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# A STUDY ON MANAGEMENT OF EARLY GASTRIC CANCER.

General Surgery

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## ABSTRACT

A prospective study was conducted in Alluri Sitarama Raju Academy of Medical Sciences, admitted in the General Surgery department, Alluri Sitarama Raju Academy of Medical Sciences Hospital from August 2018 to January 2020, 50 patients were included in the study. **Aim of the study:** To study the risk factors for gastric carcinoma. To study the various investigative choices for early gastric carcinoma. To study the different treatment options for early gastric carcinoma **Inclusions:** All patients aged from 18-79 years diagnosed with early gastric carcinoma by investigations. **Exclusions:** Patients age < 20 and >80 years are excluded. **Conclusion:** Based on results, in our institute incidence of distal gastric cancers (antrum) are more and they underwent subtotal gastrectomy with D2 lymph node dissection.

## KEYWORDS

EGC (Early Gastric Cancer), partial gastrectomy, distal gastrectomy, D2 lymphadenectomy.

## INTRODUCTION:

Gastric cancer is one of the leading causes of cancer worldwide, causing high mortality. Early gastric cancer (EGC) was first defined in 19621 by the Japanese society of gastroenterological Endoscopy as adenocarcinoma confined to mucosa or submucosa irrespective of lymph node involvement. The incidence of EGC has gradually increased with advances in diagnostic techniques and equipment. In Asian countries, the frequency of early gastric carcinoma is far superior to that of western countries.

Gastric cancer incidence rates are much lower in India than elsewhere, but the stomach cancer remains one of the ten leading sites of cancer in both sexes in most of the metropolitan registries in India.

Based on the existence of nodal metastases, there are multiple modalities of treatments can be involved. At present, endoscopic resection provides a minimally invasive treatment with a similar efficacy to surgery.

## AIMS AND OBJECTIVES:

- To study the incidence of early gastric carcinoma.
- To study the most common site of early gastric carcinoma.
- To study the risk factors for gastric carcinoma.
- To study various investigative choices for early gastric carcinoma.
- To study the different treatment options for early gastric carcinoma
- To study follow up protocol for early gastric carcinoma.

## MATERIALS AND METHODS:

Patients admitted in the department of General Surgery, Alluri Sitarama Raju Academy of Medical Sciences from August 2018 to January 2020, were included in the study.

## METHOD OF COLLECTION OF DATA:

Patients presenting with symptoms of dyspepsia, nausea, heartburn, loss of appetite, loss of weight were taken, and advised for upper GI endoscopy and, if indicated, biopsy. Proforma made based on history, clinical examination, and investigative procedures. Confirmation of diagnosis by histopathological examination. Details regarding preoperative analysis, assessment and management, intraoperative management, post-operative assessment, and follow up were taken into consideration.

## INCLUSION CRITERIA :

1. Age from 18-79 years.
2. All patients with proven biopsy as adenocarcinoma stomach.
3. All patients were diagnosed with early gastric carcinoma by investigations.
4. Patients who give consent for surgery.

## EXCLUSION CRITERIA:

1. Patients age < 20 and >80 years are excluded.
2. Patients presenting with upper GI symptoms but negative for malignancy.
3. Patients diagnosed other than adenocarcinoma.
4. Patients presented with clinical features of advanced gastric carcinoma/complications of gastric carcinoma like gastric outlet obstruction, palpable lump, ascites, peritonitis, etc..
5. Patients were diagnosed with advanced gastric carcinoma by investigations.

## RESULTS:

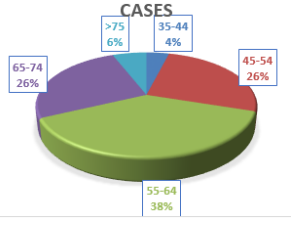


**Fig No - 1: Pie chart showing age-wise distribution**

## GENDER WISE DISTRIBUTION

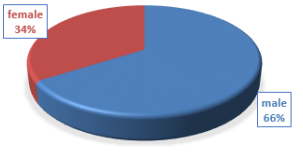


**Fig No - 2 :pie chart showing Gender wise distribution**

## SOCIOECONOMIC STATUS

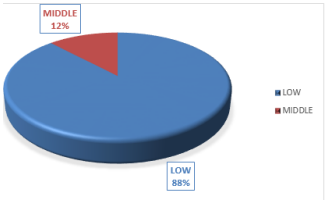

**Fig No - 3 :Pie chart showing socioeconomic status**

**SYMPTOM ANALYSIS:**

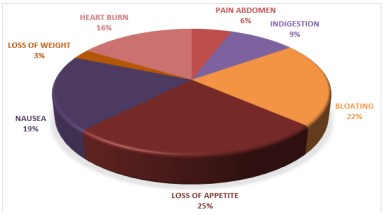


**Fig No - 4: pie chart showing symptomatic analysis**

**SITE TRENDS IN EARLY GASTRIC CARCINOMA :**

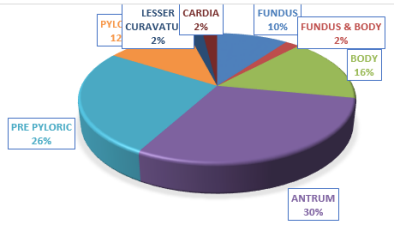


**Fig No - 5: Pie chart showing site distribution in this study**

**JAPANESE MACROSCOPIC ANALYSIS BETWEEN PATIENTS**

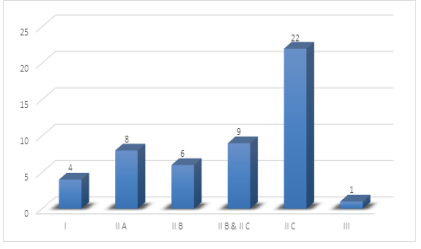


**Fig No - 6: Bar diagram of macroscopic analysis between patients**

**TNM STAGING**

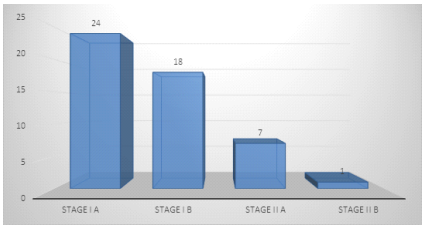


**Fig No - 8: Staging of gastric carcinoma in this stomach**

**SURGICAL MANAGEMENT:**

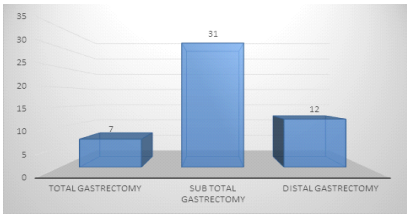


**Fig No - 9 : Bar diagram showing surgical modalities adopted in this study**

**TABLE NO - (a): POSTOPERATIVE COMPLICATIONS (early)**

| Sl.No | Early Complications | Cases (n) | % |
|---|---|---|---|
| 1 | Anastamotichaemorrhage | 0 | 0 |
| 2 | Anastamotic leak | 1 | 2 |
| 3 | Duodenal stump leak | 0 | 0 |
| 4 | Small bowel obstruction | 0 | 0 |
| 5 | Wound infection | 4 | 8 |

**TABLE NO - (b) : POSTOPERATIVE COMPLICATIONS (late)**

| Sl. No | Late Complications | Cases (n) | % |
|---|---|---|---|
| 1 | Dumping syndrome | 2 | 4 |
| 2 | Acid reflux | 4 | 8 |
| 3 | Diarrhea | 1 | 2 |
| 4 | Bronchitis | 0 | 0 |
| 5 | Morning vomiting | 1 | 2 |

**FOLLOW UP:**

**SHOWING RECURRENCE DURING FOLLOW UP PERIOD**

| Follow up period | Recurrence |
|---|---|
| 3 months | No Recurrence |
| 6 months | No Recurrence |
| 1 year | No Recurrence |

**DISCUSSION:**

Gastric cancer is one of the most common cancer in india. The incidence of gastric cancer is low in india compared to developed countries. But it's incidence is very high in certain geographical area like southern27 and northeastern states of country.some countries like japan,china and south korea, the incidence rate is very high due to environmental factors including high consumption of Highsalt, H.pylori infection, low intake of ascorbic acid and family history.

**Age distribution among carcinoma stomach patients comparing with other studies**

| Age | Gajalaxmi C K et al 1996(22) | | Sen et al 2002 | | Present study | |
|---|---|---|---|---|---|---|
| | Cases | % | Cases | % | Cases | % |
| 35-44 | 64 | 16.5 | 1 | 2.2 | 2 | 4 |
| 45-54 | 84 | 21.6 | 20 | 7.2 | 13 | 26 |
| 55-64 | 124 | 32 | 53 | 19.2 | 19 | 38 |
| 65-74 | 68 | 17.5 | 77 | 28 | 13 | 26 |
| ≥75 | 16 | 4.1 | 120 | 43.4 | 3 | 6 |

**Sex distribution among carcinoma stomach patients comparing with other studies**

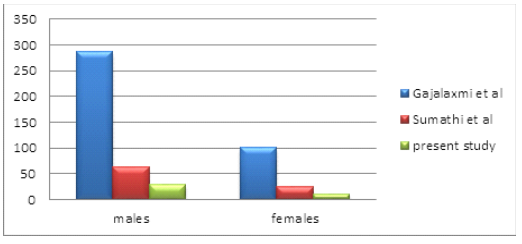


**Fig No - 10: sex distribution among patients**

**Socioeconomic groups among gastric cancer patients**

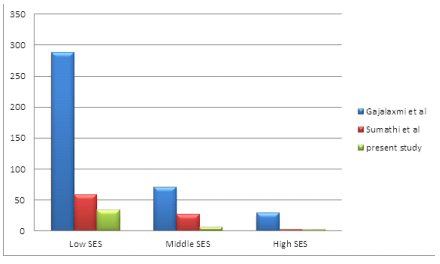


**Fig No - 11 : SES distribution among patients**

**Blood group distribution in carcinoma stomach patients comparing with other studies**

| Study | Blood group (%) | | | |
|---|---|---|---|---|
| | A+ve | B+ve | AB+ve | O+ve |
| Kamlesh guleria et al | 1(12.5%) | 5(62.5%) | 0 | 2(25%) |
| Jose et al | 26(37.1%) | 14(20%) | 7(10%) | 23(32.85%) |
| Present study | 17 (34) | 5(16) | 5(10) | 14 (28) |

**Symptom analysis in patients of carcinoma stomach**

| Symptoms | Safaee et al 2009 | | Present study | |
|---|---|---|---|---|
| | Cases | % | Cases | % |
| Nausea and vomiting | 324 | 43.2 | 31 | 19 |
| Weight loss | 434 | 57.7 | 4 | 3 |
| Pain abdomen | 425 | 56.6 | 9 | 6 |

**Sub site specific trends in carcinoma stomach comparing with other studies**

| Sub site | Cherian et al | | Present study | |
|---|---|---|---|---|
| | Cases | % | Cases | % |
| Esophagogastric junction | 65 | 3.78 | 0 | 0 |
| Fundus | 97 | 5.64 | 6 | 10 |
| Body | 400 | 23.27 | 8 | 18 |
| Antrum | 1157 | 67.31 | 16 | 30 |

**Comparision of macroscopic study between japan institutes, and this study**

| Macroscopy | Japan institutes | Present study |
|---|---|---|
| I | 12 | 8 |
| I and IIa | 16 | 24 |
| IIa and IIc | 19 | 56 |
| IIc | 37 | 44 |
| IIc and III | 73 | 46 |

**Comparison of histopathology among carcinoma stomach patients**

| Histology | Safaee et al | | Present study | |
|---|---|---|---|---|
| | Cases | % | Cases | % |
| Well differentiated | 113 | 23 | 40 | 8 |
| Moderately differentiated | 142 | 30.1 | 0 | 0 |
| Poorly differentiated | 203 | 43 | 10 | 20 |

The ratio of mucosa to submucosa involvement ratio was 6.9 to 2.1 respectively for type IIb and IIa.

Unlike advanced cancer, early gastric cancer is easy to detect by Endoscopy .based on the endoscopic findings we can find out the macroscopic appearance of early gastric cancer. It is very important to understand, that treatment is based on macroscopic findings whether the type of tumour can treat endoscopically or surgically.

In this study we obtained results from white light endoscopy due to limited resources. In japan and east asian countries due to high prevalance of gastric cancer they have done screening compaigns to early detection of gastric cancer and minimal intervention. Endoscopy also included under screening programe along with radiographic screening, helicobacter pylori test and serum pepsinogen test. But in india it is not possible due to lower incidence.

In our institute, majority of cases are type IIb and type IIc. Type IIc is most common macroscopic subtype which accounting approximatly 70%. Both type IIb and IIc accounting approximatly 85 % in this study.

## SURGICAL MODALITIES:

There are multiple modalities of treatment for early gastric carcinoma, which are Endoscopic mucosal resection, Endoscopic submucosal dissection and surgery and adjuvant therapies.

Although endoscopic resection is an option in patients with early gastric carcinoma, surgery is the therapeutic option worldwide.

Though endoscopic guided procedures are emerging in this twenty first century it should meet specific criteria.

- Histologically it should be intestinal type adenocarcinoma limited to the mucosa without venous or lymphnodal involvement.
- Morphologically lesion should be <20mm without ulceration or 10mm for flat and depressed type.

But in this study most of the patients have lymphnodal involvement even lesion confined to mucosa and submucosa. Outcome from surgical intervention given similar results obtained from endoscopic intervention which are mentioned by several studies. Shorter hospital stay and cost effective are benefit from endoscopic intervention. With both modalities there is 5 year survival rate is 97%.

In our institution, we preffered surgical intervention more over endoscopic intervention. In this study out of 50 cases 31 cases underwent sub total gastrectomy, 7 cases underwent total gastrectomy and 12 cases underwent distal gastrectomy.

Current strategies in the management of early gastric carcinoma, most widely performed intervention is gastrectomy whether it is ( total, sub total or distal ) with D2 lymphadenectomy. This intervention gained more acceptance in west in currant scenario. Being gastrectomy has been poerformed routinely in japan, gradually they shifted to more consevative surgery.

Several studies discussed about extended lymphadenectomy and limited lymphadenectomy. European studies showed that D2 dissection is better than D1 dissection to obtaining low recurrence rates. Cochrane study was conducted and given a report that extended lymphadenectomy provides no benefit over limited lymph node dissection. In this study we performed D2 dissection in more than 85% patients, 15% of patients were performed with D 1 dissection based on involvement of lymph nodes and type of surgical procedure.

## CONCLUSION:

- Based on results, in our institute incidence of distal gastric cancers are more compared to proximal gastric cancers.
- Incidence is more in patients belonging to low socio economic status.
- Most common presentation is loss of appetite, bloating and heart burn.
- Most common site is antrum.
- Most number of cases underwent subtotal gastrectomy with D2 lymph node dissection.
- Most of tumours are well differentiated and tubular type.
- Most of cases are under stage of I A and I B.
- The most common post operative complication is wound infection.
- Follow up done for 3 months, 6 months and 1 year. No was recurrence seen.
- All cases underwent gastrectomy had good prognosis.

## SUMMARY

Carcinoma stomach is one of the dreadful diseases affecting humans causing morbidity and mortality and it is rightly called as “captain of men of death”. 50 patients with biopsy proven carcinoma stomach admitted in department of General Surgery, ASRAMS hospital, between August 2018 to January 2020 were included in the study. Data regarding their age, sex, risk factors, investigations and surgery performed were recorded and a prospective analysis was done among them.

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