Early Gastric Cancer with Juxta Lymph Node (n3) Metastasis

YOSHIKI TSUJI, JINRYO TAKEDA, KIKUO KOBUJI, ISSEI KODAMA, MASAFUMI MARUIWA, SHINJI KAWABATA AND TERUO KAKEGAWA

Department of Surgery, Kurume University School of Medicine, Kurume, 830 Japan

Received for publication March 12, 1993

Summary: From 1976 to 1992, a total of 714 cases of early gastric cancer (EGC) were treated by resection in the First Department of Surgery, Kurume University Hospital. For EGC, the overall lymph node metastasis rate is generally 10%, with the lymph node metastasis observed mainly in the Group 1 perigastric nodes in both mucosal cancer and submucosal cancer. Three rare cases of an early gastric cancer with Group 3 juxta regional lymph node metastasis are described because Group 3 lymph nodes are rarely discovered. To our knowledge, only 14 other cases of EGC with juxta regional lymph node metastasis have been reported in the Japanese literature.

Key words: early gastric cancer — juxta lymph node (n3) — sm-cancer — metastasis — chemotherapy

Introduction

Early gastric cancer (EGC) is defined as a carcinoma confined to the mucosa (m-cancer) or submucosa (sm-cancer) of the stomach, with or without lymph node metastasis, according to the Guidelines of the Japanese Research Society for Gastric Cancer (1981). The lymph node metastasis rate is generally recognized to be about 10% for EGC, with lymph node metastasis observed mainly in the Group 1 perigastric nodes in both m- and sm-EGC. Here we describe 3 rare cases of an EGC with positive lymph node metastasis in the hepatoduodenal ligament (12a2) and in the lymph nodes along the posterior common hepatic artery (8p) of the Group 3 lymph nodes.

Results

The details of these three rare cases of an EGC with positive lymph node metastasis in the Group 3 lymph nodes are summarized in Table 1. Case 1 has been previously described by Tanaka et al. (1991). Both Case 1 and Case 3 underwent a distal partial gastrectomy with Groups 1 and 2 lymph node dissection for a superficial depressed type IIc EGC in the antrum. During the operation, we found an enlarged lymph node on the left side
TABLE 1.  
Summary of 3 n3 (+) patients

<table>
<thead>
<tr>
<th>Case</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>58</td>
<td>62</td>
<td>71</td>
</tr>
<tr>
<td>Sex</td>
<td>Female</td>
<td>Male</td>
<td>Male</td>
</tr>
<tr>
<td>Location</td>
<td>AMD-Post</td>
<td>C-Min</td>
<td>AM-Pre, Min</td>
</tr>
<tr>
<td>Macro.</td>
<td>IIc</td>
<td>Ila</td>
<td>IIc</td>
</tr>
<tr>
<td>Size (mm)</td>
<td>80×65</td>
<td>11×10</td>
<td>47×24</td>
</tr>
<tr>
<td>Histology</td>
<td>sig</td>
<td>por</td>
<td>tub1</td>
</tr>
<tr>
<td>Depth</td>
<td>sm</td>
<td>sm</td>
<td>sm</td>
</tr>
<tr>
<td>n (±)</td>
<td>3, 6, 12a2</td>
<td>1, 3, 8p</td>
<td>3, 12a2</td>
</tr>
<tr>
<td>ly, v</td>
<td>1, 0</td>
<td>1, 1</td>
<td>2, 1</td>
</tr>
<tr>
<td>H</td>
<td>(−)</td>
<td>H2</td>
<td>(−)</td>
</tr>
<tr>
<td>I.C.T.</td>
<td>medullary</td>
<td>medullary</td>
<td>medullary</td>
</tr>
<tr>
<td>Operation</td>
<td>distal</td>
<td>total</td>
<td>distal</td>
</tr>
<tr>
<td>Chemo.</td>
<td>MMC, 5FU</td>
<td>5-FU</td>
<td>MMC, 5FU</td>
</tr>
<tr>
<td>Prognosis</td>
<td>5Y2M</td>
<td>13M dead</td>
<td>3M</td>
</tr>
</tbody>
</table>

*Macro: macroscopic cancer type; sig: signet-ring cell carcinoma; por: poorly differentiated adenocarcinoma; tub1: well diff. tubular adenocarcinoma; H: hepatic metastasis; ly: the degree of cancer cell invasion into the lymph vessels of the stomach wall; v: the degree of cancer cell invasion into the veins of the stomach wall; I.C.T: regarding the amount of Intestinal Connective Tissue in the cancerous tissue

of the proper hepatic artery in Case 1 and in front of the proper hepatic artery in Case 3 of the hepatoduodenal ligament (Group 3), and so lymph node dissection along the hepatoduodenal ligament was performed. In Case 2, total gastrectomy with Groups 1 and 2 lymph node dissection was performed for a superficial elevated type IIa EGC in the cardia. Preoperatively, a few scattered liver metastases to both lobes (H2) were found by US and CT, and the single focus of metastatic liver tumor was resected. Also an enlarged 8p lymph node was resected intraoperatively. In all three cases, the resected lymph nodes, and the liver tumor from Case 2 were confirmed to be of the same histological type as the primary early gastric cancer. The perigastric lymph node (Group 1) metastasis was positive in all 3 cases. In all 3 cases, no postoperative complication occurred. The Case 2 patient later died of liver metastasis with jaundice, 13 months postoperatively, but permission for an autopsy was refused. The Case 1 patient is surviving for more than 5 years without recurrence.

Discussion

The prognosis for a curatively resected early gastric cancer is generally good, with a 5-year survival rate of about 97% (Kitaoka et al. 1984; Takeda et al. 1987). The lymph node metastasis rate from an m-cancer is low at 2-5% (Fujita et al. 1983; Abe et al. 1984), compared with a rate of 20% for an sm-cancer. The lymph node metastasis rate to the Group 2 lymph nodes has been reported to be 1-2% (Fujita
EARLY GASTRIC CANCER WITH N3

et al. 1983; Takeda et al. 1987). Three rare cases are reported of an EGC with positive lymph node metastasis in the Group 3 lymph nodes.

R2-gastric resection which involves gastrectomy, omentectomy and the complete removal of the Group 1 and 2 lymph nodes is generally accepted as the procedure of choice for the curative treatment of an EGC. Recently, endoscopic surgery has been developed for a small elevated EGC such as Ila within 2 cm diameter. However, preoperative diagnosis of lymph node metastasis is difficult even when using US, CT and MRI. To our knowledge, there are only a few detailed reports of the extent of Groups 2 and 3 lymph node metastasis according to size, macroscopic type, histological type, and prognosis of EGC. Haraguchi et al. (1990) reported a case of sm-EGC measuring 1.7 × 0.6 cm in diameter with Group 2 lymph node metastasis along the common hepatic artery (8a). Habu et al. (1986) reported that cancer recurrence occurred more often in these patients who had undergone no lymph node dissection (9.4%) than in those who had undergone lymph node dissection (1.5%). The cancer recurrence pattern in EGC is mainly hematogenous metastasis to the liver (Sano et al. 1993). Kaibara et al. (1984) reported that both cancer recurrence and cancer deaths were highest for the mixed-macroscopic type of sm-cancer with positive lymph node metastasis. An EGC with positive lymph node metastasis in the Group 3 nodes has been found in only three (0.4%) of our 714 cases. Ohta et al. (1987) analyzed 1,003 cases of EGC and found only four n3 (+) (0.4%). Ishii et al. (1981) has reported two n3 (+) cases out of 128 EGC (1.6%), and Sasako et al. (1993) reported 3 EGC with n3 (+) (0.2%) in 1,486 cases. Of the 17 cases of EGC with n3 (+), including our 3 cases, (Murakami, 1979; Ohiwa et al. 1986; Ohta et al. 1987), the cancer was most frequently observed in the antrum with the positive lymph nodes in the hepatoduodenal ligament. Takagi et al. (1976) reported that the 5-year survival rate was 94% in patients without lymph node metastasis, but 74% in n1 (+), 62% in n2 (+) and 25% in n3 (+).

Kawada et al. (1992) counted a total of 16 cases of an EGC associated with n4 (+) in the Japanese literature, these cancers were most frequently observed in the antrum, of types IIC and mixed, and sm-cancer. Almost all these 16 cases died within 1 year of the operation.

It can be concluded that intraoperative macroscopic observation and preoperative US, CT and MRI are all important for discovering lymph node metastases even in cases of an EGC, especially for an sm-cancer, of types IIC and mixed macroscopic type, medullary type and/or wide-spreading type EGC. When any lymph node metastasis is histologically positive, postoperative chemotherapy should be administered even for patients with an EGC who had undergone a curative gastrectomy. For n3 (+) and n4 (+) cases of an EGC, more aggressive lymph node dissection and chemotherapy are needed.

References


