Polypoid mass                                                                       | 4 cm                                                                | Laparoscopic resection                                                  |
| Leng, et al. [9]  | 9   | F   | Gastrointestinal bleeding with melena and mild anemia                                                  | 15 months| Bilobed intraluminal jejunal polyp                                                   | Unknown                                                             | Surgical resection                                                      |
| Mandrekar, et al. [14] | 22 | F   | Intestinal obstruction                                                                                  | Unknown  | Polypoideal mass                                                                    | 8 × 6 × 2 cm                                                        | Emergency laparotomy and resection Abdominal laparotomy with resection Endoscopic resection |
| Martinez, et al. [15] | 21 | F   | Intermittent abdominal pain, nausea, and vomiting                                                       | 1 year   | Large intraluminal tumor of the jejunum                                              | 15 cm                                                               | Laparotomy with resection                                                |
| Nasir, et al. [5]  | 31  | M   | Postprandial abdominal pain and hematochezia                                                           | 10 years | Polypoid mass at duodenojejunal junction                                              | 6 × 2.5 cm                                                          | Endoscopic resection                                                    |
| Nwanze, et al. [16] | 24 | F   | Abdominal pain and vomiting                                                                             | 12 hours | Protruding polypoid mass of the jejunun                                              | 3.4 × 2.7 × 2.4 cm                                                   | Emergent surgical resection                                              |
| Omotosho, et al. [17] | 17 | F   | Refluxlike symptoms, abdominal pain, vomiting, and intussusception                                     | 6 months | Bilobed intraluminal jejunal polyp                                                   | Unknown                                                             | Surgical resection                                                      |
| Vani, et al. [2]   | 24  | M   | Abdominal pain and peritonitis                                                                         | Unknown  | Jejunal strictures and perforation                                                   | 40 cm of jejunum with multiple strictures and serosal exudate        | Emergent exploratory laparotomy and resection                            |
tissue outside of the stomach with a prior history of Meckel’s diverticulectomy and prior pathology at the time of small bowel resection without any evidence of ectopic gastric mucosa.

It is important to recognize the variety of presentations associated with gastric heterotopia. A timely diagnosis of an enlarged polyp can prevent complications such as obstruction, intussusception, bleeding, or perforation. The combination of clinical presentation, radiologic imaging, and endoscopic and pathologic evaluation is helpful in making the diagnosis [5].

In most reported cases of gastric heterotopia involving the jejunum (Table 1), patients had a median age of 21.5 years with the youngest patient being one-year-old [6]. Presenting symptoms consisted of gastrointestinal bleeding [7–9] or obstructive symptoms as a result of a polypoid mass [1, 5, 10–17] and stricture [2, 3, 6]. One case report described a 16-year-old patient who developed perforation and ulceration involving the jejunum in the setting of gastric heterotopia [18]. One case report described a 21-year-old patient with a 15 cm intraluminal polypoid mass involving the jejunum [15], while two case reports described multiple strictures associated with jejunal gastric heterotopia [2, 6]. Gastric heterotopia was not suspected clinically in any of these cases and was diagnosed on histopathological examination.

Gastric heterotopia can present in various ways including masslike lesions with symptoms of obstruction, pain, or bleeding, or may even remain asymptomatic. Gastric heterotopia beyond the ligament of Treitz is a rare entity. This case highlights the importance of considering gastric heterotopia in the differential diagnosis of polypoid lesions located beyond the ligament of Treitz in younger patients presenting with obstructive symptoms [2].

Data Availability
No data were used to support this study.

Conflicts of Interest
The authors declare no conflicts of interest.

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