Korean J Gastroenterol Vol. 62 No. 2, 122-125
http://dx.doi.org/10.4166/kjg.2013.62.2.122
pISSN 1598-9992 eISSN 2233-6869

CASE REPORT

점막하 종양의 양상을 보인 조기 점액성 위암 1예

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Submucosal Tumor-like Early-stage Mucinous Gastric Carcinoma: A Case Study

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Mucinous gastric carcinoma (MGC) is an unusual histologic subtype, and early detection of MGC is very rare. Early-stage MGC appears as an elevated lesion resembling a submucosal tumor (SMT) due to abundant mucin pools in the submucosa or mucosa. We report a rare case of SMT-like early-stage MGC. Tumor type was predicted preoperatively based on characteristic endoscopic findings, in which an SMT-like mass was observed at the gastric fundus. The tumor was covered by nearly normal mucosa, but with an opening allowing for the passage of copious mucus discharge. A total gastrectomy with Roux-en-Y esophagojejunostomy was subsequently performed. Histopathology of the tumor revealed early-stage (lamina propria) mucinous adenocarcinoma. **(Korean J Gastroenterol 2013;62:122-125)**

Key Words: Stomach; Neoplasms; Mucins

INTRODUCTION

Mucinous gastric carcinoma (MGC) is a very rarely found histologic subtype.[1,2] The reported incidence of MGC among all gastric carcinomas is 3% to 5%.[3,4] These tumors are mostly in an advanced stage and rarely in an early stage. The reported incidence of early MGC among early gastric carcinomas is only 0.3% to 1.0%.[5] We report a rare case of submucosal tumor (SMT)-like early-stage MGC, which was predicted preoperatively based on characteristic endoscopic findings.

CASE REPORT

A 40-year-old asymptomatic woman presented for further evaluation of a gastric lesion discovered on endoscopy during a routine health examination. The patient had no significant past medical history. Results of the physical examination and laboratory testing performed on admission were within normal limits. Endoscopic examination revealed an SMT-like mass at the gastric fundus. The tumor was covered by nearly normal mucosa, but with an opening allowing for the passage of copious mucus discharge (Fig. 1).

Endoscopic ultrasound showed a rounded, protuberant, heterogenous and hyperechoic mass with multiple anechoic cystic spaces. The mass was restricted to the mucosa, with no evidence of invasion into the submucosal layer (Fig. 2). A contrast-enhanced abdominal CT scan revealed a 25×23 mm polypoid intraluminal mass with heterogenous enhancement and partial mucosal irregularity at the gastric fundus

Received January 14, 2013. **Accepted** February 1, 2013.

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Financial support: None. Conflict of interest: None.

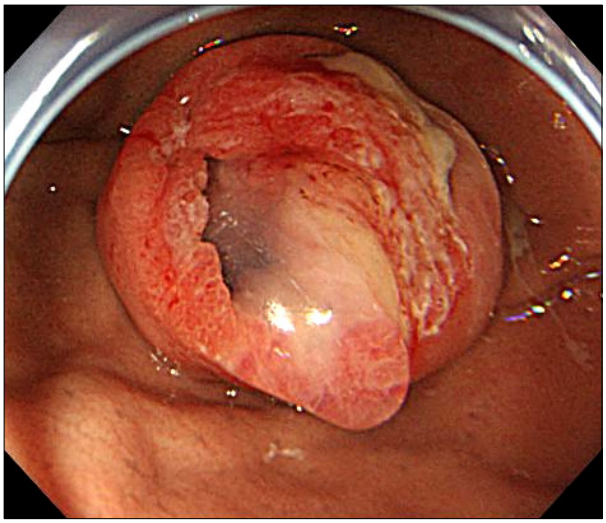

Fig. 1. Esophagogastroduodenoscopy showed a submucosal tumor-like mass at the gastric fundus. The mass was covered by nearly normal mucosa, with an opening allowing for the passage of copious mucus discharge.

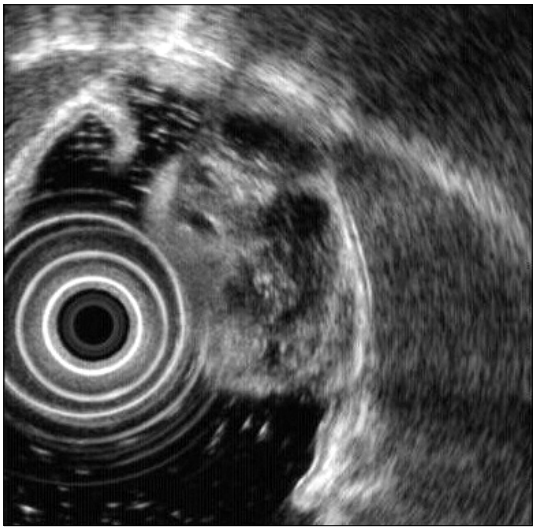

Fig. 2. Radial endoscopic ultrasound findings. A 26×23 mm round, elevated, heterogenous and hyperechoic mass with multiple anechoic cystic spaces was observed. The lesion did not invade into the submucosal layer.

(Fig. 3). CT and endoscopic ultrasound showed no findings suggestive of lymph node spread or other metastases. Biopsy specimens obtained from the stripped mucosa and the tumor surface showed a signet ring carcinoma with atypical foveolar cells. A total gastrectomy with Roux-en-Y esophagojejunostomy was performed. The well-demarcated mass was within the fundus (Fig. 4A). On cross-sectional views, mucinous material was abundant (Fig. 4B). Histopathology of the tumor revealed a well-differentiated MGC with mucin

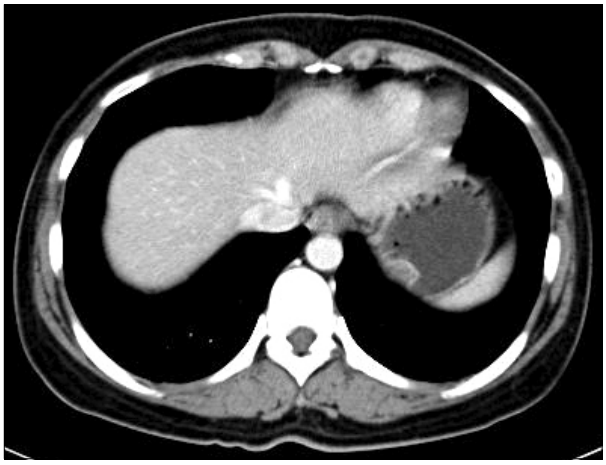

Fig. 3. Contrast-enhanced abdominal CT scan revealed a 25×23 mm polypoid intraluminal mass with heterogenous enhancement and partial mucosal irregularity at the gastric fundus.

pools lining the tubular adenocarcinomatous epithelium as well as a mixed signet ring cell carcinoma. Tumor invasion was limited to the lamina propria (Fig. 5).

DISCUSSION

Adenocarcinoma of various organs sometimes produces a mucinous component. Mucinous adenocarcinoma occurs more frequently in the colorectum than in the stomach. The incidence of mucinous colorectal adenocarcinoma is 5.7% to 11.7% of colorectal cancers.[1] According to the Japanese Research Society for Gastric Cancer, mucinous carcinoma is defined as a morphologic subtype of adenocarcinoma in which more than 50% of the tumor is composed of mucin.[2] Another variant, signet ring cell carcinoma, also produces abundant mucin that is intracytoplasmic rather than extracytoplasmic.[2] MGC is a very rarely found histologic subtype. The reported incidence of MGC among all gastric carcinomas is 3% to 5%.[3,4] As it is typically diagnosed in advanced stages, MGC that is restricted to the mucosa is very rare. The reported incidence of early MGC among early gastric carcinomas is only 0.3% to 1.0%.[5]

There are several hypotheses regarding the origin of MGCs. Mucinous carcinoma is thought by some to arise initially as a typical adenocarcinoma, and later becomes mucinous with tumor progression. This is consistent with the finding that intraluminal excretion of mucin decreases and intramural accumulation of mucin increases in accordance with tumor invasion through the gastric wall.[3,5,6]

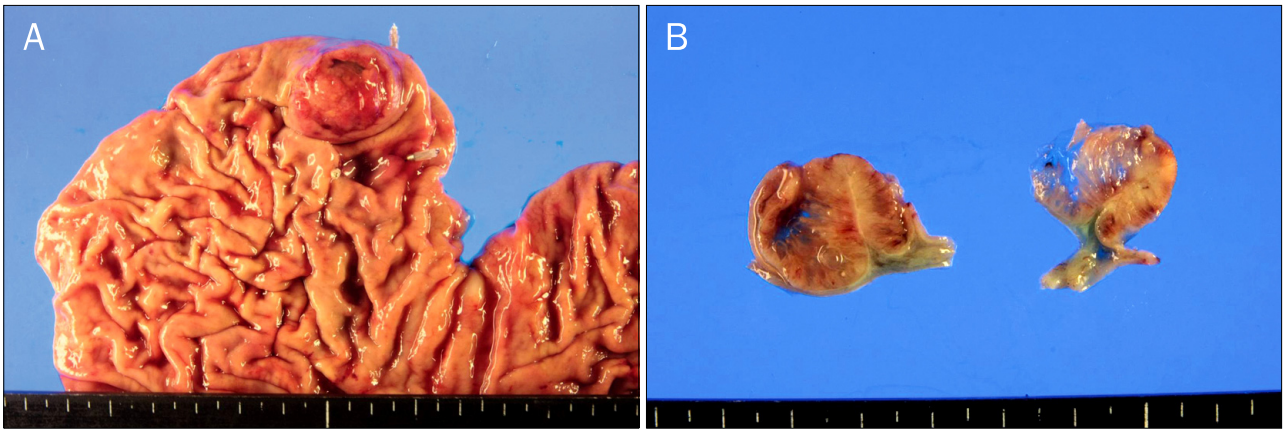

Fig. 4. Gross findings. (A) A well-demarcated fungating mass was present in the gastric fundus, measuring 25×23×20 mm in size. (B) In cross-sections of the tissue, the tumor was found to be confined to the mucosa and contained a large amount mucinous material.

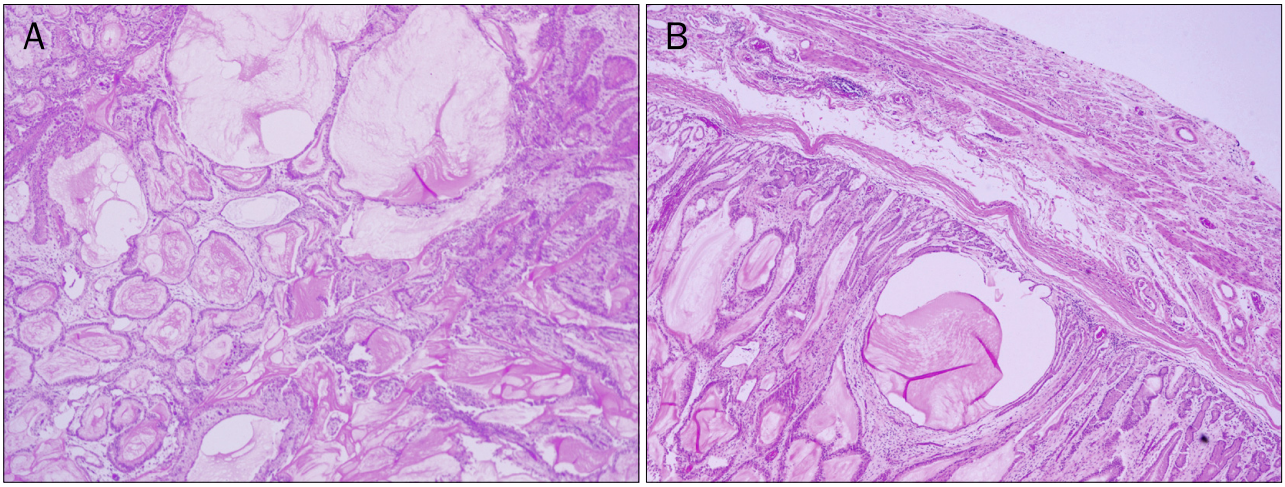

Fig. 5. Microscopic findings (H&E). (A) Well-differentiated mucinous gastric carcinoma with mucin pools lining the tubular adenocarcinomatous epithelium (×40). (B) Mucinous gastric carcinoma confined to the mucosa was characterized by extracellular mucin in the lamina propria (×40).

Epithelial tumors in the stomach sometimes exhibit a macroscopic appearance similar to submucosal tumors. But an adenocarcinoma showing features of SMT is unusual.[7]

Although the incidence of early MGC is rare, that of early MGC resembling SMT on macroscopic appearance is not uncommon. Gross features include abundant extracellular mucin and expansive growth in the mucosal or submucosal layers.[5]

Adachi et al.[3] conducted a clinicopathologic study of MGC. They found that the biologic behavior of MGC was similar to that of nonmucinous gastric carcinoma (NGC) and that the prognosis was basically determined by the histologic subtype, not by the mucin content. The tumor size, location, depth of invasion, lymph node metastasis, and stage at diagnosis were all similar between the MGC and NGC. The outcomes of patients with MGC were not less favorable compared with those of common gastric carcinoma. However, the lesions were mostly advanced carcinomas and rarely early carcinoma in MGC.[3]

When early stage mucinous and non-mucinous tumors were previously compared, tumor size, presence of lymph node metastasis, and patient outcomes were not significantly different. While the mucinous histologic subtype itself was not an independent prognostic factor in patients with gastric carcinoma on multivariate analysis, the postoperative prognosis in early-MGC patients was excellent. Poor outcomes in cases of MGC were typically due to later detection at an advanced stage rather than the mucinous histologic subtype.[4-6]

In this case, we diagnosed MGC at a very early stage. The

tumor was characterized by macroscopic elevation resembling SMT with an opening allowing for the passage of copious mucus discharge. This patient underwent total gastrectomy with Roux-en-Y esophagojejunostomy, and now has a favorable prognosis based on previous analyses of outcomes in patients with this tumor subtype and stage at the time of detection.

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