

## ORIGINAL ARTICLE

**THE CLINICAL PRESENTATION AND SURGICAL MANAGEMENT OF PATIENTS WITH CARCINOMA STOMACH****Vikram Yogish<sup>1</sup>, Himanshi Grover<sup>1</sup>, Sunu Ancy Joseph<sup>1</sup>**<sup>1</sup>Department of General Surgery, SRM Medical College Hospital and Research Center, Kattankulathur, Tamil Nadu, IndiaCorresponding author: Vikram Yogish  
E-mail: yogishvikram@gmail.com**Abstract**

*Carcinoma stomach is a condition that occurs due to various causes. In order to diagnose a case of carcinoma stomach, a high index of suspicion is required. A detailed history and a thorough clinical examination must be done. Patients may have various complaints such as vomiting, abdominal pain and anemia. Diet has also been shown to play a role in the occurrence of carcinoma stomach. The patient's socio-economic status also plays a very important role in the incidence of carcinoma stomach. Various investigations are available today in order to diagnose a case of carcinoma stomach. Investigations such as upper GI endoscopy are very useful to visualize a growth in the stomach and to take tissue for biopsy. A contrast enhanced CT (CECT) scan of the abdomen is also very useful to diagnose the stomach neoplasia as well as to find out if any metastatic lesions are present. On histopathology, adenocarcinoma is the most common type of carcinoma that may be found. Other tumors such as GI stromal tumors and lymphomas may also be found. Treatment of carcinoma involves surgery as well as chemotherapy. Our study was carried out from March 2015 to February 2019. The study was carried out at SRM Medical College Hospital and Research Center, Kattankulathur, Tamil Nadu, India. The total number of patients studied was 75. The results obtained were tabulated and compared with other studies.*

**Keywords:** carcinoma stomach, endoscopy, *Helicobacter Pylori*, adenocarcinoma**Introduction**

Carcinoma stomach is a condition that occurs due to various causes. In order to diagnose a case of carcinoma stomach, a high index of suspicion is required. Patients may present to the surgical outpatient department with complaints such as anemia, loss of weight, loss of appetite, vomiting and abdominal pain. A detailed history and a thorough clinical examination must be done in these cases. The various factors that can cause an increase in the incidence of carcinoma stomach include, diet of the patient, infection with *Helicobacter Pylori* and poor socio-

economic status. Consumption of certain types of food along with environmental and nutritional factors have also been implicated in the development of the disease [1]. Investigations such as upper gastrointestinal (GI) endoscopy and CECT abdomen must be done in order to diagnose a case of carcinoma stomach. If a growth is visualized on upper GI endoscopy, biopsy must be taken and sent for histopathological examination (HPE). Adenocarcinoma is the most common type of carcinoma that may be found on histopathology. Other tumors such as GI stromal tumors and lymphomas may also be found.

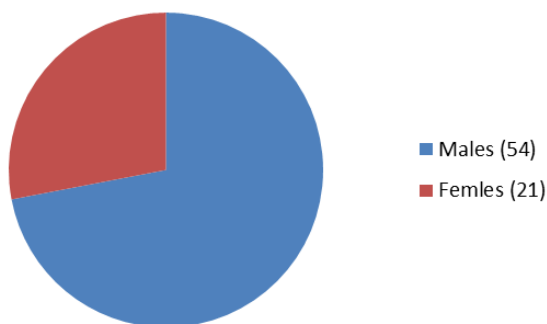
The present study aims to determine the clinical presentation of patients with carcinoma stomach and the surgical management of this pathology at a tertiary hospital.

**Materials and Methods**

This was a prospective study and was carried out from March 2015 to February 2019 at SRM Medical College Hospital and Research Center, Kattankulathur, Tamil Nadu, India. History was obtained from the patient and examination was done. Investigations such as complete blood count (CBC), upper GI endoscopy and CECT abdomen were used in order to investigate and diagnose if the patient had a malignant growth in the stomach and to treat the patient accordingly. The biopsy samples obtained were sent for histopathological examination (HPE).

**Results**

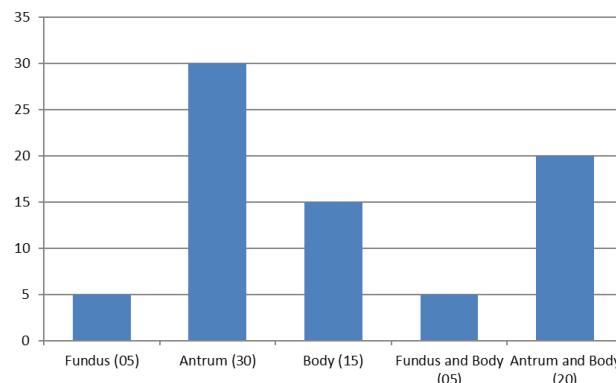
The total number of patients studied was 75. From our study, it was found that male patients (n=54) were more commonly affected than female patients (Figure 1). While investigating the patients, it was found that the malignant growths were more common in the antrum of the stomach (n=30) (Figure 2). Our patients were found to have symptoms such as abdominal pain, vomiting, weight loss, loss of appetite, melena and dyspepsia (Figure 3).



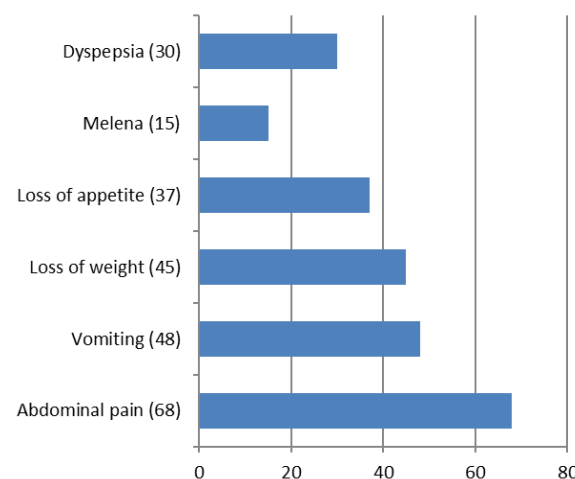
**Figure 1 – Gender distribution of patients with carcinoma stomach**

Abdominal pain (n=68) was the most common symptom encountered in our patients. Among the clinical signs, anemia (n=23) was the most common clinical sign that was found in our patients (Figure 4). Various surgical procedures

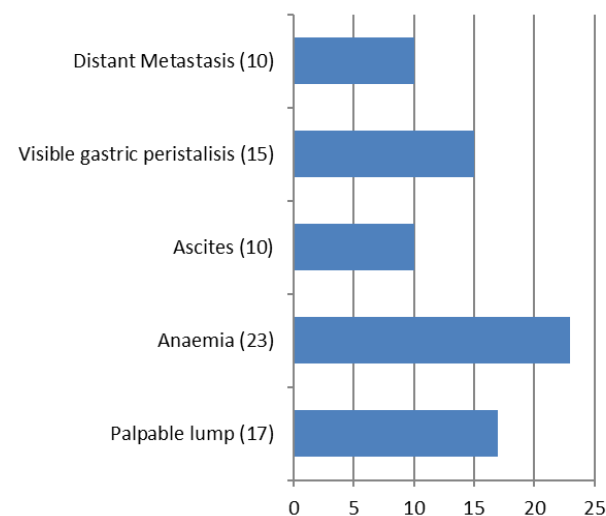
were performed for our patients who were diagnosed with carcinoma stomach. Among this procedures, subtotal gastrectomy (n=30) was the most commonly performed (Figure 5).



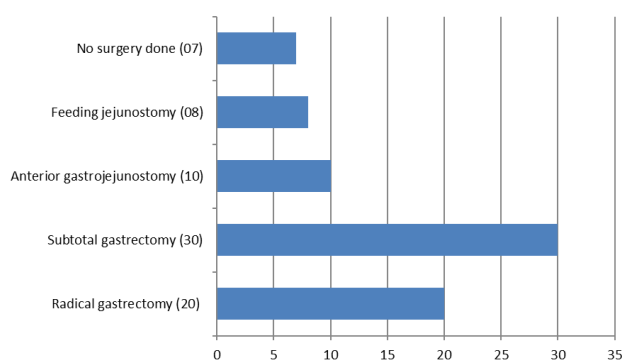
**Figure 2 – Tumor site in patients with carcinoma stomach**



**Figure 3 – Symptoms of patients with carcinoma stomach**



**Figure 4 – Clinical signs of patients with carcinoma stomach**



**Figure 5 – Types of surgeries performed for patients diagnosed with carcinoma stomach**

## Discussion

Adenocarcinoma is the most common type of carcinoma encountered at the level of the stomach. Lauren classified carcinoma of the stomach into two main subtypes: the intestinal type and the diffuse type [2]. It has been found that, in invasive gastric cancers, mutational inactivation of the P53 tumor suppressor gene may occur [3]. The incidence of carcinoma stomach has also increased due to the increase in the incidence of H. Pylori infection [4]. In the study conducted by us, the antrum of the stomach was found to be the most common site of the malignant growth. Investigations such as UGI endoscopy and CECT abdomen are very important to diagnose a case of gastric carcinoma. While performing a study on the invasion into the transverse colon and the mesocolon, Andaker et al used an incremental

CT and reported a sensitivity of 25% [5]. The treatment offered to the patients can be of various types ranging from surgery to chemotherapy. Surgery may be subtotal or total gastrectomy depending on the involvement of the tumor. The presence of metastasis also influences the treatment. In our study, distant metastasis was found in 13.3%. For early gastric cancers (EGC), endoscopic mucosal resection can also be done. However, patients for this particular procedure must be carefully selected. Several studies have been conducted on early gastric cancer [6]. Early gastric cancer with curative treatment has excellent survival rates [7]. Gastrectomy can also be done using laparoscopy. Studies have also shown laparoscopic-assisted gastrectomy to be useful [8]. Laparoscopic distal gastrectomy (LADG) is also a procedure that has been done for early gastric cancers. However, the selection of patients is very important while performing these procedures. Regarding the recurrence rates, a study done by Zhang et al, showed that there was no significant difference between performing laparoscopic gastrectomy and open gastrectomy for early gastric cancers [9]. The findings obtained in our study were compared with data from other studies.

Gender	Our Study	Kabir and Barua [10]
Male	72%	64%
Female	28%	36%

**Table 1 – Gender incidence in our study compared to the study done by Kabir and Barua**

Clinical feature	Our study	Kabir and Barua [10]	Saha et al [11]	Qurieshi et al [12]
Abdominal pain	90.6%	100%	66.2%	-
Vomiting	64%	78%	34.2%	35.8%
Weight loss	60%	62%	43.3%	35%
Loss of appetite	49.3%	36%	-	-
Melena	20%	23%	-	-
Dyspepsia	40%	-	-	76%

**Table 2 – Comparison of clinical features between our study and the study done by Kabir and Barua**

Site of growth	Our study	Kabir and Barua [10]
Fundus	6.6%	4%
Antrum	40%	50%
Body	20%	18%
Fundus and Body	6.6%	4%
Antrum and Body	26.6%	24%

**Table 3 – Comparison of the site of growth between our study and the study done by Kabir and Barua**

The study done by Kabir and Barua showed that male patients had a higher incidence of developing carcinoma of the stomach (Table 1) and abdominal pain was the most common presenting symptom (Table 2). The common site of the malignant growth was also found to be the antrum of the stomach (Table 3). This is similar to our study. A study done by Saha et al also showed that abdominal pain was the common presenting symptom.

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## Conclusion

In our study, it was found that male patients were more commonly affected with carcinoma of the stomach. The most common site of the malignant growth was found to be the antrum of the stomach. Vomiting was the common complaint with which the patient presented to the surgical outpatient department. Anemia was the predominant clinical sign that was found in the analyzed group of patients. In our study, subtotal gastrectomy was the common surgical procedure that was performed.

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