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Clinicopathological Profile and Treatment Outcome of Carcinoma Stomach

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ABSTRACT
Carcinoma stomach is the second leading cause of cancer-related mortality and the fourth most common cancer globally. The treatment option for carcinoma stomach range from neoadjuvant and adjuvant chemoradiotherapy to curative resection and palliative procedures. The grave prognosis of gastric cancer patients is a global problem. We aim to evaluate the clinicopathologic features and treatment outcome of carcinoma stomach in Department of General Surgery,VIMSAR,Burla from November 2017 to October 2019 for a period of 24 months.

Keywords: carcinoma stomach.

INTRODUCTION

Cancer of stomach was the leading cause of cancer related death worldwide through most of the 20th century. It now ranks second only to lung cancer; an estimated 9, 52,000 new cases are diagnosed annually, and an estimated 7, 23,000 deaths (10% of all cancer deaths) worldwide. . Over all the commonest histopathological type is adenocarcinoma & in Asian countries it is the intestinal type due to intestinal metaplasia.[4] The only chance of cure is complete surgical resection. Majority of the patients present with an advanced disease& their prognosis is very poor despite availability of modern chemotherapeutic regimen. However, even after what is believed to be a "curative" gastrectomy, disease recurs in the majority of patients. Efforts to improve their poor results have focused on developing effective pre and postoperative systemic and regional adjuvant therapies.

AIMS AND OBJECTIVES

To study various modes of presentation, various histopathological characteristics,various treatment modalities and the outcome of carcinoma stomach.

MATERIALS AND METHODS:

This is a prospective observational study undergone in the Dept. of General Surgery, VIMSAR, Burla from November 2017 to October 2019 for a period of 24 months. Study population is all patients admitted in the Dept of General Surgery with carcinoma stomach. From the study population sample is pooled applying inclusion and exclusion criteria.

Inclusion criteria

- Patient between 15 to 75 years of age.
- Sex - male and female

Exclusion criteria

- Patient <15 years and >75 years
- Patient with stomach tumor histologically other than carcinoma.

- Foreign bodies
- Patient with synchronous lesions in other parts of GIT.

From above criteria all the patients were undergone thorough clinical examination with history, investigation e.g complete hemogram, liver function test, serum urea, serum creatinine, Upper GI endoscopy and guided biopsy, CECT Whole abdomen and pelvis, chest x-ray, histopathological examination of the biopsy specimen, operations performed - curative or palliative, neoadjuvant therapy received, adjuvant chemotherapy received and patients followed up for 6 months. Study variables in this research the following components are going to be measured: age, sex, socioeconomic status, etiology, site of lesion in stomach, clinical presentation, histopathology of carcinoma, type of operation performed, outcome. Data analysis were analysed using Microsoft excel worksheet.

OBSERVATION AND RESULTS

TABLE NO. I AGE INCIDENCE

AGE GR	PATIENT NO	PERCENTAGE
15-25	2	2.66
26-35	5	6.66
36-45	10	12
46-55	18	22
56-65	34	42
66-75	10	12

In our study 34 (42%) patients presented from age group of 56-65 years which is maximum and 2 (2.66%) patients presented from age group of 15-25 years which is minimum.

TABLE NO. II INCIDENCE OF SEX

SEX	PATIENT NO	PERCENTAGE
Male	56	70
Female	24	30

In this study, 56 (70%) patients are male and 24 (30%) are female. Male: female ratio is 2.33:1

In this study, 44 (55.33%) patients are from low and 36 (44.66%) patients are from high socioeconomic status.

TABLE NO. III ETIOLOGY

ETIOLOGY	PATIENT NO.	PERCENTAGE

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Alcohol	10	12
Smoking	30	37.50
H.pylori	40	50

In this study, 40 (50%) patients have h/o H.pylori infection, 36 (44.66%) have h/o smoking and 10 (12%) patients have h/o alcoholism.

TABLE NO. IV SITE OF LESION

SITE OF LESION	PATIENT NO.	PERCENTAGE
GE junction	16	20
Body	14	18
Antrum	41	50.66
Diffuse	9	11.34

In our study,41 (50.66%) patients presented with lesion in antrum which is maximum and 9 (11.33%) patients with diffuse lesions which is minimum.16 (20%) patients presented with gastroesophageal junction growth and 14 (18%) with growth of body.

TABLE NO. V

CLINICAL PRESENTATION	PATIENT NUMBER	PERCENTAGE
Anemia, anorexia, asthenia	33	40.66
Gastric outlet obstruction	18	22.66
GI bleeding	12	15.33
Pain	20	25.66
Abdominal lump	15	18.66
Weight loss	42	52
Metastasis	46	57.50

In this study,42 (52%) patients presented with weight loss which is maximum and 12 (15.33%) patients presented with GI bleeding.33 (40.66%) patients presented with anorexia, anemia and asthenia.18 (22.66%) patients presented with gastric outlet obstruction,20 (24.66%) with abdominal pain and 46 (57.50%) with metastasis.

Here 49 (61.25%) patients presented with poorly differentiated adenocarcinoma and 1 (1.33%) with signet cell carcinoma.6 (7.5%) patients with well differentiated, 18 (22.5%) presented with moderately differentiated adenocarcinoma and 6 (7.5%) patients presented with undifferentiated carcinoma

TABLE NO. VI TNM STAGE

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TNM STAGE	SUBGROUP	PATIENT NO.	PERCENTAGE
Pathologic Primary Tumour	T_1	4	5.33
	T_2	10	12
	T_3	37	46
	T_4	29	36.66
Pathologic Regional Lymph node	N_0	31	38.66
	N_1	13	16.66
	N_2	28	34.66
	N_3	1	1
Pathologic Distant Metastasis	M_0	34	42.5
	M_1	46	57.5

Here 37 (46%) patients presented in T_3 stage which is maximum and 4 (5.33%) in T_1 stage which is minimum.10 (12%) in T_2 and 29 (36.66%) in T_4 stage.28 (34.66%) patients presented in N_2 stage, 13 (16.66%) in N_1, 1 patient in N_3 stage and 31 (38.66%) patients in N_0 stage.46 (57.50%) patients presented in M_1 stage.

TABLE NO. VII

OPERATIONS PERFORMED	PATIENT NO.	PERCENTAGE
Total gastrectomy	17	21.2
Distal gastrectomy	17	21.2
Palliative surgery (gastrojejunostomy) Or (Feeding jejunostomy)	46	57.5

In this study, 46 (57.5%) patients received palliative surgery, 21.2% patients received total gastrectomy and 21.2% received distal gastrectomy. In our study,46 (55.60%) patients received palliative and 34 (42%) received adjuvant chemotherapy. In this study,38 (47.66%) patients were alive and 42 (52.50%) patients expired in follow up of 6 month period. In this study,30 (37.5%) patients received neoadjuvant therapy and 50 (62.5%) patients did not receive any neoadjuvant therapy.

DISCUSSION

In our study, an attempt was made to study the different clinical features, pathological types, stages

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of presentation, different surgical treatments received by the patients according to the stage, chemotherapy regimens received accordingly both in adjuvant and neoadjuvant set up and after 6 months of follow up proportion of patients remained alive or dead.

In our study, total 80 patients were included. Amongst them,32.5% patients are in age group of ≤ 50 years which in some reports is 14.8%and 67.5% are in > 50 years age group and this trend corroborates with the global data.[1,2,18] Mean age of presentation is 54.2 years supported by another study in Iran by Safee A,Moghimi-Dehkordi B, Fatemi SR et.al where it is 59.7 years .Peak incidence is found in the age group of 56-65 years (42%) and least incidence is found in the age group of 15-25 years (2.66%) although worldwide gastric cancer is shifting more towards young supported by a study by Kim DY,Ryu SY,Kim YJ et.al.[15,17]

In some published series, male:female ratio is 2:1. [1,2,17] In this study, 70% patients were male and rest were female and the ratio here is 2.33:1.It is being published that stomach cancer is more seen in lower socioeconomic group probably due to H.pylori infection, poor drinking water and less hygenic living condition.[4,5,18]

In this study, 55.33% patients presented from low socioeconomic group.

It is being published that gastric cancer is mostly associated with H.pylori infection though incidence of H.pylori infection is decreasing in Westeren and few Asian endemic countries. Stomach cancer is also associated with smoking and alcohol.[7,14]

In our study 50% patients had exposure history of H.pylori, 37.5% had h/o smoking and 12% alcohol.

Worldwide, site of lesion in gastric cancer is changing. In Western world, incidence of distal gastric cancer is decreasing and proximal gastric cancer is increasing (41% and 50% respectively).[25,26] In most of the Asian countries it is still the distal stomach which is more common though in some Asian endemic countries it is changing to proximal stomach.[2,3,14]

In our study, the commonest site of lesion is gastric antrum (50.66%).Other sites were gastroesophageal junction (20%),body of the stomach(18%) and diffusely affecting the whole stomach (11.34%). In the >50 years age group, antral lesion is the commonest (60.37%) but in the ≤50 years age group, gastroesophageal junction lesion is the commonest (44.44%) supported by a report.[4,15]

In a study in Khuzestan,the two common presentations are weight loss and abdominal pain.[2,13]

In this study, most common presentation is symptoms due to metastasis (57.49%) and second common is weight loss (52.49%).The least common presentation in our study is upper gastrointestinal bleeding (14.99%).Anemia (40.66%), abdominal pain (25.66%), gastric outlet obstruction (22.66%) and abdominal lump (18.66%) are common presentation in this study but in Western studies upper gastrointestinal bleeding is more common.

Nakamura et.al have shown that poorly differentiated adenocarcinoma was the commonest histological type in their study which are mostly advanced gastric cancer but in early gastric cancer well differentiated adenocarcinoma was the commonest type (45.5%).[13,16,]

In our study,66.25% patients presented with poorly differentiated adenocarcinoma followed by moderately differentiated (22.5%),well differentiated (7.5%),undifferentiated (7.5%) and signet cell carcinoma (1.33%).But in our study,in the age group of ≤50 years,84.6% of patients presented with poorly differentiated adenocarcinoma where most cases are of advanced gastric cancer supported also by Kim et.al.[9]

Kim et.al reported that 80.3% young patients presented with advanced gastric carcinoma.[16] In a Middle-Eastern study, two third of the patients presented with advanced gastric cancer. But in another study early gastric cancer is more common in young age group than the their older counterpart (19.7% vs 13.8%).

In our study, 95% patients presented with advanced gastric cancer ($T_2/T_3/T_4$) and 5% presented with early gastric cancer (T_1). In ≤50 years age group, 96.15% patients presented with advanced gastric cancer and 3.8% patients with early gastric cancer.In >50 years age group,94.44% patients presented with advanced gastric cancer and 5.55% patients with early gastric cancer.

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Regarding N stage,most of the patients presented with N_0 stage(38.66%) followed by N_2(36.66%),N_1(16.66%) and N_3(1%) .

Regarding M stage,57.5% patients presented with M_1 stage.

In our study,most of the patients presenting with advanced and metastatic gastric carcinoma probably due to lack of screening facilities.

For patients with T3–4 lesions without metastatic disease, a number of trials use preoperative chemotherapy with or without radiation therapy. Despite several trials of this approach, there are data to prove conclusively that this approach has survival benefit. In most experienced centers, a number of patients have a significant histologic response, and operative morbidity does not seem to be increased. Given the relatively poor outcome of advanced T3 and T4 lesions and the ability to characterize those patients by endoscopic ultrasound (at least those with advanced T3 disease accompanied by pre laparotomy laparoscopy), such an approach remains justified, although it should take place under a clinical-trial scenario.[7,17] In our study also, 37.5% patients who are with T_3/T_4 lesion received neoadjuvant chemotherapy also supported by NCCN (2018).

Optimal surgical therapy offered to a patient with resectable proximal gastric carcinoma is total gastrectomy and to a patient with distal gastric cancer is distal gastrectomy both of which are curative surgery.[17] In case of metastatic cancer, palliative surgery may be done which are palliative gastrojejunostomy or atleast feeding jejunostomy.[6,18]

In our study also,this protocol is followed. here 57.5% patients undergone palliative surgery in the form of either palliative gastrojejunostomy or feeding jejunostomy and 21.2% each of total or distal gastrectomy.According to NCCN Guidelines, adjuvant chemotherapy with the regimen of 5-FU+Cisplatin+Epirubicin is given to all T_3,T_4,node positive and after R_1 resection and R0 resection and palliative chemotherapy given to metastatic disease.[4,16]In our study only chemotherapy given.Here,57.5% patients received palliative chemotherapy and 42% patients received adjuvant chemotherapy.5 year survival of gastric cancer is 10-21%.[16,17].But in our study, patients followed up for only 6 months, during which 52.5% patients expired and 47.6% patients remained alive.

Conclusion

Clinicopathological characteristics and the different surgical approach with neoadjuvant chemotherapy and adjuvant chemotherapy for treatment of carcinoma stomach and the relationship with prognosis were analysed. As this study is quiet limited in scope and spanned over a short period of time, it is not possible to arrive at any definitive idea from this study. A randomised study spanning over a long period is required for this purpose.

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