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Surgical resection of colorectal recurrence of gastric cancer more than 5 years after primary resection

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ABSTRACT

INTRODUCTION: Intestinal metastasis from gastric cancer is rare, although the most common cause of secondary neoplastic infiltration of the colon is gastric cancer. However, little data is available on recurrence or death in patients with gastric cancer surviving >5 years post-gastrectomy. Here we report two cases of lower intestinal metastasis from gastric cancer >5 years after primary resection and discuss with reference to the literature.

PRESENTATION OF CASE: Case 1: A 61-year-old man with a history of total gastrectomy for gastric cancer 9 years earlier was referred to our hospital with constipation and abdominal distention. We diagnosed primary colon cancer and subsequently performed extended left hemicolectomy. Histological examination revealed poorly differentiated adenocarcinoma resembling the gastric tumor he had 9 years earlier. The patient refused postoperative adjuvant chemotherapy and remained alive with cancerous peritonitis and skin metastases as of 17 months later. *Case 2*: A 46-year-old woman with a history of total gastrectomy for gastric cancer 9 years earlier presented with constipation. She also had a history of Krukenberg tumor 3 years earlier. We diagnosed metastatic rectal cancer and subsequently performed low anterior resection and hysterectomy. Pathological examination revealed poorly differentiated tubular adenocarcinoma, resembling the gastric tumor. The patient remained alive without recurrence as of 17 months later.

DISCUSSION: We found 19 reported cases of patients with resection of colon metastases from gastric cancer. Median disease-free interval was 74 months.

CONCLUSION: Resection of late-onset colorectal recurrence from gastric cancer appears worthwhile for selected patients.

1. Introduction

Intestinal metastasis from gastric cancer is rare, although the most common cause of secondary neoplastic infiltration of the colon is gastric cancer.[1] To the best of our knowledge, only two reports in the English literature have described lower intestinal metastasis from gastric cancer occurring >5 years after primary surgery.[2,3] The characteristics of this situation thus appeared largely unknown. However, we then identified over 30 reported cases in the Japanese literature with or without English abstracts available.[4]

From January 1999 to July 2012, we performed 1020 gastric cancer surgeries and encountered 3 cases with late-onset lower intestinal recurrence of gastric cancer occurring 9–11 years after primary resection at Obihiro Kosei General Hospital in Japan. We recently reported one of these cases of colon metastasis from gastric cancer, which occurred 11 years after primary surgery.[5] Here we report the other 2 cases of late-onset colon metastasis from gastric cancer.

2. Case reports

2.1. Case 1

A 61-year-old man was referred to our hospital with constipation, abdominal distention, and lower abdominal pain. At 52

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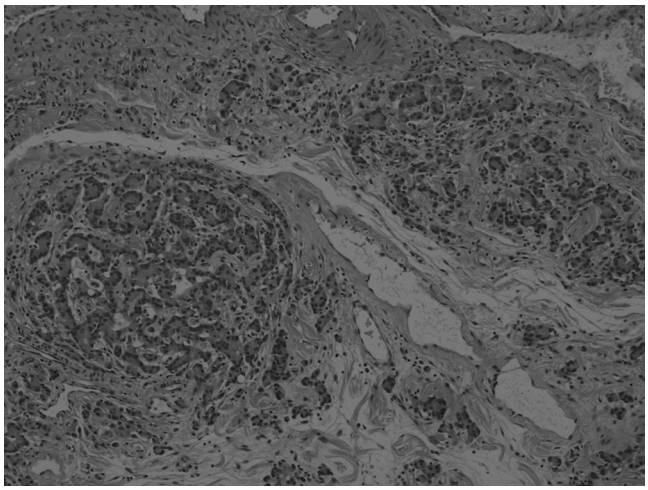

Fig. 1. Pathological findings of the resected ascending to transverse colon. Histological examination of the colon tumor reveals tubular adenocarcinoma with signet-ring cell carcinoma.

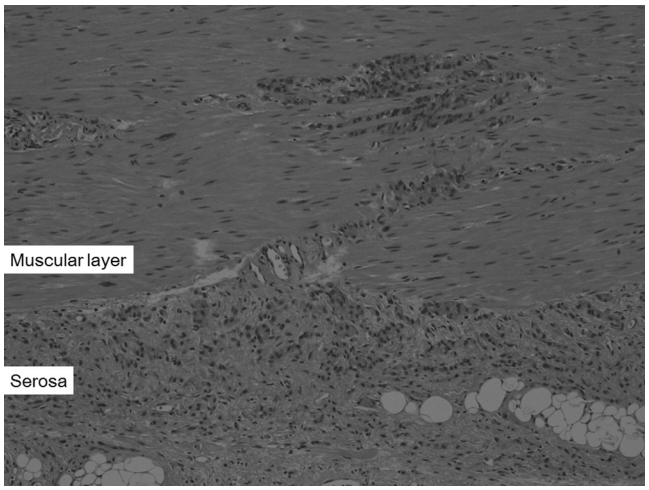

Fig. 2. Histological examination of the anal-side margin, showing tumor cells have spread widely into the submucosal and muscular layers. Similar histological findings were also found in almost all of the resected specimen.

years old, he had undergone radical total gastrectomy and distal pancreatectomy with regional lymph node dissection. Histological examination revealed poorly differentiated adenocarcinoma involving signet-ring cell carcinoma, categorized as T3N0M0 according to the American Joint Committee on Cancer classification 7th. Surgical margins for the resected primary tumor were free of tumor cells. The patient had received regular follow-up on an outpatient basis for 5 years before being referred to our hospital.

Abdominal computed tomography (CT) showed target-like thickening of the descending colon and moderate accumulation of ascites. Radiographic contrast-enhanced enema and colonoscopy revealed induration and stenosis of the descending colon. The diagnosis was primary cancer of the descending colon.

A small, hard mass was palpated during laparotomy in the middle of the transverse colon, and thus left hemicolectomy and transverse colectomy with mesenteric lymph node dissection were performed. Postoperative course was uneventful. Histological examination of the colon tumor revealed poorly differentiated adenocarcinoma (Fig. 1), showing similar pathological findings to the gastric tumor 9 years earlier. Immunohistochemical staining showed positive results for cytokeratin 7, and negative results for cytokeratin 20 and caudal-type homeobox 2. These findings supported the suggestion that this tumor represented colon metastasis from the previous gastric cancer. The surgical margin on the anal side was positive on pathological examination, with cancer cells spread widely from the submucosal to the muscular layer in all surgical specimens (Fig. 2). Many lymph node metastases were identified in resected specimens. The patient refused chemotherapy after surgery, and remained alive with cancerous peritonitis and skin metastasis as of 17 months later.

2.2. Case 2

A 46-year-old woman presented with constipation, abdominal distention, and lower abdominal pain. At 37 years old, she had undergone radical total gastrectomy and distal pancreatectomy with regional lymph node dissection for poorly differentiated adenocarcinoma identified as T3N2M0 signet-ring cell carcinoma according to the AJCC 7th. The surgical margins of the primary tumor were free of tumor cells. The patient then underwent adjuvant chemotherapy and received regular follow-up on an outpatient basis for 5 years. At 43 years old, 6 years after primary resection, she was diagnosed with an ovarian tumor and underwent ovariectomy. The pathological diagnosis was Krukenberg tumor (metastatic moderately and poorly differentiated adenocarcinoma).

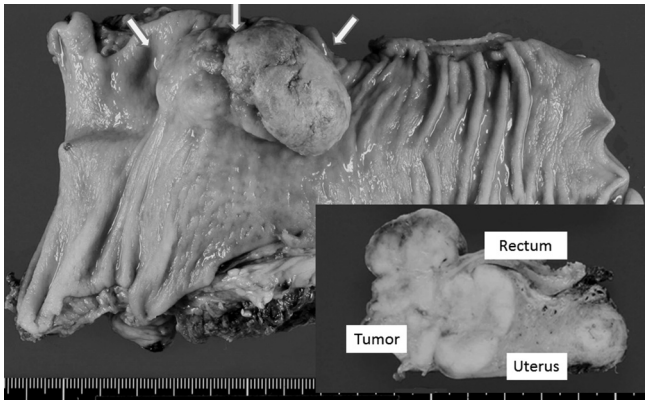

Fig. 3. Pathological findings of the resected specimen show the tumor has invaded both the rectum and uterus.

We performed magnetic resonance imaging (MRI) and abdominal CT, both of which showed rectal tumor invading the uterus. Radiographic contrast-enhanced enema and colonoscopy revealed induration and stenosis of the rectum. Metastatic gastric cancer of the rectum was diagnosed after histological examination revealed moderately to poorly differentiated adenocarcinoma resembling the gastric cancer that had occurred 9 years earlier. Low anterior resection and hysterectomy were performed with mesenteric lymph node dissection. The postoperative course was uneventful. Pathological examination revealed that tubular adenocarcinoma with moderately and poorly differentiated components, similar to the pathological findings of the previous gastric tumor, had invaded both the rectum and uterus (Figs. 3 and 4). Two metastases were present in the resected mesenteric lymph nodes. The patient subsequently underwent chemotherapy for 1 year, and remained alive without recurrence as of 24 months later.

3. Discussion

Recent reports from Japan and Korea have shown a late recurrence rate of about 6% among patients with advanced gastric cancer who survived >5 years post-gastrectomy.[6] Intestinal metastasis from gastric cancer itself is rare, although the most common cause of secondary neoplastic infiltration of the colon is gastric cancer.