Original Research Article

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Carcinoma stomach and its analysis on presentation in Government Vellore Medical College: institutional study

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ABSTRACT

Background: Cancer stomach is one of the five commonest cancer contributing to cancer mortality and morbidity.It is a curable disease if detected early but unfortunately most of the patients present in the locally advanced stage. Stage at presentation is the single most important prognostic factor and which determines the resectability of the disease.

Methods: The present study is a Retrospective study and the study period was between January 2016 to January 2018. The inclusion Criteria were all patients above 30 years of age reporting with histopathological diagnosis of carcinoma Stomach to determine the age at presentation, stage at presentation, gender distribution, type of surgery done and the common histopathological diagnosis.

Results: This study showed highest incidence of carcinoma stomach in the age group of 30- 50yrs.Male and female ratio was1.4:1. Around 58% patient presented in the locally advanced stage stage III A, IIIB and IIIC and 8% with liver metastasis.As already mentioned most of the patient present to the hospital in a late stage and stage is the most important prognostic factor.

Conclusions: To conclude the present study showed a high incidence in the age group 30 to 50yrs and the most common affected gender was male. Pylorus and Pyloric antrum was the common site of presentation. Most of the patient around 58% presented in a locally advanced stage.

Keywords: Carcinoma Stomach, Risk factors, Staging

INTRODUCTION

Among various diseases, cancer has become a big threat to human beings globally. Cancer is the second most common disease in India responsible for maximum mortality with about 0.3 million deaths per year. This is owing to the poor availability of prevention, diagnosis and treatment of the disease. Large amount of red chillies food at very high temperature and alcohol consumption are the main risk factors for stomach cancer in India. Consumption of tobacco and smoked meat have been linked to high rate of incidence in the state of Mizoram.^{1,2} Almost one million new cases of stomach were estimated to have occurred in 2012, making it the fifth most common malignancy in the world after cancer of lung, breast, colorectal and prostate. The causes of such high incidence rates of these cancers may be both internal (genetic, mutations, hormonal, poor immune conditions) and external or environmental factors (food habits, industrialization, over growth of population, social etc.).

Carcinoma stomach is the second most common cancer in developing countries after lung in males. Highest death rate is reported in Chile, Costa Rica, Japan, China and former Soviet Union. Median age of diagnosis is 65 years. Male: female ratio is $1.5:1.^{3,4}$ The possible risk factors are low fruit and vegetables, high salt intake, salted fish and smoked meats, *Helicobacter pylori*, *hypochlorhydria*, polyps, genetic alteration, (P53 mutation, microsatellite instability, E cadtherin gene), previous radiation, gastrectomy and pernicious anaemia. $_{5,6}$

Carcinoma stomach is major cancer mortality worldwide. It is a curable disease provided that it is detected early, but unfortunately gastric carcinoma is often diagnosed at an advanced stage, as early gastric malignancy is asymptomatic or causes only non-specific symptoms in advanced disease. Common signs and symptoms in advanced stage include fatigue, weight loss, bleeding, malena, anorexia, abdominal pain and obstruction. ^{7,8}

Stage at diagnosis is the most important prognostic factor and predicts the resect ability of the tumour; other factors include histopathological type and completeness of resection. Commonly observed metastatic sites include the liver, peritoneum and distant lymph nodes.

Treatment of gastric cancer depends on the stage of disease. Surgery is the only curative treatment for localized disease. Overall survival rate of the patient who achieve R0 complete after radical D2 surgery is 30%, However, only 15-20% are resect able at diagnosis and long-term survival of patients with unresectable disease is 5%.

Total and subtotal gastrectomy is used for lower gastric carcinoma. D2 lymph node dissection and total gastrectomy+D2 dissection is for upper gastric cancer.^{9,10}

Histology

Adenocarcinoma accounts for >90% of all gastric cancer. Other histologies include lymphoma-4%, carcinoid tumours (3%), malignant stromal cell tumour (2%), squamous cell carcinoma (1%), small cell carcinoma, signet ring cell carcinoma (1%).^{11,12}

Tumour location

GE junction, cardia and fundus 35 % (diffuse type), body 25%, antrum and distal stomach 40% (intestinal type).

METHODS

Type of study is retrospective was conducted in Government Vellore Medical College, Vellore. The study period was January 2016 to January 2018.

The objectives of this study is to conducted to correlate the association of carcinoma stomach and its age at presentation, the gender distribution, commonest site of presentation and the procedure/surgeries done and the histopathology of the stomach cancer.

Inclusion criteria

Male and female patients above 30 years of age reporting to the hospital with histopathological diagnosis of carcinoma stomach.

The study was conducted between January 2016 to January 2018. The study comprised 50 patients with proven diagnosis of Carcinoma Stomach. A detailed history of physical examination, general examination and metastatic work up was done for all the 50 patients with the diagnosis of carcinoma stomach.

Exclusion criteria

Patients who were presented not underwent full course of treatment during admission.

RESULTS

Following are the results observed under the following heading:

- Age distribution
- Gender distribution
- Stage at presentation
- Commonest site of presentation
- Type of surgery
- Commonest histopathology

Age distribution

The age wise distribution is shown in table 1 shows highest incidence of 50% in the age group 30-50 years, 22% in 51-60 years, and 18% in 61-70 years and 10% in >70 years, beyond 70 years the incidence decreases.

Table 1: Age group.

Age	No. of patients n (%)
30-50	25 (50)
51-60	11 (22)
61-70	9 (18)
>70	5 (10)

Gender distribution

The gender distribution as per the worldwide statistics male: female ratio is 1.5:1.

Table 2: Gender distribution.

Sex	No. of patients n(%)
Male	29 (58)
Female	21 (42)

In this study the ratio is 1.4:1'Gender distribution is shown in table 2. Male and female distribution was 58% and 42% respectively.

Stage of presentation

As per the Indian statistics patients presents to the hospital mostly in locally advanced stage. Stage of the disease is the single most important prognostic factor.

Table 3: Stage of presentation.

Stage	No. of patients (%)
Stage II A and II B	15 (30)
Stage III A, III B, III C	29 (58)
Stage IV	4 (8)
Gist stage II	1 (2)
Lymphoma stage I	1 (2)

All the 50 cases of carcinoma stomach who presented to the surgery department with proven diagnosis of carcinoma stomach underwent laparotomy and appropriate surgeries were done depending on the stage and the site of presentation. All the stage 4 patient had liver metastasis.

- Stage IIA and II B-15 patient -30%
- Stage III A and III B, III C-29 patient -58%
- Stage IV -4 patient -8%
- GIST-stage II 1 patient -2%
- Lymphoma stage I-1 patient -2%

Site of presentation

As per Indian statistics the most common site of presentation was pylorus followed by body of stomach. In this study also the most common site of presentation was pylorus and pyloric antrum-64% followed by body of stomach-34% and OG junction 2%. Both male and female presented with pylorus as the common site which was 42% for males and 22% for females.

Table 4: Site of presentation.

Site	No. of patients (%)
Pylorus and pyloric antrum	32 (64)
Body	17 (34)
OG Junction	1 (2)

Type of Surgery

Depending on the site of presentation and stage of presentation appropriate surgery was performed.

Total Gastrectomy with anastomosis was done in 8% of patients which included one GIST.

Distal/Sub Total gastrectomy with anastomosis was done in 36% of patients and palliative gastrojejunostomy was done in 14% patients, one patient with diffuse large B cell lymphoma was treated with appropriate chemotherapy.

Table 5: Type of surgery.

Type of surgery	No. of patiens (%)
Total Gastrectomy	24 (48)
Distal/Sub Total Gastrectomy	18 (36)
Palliative Gastro Jejunostomy	7 (14)
*One nationt of Non Hodeking	lymphome was treated with

*One patient of Non Hodgkins lymphoma was treated with chemotherapy

Pathology

- Adenocarcinoma 47 patients (94%)
- GIST-1pt (2%)
- Diffuse Large B cell lymphoma-1'pt (2%)
- Signet ring cell carcinoma-1pt (2%)

Table 6: Pathology.

Pathology	No. of patient (%)
Adenocarcinoma	47 (94)
Signet ring cell carcinoma	1 (2)
GIST	1 (2)
NHL	1 (2)

In this study adenocarcinoma was found in 94% patients, 2% patients had GIST and 2% diffuse large B cell lymphoma and 2% signet ring cell carcinoma.

DISCUSSION

This study showed highest incidence of carcinoma stomach in the age group of 30-50years. Male and female ratio was1.4:1. Around 58% patient presented in the locally advanced stage III A, IIIB and IIIC and 8% with liver metastasis. As already mentioned most of the patient present to the hospital in a late stage and stage is the most important prognostic factor.¹³

In this study the most common site of presentation was pylorus and pyloric antrum 64% followed by body of stomach 34% and 1% OG junction tumour.

49 out of 50 patients in this study underwent laparotomy. Total gastrectomy was done in 48% patient and subtotal gastrectomy with lymph node dissection was done in 36% of patient.¹⁴ Palliative gastrojejunostomy was done in 14% of patient.

All the patient received appropriate adjuvant treatment. One patient who was diagnosed to have non-Hodgkin's lymphoma diffuse large B cell lymphoma who received chemotherapy alone with CHOP regime.

Regarding the histopathology in this study 94% of patient had adenocarcinoma which is the most common histopathology. Other histologist was signet ring cell carcinoma2%, GIST 2 % and NHL 2%. The clinical features and prognosis of signet ring adenocarcinoma are different between early and advanced gastric cancer. Signet ring cell adenocarcinoma is a poor prognostic factor in advanced gastric cancer after curative resection.¹⁵

CONCLUSION

To conclude the present study showed a high incidence in the age group 30 to 50 years and the most common affected gender was male. Pylorusand Pyloric antrum was the common site of presentation. Most of the patient around 58% presented in a locally advanced stage. All the patient underwent laparotomy, total and subtotal gastrectomy were done according to the site of presentation. All the patient was followed up and chemotherapy was given accordingly. This study reported 1 NHL ,1 GIST and all others to be adenocarcinoma. Patients with symptoms of bloating dyspepsia and other abdominal symptoms should be investigated early to diagnose carcinoma stomach in early stages.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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