Endoscopic Treatment of an Isolated Diffuse Hyperplastic Gastric Polyposis Containing Adenocarcinoma

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Gastric hyperplastic polyps constitute one of the most common types of polyp in patients undergoing an upper endoscopy, and are found with a frequency as high as 60% of all polyps. However, isolated diffuse hyperplastic gastric polyposis is seldom reported. Here, we present a case of isolated diffuse hyperplastic gastric polyposis in a 30-year-old man who was investigated for iron deficiency anemia during routine screening. Esophagogastroduodenoscopy revealed numerous polyps on the antrum of the stomach, and the polyps were removed completely by endoscopic polypectomy. An adenocarcinoma that arose from a large hyperplastic polyp was found after its removal. This case suggests that despite the rarity of isolated diffuse hyperplastic gastric polyposis, it can be managed by endoscopic treatment. (Korean J Helicobacter Up Gastrointest Res 2014;14:203-206)

Key Words: Polyps; Adenocarcinoma; Endoscopy; Therapeutics

INTRODUCTION

Gastric polyps can be classified as adenomatous polyps, hyperplastic polyps, and inflammatory polyps. Among these, hyperplastic polyps comprise the most common histologic type, and are usually benign.1 Gastric polyps are commonly classified as being either single, few in number, or extremely numerous.2 Some authors have been defined gastric polyposis as the existence of 50 or more gastric polyps.3-5 Gastric polyposis can also be part of polyposis syndromes, such as juvenile polyposis, Gardner syndrome, Peutz-Jeghers syndrome, and Cronkhite-Canada syndrome.6 However, sporadic diffuse gastric polyposis is a rare entity, with only a few cases having been reported.6-9 Only four cases of isolated diffuse gastric hyperplastic polyposis without colonic neoplasm appear to have been reported previously.6-9 Whereas two cases presented with anemia, another presented with hematemesis after initiation of anticoagulation therapy for lower extremity deep vein thrombosis, and the other one with abdominal pain. All four cases were treated with total gastrectomy. Here, we report the first case of isolated diffuse hyperplastic gastric polyposis, and its successful treatment by endoscopic removal.

CASE REPORT

The patient was a 30-year-old man who visited primary clinic for routine screening test and was diagnosed as having iron deficiency anemia (IDA). He had no significant past medical history or a familial history of gastrointestinal polyps. An esophagogastroduodenoscopy, conducted in the primary clinic to investigate the reason for his blood loss, revealed multiple gastric polyps on the antrum of the stomach. The patient was referred to the Asan Medical Center (Seoul, Korea) for further evaluation and management.

Examination at the outpatient clinic indicated that the patient’s vital signs were stable: blood pressure, 115/75 mmHg; heart rate, 70 beats/minute; respiratory rate, 18/minute; and body temperature 36.1°C. His mental status was alert, and a physical examination failed to reveal any significant findings. Laboratory results did not identify any significant abnormalities besides IDA. The results of routine blood test were as follows: white blood cell count,
3,800/mm³; hemoglobin, 9.5 g/dL; hematocrit, 34.2%; and platelet count, 264,000/mm³. Further laboratory tests for anemia confirmed IDA. The relevant results were: iron, 16 μg/mL; total iron binding capacity, 330 μg/dL; transferrin saturation, 4.8%; serum ferritin, 5.8 ng/mL; mean corpuscular volume, 73.5 fl; mean corpuscular hemoglobin concentration, 28.3%; red blood cell distribution width, 20.2%; and reticulocyte count, 0.92%. An enzyme-linked immunosorbent assay for the quantitative detection of serum IgG antibodies to Helicobacter pylori indicated a positive titer of serum IgG antibodies to H. pylori (>8.0 IU/mL).

Esophagogastroduodenoscopy showed multiple polyps of various shapes and sizes on the antrum of the stomach (Fig. 1). There were no mucosal changes of any polyps neither on the body nor on the fundus of the stomach. The results of biopsy from four prominent polyps on the antrum were hyperplastic polyps. The colonoscopy did not show any polyps and the small bowel series did not show any evidence of a mucosal lesion or mass. Abdomen-pelvis computed tomography demonstrated prominent gastric folds without remarkable lymph node enlargement.

The patient underwent a polypectomy using a single-channel endoscope (GIF-H260; Olympus Optical Co. Fig. 1. Esophagogastroduodenoscopy revealed numerous diffuse polyps on the antrum that varied in size and shape.

Fig. 2. Endoscopic polypectomy. (A, B) Multiple endoscopic removals each involving a snare after submucosal injection with saline containing epinephrine (0.01 mg/mL) mixed with indigo carmine. (C) All polyps were removed during two sets of endoscopic removals conducted over the course of 2 days. (D) Part of a resected polyp.
Fig. 3. Four months after endoscopic removal, follow-up esophagogastroduodenoscopy showed polypectomy-induced ulcer scars without remnant polyps.

Ltd., Tokyo, Japan) twice over the course of a 2-day period. After submucosal injection with saline containing epinephrine (0.01 mg/mL) mixed with indigo carmine, polyps were removed using a snare (SD-9U-1 or SD-12U-1; Olympus Optical Co. Ltd.) (Fig. 2). Endoscopic hemostasis was performed with hemoclips (HX-110LR; Olympus Optical Co. Ltd.) or hemostatic forceps (FD-410LR; Olympus Optical Co. Ltd.) whenever bleeding or an exposed vessel was observed during or after the procedure.

Pathologic examination revealed that almost all of the polyps were hyperplastic and as large as 3 cm in diameter. One 3.0-cm-sized hyperplastic polyp contained a moderated differentiated adenocarcinoma. The longest diameter of the adenocarcinoma was 1.6 cm, it was confined within the mucosa, it invaded only lamina propria, and it had a clear resection margin without lymphovascular invasion. H. pylori eradication therapy including amoxicillin (1 g twice daily), clarithromycin (500 mg twice daily), and pantoprazole (40 mg twice daily) was administrated for one week. After eradication therapy, a standard dose of proton pump inhibitor was prescribed for a 2-month period to treat iatrogenic ulcers caused by endoscopic resections.

The patient visited the out-patient-clinic 4 months later without symptoms. A follow-up esophagogastroduodenoscopy, which was performed 4 months after the poly-

tectomy, showed polypectomy-induced ulcer scars without remnant polyps on the antrum (Fig. 3). Laboratory tests showed an elevation of hemoglobin levels from 9.5 g/dL to 14.8 g/dL following the administration of ferrous iron (80 mg three times a day for 4 months). The H. pylori eradication treatment successfully eradicated H. pylori.

**DISCUSSION**

We here describe a rare case of isolated diffuse hyperplastic gastric polyposis, which was treated by endoscopic resections without surgery. An adenocarcinoma was found in a large hyperplastic polyp, and was removed by polypectomy. The adenocarcinoma was confined within the mucosa and had a clear resection margin.

Among the different types of gastric polyps, hyperplastic polyps are the most common type. However, gastric polyps are not found as frequently as colonic polyps. Gastric polyps may be present as part of polyposis syndromes, such as juvenile polyposis, Gardner syndrome, Peutz-Jeghers syndrome, and Cronkhite-Canada syndrome. There are no studies on the relevance between isolated gastric hyperplastic polyposis and hyperplastic polyposis syndrome of colon. Sporadic cases of gastric hyperplastic polyposis are usually associated with colorectal neoplasm with increasing levels of gastrin, and these cases were proposed to define as a new syndrome. However, our patient did not have family history of gastrointestinal polyposis and had only hyperplastic gastric polyposis, without evidence of any polyps or masses in the colon and/or small bowel polyp. This kind of isolated diffuse hyperplastic gastric polyposis is a rare entity, and only a few cases have been reported. In each of the previous four cases, total gastrectomy was performed as a treatment method. Although the number of polyps in our case is smaller than previous cases, our case may be early stage of isolated diffuse gastric hyperplastic polyposis, since the pathogenesis of this disease is unclear. To our knowledge, this is the first case of isolated diffuse hyperplastic gastric polyposis, including adenocarcinoma, which was treated by endoscopic resection.

In general, gastric hyperplastic polyps are regarded as benign lesions, although some cases of malignant trans-
formation have been reported. Until now, the size of the polyp has been regarded as the most important factor in determining the risk of malignant transformation. One case control study showed hyperplastic polyps more than 1 cm may indicate the presence of neoplasm. The prevalence of dysplasia arising in hyperplastic polyps is reported to range from 1.9% to 19%, with the incidence of adenocarcinoma ranging from 0.6% to 3.7%. The adenocarcinoma in our present case arose from a 3-cm-sized hyperplastic polyp. The patient was treated curatively by endoscopic resection of the cancerous polyp, which was confined within the mucosa and defined by a clear resection margin.

In conclusion, we have reported the first case of an isolated diffuse hyperplastic gastric polyposis that includes adenocarcinoma and outlined its effective treatment by endoscopic polypectomy. In this era of delicate endoscopic techniques, we propose that endoscopic resection is a good option to treat isolated diffuse hyperplastic gastric polyposis.

**REFERENCES**