

A PROSPECTIVE STUDY ON INCREASED TREND OF CARCINOMA STOMACH AMONG PEPTIC ULCER PATIENTS AND POOR PROGNOSIS DUE TO LATE PRESENTATION IN UPPER ASSAM

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Abstract

Background: Cancer stomach is one of the five commonest cancers leading to cancer mortality and morbidity worldwide. In India North-East region has high incidence of Gastric cancer which is attributed to excessive alcohol consumption, use of tobacco, dried salted fish, fermented, smoked and pickled meat, H. pylori infection, Achlorhydria etc. Stage at presentation is the single most important prognostic factor which determines the resectability. If detected early it can be cured with R0 resection with radical D2 lymphadenectomy with 5 year survival more than 80%. **Materials and Methods:** This is a prospective observational study done in Assam Medical College and Hospital, Dibrugarh, Assam from 1stSeptember, 2022 to 31st August, 2023 followed by follow up for 6 months. Risk factors, clinical features, endoscopic, radiological findings were recorded. Surgery or other treatment modalities were carried out and the stage and grade of disease was confirmed from final histopathological examination. **Results:** In our study 50-60 years is the most common age group of presentation (45.24%) with male: female ratio 2.6:1. 76.19% had associated Helicobacter pylori infection, 71.42% significant nutritional risk factors and 88.09% had history of smoking. In the present study 23(54.76%) patients underwent surgical intervention out of which 6(14.29%) underwent palliative Gastrojejunostomy. Post-operative patients were put on adjuvant chemotherapy and followed up for 6 months duration to detect development of recurrence or other complications. Patients with advanced disease were treated with palliative chemotherapy, feeding Jejunostomy, nutritional support etc. **Conclusion:** North-East states are one of high prevalent zones of Gastric cancer in India probably due to high H. pylori infection load, typical dietary habit and smoking. Most of the patients presents late in the course of disease. In our Institution Distal Gastrectomy with Roux-en-Y Gastrojejunostomy with D2 Lymph Node Dissection is the most commonly done surgery for curative intent.

Keywords: Carcinoma stomach, Gastrectomy, H. pylori infection

Gastric cancer is one of the five most commonly diagnosed cancers worldwide leading to one of the most common cancer-related deaths(1). In India approximately 50,000

new cases were diagnosed in 2020, bulk from North-East states(2). Common risk factors includes Medical(H. pylori, Atrophic gastritis, Achlorhydria, familial predisposition, adenomatous polyp), Nutritional(Smoked and salted meat/fish, high carbohydrate, Alcohol, obesity, poor food preparation, lack of refrigeration)(1). In North-east India excessive consumption of alcohol, water filtrate tobacco (Tuibur), dried, salted, fermented, smoked and pickled fish/meat may be can be attributed for this high incidence of stomach cancer(3). Symptoms of early Gastric cancer include epigastric pain, abdominal fullness, early satiety - often mistaken as peptic ulcer disease(4). Probably for this reason 63% patients present with locally advanced or metastatic disease(5). In advanced disease patients present with palpable lump, ascites, anaemia, Jaundice, signs of metastasis etc(6). Diagnostic and staging workups are done mainly using upper GI endoscopy with endoscopic USG, Biopsy, CECT whole abdomen, thorax and pelvis, diagnostic laparoscopy etc. However, stage of presentation is the most important prognostic factor as Ro resection for early disease has cure rate > 80%(7).

AIM

To study gastric carcinoma among peptic ulcer patients with risk factors and management.

Materials and Methods

This is a hospital based prospective observational study done at Assam Medical College, Dibrugarh, Assam, India for 1 year (1stSeptember, 2022 to 31st August, 2023) followed by follow up for 6 months in patients presented with gastric cancer at our Hospital.

Inclusion criteria

- 1) All patients diagnosed histopathologically to have adenocarcinoma of stomach.
- 2) Patients with age more than 12 years.

Exclusion Criteria

- 1) Patients with recurrent gastric cancer.
- 2) Patients with histopathological diagnosis other than adenocarcinoma e.g. GIST or Lymphoma.

Methodology

Presenting age, sex, risk factors including history of peptic ulcer disease and H. pylori infection(with rapid urease test), clinical features recorded. For confirmation of diagnosis UGI endoscopy and biopsy was done for all patients.

Radiological investigations (CXR, CECT Thorax, abdomen and pelvis) of the patients were carried out and recorded in the preformed proforma. Surgical procedures done for each of the patients were noted. From the final histopathological report stage of the disease was confirmed. Post-operative patients who were put on adjuvant chemotherapy followed up for 6 months to look for prognosis. Inoperable patients who were put on palliative

chemotherapy were also followed up. Collected data were tabulated and analyzed in terms of frequency, percentages using computer programs and SPSS.

Observation and Results

Table 1: Showing distribution of Age and sex of carcinoma stomach patients.

Age Groups	Gender		Number of Patients (%)
	Male	Female	
30-40	2	1	3(7.14%)
41-50	7	3	10(23.81%)
51-60	14	5	19(45.24%)
61-70	4	2	6(14.23%)
>70	3	1	4(9.52%)
Total	30	12	42(100%)

Here we found 51-60 years to be the most common age group for presenting with gastric cancer with the mean age of 53.8 years. 14 among 30 males and 5 out of 12 female patients belonged from this age group, total 19(45.24%) followed by 41-50 years total 10 (23.81%) patients. Males grossly outnumbered female patients with male: female ratio of 2.6:

Table 2: Showing distribution of risk factors among Gastric cancer patients

Clinical Features		Number of Patients(%)
Early Gastric cancer	Epigastric pain	3(7.14%)
	Loss of appetite with abdominal fullness	2(4.76%)
Advanced/ Metastatic	Vague abdominal pain	25(59.53%)
	Dysphagia	7(16.67%)
	Gastric outlet obstruction(GOO)	9(21.43%)
	Weight loss	32(76.19%)
	Palpable lump at epigastrium	4(9.52%)

with gastric carcinoma in our study. 25(59.52%) patients had active or previous history of peptic ulcer disease, Helicobacter pylori(H. pylori) was seen in 32(76.19%) patients, High risk dietary habits in 30(71.42%) patients and smoking in 37(88.09%) patients. Also we found associated family history in 3(7.14%) patient

Table 3: Showing distribution of clinical features of patients with Gastric cancer

Early gastric cancer is designated as T1N0M0 disease who confer good prognosis. But they presented with symptoms(Epigastric pain, loss of appetite with abdominal fullness with nausea, occasional vomiting and fatigue) that mimic peptic ulcer disease. Advanced and metastatic diseases presented with Vague abdominal pain(59.53%),

weight loss(76.19%), Dysphagia(16.67%), GOO(21.43%), Palpable lump(9.52%) and ascites(7.14%).

Table 4: Showing distribution of site of growth

Site of growth	Number of Patients (%)
Cardia(Siewert type III) and Fundus	5(11.90%)
Body	9(21.43%)
Pylorus and Antrum	28(66.67%)
Total	42(100%)

Table 4 showing locations of growth in present study. Pylorus and Antrum was the most common site of disease total 28(66.67%) patients followed by body of stomach 9(21.43%) patients. GEJ tumors with Siewert type I and II are not included as they are treated as esophageal cancer treatment protocol.

5: Showing distribution of stage of presentation

Stage	Number of Patients(%)
Stage I	5(11.90%)
Stage II	8(19.05%)
Stage III	22(52.38%)
Stage IV	7(16.67%)
Total	42(100%)

Table 5 showing most of the patient presented in advanced unresectable stage. Stage I only 5(11.90%) and stage II only 8(19.05%) cases. Hence curative resection was only possible in 17(40.48%) patients.

Table 6: Showing types of Surgical treatment done for different cases

Type of surgery	Number of Patients(%)
Total Gastrectomy with D2 lymphadenectomy	5(11.90%)

Distal/Subtotal Gastrectomy with D2 lymphadenectomy	10(23.81%)
Proximal Gastrectomy with D2 lymphadenectomy	2(4.76%)
Palliative Gastro- jejunostomy	6(14.29%)
Total	23(54.76%)

Only 23(54.76%) underwent operative intervention in which 6(14.29%) patients underwent palliative gastrojejunostomy only. Rest 17(40.48%) had curative resection with Distal/Subtotal Gastrectomy with D2 lymphadenectomy(10;23.81%) most commonly done procedure.

Table 7: Histological types of carcinoma stomach

Final histopathology report suggested Moderately differentiated adenocarcinoma 17(40.48%) was the most common type of Gastric carcinoma in our study followed by diffuse type adenocarcinoma 10(23.81%).

Discussion

In our study 51-60 years is the most common age group of presentation(45.24%) with mean age of 53.8 years and male: female ratio 2.5:1. Similar finding was obtained by Manoj Kumar Deka et al in their study on Gastric cancer from 2012-2015 with mean age of 56 years and most patients from 5th decade and male: female 2.6:1(7). Another study by Ayandip Nandi et al from Eastern India also showed similar results(8).

In present study 25(59.52%) patients had present active or previous history of peptic ulcer disease. In a case-control study conducted by Paragomi et al in 2022 detected a positive association between GU and GC (OR = 3.04 with 95 confidence)(9).

32(76.19%) patients out of 42 had associated H. pylori infection in present study making it a significant association. In two separate studies conducted by Ghosal et al(10)and Misra et al(11) showed significant association of H. Pylori infection with gastric cancer. Ghosal et al in their study showed in the collected data from 2 Northern centers and 1 eastern centre 76% patients with Gastric cancer had H. pylori infection. Misra et al found in their study a definite association between H. pylori and gastric cancer in approximately 50% patients, and a negative relationship in the remaining patients(10,11). In study group H. pylori was found in 78% of patients correlating well with present study.

In present study 71.42% patients had significant nutritional risk factors in the form of Salted, smoked and pickled meat, fish etc. In a similar study by Kurosawa et al in 2015 found Relative risk of 5.4 for consumption of salted foods with respect to normal population(12).

In our study we found 88.09% of individuals to have tobacco in any form either cigarette smoking or chewing and others. That tobacco use in any form (chewing, smoking and drinking) is associated with increase the risk of stomach cancer in Mizoram, India was shown by Phukan et al in their study in 2005 where they found Odd ratio of 2.3 in gastric patients with smoking with respect to patients without tobacco use(13). Also they calculated the risk to be twice than normal population for smokers for development of gastric cancer.

We also found 3(7.14%) patients to have associated Achlorhydria(probably due to prolonged and unregulated use of Proton Pump Inhibitor) which is a known risk factor. In recent times Achlorhydria cases are gradually rising indolently due to unregulated over the counter use of PPI(Omeprazole, Pantoprazole etc.). In a study done by J H Svendsen found 5 gastric cancers in 114 Achlorhydria patients after a mean observation period of 8.4 years(14). Achlorhydria is associated with 4-6 times increased risk for developing stomach cancer. But due to lack of investigation facilities we could not work out more in this subset of patients for confirming the etiology of Achlorhydria.

Only 5(11.90%) out of 42 patient presented with early gastric cancer. Dr Gourab Das et al(Guwahati, Assam, India, 2022) found very less number of patients to have early gastric cancer in comparison to advanced disease in their study(6). Out of 5 patients with early gastric cancer 3(7.14%) presented with epigastric pain and 2 (4.76%) patients had abdominal fullness with loss of appetite. Patients with advanced/metastatic diseases presented with vague abdominal pain(59.53%), weight loss(76.19%) , dysphagia, GOO, palpable lump etc.

28 patients(66.67%) had growth at Antrum or Pylorus followed by body(21.43%) followed by fundus and cardia(11.90%). Dr Rathi Thilagam et. al.(Tamil Nadu, India, 2018) and Dr Arun Kumar Barad et. al.(Manipur, India, 2014) had similar finding in their studies(5,15).

In the present study 23(54.76%) patients underwent surgical intervention out of which 6(14.29%) underwent palliative gastro-jejunostomy. Other 17(40.48%) had gone through surgery with curative intent, maximum with Distal/Subtotal Gastrectomy with D2 lymph node dissection 10(23.81%) patients. In a study done by Shailesh V Shrikhande et al in Tata Memorial Hospital, India out of 159 patients 129 underwent surgical intervention mostly(100 patients) with Distal Gastrectomy with D2 lymph node dissection which is comparable to present study(16).

Post-operative patients were put on adjuvant chemotherapy and followed up for 6 months duration to detect development of recurrence or other complications. Patients with advanced disease were treated with palliative chemotherapy, feeding jejunostomy, nutritional support etc.

In final histopathological examination Intestinal type of adenocarcinoma was found be present in 29(69.05%) out of 42 patients. Diffuse type was diagnosed in 10(23.81%) patients with rest 3 patients indeterminate type. Among intestinal type Moderately differentiated was the most common type -17(40.48%) followed by well-differentiated subtype in 7(16.67%) and lastly poorly-differentiated in 5(11.90%). A

study done by Manoj Kumar Deka on Gastric cancer found intestinal type (87%) to be the most common type and that in study done by Ashis Kumar Saha et al to be 53.6%(7,17). In a similar study done by Qurieshi et al in Kashmir found more than 60% cases to have intestinal type adenocarcinoma stomach(18).

Conflict of Interest

Nil.

Conclusion

In North-East India 6th decade is the most common presenting age group for gastric cancer with male preponderance. H. pylori infection along with peculiar dietary habits contributes to the high incidence and prevalence of Gastric cancer in North-East India. Only 11.90% of the patients presents in early stage with epigastric burning pain, fullness of abdomen, loss of appetite all of which mimics Peptic Ulcer Disease. Also Peptic ulcer diseases are risk factor for development of gastric cancer. Hence PUD should not be neglected and all patients with PUD and similar features must undergo upper GI endoscopy +/- H. pylori testing +/- Biopsy for early detection and effective treatment of gastric cancer. Gastric Antrum and Pylorus are the most common sites for developing carcinoma. In our Institution Distal Gastrectomy with Roux-en-Y Gastrojejunostomy with D2 Lymph Node Dissection is the most commonly done surgery with curative intent. In-operable patients were treated with palliative options (Chemotherapy and/or feeding jejunostomy) and nutritional support.

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