



Comparative Study of Clinico-Pathological Profiles of Patients with Proximal Versus Distal Gastric Adenocarcinoma

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Stomach adenocarcinoma has been a major source of malignant development through the greater part of the 20th century. In different parts of the world, the prevalence of this disease has decreased, mostly due to changes in diet and some other natural constituents.

Aim: To examine the clinical pathology of patients with proximal and distal gastric adenocarcinomas.

Methodology: This was the prospective work carried out with gastric adenocarcinoma patients treated at Sree Balaji Medical College and Hospital (SBMCH), Chennai, Tamilnadu, India. All patients were undergone upper gastrointestinal endoscopy and an imaging. In endoscopy, biopsies will be taken from the lesion and biopsies were subjected to histopathological examination.

Results: The most striking epidemiologic perceptions were the increasing frequency of adenocarcinomas of the proximal stomach and distal throat. We found that the occurrence of proximal gastric adenocarcinomas isn't expanding in our populace when contrasted with the rising rate of such proximal tumors in the Western Hemisphere.

Conclusion: In our investigation distal gastric adenocarcinomas were a more incessant finding than the proximal gastric adenocarcinomas.

Keywords: Stomach adenocarcinoma; symptomatology; histopathology.

1. INTRODUCTION

The frequency of gastric malignant growth has diminished drastically over a century ago. This decrease has been constrained to malignant growths beneath the gastric cardia. The quantity of recently analyzed instances of proximal gastric and gastro-esophageal intersection adenocarcinomas has expanded since the 1980s and these are believed to be naturally more forceful and complex to treat than distal tumors [1].

The absence of well-defined variables of chance and clear symptomatology, and the generally low incidence, has clearly added to the late starting process found in our country. In Japan, where gastric malignant growth is common, patients are examined at a start time and a fantastic half-multi-year durability performance along those lines. A study indicated that proximal and distal gastric cancers are significantly different in terms of patient survival, tumor size, venous invasion, nodal status, and overall stage. Gastric cancer rates are about twice as high in males as in females. Age and family history are also correlated with gastric cancer incidence. These factors, together with different clinical and pathologic characteristics, can lead to different prognoses for patients [2]. The aim of the present study was to examine the clinical pathology of patients with proximal and distal gastric adenocarcinomas.

2. MATERIALS AND METHODS

This is a prospective work carried out with gastric adenocarcinoma patients joined and treated in the surgical ward at SBMCH for a period from JULY 2016 – JULY 2018. Demographic data was collected. Patient's history was noted and clinical examination done. All patients were undergone upper gastrointestinal endoscopy and an imaging. In endoscopy, biopsies will be taken from the lesion and biopsies were subjected to histopathological examination.

The history of patients showing illness and prior history of ulcer diagnosis was reported in the same way as the gastric medical issue. They noted their own history which incorporated their financial status, smoking habit, liquor use, diet. For the health file (weight in kg / tallness squared in meters) the weight and height of all patients was noted. The blood groups have been

reported. All patients remembered for this investigation experienced upper gastrointestinal scope and an imaging study as a difference improved CT (computerized tomography) output of the stomach area. At minimum seven biopsies were taken from the injury during the endoscopy, and if an ulcer was detected biopsies were taken around the ulcer opening. The biopsies were subject to histopathological examination. Carcinomas of the gastric cardia described as: inside sores located 1 cm proximal and 2 cm distal to the gastric junction of the esophagus. Both tumors were arranged in different sorts based on intrasable data or records of pathology [3].

2.1 Inclusion Criteria

All cases of gastric adenocarcinoma admitted in SBMCH between 36-72 years the period from JULY 2016 - JULY 2018.

2.2 Exclusion Criteria

Patients with gastric adenocarcinoma who were not able to comply with the investigations and treatment.

3. RESULTS

Our findings contrasted from the discoveries of different investigations where proximal tumors were linked with a higher BMI. This is most likely due to the modest number of patients in our examination.

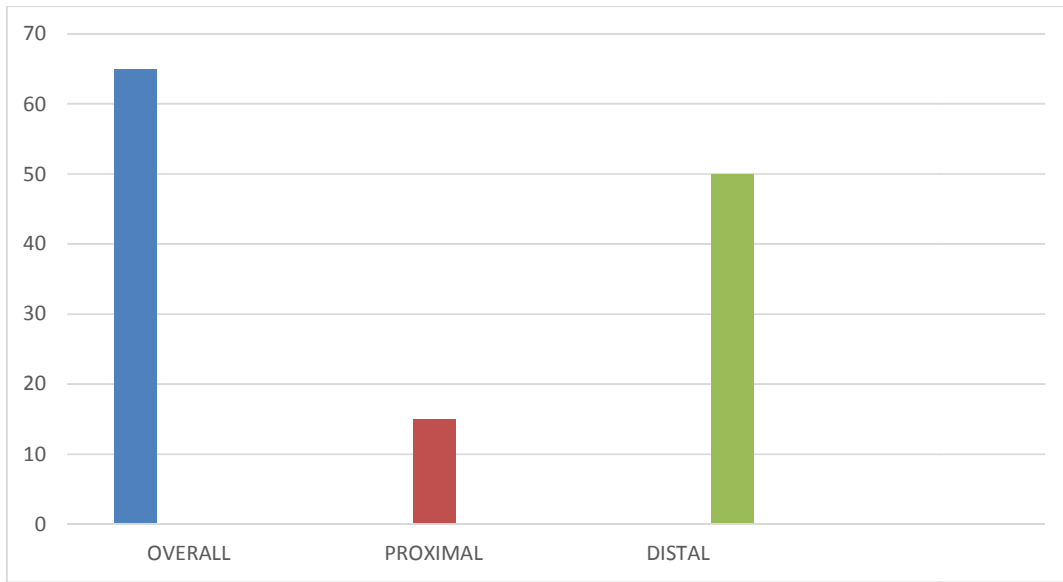
3.1 Patient Demographics and History

The demographic data such as patient's age, economic status, medical history etc. was collected by the questionnaire method.

3.2 Male: Female Ratio

In our examination the male to female proportion was 1.95:1 in general, while for proximal tumors it was 1.5:1 and for distal tumors it was 2.12:1. Weight record was 20.57 generally speaking, though it was 20.70 and 20.53 for proximal and distal adenomacarcinoma separately. The P esteem was 0.93, which was inconsequential [4].

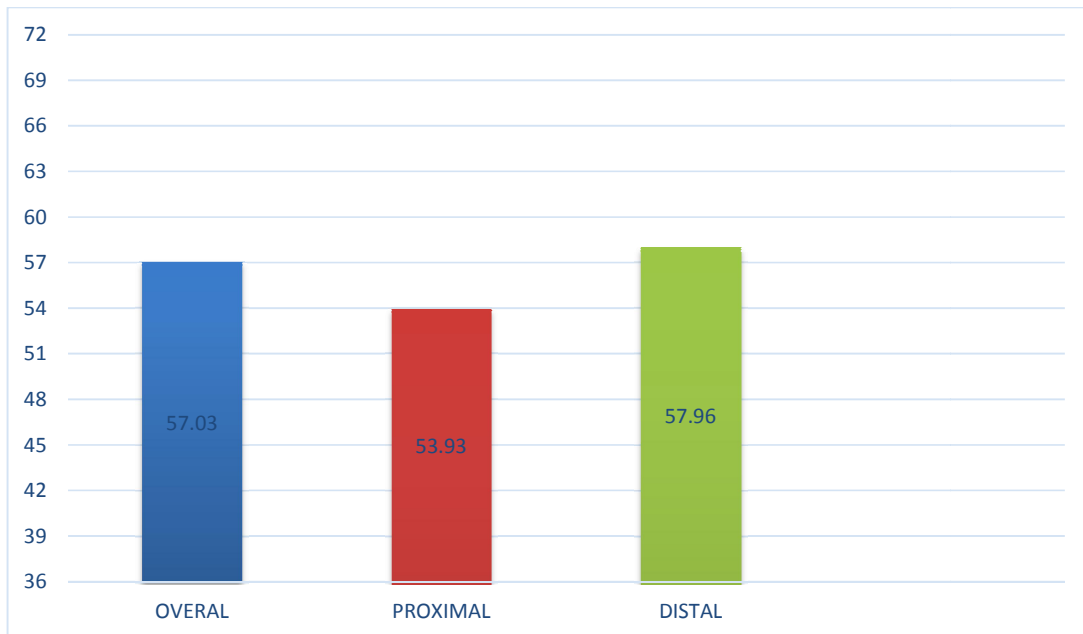
In our study we did not find any predilection for a particular blood group. But it has been proven, persons with blood group A are more at risk gastric adenocarcinomas [5].



Graph 1. Site of tumor

Table 1. Age distribution statistics

	Overall	Proximal	Distal	Chi-square	P value
Age (in yrs)	57.03±12.40	53.93±12.40	57.98±16.70	0.86	0.39



Graph 2. Average age in years

Table 2. BMI distribution

	Overall	Proximal	Distal	Chi-square	P value
BMI	20.57±6.2	20.70±6.8	20.53±5.0	0.09	0.93

Table 3. Blood group statistics

Blood group	Overall	Proximal	Distal	Chi-square	P value
A	14	6	8	4.44	0.21
B	14	2	12		
AB	10	1	9		
O	27	7			

In our investigation 49 patients (75.38%) were from the lower financial strata. This is because of expanding H. Pylori contaminations, the troublesome access to medicinal services, absence of information about indications, and in light of the fact that our clinic for the most part pulls in and gives human services offices to poor people.

3.3 Diet

In our investigation, a higher number of patients (42; 64.61%) expended a non-veggie lover diet. Veggie lover diet was taken by a littler rate (23, 35.38%) of patients, yet the thing that matters was not critical, as reflected in the P estimation of 0.77.

3.4 Clinical Presentation

In our inquiry, 60 patients (92.30 percent) had dyspepsia; out of this 14 patients (23.33 percent) had proximal sores and 46 (76.66 percent) had distal sores. The P confidence was not big 0.70.

Dysphagia was found by and large in 12 (18.46 percent) patients; all of them suffering proximal

injuries. That was a critical finding with an estimate of 0.001 for P. This finding suggests that Dysphagia show proximal sores far more often than the distal tumors do.

Industrious retching was found in 9 (13.8%) patients generally speaking and every one of these patients had distal injuries, regardless of which the P esteem was 0.18. This was not noteworthy. 31 (47.69%) of the patients gave melena as a side effect.

In our analysis, 10 (15.38 percent) patients had hepatomegaly, 5 (half) of these patients had proximal adenocarcinomas, and 5 (half) had distal tumours. P confidence was rated as 0.03 which was immense. It indicates hepatomegaly of proximal tumors is more common than the distal tumors.

In our analysis ascites were found by 7 patients, and generally speaking, broad and supraclavicular hubs were found in 6 patients. The distinction between proximal and distal tumors in the incidence of those signs was not factually important.

Table 4. Socioeconomic status

Socio-economic status	Overall	Proximal	Distal	Chi-square	P value
Low	49	9	40	2.52	0.02
Middle	14	4	10		
High	2	2	0		

Table 5. Earlier ulcer treatment

	Overall	Proximal	Distal	Chi-square	P value
Ulcer treatment	22	6	16	0.07	0.79

Table 6. Symptoms

Symptoms	Overall	Proximal	Distal	Chi-square	P value
Dyspepsia	60	14	46	0.15	0.70
Anorexia	63	14	49	0.40	0.52
Weight loss	47	13	34	1.18	0.28
Dysphagia	12	12	0	43.8	0.001
Vomiting	9	0	9	1.81	0.18
Malena	31	4	27	2.45	0.12
Jaundice	2	1	1	0	1.00

Table 7. SIGNS

Signs	Overall	Proximal	Distal	Chi-square	P value
Anemia	44	10	34	0.05	0.92
Mass abdomen	26	7	19	0.36	0.54
Hepatomegaly	10	5	5	4.83	0.03
Ascites	7	2	5	0.01	0.91
Supraclavicular node	6	0	6	0.18	0.36



Fig. 1. Antral carcinoma endoscopic view



Fig. 2. Adenocarcinoma of lesser curvature endoscopic view

Out of the 65 patients considered, 15 (23.07%) patients had proximal tumors and 50 (76.92%) patients had distal tumors. This discovering suggests that the frequency of proximal gastric adenocarcinomas isn't expanding in our populace, though in the Western side of the equator there is a disturbing ascent in proximal gastric adenocarcinomas to a degree that these tumors from about 45% of the complete gastric adenocarcinomas.

Distensibility of the stomach was diminished in 18 (27.69%) patients. Out of these 2 (11.11%) were in patients with proximal sores, and 16 (88.88%) were in patients with distal tumors. The thing that matters was not factually noteworthy with a P estimation of 0.27. Unusual pyloric capacity was found in 11 (16.92%) of the patients generally speaking and every one of these patients had distal sores. P esteem was critical at 0.05.

There was no significant differentiation between the proximal and distal gastric adenocarcinomas when all of the stages were seen as together, the chi-square being 3.99 and p regard being 0.26. Notwithstanding, when mastermind III and IV was seen as alone, it was found that inexorably number of proximal tumors had presented at a later stage than the distal tumors.

Hepatic deposits were found in 17 (26.15%) patients overall. Of these 7 (41.17%) were due to proximal tumors and 10 (58.82%)nwere due to distal tumors.

4. DISCUSSION

Investigations of variant population from territories of high frequency to regions of low occurrence propose that an ecological exposure just as other social or hereditary elements impacts the inclination to gastric malignancy. The danger of gastric malignancy in people who relocated from the most elevated hazard regions in Japan endured even they embraced a western eating routine, in any case, posterity who received a Western style diet had an especially diminished hazard. Stomach disease happens at a higher frequency in men than in ladies (proportion of around 2:1). The frequency increases with age, topping in the seventh decade.

The most striking epidemiologic perceptions is the expanding frequency of adenocarcinomas of the proximal stomach and distal throat. This is troubling, on the grounds that proximal gastric malignant growths have a less fortunate guess, arrange, contrasted and distal tumors. Hazard factors are raised BMI, caloric admission, Gastroesophageal reflux sickness and smoking [4].

Table 8. Staging

Staging	Overall	Proximal	Distal
IA	0	0	0
IB	6	0	6
II	13	3	10
III	17	1	16
IIIB	6	3	3
IV	23	8	15

Table 9. Hepatic metastasis (H)

H	Overall	Proximal	Distal	Chi-square	P value
	17	7	10	4.25	0.04

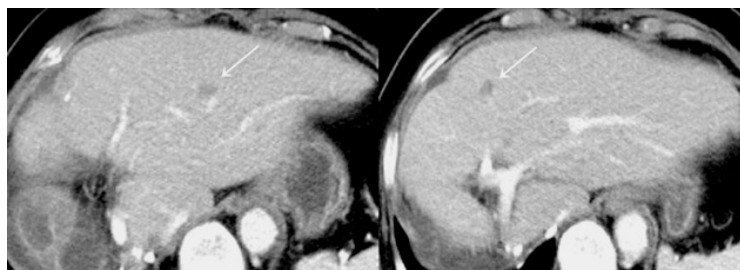


Fig. 3. CT image showing liver metastasis

A few investigations have demonstrated a 3-6 overlap expanded danger of gastric malignant growth in patients with *Helicobacter pylori* contamination yet the job of this bacterium in the etiology of gastric disease is as yet obscure. An assortment of bacterial, patients, and condition factors act to influence the advancement of gastric carcinoma. The expanded relationship of *H. Pylori* with gastric disease is primarily with intestinal-type danger and distal gastric malignant growths. Just a minority of *H.Pylori* tainted patients create gastric disease. There is yet no information on the impact of treatment of the *H.Pylori* contamination on consequent threat [5].

5. SUMMARY AND CONCLUSION

The normal age of the patients in this investigation was 57 years. Men were more than the females in a proportion of 1.95:1, which is in understanding to discoveries in different examinations. The vast majority of our patients were from the lower financial status. There was no distinction in weight record between the patients with proximal and distal tumors, this contrasted from discoveries of different examinations, which demonstrated a higher weight list in patients with proximal tumors. There was no inclination for a particular blood group in our investigation, though in agreement to writing people with blood group A have a higher danger of gastric carcinoma. Despite the fact that an enormous extent of the considered patients expended non-vegan diet, smoked tobacco, and devoured liquor, the figures didn't arrive at sufficiently high to cause a measurably critical distinction.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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