

Small gastric hyperplastic polyp with acute bleeding as an unusual presentation of malignancy

A case report

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Abstract

Rationale: Gastric hyperplastic polyps are frequently found on upper gastrointestinal endoscopy and usually asymptomatic.

Patients concerns: A 65-year-old man visited the emergency department due to melena. Emergency upper endoscopy revealed a semi-pedunculated polyp measuring 1.2 cm in diameter with blood oozing. We resected the polyp using snare polypectomy. Ulceration was noted on the polypectomy specimen and was thought to be a bleeding focus.

Diagnoses: Histopathologic findings revealed hyperplastic polyp with focal well-differentiated adenocarcinoma in the ulcerated area and involvement of the lateral resection margin by carcinoma.

Intervention: We performed additional endoscopic resection using endoscopic submucosal dissection at the previous polypectomy site.

Outcome: At 1 year follow up, no recurrence or other distant metastasis was detected.

Lessons: This is a rare case of upper gastrointestinal bleeding from a small gastric hyperplastic polyp, which was found to be adenocarcinoma. When bleeding small gastric polyps are encountered during endoscopy, the possibility of malignancy and wider resection should be considered.

Abbreviations: CT = computed tomography, ESD = endoscopic submucosal dissection, INR = international normalized ratio.

Keywords: bleeding, endoscopic submucosal dissection, hyperplastic polyp, polypectomy, stomach

1. Introduction

The prevalence of gastric polyps is known to be 6.35%; hyperplastic polyps constitute 17% of all gastric polyps and are usually found incidentally on upper gastrointestinal endoscopy.^[1] Hyperplastic polyps are mostly asymptomatic but when their sizes increase, they can cause symptoms such as anemia, bleeding, and gastric outlet obstruction, and those related to dysplasia and adenocarcinoma.^[2] Such symptomatic cases usually occur in patients with large hyperplastic polyps.

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This study was approved by the ethics committees of Catholic University Hospital (approval no DC17ZESI0084), and it is in accordance with the Declaration of Helsinki.

Patients were provided verbal and written informed consent.

The authors have no conflicts of interest to disclose.

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However, we encountered a patient with a small hyperplastic polyp who presented with acute upper gastrointestinal bleeding, which was finally diagnosed as adenocarcinoma. Only a few cases that present with combined problems like acute bleeding and cancer have been reports; therefore, we report this rare case.

2. Case report

A 65-year-old male patient with atrial fibrillation visited the emergency department due to melena and was subsequently referred gastroenterology department. The patient was on warfarin due to atrial fibrillation and heart failure. He complained of nausea and dizziness, and there was no family history of the disease. His blood pressure was 100/70 mm Hg; heart rate, 120 beats/min; respiration rate, 20 breaths/min; and body temperature, 36.6°C. Complete blood count showed that white blood cell count was 8800/mm³ (normal range: 4000–10,000/mm³); hemoglobin level, 11.2 g/dL (normal range: 10.5–16.0 g/dL); and platelet count, 202,000/mm³ (normal range: 150,000–450,000/mm³). Blood chemistry analysis showed that blood urea nitrogen was 51.2 mg/dL (normal range: 6.0–23.0 mg/dL); creatinine, 1.10 mg/dL (normal range: 0.5–1.4 mg/dL); glucose, 235 mg/dL; international normalized ratio (INR) 2.00 (normal range 0.84–1.21); aspartate aminotransferase, 17 IU/L (normal range: 5–40 IU/L); and alanine aminotransferase, 19 IU/L (normal range: 5–40 IU/L).

Gastroduodenoscopy showed a semi-pedunculated gastric polyp, approximately 12 mm in size, accompanied with bleeding from the head of the polyp (Fig. 1A). We did not perform gastric polypectomy due to prolonged prothrombin time; instead, we

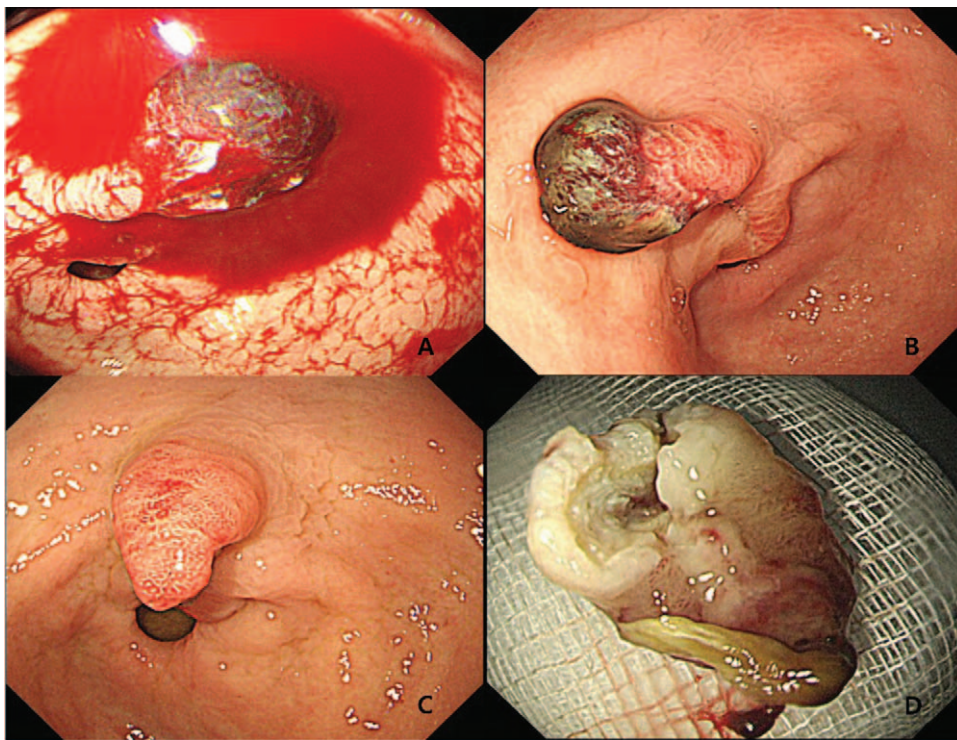


Figure 1. Endoscopic findings. (A) A 12-mm-sized polyp accompanied with bleeding was observed. (B) The semi-pedunculated polyp was without bleeding and covered with blood clots. (C) A 12-mm-sized semi-pedunculated polyp was noted at the distal antrum. (D) The polypectomy specimen showed an ulcer with small vessel on the surface of the polyp.

injected epinephrine to stop bleeding. On the following day, endoscopic examination of the upper gastrointestinal tract revealed that the semi-pedunculated polyp was not bleeding and was covered with blood clots (Fig. 1B). Although the size of the polyp was not large, we planned polypectomy for treating the bleeding after the normalization of INR. On the fourth day in the hospital, the patient underwent gastric polypectomy (Fig. 1C,D). The resected specimen showed an ulcer with small vessel which is considered as bleeding focus on the surface of the polyp (Fig. 1D). Histopathologic evaluation of the polyp revealed it to be a hyperplastic polyp with focal well-differentiated adenocarcinoma with significant expression of p53 protein (Fig. 2). The lesion was limited to the lamina propria without any evidence of lymphovascular invasion. However, the lateral resection margin was positive. Computed tomography (CT) showed no evidence of metastases to any other organs. We decided to perform additional mucosal resection by using the endoscopic submucosal dissection (ESD) method after the ulcer at the site of polypectomy had healed. Subsequently, 3 months after polypectomy, the ulcer had healed, and ESD was performed without any complications (Fig. 3). Pathologic examination showed that there was no residual neoplastic lesion. Endoscopy and abdominal CT were performed regularly for 12 months after ESD, and no local recurrence or distant metastasis was observed.

3. Discussion

Hyperplastic polyps are usually asymptomatic and found incidentally during endoscopic examinations. They usually occur in the elderly population with equal incidence in men and women.^[3] Although the pathogenesis of hyperplastic polyps has not been established, it has been suggested that regenerative

responses contribute significantly to polyp formation, and *Helicobacter pylori* may be a common causative agent.^[2] Common endoscopic findings include a reddish surface of the polyp compared with the surrounding mucosa with a smooth and dome-shaped morphology.^[3,4] The size of hyperplastic polyps ranges from a few millimeters to several centimeters. As the surfaces of large hyperplastic polyps can be eroded, they can cause iron deficiency anemia due to chronic blood loss.^[3] Patients presenting with acute bleeding are rare; however, the treatment should be immediately planned during initial endoscopy in patients with emergencies. Additionally, it is necessary to investigate if such polyps have foci of dysplasia or adenocarcinoma because neoplastic lesions may be present within hyperplastic polyps. The rate of adenocarcinoma in hyperplastic polyps is reported to range from 0.6% to 2.1%.^[5] Therefore, endoscopists should also be prepared for unusual presentations of polyps.

The treatment of hyperplastic polyps includes resection and eradication of *H pylori*, when present.^[3,5,6] Hyperplastic polyps over 2 cm in diameter are usually accepted as indication for resection; however, the cutoff levels in size for resection are not clear. There have been studies regarding dysplasia or cancer of hyperplastic polyps.^[7,8] Han et al reported that hyperplastic polyps over 1 cm in size are associated with neoplastic transformation and recommended endoscopic polypectomy^[7] for such cases. Kang et al reported that neoplastic transformation of hyperplastic polyps was associated with the following factors: size > 1 cm, pedunculated polyp, remnant stomach after gastrectomy, and synchronous dysplasia.^[8] In these articles, surface morphologies of polyps (hyperemia, erosion, and nodularity) were not an associated factor. However, the number of cases included in these articles was small and included both dysplasia

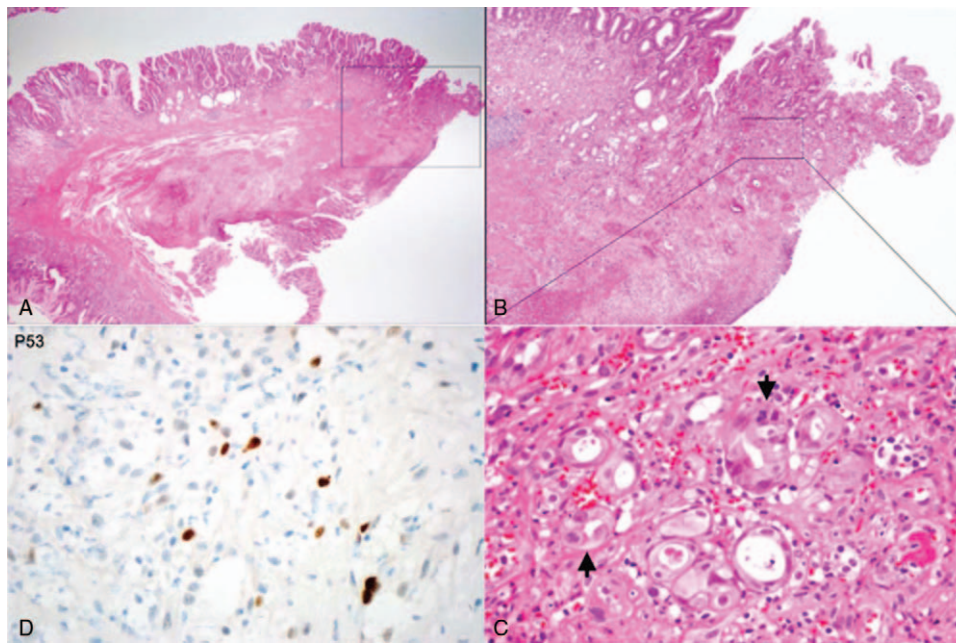


Figure 2. Histopathologic evaluation of the polyp. (A) On pathologic examinations, the polyp was seen to be characterized by benign features to the left and malignant features to the right (Box), which were accompanied with ulceration and hemorrhage (hematoxylin and eosin [H&E] stain $\times 2$). (B) Atypical glands with irregular architecture obliterate the mucosa (H&E, $\times 40$). (C) There were atypical glands showing structural atypia and atypical mitosis (arrow) (H&E, $\times 400$). (D) p53 immunostaining was positive in atypical glands.

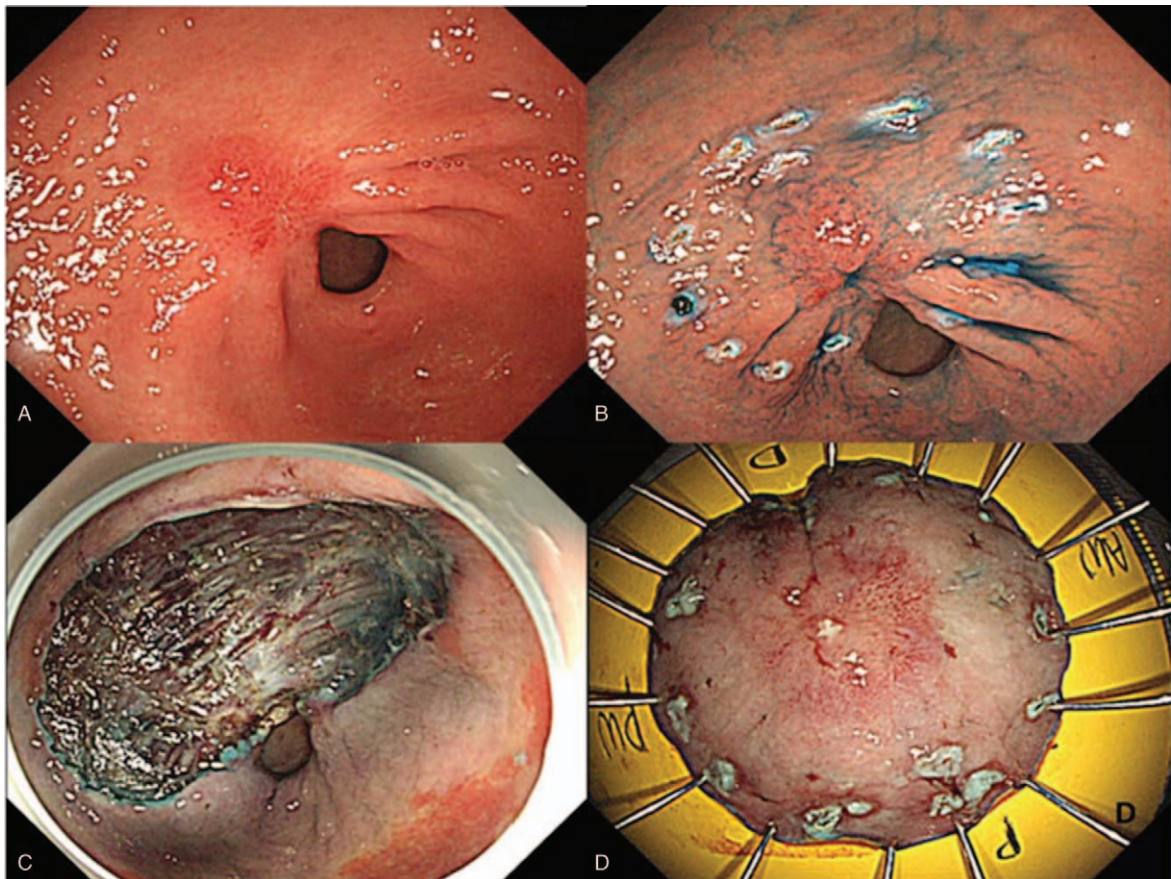


Figure 3. Endoscopic findings of endoscopic submucosal dissection. (A) Healed ulcer was observed postpolypectomy. (B, C, and D) Endoscopic submucosal dissection.

and cancer. Jeong et al reported a case of fundic gland polyp, which had erosive surface morphology, and was finally revealed to have focal signet ring cell carcinoma. Those authors emphasized whether the polyp had erosive or irregular surface via through visual inspection.^[9] Six patients with hyperplastic polyps have presented with acute gastrointestinal bleeding.^[10–15] Of them, only 1 patient was diagnosed with adenocarcinoma.^[12] The sizes of these polyps ranged from 1 to 12 cm. Most of them were larger than 2 cm, and the patient with the smallest polyp was on warfarin due to heart failure, similar to our patient.^[14] In our case, the polyp size was 1.2 cm, which was relatively small, and an ulcer was present on the back of the polyp, making the initial inspection difficult. We chose snare polypectomy for removal; however, the lateral margin was involved; therefore, additional treatment was needed.

In conclusion, unusual presentation and surface morphologic changes in gastric hyperplastic polyps may be related to malignant changes. Endoscopists should carefully inspect such polyps and consider wider resection than that in snare polypectomy.

Author contributions

Park KS and Lee SW designed and wrote the report; Park PH, Kim MS collected the patient's clinical data; Moon SJ, Kang SB, Lee DS contributed to revising the manuscript; Lee J provided the figures of the pathology. Lee SW approved the final version to be published. All authors contributed to the manuscript.

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