Original Article

Gastric Carcinoma: 5 Years Survival after Gastric Surgery

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Abstract

Objective: To study the five years survival rate after resection for gastric carcinoma.

Methods: Fifty six patients with gastric carcinoma in different stages were followed up for 5 years after gastric surgery to see recurrence, complications and survival rate.

Results: Of the 56 patients, 6 underwent total gastrectomy, 50 partial gastrectomy, 7 Billroth I and 43 modified DI resection with Billroth II reconstruction. Six patients were alive at the end of 5th year, 3 with early gastric carcinoma and 3 with locally advanced carcinoma. Mortality was 17 patients in the first year, 10 in second year, 8 in third year, 3 in fourth year and 1 in the fifth year.

Conclusion: Gastric carcinoma carries a bad prognosis. The 5-year survival rate in our series was 1.3%. Efforts should be made to diagnose and treat these patients at an early stage (JPMA 55:158;2005).

Introduction

Gastric carcinoma has been reported to be common in developing countries or in developing sub-populations of rich countries.[1] It continues to carry bad prognosis world wide except in Japan.[2]

Epidemiology of gastric cancer has been attributed to various environmental factors which include dietary factors,[3] salt contents of soil and drinking water[3], H. pylori infection,[4] socio-economic status[5] and smoking.[6]

Diffuse Intestinal and Others (DIO) or Finnish classification has been found to be useful in planning treatment and predicting outcome. Early gastric carcinoma is limited to mucosa or sub mucosa regardless of presence or absence of peri-gastric lymph node metastases. Locally advanced gastric carcinoma is limited to gastric wall (T_2-T_3) with involvement of the peri-gastric and regional lymph nodes but not beyond. Advanced gastric carcinoma involves contiguous structures and spreads to distant lymph nodes.[7] Five year survival depends upon the stage at which diagnoses is made. This study analysed the five year survival of patients with gastric carcinoma having undergone resection.

Patients and Methods

Fifty six patients with early gastric carcinoma were treated surgically between September 1997 and August 2002 at Combined Military Hospital Muzaffarabad and Islamic International Medical College Trust Hospitals in Rawalpindi and Islamabad. Eleven patients did not attend the follow up clinic and were not included in the series.

Patients were followed postoperatively by endoscopic examination and ultrasound examination of the abdomen every three months for the first two years, and six monthly thereafter in those who survived. CT Scan of abdomen and barium meal were repeated if and when required.

All patients were referred to Oncologist for opinion. Nineteen patients received chemotherapy and radiotherapy. Only 6 patients were regular in their follow up in the oncology department.

Results

Of the 56 patients 42 were males and 14 females. The average age of patients was 53.85 years with males being in the range of 24 to 82 ears and a mean of 52.73 years. In females average age was 57.21 years with a range from 33-78 years. Maximum number of patients were in the 5th decade followed by the 3rd decade (Table). Diagnosis was based on history including family history and endoscopy with biopsy. CT scan of abdomen was done to stage the disease. Eight patients underwent Barium studies and of these 7 patients were also evaluated by diagnostic laparoscopy preoperatively.

Table. Age distribution of patients with gastric carcinoma.

Age (years)	No. of patients
20 - 30	2
31 - 40	10
41 - 50	7
51 - 60	25
61 - 70	7
71 - 80	5

Modified DI (flush ligation of the vessels at their origin and removal of all the lymph nodes) along with resection with total gastrectomy was done in 6 patients, D1 resection with distal gastrectomy and Bil-Roth I reconstruction in 7 patients and modified D-1 resection with Bilroth 11 reconstruction in 43 patients.

Topographical distribution of the tumour in stomach was as follows:

Pylorus	21 patients
Lesser curvature	17 patients
Greater curvature	11 patients
Cardia	7 patients

Histopathological examination showed all patients had adenocarcinoma. Fourteen (25%) patients had diffuse type of tumour, 37 (66.07%) intestinal type and 5 (8.92%) patients had mixed type.

At the end of five year follow up period only 6 patients were alive and well. Of these, 3 patients had early gastric carcinoma and 3 locally advanced gastric carcinoma. Among these 6 survivors, five were males and only one female. All these patients had intestinal type of lesion. Over all survival rate at the end of 5 years was 13.3% in our series.

Seventeen patients died due to occurrence of metastasis in the first year after diagnoses, 9 patients during 2nd year, 7 in 3rd year, 3 in 4th year and 1 patiet in the 5th year. Two patients died due to myocardial infarction and cerebrovascular accident in the 2nd and 3rd year of follow up respectively.

The disease was observed to follow a more aggressive course in the younger patients in our series. Out of 6 patients who received full course of chemotherapy and radiotherapy as advised by oncologist 2 died in the 1st year, 1 in the 2nd and 4th year of follow up respectively. There were only 2 survivors at the end of 5 years.

Discussion

Gastric carcinoma is estimated to be world's second most common cancer.[1] However, it is the leading killer cancer.[1] Last century has seen a decline in its incidence in the developed world.[6] which is not yet evident in the developing world.[1]

Epidemiology of gastric cancer has been attributed to genetic and environmental factors. These include dietary factors, salt intake,[3] deficiency of some minerals and anti oxidants in contents of soil and drinking water [8], socio-economic status[5] and smoking.[6]

The decline in incidence in the developed world, could be due to improved socio-economic status, modification of dietary and smoking habits.[5,6] Dietary factors are thought to account for 30% of cancer in western countries and is second to tobacco in potentially reversible.[3] Introduction of refrigeration is also believed to have contributed to the decline, as it leads to reduced intake of salted foods and facilitates the availability of fresh foods and vegetables throughout the year.[9]

Prevalence of H. pylori and intestinal metaplasia strongly age related, both being more frequent in patients older than 50 years of age.[10,11] Occurrence of H. pylori related gastritis at a younger age might render such individuals at a greater risk of developing intestinal metaplasia and gastric cancer.

Clinically according to Lauren's classification, two main histological types of gastric cancers can be distinguished.[12]

1. **Diffuse type:** Governed by endogenous host factors and genetic susceptibility and is not preceded by known pre-cancerous factors.[13]

2. **Intestinal type:** Appears to be related to exogenous factors and is preceded by prolonged pre-cancerous process. World-wide decline of gastric cancer appears to be primarily due to a decline in incidence of intestinal type.

In our study, all patients had adeno-carcinoma. Thirty seven (66.07%) patients had intestinal type, 14 (25%) patients diffuse type and 5 (8.92%) mixed type of tumour. Most common age group in our study was 3rd and 5th decades compared to the reported peak incidence in 6th and 7th decade of life.[1] It may be related to acquisition of H. pylori infection at a younger age which renders such individuals at a greater risk for developing gastric cancer.[10,13]

Once gastric cancer is diagnosed, prognosis continues to be bad. In a patient control study by American College of Surgeons, five-year survival rate was 14%.[14] In Japan, where endoscopic screening is part of routine medical check up above the age of 40, overall five years survival rate for gastric carcinoma has been reported to be

reported to be 56.3%.[2] In our series, five year survival rate was 13.3%.

Prognosis in patients with gastric cancer is dependent on the stage at which diagnosis is made. For early gastric carcinoma, it is exceptionally good, approaching approximately 95%.[15] In our experience, 3 patients with early gastric carcinoma are alive and well after 5 years. They all had intestinal type.

Early detection of gastric malignancy is the only realistic way to improve survival rate.[16] However symptoms appear late and delay in diagnosis and treatment is common. In a Scandinavian study weight loss[17] and in a study from Singapore, epigastric pain (63.3%) and gastrointestinal haemorrhage (27.3%) were the important symptoms.[18] An interesting observation was a delay in diagnosis in females as compared to males, as the index for suspicion in females in low.[17] Most population show a 2:1 male to female ratio.[7] Our study had 3 males to 1 female. This may partially be explained by reluctance of females to seek medical attention.

Apparently the right combination of risk factors for gastric cancers are present in Pakistan.. Poor socioeconomic status of majority of the population, high prevalence rate of H. pylori infection[19] and its acquisition at younger age[20], dietary habits with excessive use of pickles, salt, poor intake of vegetables and fruits, all being contributing factors for causing cancer of stomach are common in our society.

This can lead to a significant increase in the number of patients with cancer of stomach. Increasing availability of endoscopic facilities specially in large cities, should make it possible to diagnose cancer of stomach at an early stage which will improve the prognosis and survival rate. This calls for proper training of endoscopists.

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