A Patient with Advanced Gastric Cancer, Underwent Curative Gastrectomy and Partial Resection of Metachronous Hepatic Metastases, Is Surviving for 13 Years to Date

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Summary: We have reported a successful case of curative partial liver resection of metachronous liver metastasis from advanced gastric cancer. The patient was 56 years old and has undergone total gastrectomy with D2 lymph node dissection (2 type, well-differentiated adenocarcinoma, H2P0nSe, Stage 2). At 18 months later, follow-up ultrasound detected liver metastasis in the right posterior segment. Together with other imaging modalities, it was diagnosed as a solitary lesion without any other recurrence, and we performed partial resection of the right posterior segment. During the operation, there was no sign of any other recurrence (no peritoneal dissemination, no lymph node metastasis, and no other liver metastasis). Two Mitomycin-C (MMC) intravenous injections were given as postoperative chemotherapy. Usually, surgery for liver metastasis from gastric cancer is very rare as a curative therapy, because it is difficult to predict the effectiveness of the operation. In the present case, we decided on the operation since there was no sign of any other recurrence. It has now been 13 years to date since the partial liver resection and the patient remains free from recurrence.

Key words metachronous hepatic metastasis, advanced gastric cancer, surviving case, partial resection of the hepatic metastasis

INTRODUCTION

In gastric cancer, approximately 10% patients at the time of the operation for the primary lesion are found to have simultaneous metastasis. The incidence of metachronous liver metastasis is 20%. There are many types of therapy for treating liver metastasis from gastric cancer, but few therapies are effective. It is rare for a patient with metachronous liver metastasis to undergo curative hepatic resection. Here we report a case that underwent a curative resection of metachronous liver metastasis, after a curative operation for the gastric cancer. There is no evidence of any recurrence to date at 13 years after the resection of the metachronous liver metastasis.

CASE REPORT

A 56-year-old man underwent total gastrectomy with D2 lymph node dissection and double tract jejunal interposition reconstruction for advanced gastric cancer (2 type, well-differentiated adenocarcinoma, H2P0nSe, stage 2) in January, 1987 (Fig. 1). At 18 months after the curative operation, follow-up ultrasonography found suspected metachronous liver metastasis 1.8×1.5 cm in the right posterior segment (Fig. 2). Immediately, he was admitted for further examination and treatment. On admission, the patient...
had no subjective symptoms and his general condition was stable. Also on physical examination there was no abnormal sign at all. On blood biochemical examination, the liver function was normal, and tumor markers (carcinoembryonic antigen: CEA, α-fetoprotein: AFP, carbo-hydrate antigen 19-9: CA 19-9) were all within normal ranges.

After admission, an abdominal computed tomographic scan examination (CT scan) and angiography were performed to help to determine the malignancy of the liver tumor. The CT scan detected a tumor mass lesion about 2 cm in diameter at the edge of the right posterior segment (Fig. 3). The mass lesion was enhanced and therefore considered to be malignant. Angiography showed a hyper vascular area in the same position also indicating malignancy. According to the results of these radiography examinations, it was diagnosed as metachronous hepatic metastasis from the gastric cancer. The hepatic lesion was solitary, and there was no sign of recurrence in the abdominal lymph nodes or of the peritoneal dissemination. The general condition of the patient was sufficiently stable to undergo surgical treatment for this hepatic metastasis. Therefore a partial resection of the liver was indicated as a curative operation for the metastatic lesion.

In May 1988, he underwent the partial resection of the right posterior segment. During the operation, it was confirmed that there were no ascites pooling, no lymph node metastasis, and no peritoneal dissemination in the abdominal cavity, which indicated no other recurrence. Intra operative ultrasonography found no other metastatic lesion in the liver. The hepatic lesion appeared to be superficial on the surface of the liver. A microscopic analysis of the
resected liver segment revealed that cancer cells proliferated expansively and formed a mass lesion with some part protruding above the surface of the liver (Fig. 4). In demarcation between the tumor mass lesion and normal liver tissue, there was notable infiltration of phlogocyte mainly composed of lymphocyte. Physiological and histological findings of the dissected liver tumor showed a well-differentiated adenocarcinoma, of the same histology as the primary gastric cancer. On the day of the operation and on the next day, mitomycin-C (MMC) was injected intravenously, 20 mg and 10 mg, respectively. With a stable postoperative course, the patient was discharged on the 22nd postoperative day. He is alive and well to date at more than 10 years since the partial resection of the liver with no sign of recurrence.

DISCUSSION

Among synchronous or metachronous liver metastasis from gastric cancer, several reports have demonstrated the high incidence of papillary and of well-differentiated tubular adenocarcinoma. And macroscopically, there is a high incidence of macroscopic type 2 (ulcerated carcinoma with sharply demarcated and raised margins), and of type 1 (polypoid tumors, sharply demarcated from the surrounding mucosa, usually attached on a wide base). In synchronous or metachronous liver metastasis the prognosis is very poor, regardless of the kind of therapy, and the majority of patients are treated with nonsurgical methods.

The resection rate of synchronous liver metastasis has been between 3.4 and 20.0% with a subsequent median survival of 9 to 26.5 months [1,2]. In synchronous liver metastasis, it is very difficult to determine its resectability owing to the high incidence of multiple micrometastases. On the other hand, metachronous liver metastasis usually appears within one year after a curative operation for the gastric cancer. But even in the case of metachronous metastasis, it is very rare to perform resection, because of simultaneous peritoneal dissemination or lymph node metastases. Even if there is no clear sign of other recurrence, there is always suspected peritoneal dissemination or lymph node metastasis. However, if the metachronous liver metastasis is found within 2-10 months, then the risk to other recurrence is lower, and partial resection of the liver should be considered as an effective treatment in order to improve the prognosis for the patient [2-5].

The clinicopathological characteristics of the primary lesion in the known cases of resected metachronous liver metastasis after curative gastrectomy are shown in Table 1 [6,7]. In all cases except one, the depth of invasion was within the subserosa layer, and lymph nodes metastasis was limited to within group 1. The present case showed no lymph node metastasis but invasion was into the serosa (se).

If metachronous liver metastasis within only one or two segments occurs within 6 months of the primary curative operation for up to Stage I gastric cancer, then resection of the metastasis should be considered to improve the prognosis. Furthermore, adding chemotherapy after partial liver resection could improve prognosis.

REFERENCES


<table>
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<tr>
<th>Interval from gastric surgery (months)</th>
<th>Histology</th>
<th>Depth</th>
<th>Lymph node meta</th>
<th>Number of metastatic liver tumor</th>
<th>Type of resection</th>
<th>Survival after hepatic resection</th>
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<td>Limited resection</td>
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