



Case report

Gastric cancer presenting with obstructive jaundice

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Abstract:

Gastric cancer is rarely associated with obstructive jaundice, which is associated with poor survival. We describe five patients with gastric cancer who presented with jaundice. Two patients had primary gastric cancer and three had recurrent disease. The patients were treated by operation, chemotherapy, and percutaneous transhepatic biliary drainage (PTBD) according to the stage of the cancers. Although these treatments often fail to prolong survival, chemotherapy and PTBD can improve patient's quality of life.

Key words: gastric cancer, obstructive jaundice, PTBD, patient's prognosis

Introduction

Obstructive jaundice usually occurs in patients with bile duct stones, bile duct cancer, and pancreas head cancer. Gastric cancer is rarely associated with obstructive jaundice, with the incidence of jaundice associated with gastric cancer reported to be only 2.3% [1]. There are few reports of patients with gastric cancer who have obstructive jaundice, which is associated with poor survival [2]. Here we report five patients with primary and recurrent gastric cancer who presented with jaundice.

Case reports

From January 1982 to February 1997, a total of 855 patients with primary and recurrent gastric cancer were admitted to our department. Of these, 5 patients (0.6%) presented with jaundice: 2 had primary gastric cancer

and 3, recurrent disease. The clinical data of these patients are shown in Table 1. For the diagnosis of lymph node metastases, other organ involvement, and evaluation of chemotherapy, ultrasonography (US) and computed tomography (CT) were routinely used [3,4]. In the 2 patients with primary advanced gastric cancer, the cause of jaundice was obstruction of the extrahepatic bile duct due to extensive lymph node metastasis in the hepatoduodenal ligament.

Case 1. A 68-year-old man with jaundice was admitted to our hospital. Gastroscopy and CT showed advanced gastric cancer with extensive lymph node metastasis. Treatment included palliative distal gastrectomy, percutaneous transhepatic biliary drainage (PTBD), endoscopic stenting, and systemic chemotherapy (with 5-fluorouracil [5-FU] and cisplatin). Although the jaundice resolved, he died due to peritoneal dissemination 11 months after the operation.

Case 2. A 58-year-old man with jaundice, ascites, and pleural effusion was admitted. Barium meal study showed advanced gastric cancer, Borrmann type 2. Cytology was positive for cancer cells in both peritoneal and pleural effusions. Although PTBD was done, he died 1 month after admission.

Case 3. A 67-year-old man had undergone total gastrectomy for advanced cancer, Borrmann type 4, 5 months before admission to our hospital, where he presented with general fatigue and jaundice. CT revealed that the jaundice was due to lymph node recurrence in the hepatoduodenal ligament. Chemotherapy with mitomycin C, 5-FU, and adriamycin was effective (a partial response was shown) and the jaundice resolved, he died of peritoneal dissemination 5 months later.

Case 4. A 49-year-old man underwent distal gastrectomy for advanced gastric cancer with extensive lymph node metastasis. Four months later, he was admitted due to hepatic coma. US and CT showed that there was no lymph node metastasis in the hepatoduodenal ligament, but there was intrahepatic bile duct dilatation,

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Table 1. Clinical data of five patients with gastric cancer presenting with obstructing jaundice

Case no.	Age (years)	Sex	Total (direct) bilirubin (mg/dl)	Diagnosis	Treatment	Survival (months)
1	68	Male	6.7 (4.2)	Primary gastric cancer	PTBD; gastrectomy; chemotherapy (5-FU, cisplatin)	11
2	58	Male	24.4 (11.6)	Primary gastric cancer	PTBD	1
3	67	Male	6.7 (3.9)	Recurrent gastric cancer	Chemotherapy (MFA)	5
4	49	Male	21.9 (15.3)	Recurrent gastric cancer	PTBD	4
5	59	Male	13.6 (9.8)	Recurrent gastric cancer	PTBD; chemotherapy (EAP)	9

PTBD, Percutaneous transhepatic biliary drainage; MFA, mitomycin C, 5-FU, adriamycin; EAP, etoposide, adriamycin, cisplatin

which was associated with bile duct obstruction due to multiple liver metastases. Although PTBD was done, he died of liver failure 4 months after admission.

Case 5. A 59-year-old man underwent distal gastrectomy for advanced gastric cancer with extensive lymph node metastasis. Eight months after the operation, he was suffering from jaundice. Lymph node metastasis in the hepatoduodenal ligament was apparent, and PTBD and chemotherapy (consisting of etoposide, adriamycin, and cisplatin) was performed. However, he died 9 months after admission.

Discussion

Malignant biliary obstruction associated with gastric cancer is not common. In a review of 1300 patients with gastric cancer treated at Memorial Sloan-Kettering Cancer Center [2], 30 patients (2.4%) had malignant biliary obstructions. Most tumors were located in the antrum or at the pylorus, and were advanced, having metastasized to regional lymph nodes. Malignant biliary obstruction after gastrectomy was caused mostly by lymphatic metastasis in the lymph nodes around the head of the pancreas and porta hepatis. The mean interval to diagnosis of malignant biliary obstruction after gastrectomy was 23.1 months, and the mean survival after the development of jaundice was 4.2 months. Although pancreatoduodenectomy was the most successful palliative procedure in some selected patients, radical lymph node dissection at gastrectomy may prevent the extrahepatic biliary obstruction.

Recently, Lee et al. [5] showed in their study of 54 patients with advanced gastric cancer with jaundice that the cause of bile duct obstruction in advanced gastric cancer was predominantly metastatic lymph node involvement in the hepatoduodenal ligament, and its pre-

ferential site was the common hepatic duct and proximal half of the common bile duct. The location of the primary gastric cancer was the antrum in 36 patients (67%), the gross appearance was Borrmann type 3 in 39 patients (72%), the histological type was poorly differentiated in 49 patients (91%), and serosal invasion was present in 52 patients (96%).

In our five patients, the cause of jaundice in four was obstruction of the common bile duct by metastatic lymph node involvement and obstruction of intrahepatic bile ducts due to multiple liver metastases in one. Three patients (cases 1, 2, and 3) died of extensive peritoneal spread. Three patients had advanced cancer, Borrmann type 3, located in the antrum and two patients had advanced cancer, Borrmann type 4, located in the antrum and body. Histological examination of resected or biopsy specimens showed that all gastric cancers were poorly differentiated adenocarcinoma. Findings in our patients confirmed that gastric cancer presenting with obstructive jaundice was critical because there was extensive lymph node metastasis in the hepatoduodenal ligament, sometimes associated with peritoneal dissemination.

It was reported by Kajiyama et al. [6] that chemotherapy with 5-FU and folic acid was effective for the relief of jaundice in recurrent gastric cancer. Smith et al. [7] showed that metallic stenting was effective for the management of malignant biliary stricture. Chu et al. [2] recommended that patients with profound anemia or jaundice on presentation be treated with minimal intervention, whereas patients with normal hemoglobin level and a lesser degree of jaundice be considered for insertion of an expandable metallic biliary stent with additional radiation therapy. The treatment in our series of patients was PTBD in two, chemotherapy in one, and PTBD plus palliative chemotherapy in two. After each treatment, the jaundice in all five patients was de-

creased and their performance status improved. We consider that PTBD and palliative chemotherapy may improve the patient's quality of life, although there was no prolongation of survival in patients with malignant obstructive jaundice.

Our current examinations for evaluation of patients with advanced gastric cancer are: (1) Barium meal study and gastric fiberoscopy with biopsy for assessment of tumor invasion through the gastric wall, (2) US and CT for assessment of other organ and lymph node involvement, and (3) laparoscopic exploration for the diagnosis of peritoneal dissemination when the tumor includes scirrhous gastric cancer. In Japanese studies, the incidence of lymph node metastasis along the hepatoduodenal ligament (station no. 12) is reported to be 9% when the tumor is located in the distal one-third of the stomach [8]. When the advanced gastric cancer is located in the antrum or at the pylorus and is thought to involve the lymph nodes, lymph node dissection in the hepatoduodenal ligament is therefore needed. This extended and systematic lymph node dissection will reduce the risk of the development of obstructive jaundice due to the lymphatic spread of the gastric cancer.

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