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.

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.

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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.

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].
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 1. Site of tumor

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     | 4.44       | 0.21    |
| 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 litte 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     | 2.52       | 0.02    |
| High                  | 2       | 2        | 0      |            |         |

Table 5. Earlier ulcer treatment

| 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%) were 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].

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

| 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 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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