The patient presented to Northwestern Memorial Hospital in July 2011. The polyps were resected by clip-assisted snare polypectomy. Histopathologic assessment of the resected polyps demonstrated multiple, non-ulcerative hyperplastic polyps measuring 1.3-1.8 cm in size, without evidence of dysplasia or malignancy. This case describes a young adult patient with multiple, large gastric polyps causing overt gastrointestinal bleeding. This is a rare presentation in a young individual, as these polyps are typically identified in patients older than 60 years of age and less commonly, pediatric populations.

CASE REPORT

Gastric hyperplastic polyps causing upper gastrointestinal hemorrhage in a young adult

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The patient presented to Northwestern Memorial Hospital in July 2011. The polyps were resected by clip-assisted snare polypectomy. Histopathologic assessment of the resected polyps demonstrated multiple, non-ulcerative hyperplastic polyps measuring 1.3-1.8 cm in size, without evidence of dysplasia or malignancy. This case describes a young adult patient with multiple, large gastric polyps causing overt gastrointestinal bleeding. This is a rare presentation in a young individual, as these polyps are typically identified in patients older than 60 years of age and less commonly, pediatric populations.

Key words: Gastrointestinal hemorrhage; Hyperplastic polyps; Endoscopy; Polyp; Therapeutic endoscopy

Core tip: While uncommon, gastric hyperplastic polyps may be the source of overt upper gastrointestinal hemorrhage in young individuals and must be included in the differential of such symptoms.

INTRODUCTION

Hyperplastic gastric polyps are epithelial proliferations that primarily occur in the antrum of the stomach. On endoscopy, these polyps appear as smooth, dome-shaped lesions. Larger lesions tend to become lobulated and pedunculated, with frequent erosion of the surface epithelium. Histologically, hyperplastic polyps consist of elongated, dilated and distorted gastric foveolar epithelium.
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and can be associated with local edema and rarely foamy histiocytes[1-4].

While most hyperplastic gastric polyps are asymptomatic, they may present with abdominal pain, iron deficiency anemia or gastric outlet obstruction[3-6]. These polyps are associated with conditions such as a Helicobacter pylori (H. pylori) and atrophic autoimmune gastritis, which predispose the epithelium to chronic inflammation and epithelial repair.

CASE REPORT

A 32-year-old male with a personal history of colonic adenoma and a family history of colon polyps presented with a 3-d history of hematemesis and melena. Initial laboratory evaluation was notable for a hemoglobin drop from 14 to 9.6 g/L. He underwent an upper endoscopy that revealed five large (> 1 cm in diameter), highly vascular, pedunculated polyps localized at the greater curvature. The remainder of the stomach was normal. The polyps were resected by clip-assisted snare polypectomy. Histopathologic assessment of the resected polyps demonstrated non-ulcerative hyperplastic polyps measuring 1.3-1.8 cm in size, without evidence of dysplasia or malignancy (Figure 1). Biopsies did not reveal H. pylori or atrophic autoimmune gastritis. No further bleeding occurred during a 6-mo follow-up period. Repeat endoscopy 1 mo after admission revealed two additional hyperplastic polyps at the previous site, which were again removed.

DISCUSSION

Non-neoplastic gastric polyps are benign epithelial proliferations that often require no intervention. However, these polyps may be symptomatic or can grossly mimic malignant tumors[7]. In these clinical scenarios, such polyps are commonly removed via endoscopy. Non-neoplastic gastric polyps can be solitary or numerous in number, and are rarely associated with a number of genetic conditions including Peutz-Jeghers Syndrome, Familial Juvenile Polyposis, and Cronkhite-Canada Syndrome[1,7]. These polyps are usually asymptomatic and thus go undiscovered in the majority of the population. However, the prevalence of gastric polyps ranges as low as 0.5% to 7% in patients undergoing routine endoscopy[5,8]. Once found to be the most prevalent type of polyp in the stomach, hyperplastic polyps are now increasingly uncommon due to the eradication of H. pylori and resulting decrease in non-atrophic gastritis in industrialized nations[2-5]. In one large-scale study reviewing over 100,000 endoscopies conducted between 2007-2008, hyperplastic polyps made up only 17% of all discovered gastric polyps[8]. Fundic gland polyps, characterized as small, sessile gastric lesions associated with antacid use, are now thought to be the most prevalent gastric polyp[8,9].

This case describes a young adult patient with multiple, large gastric polyps causing overt gastrointestinal bleeding. This is a rare presentation in a young individual, as these polyps are typically identified in patients older

Figure 1  Endoscopic and microscopic evaluation of multiple gastric polyps. A: Endoscopic images demonstrate 5 pedunculated polyps ranging in size from 1.0-1.8 cm clustered in the body of the stomach; B: These polyps were removed using clip-assisted snare polypectomy; C: Microscopic evaluation of one of these polyps reveal a pedunculated lesion with hyperplastic and dilated foveolar glands (HE stain, 10 × magnification); D: At higher magnification, there is increased inflammation in the lamina propria with a small collection of foamy histiocytes (HE stain, 200 × magnification).
than 60 years of age and less commonly, pediatric populations. Furthermore, outside of the setting of anticoagulation or antiplatelet therapy, gastric polyps are typically associated with occult, rather than overt gastrointestinal bleeding\cite{1-3,5}.

In contrast to normal or hyperplastic mucosa, molecular evaluation of hyperplastic polyps have demonstrated rare cases of p53 protein overexpression and neoplastic features such as dysplasia and carcinoma. Polyps with neoplastic foci have also shown increases in Ki-67 labeling indices, demonstrating an increase in proliferative activity\cite{5}. These observations are suggestive of a dysplasia-carcinoma sequence in the malignant transformation of hyperplastic polyps and argue for a complete eradication of such lesions\cite{1,6,11,12}.

REFERENCES

1 Jain R, Chetty R. Gastric hyperplastic polyps: a review. Dig Dis Sci 2009; 54: 1839-1846 [PMID: 19037727 DOI: 10.1007/s10620-008-0572-8]

2 Abraham SC, Singh VK, Yardley JH, Wu TT. Hyperplastic polyps of the stomach: associations with histologic patterns of gastritis and gastric atrophy. Am J Surg Pathol 2001; 25: 500-507 [PMID: 11257625]

3 Al-Haddad M, Ward EM, Bouras EP, Raimondo M. Hyperplastic polyps of the gastric antrum in patients with gastrointestinal blood loss. Dig Dis Sci 2007; 52: 105-109 [PMID: 17151810]

4 Carmack SW, Genta RM, Graham DY, Lauwers GY. Management of gastric polyps: a pathology-based guide for gastroenterologists. Nat Rev Gastroenterol Hepatol 2009; 6: 331-341 [PMID: 19421245 DOI: 10.1038/nrgastro.2009.70]

5 Carmack SW, Genta RM, Schuler CM, Saboorian MH. The current spectrum of gastric polyps: a 1-year national study of over 120,000 patients. Am J Gastroenterol 2009; 104: 1524-1532 [PMID: 19491866 DOI: 10.1038/ajg.2009.139]

6 Demiriyılmaz İ, Albayrak Y, Yılmaz SP. Frequency of various types of gastric polyp. Cumhuriyet Med J 2011; 33: 209-214

7 Jin JS, Yu JK, Tsao TY, Lin LF. Solitary gastric Peutz-Jeghers type stomach polyp mimicking a malignant gastric tumor. World J Gastroenterol 2012; 18: 1845-1848 [PMID: 22553412 DOI: 10.3748/wjg.v18.i15.1845]

8 Morais DJ, Yamanaka A, Zeitune JM, Andreollo NA. Gastric polyps: a retrospective analysis of 26,000 digestive endoscopies. Am J Gastroenterol 2007; 104: 1524-1532 [PMID: 19491866 DOI: 10.1038/ajg.2009.139]

9 Park SY, Ryu JK, Park JH, Yoon H, Kim JY, Yoon YB, Park JC, Lee SH, Kang SB, Park JW, Oh JH. Prevalence of gastric and duodenal polyps and risk factors for duodenal neoplasm in Korean patients with familial adenomatous polyposis. Gut Liver 2011; 5: 46-51 [PMID: 21461071 DOI: 10.5009/gnl.2011.5.1.46]

10 Cao H, Wang B, Zhang Z, Zhang H, Qu R. Distribution trends of gastric polyps: an endoscopy database analysis of 24121 northern Chinese patients. J Gastroenterol Hepatol 2012; 27: 1175-1180 [PMID: 22414211 DOI: 10.1111/j.1440-1746.2012.07116.x]

11 Ikehara M, Tezuka T. Polynucleotides. XXXII. Further studies on the synthesis of oligonucleotides containing 8,2’-S-cycloadenosine. Nucleic Acids Res 1975; 2: 1539-1550 [PMID: 170595]

12 Yao T, Kajiwara M, Kuroiwa S, Iwashita A, Oya M, Kabashima A, Tsuneyoshi M. Malignant transformation of gastric hyperplastic polyps: alteration of phenotypes, proliferative activity, and p53 expression. Hum Pathol 2002; 33: 1016-1022 [PMID: 12395357]