

GASTRIC CARCINOMA: REPORT OF TWELVE PATIENTS SURVIVING LONGER THAN FIFTEEN YEARS

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IN the past 30 years a decrease in the incidence of gastric cancer has been noted in the United States.^{1,2} At the Cleveland Clinic in 1948, 135 new cases were diagnosed, while in 1958 there were only 70 new cases. Further evidence to support a true decrease in the incidence of this disease is obtained from the numbers of cases of gastric carcinoma diagnosed per thousand new patients. In 1942, 4.8, in 1948, 4.5, in 1950, 3.2, in 1955, 2.7, and in 1958, 2.7 new diagnoses of gastric carcinoma were made per thousand new patients at the Cleveland Clinic. Along with this steady decrease in incidence has been a striking increase in years of survival of patients who underwent surgery for gastric carcinoma. Hoerr³ stated that in a personal series, 30 of 83 patients (36 per cent) surviving resection for cure were alive and free of disease five years or longer after resection. However, long-term survival after surgical treatment is rare. In 1959, Lubash and Cardillo⁴ reported the case of a patient who survived 15 years and stated that they were able to find only four such reports in the English literature.

Although extensive clinical and autopsy studies have been done on patients who died from the disease, few studies have been reported of patients who survived. Because thorough clinical study can provide a sound basis for accurate prognosis and effective treatment, we recently analyzed records of 58 patients who survived five years or longer after surgery for gastric carcinoma.⁵ In this series neither age of the patient nor duration of symptoms appeared to be related to survival. In no patient was there preoperative evidence of distant metastasis; and the presence of an abdominal mass in eight patients and of hepatomegaly in three patients neither contraindicated surgery nor precluded survival. In the group of patients with noninfiltrating lesions (27 patients with ulcerating tumors, 15 with polypoid tumors, and 9 with combined polypoid and ulcerative neoplasms), prognosis was more favorable in regard to long-term survival than in the group of 7 patients with infiltrating lesions. Local extension of the neoplasm to the serosa had occurred in 4 patients, and to adjacent organs in 12, including 1 patient with neoplastic extension to the right lobe of the liver. Seventeen patients of the total number in the study had metastatic involvement of the local lymph nodes.

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Because of the apparent infrequency of long-term survival from gastric carcinoma (Lubash and Cardillo⁴) we believe this report of 12 long-term survivors to be of interest.

Clinical Findings

Twelve patients, who survived 15 years or longer following surgery for gastric cancer, were studied. Two patients died of "heart attacks," 16 and 18 years after operation, while one patient is alive after 15 years, four after 16 years, two after 17 years, and three patients are living 18 years after operation. At the time of operation, five patients were in their fourth and five in their fifth decades. Recurrence of gastric carcinoma or development of other cancers might be expected in this age group, particularly since there already had been a host susceptibility to cancer. In this group no recurrence was observed, but a new primary gastric carcinoma developed in one patient eight years after his first operation. He survived 18 years after the operation for the first gastric carcinoma and 10 years after his second operation. The low incidence of occurrence of other carcinomas suggests that "a biological resistance" to cancer may develop.

In the present group the duration of symptoms before operation was more than one year in two thirds of our patients; only four patients had symptoms for less than one year. Therefore, a long duration of symptoms prior to operation does not preclude long-term survival. The earliest symptom was epigastric pain in eight patients, which was constant in six, and intermittent in the other two patients. Vomiting occurred in three patients and gastrointestinal bleeding in one patient. One patient was treated for pernicious anemia for one year before gastric carcinoma was diagnosed. Considerable weight loss with malnutrition occurred in six patients.

On physical examination none of the 12 patients had evidence of distant metastasis. Hepatomegaly, rectovesical shelf, or palpable nodes were not found. An epigastric mass was palpable in two patients and was questionable in two others. The presence of an abdominal mass is not necessarily a contraindication to an operation for cure.

Anemia was a frequent finding; seven patients had concentrations of hemoglobin of less than 8 gm. per 100 ml. and required preoperative transfusions of blood.

Of 11 roentgen examinations of the stomach, positive diagnoses of carcinoma were made in 10 patients, and a questionably positive diagnosis was made in one patient.

Operative Findings

The location of the neoplasm is of considerable prognostic importance. Since neoplasm of the pylorus usually causes obstruction, an early diagnosis is frequently possible. Tumors involving the distal third of the stomach are relatively easy to

resect. Of our 12 patients, carcinoma was found in the antrum in six, in the pars media in five, in both the antrum and the pars media in one.

According to Borrmann's classification,⁶ tumors were grouped as follows: infiltrating lesions, three; polypoid lesions, four; polypoid-and-ulcerating lesions, three; and ulcerating lesions, two. Polypoid, polypoid-and-ulcerating, and ulcerating lesions offer a prognosis better than that of diffusely infiltrating neoplasms.

The presence of enlarged regional lymph nodes is not indicative of metastasis. One of us (C. H. B.) and Kane⁷ previously reported that in two patients with carcinoma of the stomach, the lesions were considered grossly nonresectable for cure because of a large omental node present in each of them. Upon microscopic examination of the permanently fixed section of the omental node no evidence of tumor was found. Enlarged lymph nodes may be inflammatory rather than neoplastic. For this reason the presence of regional or distant metastasis should be proved by microscopic examination of frozen sections before the lesion is considered nonresectable for cure. Metastasis in the regional lymph nodes does not preclude a cure when an adequate excision can be accomplished. In this group of 15-year survivors, five patients had evidence of regional lymph-node metastasis.

Extension of the neoplasm to the gastric serosa or beyond the serosa is not a contraindication to the excision of the lesion when technically possible. Four patients had such extension of carcinoma; two to the serosa, one to the right lobe of the liver, and one to the lesser omentum.

Histologic Types of Carcinoma

The carcinomas in the 12 patients were histologically classified as follows: eight, adenocarcinoma; two, adenocarcinoma with mucin; and one each of infiltrating carcinoma simplex with mucin (colloid), superficial carcinoma simplex, and superficial carcinoma solid and simplex. In one patient two carcinomas of the stomach developed, accounting for 13 lesions in 12 patients. Compared with 100 consecutive patients operated on at the Cleveland Clinic Hospital for carcinoma of the stomach and studied by Fisher and Hoerr,⁸ who found adenocarcinoma present in 21 per cent, patients with adenocarcinoma have a greater chance of survival and a better prognosis.

Illustrative Case Report

A 57-year-old man was first examined in April, 1941, because of indigestion and ulcer-like distress of four months' duration, and a 23-pound loss in weight. Roentgen examination revealed a filling defect in the prepyloric region. At operation an irregular mass was found in the pyloric area on the posterosuperior wall of the stomach, and an omental node 2 cm. in diameter. A hemigastric resection was performed with excision of a large part of the gastrocolic omentum, transverse mesocolon, and greater omentum. Histopathologic examination showed the lesion to be of the mucinous-and-colloid type with a small portion of the adenocarcinoma type. Section of four greater omental

nodes showed metastatic involvement in each node. The line of resection was free of tumor.

The patient was examined at frequent intervals. In April, 1946, a roentgenogram of the stomach revealed no evidence of neoplastic recurrence. In July, 1949, at the age of 65 years, he returned because of ulcer-like distress and loss of 25 pounds in weight during six months. A roentgenogram revealed a filling defect in the region of the lower esophagus and fundus of the stomach. A second operation was performed and a firm fungating mass was found to encircle completely the cardioesophageal opening. The remainder of the stomach was removed and an esophagojejunostomy was performed with splenectomy. Histopathologic examination showed an adenocarcinoma without mucin, different histologically from the one removed in 1941, with extension into the muscularis.

In December, 1952, roentgen examination revealed a normally functioning esophagojejunostomy; there was no evidence of recurrence of the neoplasm. In April, 1958, he reported being in satisfactory health. In the summer of 1959, at the age of 75 years, the patient died suddenly of a heart attack.

This patient had two primary gastric carcinomas of different histologic types; the second primary carcinoma was diagnosed eight years after the first. The patient survived 18 years after excision of the first cancer and 10 years after excision of the second. At the time of his death there was no clinical evidence of recurrence or metastasis.

Comment

In contrast to our findings are those of Steiner, Maimon, Palmer, and Kirsner,⁹ Berkson, Walters, Gray, and Priestley,¹⁰ and Blalock and Ochsner¹¹ who reported that the cure rate was higher in women than in men. Maimon, Palmer, and Kirsner¹² reported the survival rate to be unrelated to the duration of symptoms, or actually higher for those patients who have had symptoms the longest; our findings are in agreement. While one of the hopes for a better survival rate in gastric carcinoma has been based on early diagnosis, unfortunately, studies of long-term survivors do not indicate a direct relationship between short duration of symptoms and long survival. In contrast, the survival rate is greatest in those patients who have had symptoms for a long period before operation.

Summary

Twelve patients who survived 15 years or longer after operation for gastric carcinoma were studied clinically. Ten patients are still living, two died of causes apparently unrelated to the neoplasm. In this group there was neither evidence of recurrence nor postoperative development of distant metastasis. In one patient a second new primary carcinoma developed eight years after excision of the first one.

The presence of an abdominal mass did not contraindicate surgical treatment and did not preclude 15-year survival for two patients. Local lymph-node metastasis in five patients and local extension of the neoplasm did not prevent

long survival. Adequate resection when there is extension of the carcinoma to neighboring organs or when there are regional lymph nodes may still result in a cure.

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