Endoscopic hemostasis for hemorrhage from gastric cancer complicated by double-channel pylorus

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Double-channel pylorus is a rare condition in which a gastroduodenal fistula has created a short accessory canal extending from the distal stomach to the duodenal bulb.1-7 This is a case of spurting hemorrhage from gastric cancer complicated by a double-channel pylorus in which endoscopic methods were used to achieve hemostasis.

CASE REPORT

An 83-year-old man with right hemiplegia caused by cerebral infarction suddenly vomited fresh blood. He had been undergoing antiplatelet therapy with ticlopidine hydrochloride for 2 years. There was a 5-month history of anorexia but the patient had declined GI examinations. Blood pressure on admission was 110/70 mm Hg and pulse rate 110/min. Normocytic anemia was evident (red blood cell count 276 × 10^4/mm^3 (normal: 431-565 × 10^4); hemoglobin 8.0 mg/dL (13.7-17.4); hematocrit 23.7% (40.2-51.5). Emergency upper endoscopy revealed a large ulcerative lesion extending over the antrum of the stomach. The edge of the lesion was elevated and the base of the ulcer was covered with large, organized blood clots (Fig. 1). In the center of the ulcerative lesion a channel was recognized and the true pyloric ring was identified below the lesion (Fig. 2). The channel was situated on the lesser curvature. It was possible to pass the endoscope through both channels into the duodenal bulb. To clarify the nature and location of the bleeding point, the clots were stripped off with a rat-tooth forceps (FG-32L-1, Olympus Optical Co., Ltd, Tokyo, Japan) and this revealed blood-spurting from a vessel within the lesion (Fig. 3). Endoscopic thermocoagulation was performed with a heat probe (CD 20Z, Olympus) set at 30 J. After a few sequences of coagulation the bleeding was controlled. Biopsy specimens of the ulcerated lesion obtained at a subsequent endoscopy
revealed invasive adenocarcinoma. A diagnosis of gastric cancer complicated by double-channel pylorus was made. The patient declined radical therapies. Antiplatelet therapy was suspended and treatment with orally administered sodium ferrous citrate was initiated. There has been no recurrence of hematemesis or worsening of anemia during a follow-up period of 6 months.

**DISCUSSION**

Double-channel pylorus can be congenital or acquired. Although there have been a few reports of the true congenital form, the majority of the reported lesions have developed secondary to perforation of a benign antral ulcer into the lumen of the duodenum. Friehling and Rosenthal reported a case of gastric cancer presenting as double-channel pylorus, which was caused by division of the pyloric channel into 2 narrow segments by a fold of the gastric tumor without fistula formation. The type of double-pylorus in the present case seems to be extremely rare because, to our knowledge, there has been only 1 previous report of double-channel pylorus as a result of penetration of gastric cancer. In addition, the lesion in the present case exhibited spurting hemorrhage, which is more commonly a complication of benign ulcer rather than gastric cancer.

Endoscopic treatment of major bleeding from a gastric neoplasm, including injection therapy and heat probe coagulation, is safe and initially effective, although there is a high rate of recurrent bleeding. Fortunately, in the present case, major hemorrhage was controlled endoscopically, although the patient declined further radical therapy. Antiplatelet therapy appears to have played an important causative role with respect to the hemorrhage. Argon plasma coagulation (APC) has been reported to minimize tissue injury because it requires no direct contact with the hemorrhagic lesion. Therefore, it seems suitable for the treatment of bleeding neoplastic lesions. However, APC is less effective for treatment of spurting hemorrhage, and in the present case thermocoagulation with a heat probe was chosen. Placement of a hemoclip might have been beneficial, but it was thought that it might be unstable when placed in the neoplastic lesion.

Although the likelihood of gastric cancer causing double-channel pylorus with spurting hemorrhage is low, neoplastic diseases cannot be ruled out a priori when such complications are encountered in the stomach. In addition, when endoscopy reveals a fistula in an ulcerative lesion on the lesser curvature of the gastric antrum, irrespective of whether it appears benign or malignant, penetration to the duodenum should be confirmed to distinguish it from a free gastric perforation.

**REFERENCES**