

Gastric Cancer in Malaysia: The Need for Early Diagnosis

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Summary

Gastric cancer is an important cause of death among patients with malignancies in Malaysia. Survival of patients with gastric cancer is dependent on the stage at which diagnosis is made. We report our experience in dealing with gastric cancer in a major Ministry of Health Hospitals in Malaysia. A retrospective review of two hundred and fifty consecutive histologically proven gastric adenocarcinoma at Hospital Ipoh for the period January 1988 to 1998 was performed. The study confirms that gastric cancer is a disease of the elderly and has a male preponderance. It also identifies the Chinese and Indians to be at increased risk of gastric cancer when compared to the Malays. The most striking finding in this study was the very late stage of disease at time of presentation. Eighty-two per cent of the patients presented with stage IV disease and curative surgery was offered only to a 16% of them. In a substantial number of patients not even a palliative procedure was offered. Early detection is the key to improving survival in gastric cancer patients. There is an urgent need for clinicians to change their approach to the management of the disease. Patients with dyspeptic symptoms should be investigated early rather than wait for classical symptoms of gastric cancer.

Key Words: Gastric cancer, Stage of disease, Curative surgery

Introduction

Gastric cancer, despite the consistent global decline in incidence still remains a major public health problem. It ranks as the second most common cause of cancer deaths and accounts for an estimated 620,000 deaths per year¹. High incidence rates have been noted in the Far East, Eastern Europe and Russia¹⁻³. The actual incidence of gastric cancer in Malaysia is not available due to lack of a National Cancer Registry. However, from the data available, it is estimated to rank among the five leading causes of cancer deaths in the country⁴⁻⁶. Survival of patients with gastric cancer is dependent on the stage at which diagnosis is made and several studies have documented this beyond doubt^{7,8}. Most centers dealing with gastric cancer record a high rate of advanced disease at the time of presentation and

generally regard the disease as fatal^{8,9}. In a large population based survey in Britain, it was reported that 80% of patients were found to have advanced and incurable disease⁸. Early diagnosis is a crucial factor in influencing the outcome of surgical treatment. There is very little information available in the literature regarding gastric cancer in Malaysia. We report our experience in dealing with gastric cancer in a major Ministry of Health Hospital in Malaysia.

Materials and Methods

A retrospective review of two hundred and fifty consecutive histologically proven gastric carcinoma at Hospital Ipoh for the period January 1988 to December 1998 was performed. Data including patient's age, sex,

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ethnicity, results of preoperative investigations (tumour location and extend), preoperative diagnosis, findings at laparotomy, and type of treatment was extracted from the patients' case notes and endoscopy records.

All patients were staged according to the Birmingham Staging System that is based on clinicopathological data as advocated by Fielding et al 10. The following data are required in the clinico-pathological staging system.

- A preoperative diagnosis of gastric carcinoma
- Results of preoperative investigations
- Findings at laparotomy

These features are combined with pathological information that includes:

- The depth of penetration of the cancer
- Presence of lymph node involvement
- Pathological confirmation of distant metastases

This system does not take into consideration the detailed lymph node data that is necessary for the TNM system. In the Birmingham Staging System, Stage I disease is confined to the mucosa and submucosa with no evidence of further spread. In Stage II the muscularis propria is involved and serosa may or may not be, but the lymph nodes are negative. In Stage III the lymph nodes are positive and the depth of penetration of the primary may vary. In Stage IV there is gross macroscopic residual disease and this is further divided into 1VA to identify those who have had a palliative resection, and 1VB in whom no tumour was removed.

Treatment procedures were divided into curative resection if no macroscopic disease remained and microscopically there was no evidence of surgical margin involvement. It was considered palliative if there was gross macroscopic disease after resection. If at time of surgery the disease was advanced and not suitable for resection or a bypass procedure, the

abdomen was closed after suitable biopsies were taken. However, if at the initial assessment the disease was deemed to be too advance, the patients were treated non-operatively.

Results

Of the 250 patients confirmed to have adenocarcinoma of the stomach, 171 (68.4%) were males and 79 (31.6%) females (M: F ratio 2.2: 1). The mean age at presentation was 65 years (males 65.3 years, females 63.2 years, $p>0.05$). The ethnic distribution of gastric cancers was as follows; Malays 26 (10.4%), Chinese 134 (53.6%) and Indians 90 (36%). (Table I) The number of gastric cancers in the Malays was significantly lower than expected when data was compared with Hospital admissions and ethnic distribution in the State of Perak. (Chi-square for Goodness of Fit Test, $p<0.01$) The adult admission to Hospital Ipoh for the year 1998 was 40.8% for Malays, 31.7% for Chinese, 25.1% for Indians and 2.4% were of other ethnic groups and the distribution of the population in the State of Perak for the year 2000 was as follows, Malays 46.7%, Chinese 34.0%, Indians 13.2% and Others 6.1%¹¹.

In 155 (62%) of the patients the cancer was located at the gastric antrum and only in 15% of the patients was the disease located at the cardia and fundus of the stomach (Table II).

Early gastric cancer was identified in only 3.6% ($n=9$) of the patients and more than 80 % had stage 4 disease (Table III). Not surprisingly curative surgery was performed to only 16% of the patients. An alarming 46% of the patients did not even receive palliative surgery. At the initial assessment or at time of surgery the disease was too advanced for any form of surgical procedures. In 18 patients (7.2%) the abdomen was opened and closed at surgery and in another 83

Table I: Distribution of Gastric Cancer According to Ethnicity

Ethnicity	Male	Female	Total
Malay	21	5	26 (10.4%)
Chinese	91	43	134 (53.6%)
Indians	59	31	90 (36.%)
Total	171	79	250 (100%)

Table II: Tumor Location

Location	Number (%)
Cardia and fundus	39 (15.6%)
Body	33 (13.2%)
Antrum and Body	23 (9.2%)
Antrum	155 (62%)
Whole stomach	7 (2.8%)

Table III: Clinicopathological Staging of Gastric Cancer

Stage	Number (%)
Stage 1	9 (3.6%)
Stage 2	9 (3.6%)
Stage 3	28 (11.2%)
Stage 4A	90 (36%)
Stage 4B	114 (45.6%)

Table IV: Surgical treatment

Surgical Treatment	Number (%)
Curative Surgery	40 (16%)
Palliative Surgery	109 (43.6%)
Open and Close	18 (7.2%)
No Surgery	83 (33.2%)
Total	250 (100%)

Discussion

The most striking finding in this study was the very late stage of disease at time of presentation. Eighty two per cent of the patients presented with stage IV disease and curative surgery was offered only to a 16% of them. In a substantial number of patients not even a palliative procedure was offered. Surgical resection is the only curative treatment for gastric cancer. It is undisputed that early detection and early treatment are effective in reducing mortality from gastric cancer. The stage of the patients' disease and survival are directly related. Analyses from multiple clinical trials confirmed the importance of the depth of penetration of the tumour to the stomach wall and the presence or absence of metastases to regional lymph nodes or distant organs in predicting disease-free and overall survival¹²⁻¹⁴.

The unfortunate problem when dealing with gastric cancer is that there are no typical symptoms that bring the patient to the doctor. The classical symptoms often

described in the standard surgical text books that include persistent abdominal pain, anorexia, loss of weight and gastric distension that are features of advance disease where cure is not possible. Most patients with mild dyspeptic symptoms are often treated with antacids or other acid reducing agents. More recently the treatment would include *Helicobacter Pylori* eradication. This may help improve symptoms, and the need for investigation is dismissed or delayed. Thus in many parts of the world the disease are usually advanced at time of diagnosis. In a 25-year review of gastric cancers in West Midlands, United Kingdom, Allum et al reported that 79% of the patients had stage IV disease and less than 1% of patients presented with stage I disease⁸. Curative resection was possible in only 20-25% of patients. In a study in the USA, the author found only about 10 to 20% of patients had disease that was confined to the stomach⁹. More than 50% of patients have regional nodal metastases and direct involvement of contiguous structures, and

one-third of patients have distant metastases at initial presentation.

The crucial factor for better curative resection rates and better outcomes is earlier diagnosis. The pertinent question is how do we improve our diagnosis of early gastric cancer. In Japan, mass screening with radiography, endoscopy and photofluorography has coincided with an increased recognition of patients with early gastric cancer. Mass screening has proved to be very effective in the diagnosis of gastric cancer at an early stage¹⁵⁻¹⁷. More than half the patients have stage I disease at presentation and the results of treatment of gastric cancer are much better. Japan is ideally suited for mass screening as the incidence of gastric cancer is high. As the gastric cancer incidence in Malaysia is not high, such a screening programme of asymptomatic patients may not be practical or cost effective. A possible solution to this problem is to adopt the open access endoscopy practised in many centres in the United Kingdom and Europe where patients with dyspepsia are investigated early. Hallissey et al studied 2659 dyspeptic patients above 40 years of age and found that early endoscopy had increased the detection rate of early lesions from 1% to 26%¹⁸. Similarly, a study over a 20-year period (1970-1989) by Sue-Ling HM et al found that vigorous efforts at early diagnosis increased the proportion of cases with early cancer from 1% to 15% and the patients with stage 1 diseases from 4% to 26%¹⁹.

The experience in Japan, the UK and Europe provides hope for altering the stage presentation at initial presentation of gastric cancer. The study confirms that

gastric cancer is a disease of the elderly and has a male preponderance. It also identifies the Chinese and Indians to be at increased risk of gastric cancer when compared to the Malays. Clinicians can take advantage of the demographic knowledge to improve the diagnosis and treatment outcomes of gastric cancer in Malaysia. General practitioners and primary care physicians should not delay the referrals. Patients with dyspeptic symptoms should be investigated early rather than wait for classical symptoms of gastric cancer. This should particularly apply to middle aged Chinese or Indian who have an increased risk of the disease. Surgeons and gastroenterologists consequently must also lower the threshold to perform gastroscopy in this group of patients. With this approach, the rate of diagnosis of early gastric cancer may improve.

Conclusion

Gastric cancer in Malaysia is diagnosed at an advanced stage and has poor prognosis. Early detection is the key to improving survival in gastric cancer patients. A change in the clinical approach to the management of the disease may be the most pragmatic way forward.

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