Early Mucosal Gastric Cancer with Extra-Perigastric (n2) Lymph Node Metastasis

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Summary: During the 10 years from 1977 to 1986, a total of 314 cases of early gastric cancer were resected. Of these, 43 (14%) had lymph node metastases, with 6 cases of mucosal (m-) cancer and 37 of submucosal (sm-) cancer. Among the patients with positive lymph node metastases, 37 (86%) had metastases in the Group 1 regional lymph nodes. Eight patients had metastases in the Group 2 lymph nodes, and these involved 2 cases of m-cancer and 6 of sm-cancer. Lymph node metastasis is generally believed to occur in only about 3% of m-cancer, and then mainly in the Group 1 lymph nodes. Here, 2 rare cases of early gastric m-cancer with positive extra-gastric lymph node metastasis are reviewed in detail, with special attention to the surgical management.

Key words: early gastric cancer — mass screening — lymph node — metastasis — postoperative chemotherapy — prognosis

Introduction

The prognosis of gastric cancer has improved year by year because of the recent increased detection rate of early gastric cancer due to mass screening examinations, together with advances in radiographic, endoscopic, biopsy and operative techniques. The incidence of early gastric cancer has increased to about 50% of all gastric cancers in Japan recently, as compared with about 10-15% in Europe (Borchard, 1990).

Early gastric cancer is defined as a carcinoma confined to the mucosa (m-cancer) or submucosa (sm-cancer) of the stomach, with or without lymph node metastasis. However, the lymph node metastasis rate in m-cancer was low, 3-5% has been reported (Fujita et al. 1983;

Takeda et al. 1987), and metastases were mainly observed in the Group 1 lymph nodes in a previous study (Takeda et al. 1987).

Two rare cases of early mucosal gastric cancer with positive extra-perigastric (Group 2) lymph node metastasis are described in this report.

Materials and Methods

During the 10 years from 1977 to 1986, a total of 314 early gastric cancers were resected in the First Department of Surgery, Kurume University Hospital. Of these, 43 (14%) had lymph node metastases. A positive lymph node metastasis was histologically confirmed in 6 cases of m-cancer and in 37 cases of sm-cancer.

TABLE 1
Review of cases

Patient No.	Age	Sex	Location and Size	Pathology	Follow-up
#1	57	M	A1.8×1.6cm	tub 1 ly (-) v (-) n1 (-) n2 (+) #8a	10y alive
#2	67	F	M2.0×3.5cm	tub 1 ly (2) v (-) n1 (-) n2 (+) #8a	6y alive

tub 1 : well-differentiated adenocarcinoma

#8a : lymph nodes along the common hepatic artery

A : lower third of the stomach

M : middle third of the stomach

Results

Among these 43 cases with positive lymph node metastases, 37 (85%) were found to have Group 1 lymph node metastases (n1). Metastases were found in the Group 2 lymph nodes (n2) in only 2 (1.4%) of 140 cases of m-cancer and in only 6 (3.4%) of 174 cases of sm-cancer. Two rare cases of early mucosal gastric cancer with positive extra-gastric lymph node metastases are described in Table 1. Both underwent distal gastrectomy with R2 lymph node dissection of Groups 1 and 2 nodes and underwent Billroth I reconstruction without any postoperative complications. These patients are now disease-free to date after a follow-up of 10 and 6 years.

Discussion

Although a slight decrease in the overall incidence has been noted, gastric cancer still constitutes a leading cause of cancer death and morbidity in Japan (Yamagata et al. 1979). However, dramatic improvements in the results of treatment for gastric cancer have been made because of the recent increased detection rate of early gastric cancer, mainly due to mass screening examina-

tions in Japan.

The incidence of early gastric cancer has now increased to about 50% of all gastric cancers in Japan. The incidence rate of m-cancer and sm-cancer have been almost equal in all recent Japanese studies.

R2-gastric resection which consists of gastrectomy, omentectomy and complete removal of Groups 1 and 2 regional lymph nodes has been generally accepted as the procedure of choice for the treatment of gastric cancer. As a result, surgical treatment for early gastric cancer patients has achieved excellent 5 year-survival rates of about 97% (Kitaoka et al. 1984; Takeda et al. 1987).

Early gastric cancer is defined as a cancer confined to the mucosa (m-cancer) or submucosa (sm-cancer) of the stomach, with or without lymph node metastasis. However the lymph node metastasis rate in m-cancer is low, with a rate of 3-5% being reported (Fujita et al. 1983). On the other hand, sm-cancer is frequently associated with lymph node metastasis at a rate of about 20%.

Lymph node metastasis in gastric cancer is clearly related to the depth of the cancer invasion into the submucosa and to the tumor size. Ohta et al. (1987) reported that a positive lymph node metastasis was identified in 12.7% of all

early gastric cancer cases, including 20.9 % of the elevated type and 10% of the depressed type. The incidence of positive lymph nodes in m-cancer was 3.4% and in sm-cancer was 21.7%. Of the 17 cases of m-cancer with lymph node metastasis, 15 were the depressed type, one was the elevated type and the other was the flat type of only 5 mm in diameter with a positive Group 2 lymph node metastasis. However, the majority of lymph node metastases were found only in Group 1 lymph nodes, with only 2 cases occurring in Group 2 lymph nodes of m-cancers.

Two rare cases of m-cancer with positive Group 2 lymph node metastases that were successfully treated by curative operations followed by postoperative chemotherapy were reported here.

Habu et al. (1986) reported that cancer recurrence occurred more often in patients who had no lymph node dissections (9.4%) than in those who had undergone lymph node dissections (1.5%). Those recurrence patterns of early gastric cancer were mainly hematogenous metastases to the liver. Kaibara et al. (1984) reported that the cancer recurrence and cancer death rate were highest for the mixed-macroscopic type of sm-cancer with a positive lymph node metastasis, followed by the elevated and depressed types of sm-cancers with lymph node metastases. Haraguchi et al. (1990) reported that an early gastric cancer of IIc, measuring 1.7×0.6 cm had an extra-perigastric lymph node metastasis. In the present study, positive extra-perigastric lymph node metastases from m-cancers were observed with mixed-macroscopic and elevated types. Hirono et al. (1984) reported the existence of a positive para-aortic lymph node (n4) metastases in a sm-cancer.

Endoscopic cancer treatment and local resection of the tumor has been proposed if the carcinoma is of the elevated polypoid type of less than 2 cm in diameter.

However, the possibility of extra-perigastric or distant gastric node metastases should be considered even in small elevated early gastric cancers. When lymph node metastasis is positive, postoperative chemotherapy should be added, even in cases of early gastric cancer undergoing a curative operation.

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