Gastric heterotopia in the rectum: progression of disease

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Gastric heterotopia is a condition whereby gastric mucosa is discovered outside of its origin. Gastric heterotopia within the rectum is rather rare. To date less than 50 cases have been reported. To our knowledge, no cases have been reported in which there is a review of progression, or elimination, of disease over time. We describe a case of a patient from age 5 to 24 and report on symptoms and effectiveness of several treatments for heterotopic gastric mucosa in the rectum.

A 5 year-old boy presented to the Emergency Department with rectal bleeding. He mentions a three-day history of constipation. He was treated with a fleet enema and prescribed mineral oil and told to return if further bleeding returned. A barium enema was negative at this time. He eventually is referred to gastroenterology for further investigation after complaining of rectal bleeding four years after his initial presentation.

On history, the 9-year-old boy mentions continued painless, bright red bleeding per rectum (BRBPR) several times per month. Despite the bleeding, he is currently plotting along the 60th percentile for height and weight. Past medical history was significant for asthma and family history revealed rectal polyps in his father. A previous trial of metronidazole did not improve his symptoms. Both a review of systems and physical exam were unremarkable. A flexible sigmoidoscopy was performed in clinic that day. A large multi-lobular sessile polyp was discovered just inside the rectum and multiple biopsies were taken. Pathology from the rectal lesion showed colonic mucosa with specialized gastric type mucosa. Glands were straight and lined by parietal and chief cells (gastric mucosa markers) with no evidence of erosion or ulceration. Helicobacter pylori, a bacteria that causes peptic ulcer disease, was not present.

One month later, the boy was scheduled for colonoscopic fulguration of the rectal heterotopia. An ovoid lesion approximately 5cm in length and 3cm in width with gastric rugae was removed using electocautery. Once again, pathology confirmed gastric type mucosa without H. pylori. He was prescribed 20mg omeprazole, which resolved bleeding.

At age 17, he complains of similar episodes of BRBPR. He mentions that episodes of constipation coincide with his episodes of rectal bleeding. A second 3x4cm lesion with gastric rugae was removed via argon plasma coagulation.

He presents again at age 24 with several episodes of rectal bleeding. He mentions that an over the counter weight loss supplement that he began taking has improved the bleeding and increased his bowel movements to 3-4 times per day. On sigmoidoscopy nothing is visualized. He was scheduled for repeat colonoscopy.

DISCUSSION

In pediatric studies, the ratio prevalence of gastric heterotopia in the rectum is twice that for males with a mean age of 5 years old. Heterotopic gastric mucosa has been discovered in all areas of the gastrointestinal tract. It is most commonly found within the esophagus. The exact mechanism for the development of heterotopic gastric mucosa has yet to be determined. A number of theories exist including, the abnormal regenerative process following destruction of normal mucosa or the competing theory that an error of differentiation of pluripotent endoderm cells during embryonic development leads to heterotopic gastric mucosa.

Gastric heterotopia typically presents with painless bleeding; however, cases have been reported with more serious complications such as major gastrointestinal bleeding, bowel perforation, megacolon, intussusception, perianal fistula and rectovesical fistula. H. pylori has also been discovered as an active infection in gastric heterotopia in a case of a 5 year-old boy. Infection can lead to ulceration and severe bleeding.

The definitive diagnosis occurs via analysis of the biopsied tissue. Typically the pathology is that of fundic-type mucosa but, case reports have reported lesions containing gastric body, pyloric, antral, chief, sallyvary and parietal cells within the tissue sample.

Treatment at this point in time for gastric heterotopia lacks consistency and evidence. Some argue that the gastric mucosa has the potential to become malignant, as has been discovered for heterotopic gastric mucosa in the esophagus, and thus should be excised. To date there are no reports of a malignant gastric heterotopia within the rectum. Successful treatments to suppress the bleeding include proton pump inhibitors or H2 receptor blocker. Co-infection with Helicobacter pylori may warrant triple therapy with antibiotics and proton pump inhibitors. Endoscopic ablation has the advantage of removing the tissue permanently.

CONCLUSION

Gastric heterotopia is a rare cause of gastrointestinal bleeding from the lower tract in children. Endoscopic evaluation with biopsy is fundamental to diagnosis. The type of tissue present in heterotropic gastric mucosa can vary, as well as the presence of H. Pylori infection, but to date no malignant lesions have been discovered in the rectum. Treatment varies from proton pump inhibitors and monitoring or removal of the lesion via endoscopy.

REFERENCES

