Complete Response to Chemoradiotherapy in a Patient with Synchronous Double Gastric and Esophageal Cancer

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Abstract. A 77-year-old man with early synchronous double primary gastric and esophageal cancer showed complete response (CR) to chemoradiotherapy (CRT) with fluorouracil (5-FU) and cis-diamminedichloro platinum (CDDP) and 60 Gy total dose of radiation. Gastrointestinal endoscopy had revealed type IIc squamous cell carcinoma in the lower oesophagus and type IIc adenocarcinoma in the mid-stomach region. Synchronous double primary early-stage esophageal and gastric cancer was diagnosed. The patient’s age and chronic obstructive pulmonary disease (COPD) contraindicated radical esophageal surgery. Therefore, we decided to first administer CRT with 5-FU and CDDP for the esophageal cancer, and subsequently perform partial gastrectomy for the gastric cancer. After the CRT, neither of the tumors recurred. CR to CRT for the esophageal cancer and CR to chemotherapy for the gastric cancer were achieved. Conclusion: CRT with 5-FU and CDDP can produce CR in cases of early esophageal and gastric cancer.

The standard treatment for early stage esophageal and gastric cancers is esophagectomy and gastrectomy without endoscopic mucosal resection, respectively. Although the prognosis of early-stage gastric cancer has improved owing to the advances in endoscopic therapy, the prognosis of early-stage esophageal cancer remains relatively poor (1, 2). The prognosis of double primary cancer in patients with esophageal cancer is worse than that of a single malignancy (3). Furthermore, synchronous double primary gastric cancer has a worse prognosis than metachronous cancer (4-6). Cases of complete response (CR) to chemoradiotherapy (CRT) administered for synchronous double primary early-stage esophageal and gastric cancer are rare. Here, we report one such case.

Case Report

A 77-year-old man who had undergone surgery for prostrate carcinoma was consulting his family doctor for postoperative follow-up and chronic obstructive pulmonary disease (COPD). In July 2007, he was referred to the Department of Digestive Surgery, Nihon University School of Medicine, Itabashi Hospital, because of esophageal and gastric tumors that were identified during a follow-up examination. Upper gastrointestinal endoscopy revealed two 2.5×2.5 cm, type IIc tumors: one in the lower esophagus (Figure 1A) and the other in the lower stomach (Figure 2A). Analysis of the biopsy specimens revealed that the esophageal tumor was a moderately differentiated squamous cell carcinoma, while the gastric tumor was a moderately differentiated adenocarcinoma. The patient’s condition was diagnosed as early stage synchronous double primary cancer of the esophagus and stomach. Computed tomography did not show any evidence of metastasis.

The patient’s age and COPD contraindicated radical esophageal surgery. Therefore, we decided to first administer CRT with fluorouracil (5-FU) and cis-diamminedichloroplatinum (CDDP) for the esophageal cancer, and subsequently perform partial gastrectomy for the gastric cancer. CRT was carried out according to the Japan Clinical Oncology Group (JCOG) 9516 regimen (7). CDDP was administered at a dose of 100 mg/m² on days 1 and 29, and 5-FU was administered at a dose of 900 mg/m² daily from days 1 to 4 and 29 to 32. Fractionated radiotherapy was administered from days 1 to 21 and 29 to 49; a total dose of 60 Gy was administered 5 times a week at the rate of 2 Gy fraction. The radiation fields encompassed the primary esophageal lesion and regional lymph nodes. After the completion of the CRT, the response of the tumor to the CRT was clinically and pathologically evaluated by performing upper gastrointestinal endoscopy: the esophageal and...
gastric tumors were found to have regressed to scar lesions (Figure 1B) and (Figure 2B). The biopsy specimens obtained from both the scar lesions were negative for cancer. We concluded that the patient showed CR to CRT for the early esophageal cancer and CR to chemotherapy for the gastric cancer. Over the next 4 months, periodic upper gastrointestinal endoscopic examinations were conducted to detect any further esophageal or gastric lesions. After CRT, the patient did not receive adjuvant chemotherapy or any other anticancer treatment. By August 2010, upper gastrointestinal endoscopy had been performed thrice, and no further lesions had been identified. At 33 months after the complete disappearance of the tumors, the patient is still alive without any signs of tumor recurrence.

Discussion

Cases of CR to CRT administered for synchronous double primary early-stage esophageal and gastric cancer are rare. Several retrospective studies have reported a CR rate of 17-36% to CRT for advanced esophageal cancer (8-10). However, the efficacy of CRT in the treatment of early esophageal cancer is still unknown. In contrast, the rate of the CR to chemotherapy for advanced gastric cancer is as low as 0-0.7% (11, 12). CR to chemotherapy for early gastric cancer is very rarely reported because most cases are treated with surgical resection or endoscopic mucosal resection as these procedures give good clinical results. Moreover, dysphagia after gastrectomy is not as severe as that after esophagectomy, and gastrectomy is not highly associated with high mortality and morbidity.

CRT may be effective in early oesophageal cancer (13), and chemotherapy in early gastric cancer. Although advances in endoscopic therapy have improved the prognosis of early esophageal cancer (14, 15), the outcome is still not acceptable (1, 2). Cases of CR to CRT administered for synchronous double primary early stage esophageal and gastric cancer are rare. In general, either radiotherapy or surgery with or without esophageal preservation is selected...
as the initial treatment. Only a few studies have reported the efficacy of CRT for early-stage esophageal cancer, and the optimal treatment approach is still undefined. The dysphagia experienced after esophagectomy is worse than that experienced after CRT (16). Furthermore, esophagectomy is associated with high mortality and morbidity, being associated with a 5% surgical mortality rate even at high-volume centers (12). Some studies have compared the outcomes of esophagectomy with those of CRT in a population-based sample of elderly patients with early-stage esophageal cancer; the survival rate of patients with squamous cell carcinoma did not significantly differ between CRT and esophagectomy groups. Patients with radio- and chemosensitive early esophageal cancer seem to have prognostic and functional merit (17).

In our patient, we hypothesize that CRT administration for the concurrent early stage esophageal cancer stimulated the response of the gastric cancer to chemotherapy. Chemosensitivity to 5-FU and CDDP is not very suitable for advanced gastric cancer (18). In Japan, S-1 (Taiho Pharmaceutical, Tokyo, Japan) is a key chemotherapeutic agent used against gastric cancer (19). Its efficacy has been proven in trials of S-1 for gastric cancer and the combination of S-1 and CDDP for stage IV gastric cancer patients (12). S-1 has many advantages, including its high efficacy, excellent tolerability, low side-effect profile, and the ease of administration in an outpatient setting. In the light of our case, we believe that patients with early gastric cancer could be cured by using highly efficacious S-1 chemotherapy. Further research is needed to improve esophageal and gastric preservation in patients with early cancer.

In conclusion, this case confirms the possibility of CR to radiotherapy and chemotherapy for early esophageal and gastric tumors. Further study of such cases will promote further understanding of CR, and it may also lead to the development of a new treatment strategy for early esophageal and gastric cancer.

References


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