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# Unresectable Advanced Gastric Carcinoma And Role Of Gastric Bypass In Such Cases- A Retrospective Study Conducted At A Tertiary Care Hospital In Odisha.

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***Abstract***

*Gastric cancer is one of the commonest cancers seen in day to day surgical practice. In a resource poor country like India where the screening services for gastric cancer are not frequent, many patients present late with advanced stage of the disease. The role of gastric bypass as a palliative procedure in advanced gastric cancer is controversial. This study was conducted at a tertiary care hospital of Odisha to study the role of gastric bypass as a palliative procedure as compared to resection in a case of advanced gastric cancer.*

*In our study, in-hospital morbidity rate for the entire study group was 24.45% which is similar to the rates obtained in other studies. Gastrojejunostomy group(by-pass group) had significantly less number of complications as compared to the resection group. In hospital mortality rate in our study was 6.67%, which is similar to the postoperative mortality rates of 6 to 10%, found in other studies. Mean survival time in our study was 10 months for the resection group and six months for the by-pass group as against the survival times of 12–18 months for resection in various studies.*

*Hence we conclude that gastric by-pass provides palliation of symptoms similar with resection and is associated with a significantly low postoperative morbidity rate. Hence, it can be done as a palliative procedure in those who are unfit for resection.*

***Key Words-*** *stomach, gastric bypass, palliation, resection,*

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## I. Introduction

Cancer of stomach (also known as gastric cancer) is one of the most common cancer in India and world. It also is the most deadly cancer in the world because of its aggressiveness. because of advancement in diagnostic modality and awareness in people its incidence is declining. But in a resource poor country like India where majority of people are below poverty line its incidence is still high and majority of them present during the advanced stage of the disease. Because the initial presentation is with advanced disease, many times palliative treatment is the only option available for such patients. In advanced gastric cancer few studies recommend gastric bypass[1] and some recommend resection[2,3]. Risk benefit assessment should be done while planning a palliative surgery in terms of post operative complications, symptom relief to the patient and post operative quality of life[4]. We conduct this study to assess the role of gastric by-pass in cases of advanced gastric carcinoma.

## II. Subjects And Methods

This was a retrospectively collected data of prospectively done study of patients admitted at Hitech Medical College and Hospital from July 2019 to June 2021. The patients were divided into three groups – Group I (gastric resection), Group II (gastric Bypass) and Group III(exploratory laparotomy).

Gastrectomy was done by Billroth II procedure. Stomach was mobilised by opening the greater and lesser curvatures and dividing the gastroepiploic and right and left gastric arteries. The duodenum was transected and closed using staples or sutures. Tumour was resected leaving five cm margin. Retro colic gastrojejunostomy was done. Resection of less than 2/3rds of the stomach was termed partial gastrectomy, resection of more than 2/3rds was termed subtotal gastrectomy and removal of the entire stomach, total

gastrectomy. Gastrojejunostomy was done by an antecolic iso-peristaltic fashion to the greater curvature of the stomach in the most dependent tumour free area in four layers.

The data was collected from medical records. Follow up was made using patient contact details. In case of death of the patient, details of death was collected from the patient's keen and updated. During follow up patients were assessed for post operative complications, improvement in previous symptoms like vomiting, pain abdomen, upper gastrointestinal bleed, anorexia and weight loss.

## III. Results

During the study period a total of 64 patients of carcinoma stomach were operated, of whom records were available for 45 patients, who formed the study group. There were 15 patients (33.34%) in the resection group, 20 patients (44.45%) in the bypass group and 10 patients (22.23%) in the exploratory laparotomy group. The mean age of our study group was 53.2 ± 11 years (Range: 24–76 years). There was no significant difference in the age distribution of the three groups . 15(33.34%) patients were women and 30(66.67%) patients were men. The gender distribution among the three groups was significantly different with men being more in bypass group compared to the other two groups.

Most of the patients presented with multiple symptoms, vomiting and epigastric discomfort was the commonest followed by abdominal pain, weight loss, anorexia and upper gastro intestinal bleed. The three groups did not differ with respect to their presenting symptoms. Epigastric mass was palpable in 18 patients (40%) of the patients and epigastric tenderness was present in 10 patients(22.23%) of patients. No difference was marked in various study groups in terms of signs.

The mean haemoglobin for the study group was 8.56 ± 2 gm/dl (Range: 4–14), and mean serum total protein was 6.2 ± 0.84 gm/dl (Range: 3.2–7.8), with mean serum albumin being 3.1 ± 0.54 gm/dl (Range: 0.6–4.7). There was no statistically significant difference between the study groups.

The most common location of the tumour was in the antrum (36/45; 80%) followed by body (4/45; 8.89%), diffuse (2/45; 4.45%) and cardia ( 3/45; 6.67%).

The intraoperative findings comprised of serosal spread of tumor, liver secondaries, peritoneal deposits, pelvic deposits, omental deposits and summarized in table no. 1. Resection group had lower rate of intra-abdominal and infiltration into adjacent organs when compared to other groups. The exploratory laparotomy group had a higher rate of peritoneal deposits over the bypass group and a higher rate of free fluid with respect to the other two groups.

**Table 1**. Intra-op findings

| | Gr I (Resection group) 15 patients | Gr II (Bypass group) 20 patients | Gr III (Expl.laparotomy group) 10 patients | All (45) |
|---|---|---|---|---|
| **Serosal spread** | 5 | 18 | 8 | 31 |
| **Adherent to Pancreas** | 1 | 12 | 4 | 17 |
| **Adherent to adjacent organ** | 2 | 16 | 6 | 24 |
| **Liver secondaries** | 0 | 5 | 3 | 8 |
| **Peritoneal deposits** | 0 | 3 | 4 | 7 |
| **Pelvic deposits** | 0 | 3 | 2 | 5 |
| **Omental deposits** | 1 | 5 | 5 | 11 |
| **Free fluid** | 2 | 2 | 3 | 7 |

A total of 15 patients underwent gastric resection. Out of them 6(40%) patients underwent partial gastrectomy, 8 (53.34%) patients underwent subtotal gastrectomy and 1 (6.67%) patient underwent total gastrectomy.

In the entire study group 11 patients (24.45%) developed postoperative complications during their stay in the hospital(table 2). 5 patients (11.12%) were from resection group, 3 (6.67%) from bypass group and 3 (6.67%) from exploratory laparotomy group. The resection group had significantly higher rate of complications as compared to other groups. There was no significant difference between the mor- bidity rates of resection and exploratory laparotomy groups or between gastric bypass and exploratory laparotomy groups. The most common complication was wound infection (11.12%) followed by wound dehiscence (8.89%) and increased discharge from the drain (6.67%) (Table 2).

Table no.2- In hospital morbidity

| Sl.no. | Complication | Gr.I(resection group) | Gr.II (Bypass group) | Gr.III(Expl.Lap group) | All(45) |
|---|---|---|---|---|---|
| **1** | Wound dehiscence | 1 | 1 | 2 | 4 |
| **2** | Wound Infection | 1 | 1 | 3 | 5 |
| **3** | Bilio purulent discharge | 3 | 0 | 0 | 3 |
| **4** | Others | 1 | 2 | 0 | 3 |
| **5** | Total | 5 | 3 | 3 | 11 |

The in-hospital mortality rate for the resection group was 6.67% (1 out of 15), as compared to nil for bypass group and nil for exploratory laparotomy group. Factors associated with mortality were not assessed due to the very low mortality rates.

At follow up, 2 patients in the resection group had symptoms of dumping syndrome. Other complications were vomiting (4 patients), incisional hernia (1 patient) suture granuloma (1 patient). There was no signifi cant difference between the two groups with respect to follow up complications.

## IV. Result

In our study we found that the clinical features of more advanced disease like vomiting and epigastric mass were much more common as compared to previous reports [3, 5]. Infiltration of adjacent organs in more than half the patients were observed intraoperatively.

In our study, in-hospital morbidity rate for the entire study group was 24.45% which is similar to the rates obtained in other studies. Gastrojejunostomy group had significantly less number of complications as compared to the resection group. Though the morbidity rate in the resection group was higher than in the bypass group, none of the complications was life threatening. In our study, no factor was found to be associated with in-hospital morbidity.

In hospital mortality rate in our study was 6.67%, which is similar to the postoperative mortality rates of 6 to 10%, found in other studies [6]. Mean survival time in our study was 10 months for the resection group and six months for the bypass group as against the survival times of 12–18 months for resection in various studies [3, 7] and five months for bypass [8]. The lower survival time of the resection group in our study could be because of the more advanced stage of the disease with which our patients presented.

We found that the survival of patients in the resection group was better than the bypass and laparotomy groups. There was no survival difference between the bypass and the exploratory laparotomy group. This is similar to the study by Medina-Franco H, et al [2].

In the gastric bypass or exploratory laparotomy alone group it was seen that, the tumour progresses to a stage beyond which surgical resection is possible. Hence is the better survival seen with resection patients and hence it cannot be determined whether the better survival outlook of the resection group patients is due to the surgical procedure as such or due to the better patients selected.

Hence we conclude that gastric bypass provides palliation of symptoms similar with resection and is associated with a significantly low postoperative morbidity rate. Hence, it can be done as a palliative procedure in those who are unfit for resection.

There are a few inherent weaknesses in our study. Ours being a retrospective study, the study groups could not be standardised. The follow up rate was quite low. More research is required to correlate the palliation, morbidity, mortality and survival advantage with stage of tumour and recurrence of tumour.

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Dr. Shakti Prasad Behera, et. al. "Unresectable Advanced Gastric Carcinoma And Role Of Gastric Bypass In Such Cases- A Retrospective Study Conducted At A Tertiary Care Hospital In Odisha.." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(03), 2022, pp. 36-38.