

A Giant Hyperplastic Polyp of the Stomach Complicated by Intussusceptions and Intraepithelial Malignant Transformation¹

위 중첩증을 일으킨 거대 과형성 용종 내 상피내 선암¹

Mi Hyun Lee, MD¹, Dong Jin Chung, MD¹, Uk Kim, MD², Seong-Tae Hahn, MD¹, Jae Mun Lee, MD¹

Departments of ¹Radiology, ²Surgery, Yeouido St. Mary's Hospital, The Catholic University of Korea College of Medicine, Seoul, Korea

Hyperplastic polyp is generally considered as a small, asymptomatic, benign natured polyp. Here, we present a rare case of a hyperplastic polyp, which is very large and induces gastric intussusceptions. In addition, after surgery, histopathologic examination confirmed hyperplastic polyp, which contains focal adenocarcinoma. Both the gastric intussuscepted condition itself and the leading tumor, intraepithelial adenocarcinoma arising in the hyperplastic polyp, are extremely exceptional. To the best of our knowledge, this is the first reported case of a giant hyperplastic polyp, which causes gastric intussusceptions, and harbored an intraepithelial adenocarcinoma.

Index terms

Giant Hyperplastic Polyp
Intraepithelial Adenocarcinoma
Gastric Intussusception

Received January 30, 2013; Accepted March 14, 2013

Corresponding author: Dong Jin Chung, MD
Department of Radiology, Yeouido St. Mary's Hospital,
The Catholic University of Korea College of Medicine,
10 63-ro, Yeongdeungpo-gu, Seoul 150-713, Korea.
Tel. 82-2-3779-1270 Fax. 82-2-783-5288
E-mail: bookdoo7@chollian.net

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Hyperplastic polyp is the most common histological type of the gastric polyp (1, 2). It is usually asymptomatic and known to be a benign-natured polyp. Although hyperplastic polyp is considered a premalignant lesion, it is due to the synchronous carcinoma developed in the distant gastric mucosa. However, the hyperplastic polyp itself has risks, although very low, of a malignant potential (1-4). Gastric intussusception caused by a hyperplastic polyp is also an extremely rare condition (5).

CASE REPORT

A 79-year-old woman was referred to our hospital for the evaluation of an incidentally detected huge gastric mass in the endoscopy. On the contrast-enhanced abdominal CT, a large ovoid mass protruding into the gastric lumen at the upper gastric body was noted (Fig. 1A, B). Approximately 6 × 5 cm mass with the lobulated and irregular margin showed in the enhancement. It was possibly a mucosal-origin tumor with a stalk. Fur-

ther, the mass had an abundant vascular supply from the left gastric artery. There was no evidence of perigastric infiltration or remarkable lymph node enlargement.

The follow-up endoscopy was done at our hospital. A mass of 5 × 5 cm was noted at the high to mid body anterior wall side. Grossly, the tumor did not have the typical small (usually less than 1 cm) nodule with a smooth margin of the hyperplastic polyp. The mass looked like clusters of grapes with a villous surface. The base of the tumor was narrow and with a probable stalk, and the mass moved in accordance with the postural change (Fig. 1C).

The endoscopy and CT findings were not appropriate for a hyperplastic polyp. In addition, the findings suggested a large gastric adenoma. Because of the large size of the mass, a resection of the lesion by a laparotomy was recommended. However, the patient refused any invasive treatment like surgery and was discharged without further evaluation or treatment.

Two years later, the patient visited our emergency room due to nausea and vomiting for 3 days. The abdominal-enhanced CT showed gastric intussusceptions (Fig. 1D, E). Gastric body portion was herniated into the antrum, and the 10 × 5 cm mass

of the high body was herniated into the 2nd portion of the duodenum. Endoscopy showed a 10 × 5 cm fungating mass with a 2-cm thick stalk (Yamada type IV). Further, an 1.5 × 1.0 cm ulcerative lesion was found at the mass. These findings suggested the possibility of a focal malignant change.

Therefore, the patient underwent a laparoscopic gastric wedge resection for the reduction and removal of the herniated mass. The surgical specimen showed a papillary polypoid lesion with a stalk (Fig. 1F). The microscopic examination revealed a 0.3 × 0.3 cm adenocarcinoma arising in a 10 × 6 cm large hyperplastic polyp. The histopathologic examination confirmed the diagnosis of intraepithelial adenocarcinoma arising in hyperplastic polyp with high-grade dysplasia (Fig. 1G).

DISCUSSION

Hyperplastic polyp is usually a sessile and small (less than 1

cm) polyp. It is usually an asymptomatic single lesion occurring in the gastric antrum. However, hyperplastic polyps are seldom, if ever, multiple or associated with gastrointestinal (GI) symptoms (1, 3). About 2% of all hyperplastic polyps are giant hyperplastic polyps, which are larger than the usual size with a lobulated surface. According to one paper, they defined a giant hyperplastic polyp as a mass larger than 3 cm in the largest diameter for investigation (6). Giant hyperplastic polyps are more likely to cause symptoms than the smaller hyperplastic polyps (6). Giant hyperplastic polyps may trigger the feelings of fullness and nausea. On the imaging study, a large lobulating mass protruded in the gastric outlet that causes the digestive tract obstruction can be found.

The development of gastric carcinoma, within a hyperplastic polyp, is very rare. Further, the reported rate of the malignant change of the hyperplastic polyps varies from 0% to 8% (2.1% in average) (1-4). The malignant transformation risk of hyperplas-

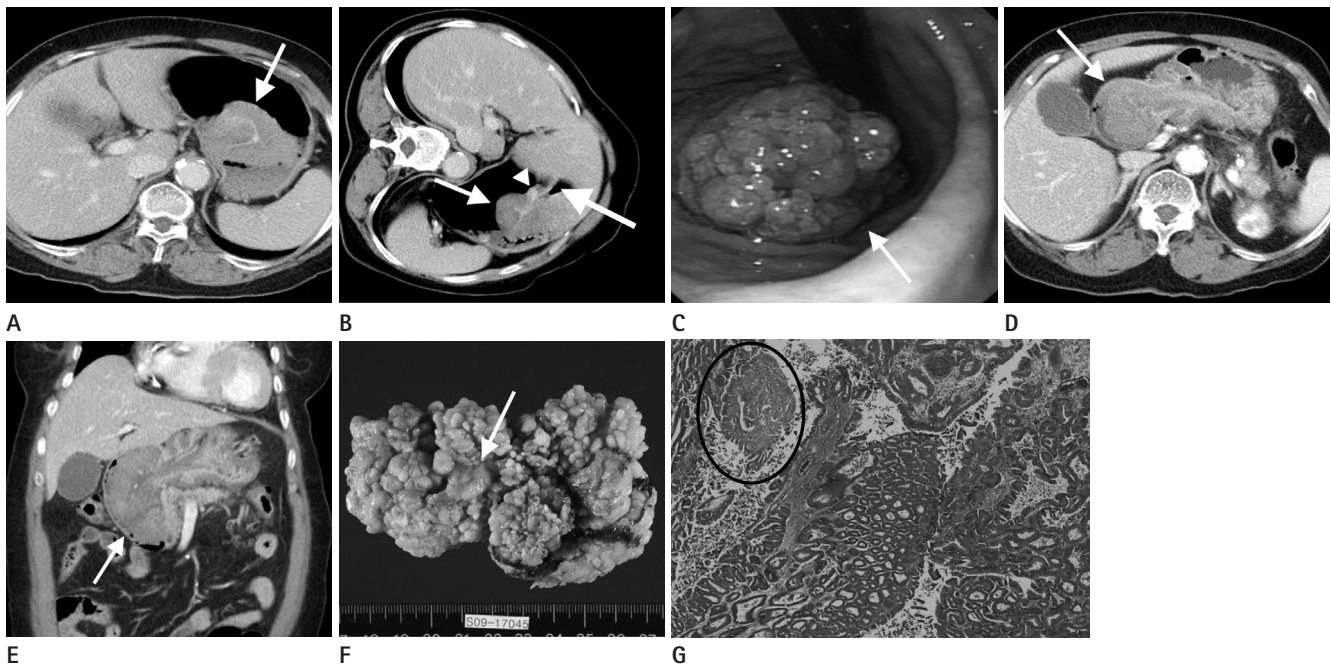


Fig. 1. A 79-year-old woman who presented with gastric intussusceptions due to a giant hyperplastic polyp with intraepithelial malignant transformation.

A, B. Initial contrast enhance CT, axial images in prone position (**A**) and in left lateral decubitus (**B**) show a lobulating mass (small arrow) protruding into the gastric lumen. Noted a stalk (large arrow) and feeding vessel arising from left gastric artery (arrowhead) on a left decubitus view. **C.** On initial endoscopy, about 5 cm mass (arrow) with villous surface is noted. The base of the tumor is narrowed, suggesting probable stalk. The mass moves according to postural change.

D, E. Follow-up CT scan after 2 years, axial (**D**) and coronal view (**E**) demonstrates herniation of gastric body portion into the antrum with large polyp increased in size. Noted that the tip of the polyp reaches the 2nd portion of the duodenum (arrow).

F. Gross specimen reveals a 10 × 6 cm sized papillary polypoid mass with a stalk (arrow).

G. Histopathologic findings of the mass (hematoxylin-eosin stain; original magnification, × 40) show focal area with atypical nuclear change and prominent mitosis (black circle) in the background of a typical hyperplastic polyp with glandular and stromal changes. Adenocarcinoma with high grade dysplasia is confirmed by Ki-67 and P53 immunohistochemistry.

tic polyp is considered to relate to the size (7). The hyperplastic polyp which is larger than 1 cm has a higher possibility of a malignant change (1, 2, 7).

However, there is still no consensus regarding other relationships, such as the gross appearance and age. There is a study which reported that the pedunculated hyperplastic polyps have a higher possibility of a malignant change. The patients with the adenocarcinoma-bearing hyperplastic polyps were 10 years older than the patients with the cancer-free hyperplastic polyps (2). On the other hand, other studies have reported that there are no significant differences in the hyperplastic polyps with or without malignant changes, as depending on the age or gross appearance (7).

Gastric intussusception is also a rare event that occurs secondary to the prolapse of the gastric tumor into the small bowel. Most gastric tumors that pass through the pylorus are benign (5). There are only a few reports concerning the gastric outlet obstruction due to the hyperplastic gastric polyps. All of the cases are caused by giant hyperplastic polyps (more than 2 cm) (8). There is no report of gastric intussusceptions due to a giant hyperplastic polyp with a malignant change.

In summary, we have described a rare case of a giant hyperplastic polyp harboring an intraepithelial adenocarcinoma, which caused gastric intussusception. Although hyperplastic polyps typically appear as smooth small nodules, a multilobulated large mass may be a hyperplastic polyp. Giant hyperplastic polyps are more likely to cause symptoms than the typical hyperplastic polyps. In addition, the GI obstructive symptoms would be present with gastric intussusceptions. As the size of the hyperplastic polyps increase, the risk of a malignant transformation is increased. Therefore, it needs to be considered that the

large hyperplastic gastric polyps have the possibility of the complicated symptoms and malignant transformation.

REFERENCES

1. Jain R, Chetty R. Gastric hyperplastic polyps: a review. *Dig Dis Sci* 2009;54:1839-1846
2. Zea-Iriarte WL, Sekine I, Itsuno M, Makiyama K, Naito S, Nakayama T, et al. Carcinoma in gastric hyperplastic polyps. A phenotypic study. *Dig Dis Sci* 1996;41:377-386
3. Goddard AF, Badreldin R, Pritchard DM, Walker MM, Warren B; British Society of Gastroenterology. The management of gastric polyps. *Gut* 2010;59:1270-1276
4. Dirschmid K, Platz-Baudin C, Stolte M. Why is the hyperplastic polyp a marker for the precancerous condition of the gastric mucosa? *Virchows Arch* 2006;448:80-84
5. Herman LL, Kurtz RC, Brennan MF, Shike M. Acute pancreatitis from intussusception of a gastric polyp in a patient with Gardner's syndrome. *Dig Dis Sci* 1992;37:955-960
6. Cherukuri R, Levine MS, Furth EE, Rubesin SE, Laufer I. Giant hyperplastic polyps in the stomach: radiographic findings in seven patients. *AJR Am J Roentgenol* 2000;175:1445-1448
7. Han AR, Sung CO, Kim KM, Park CK, Min BH, Lee JH, et al. The clinicopathological features of gastric hyperplastic polyps with neoplastic transformations: a suggestion of indication for endoscopic polypectomy. *Gut Liver* 2009;3:271-275
8. Parikh M, Kelley B, Rendon G, Abraham B. Intermittent gastric outlet obstruction caused by a prolapsing antral gastric polyp. *World J Gastrointest Oncol* 2010;2:242-246

위 중첩증을 일으킨 거대 과형성 용종 내 상피내 선암¹

이미현¹ · 정동진¹ · 김 욱² · 한성태¹ · 이재문¹

과형성 용종은 작고, 무증상의 양성 용종으로 알려져 있다. 저자들은 매우 크고, 위 중첩증을 일으킨 과형성 용종에 대한 드문 예를 경험하였다. 수술 후, 병리검사에서 과형성 용종 내 일부 선암이 포함되어 있었다. 위 중첩증뿐 아니라 원인이 된 과형성 용종 내 발생한 상피내 선암도 매우 예외적인 증례이다. 저자가 아는 바에 의하면 거대 과형성 용종이 위 중첩증을 일으키고 상피내 선암으로 악성전환을 보인 보고는 지금까지 없었다. 이에 문헌고찰과 함께 보고하고자 한다.

가톨릭대학교 의과대학 여의도성모병원 ¹영상의학과, ²외과