

## Original Research Article

# Palliative surgery in gastrointestinal malignancy: experience from a regional cancer centre

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## ABSTRACT

**Background:** With so much burden of advanced incurable disease, the role of palliative surgery is paramount for gastrointestinal malignancies improving quality of life. Aim of the study was to study the indications, risks and outcome of palliative surgeries in gastrointestinal malignancies, the burden of disease requiring palliative surgery, and to describe strategies to improve end of life care.

**Methods:** All the patients diagnosed with gastrointestinal malignancy and who underwent palliative surgery between January 2017 and December 2017 were analysed.

**Results:** A total of 186 cases underwent palliative surgery. The most common age group affected was between 50-60 years and the mean age was 54.55 years. Stomach was the most common primary consisting of 58.60% followed by colorectal (23.66%), small intestine (9.68%), hepato-pacreatico-biliary (4.30%), and oesophageal (3.76%) primary. Major complications were seen in 4.84% of cases. Average symptomatic relief was observed for 5.5 months in cases of stomach and 7 months in case of colorectal malignancies. 35.48% cases were alive at the end of one year.

**Conclusions:** Present study concludes that palliative surgery improves quality of life of the patient, provides them with time to accept death and live rest of the life in a dignified manner.

**Keywords:** Gastrointestinal malignancy, Palliative surgery, Quality of life

## INTRODUCTION

The World Health Organization (WHO) defines palliativecare as “an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.<sup>1,2</sup> Surgery is an important palliative method for patients with advanced malignant disease. There is currently no consensus on the definition of palliative surgery authors differ suggesting definitions based on preoperative criteria, postoperative criteria, and even

patient prognosis.<sup>1,3</sup> Palliative surgery is generally refers to surgery performed with the intent of improving quality of life or relieving symptoms caused by advanced disease Palliative surgery is frequently confused with or used interchangeably with non-curative surgery.<sup>4</sup> In fact, the key difference between palliative and non-curative surgery lies in the intent of surgery, namely the intent to provide asymptomatic patients with an oncologic cure in non-curative surgery versus the intent to relieve symptoms without consideration of oncologic benefit in palliative surgery.<sup>5,6</sup> The main goals of palliative gastrointestinal surgery are restoration of regular alimentary passage, relief of tumor-related symptoms (pain, bleeding, hormonal symptoms), and prevention of

tumor-related complications (bleeding, obstruction, and perforation).

Gastrointestinal (GI) cancers are common cause of death and around 20-30% of all GI cancer surgeries being palliative, in country like ours the percentage goes still up due to late presentation, there is need to define indications, risks and outcome of palliative surgery, and to reinforce the role of surgeon in palliative care, there is increasing need for proper training of surgeons and physicians, and research in palliative care.<sup>6</sup> In addition to concerns related to clinical decision making, various moral challenges are encountered in palliative surgery. Some of these relate to the patients and their illness, others to the surgeons, their attitudes, skills, knowledge base and reluctance to treat advanced disease patients.<sup>7</sup>

This study presented the institutional experience of palliative surgery in gastrointestinal malignancy of the past one year and aimed to define indications, risks and outcome of palliative surgery, and to reinforce the role of surgeon in palliative care for GI malignancies.

## METHODS

The present study was a retrospective descriptive study performed in department of surgical oncology of a tertiary care cancer centre of Eastern zone of India. All the patients diagnosed with gastrointestinal malignancy and who underwent palliative surgery were included in the study population during the period from January 2017 to December 2018. Ethical committee approval was taken from the institutional Ethics Committee. The data was obtained from the record, and analysed. The case logs were reviewed and data was collected regarding primary diagnosis, stage of the disease, indication for surgery, type of procedure performed, type of anaesthesia, hospital stay following procedure, symptomatic improvement, patient satisfaction, complications, postoperative hospital mortality. Patients were followed up to assess the symptomatic improvement.

The GI malignancy patients not undergoing palliative surgery or recurrent cases, cases operated before the study period or frozen abdomen were excluded from the study.

Stomach, colorectal, hepato-biliary, pancreas, oesophagus and small intestine were the primary sites of malignancy taken for palliative surgery as per the requirement. gastrojejunostomy with jejunoejejunostomy and feeding jejunostomy were performed for stomach primary. For colorectal malignancies loop colostomy, loop ileostomy and ileotransverse anastomosis were the surgeries performed, in case of small intestine resection anastomosis, ileostomy was performed. In case of carcinoma oesophagus feeding gastrostomy and jejunostomy was performed. For pancreatic malignancies triple bypass and for cases of carcinoma gall bladder

gastrojejunostomy with jejunoejejunostomy were performed when obstruction was present.

## Statistical analysis

Results were described in terms of simple statistical methods like mean, median, range and percentages.

## RESULTS

A total of 366 patients with gastrointestinal malignancies underwent surgery during the study period; out of which radical and non-curative surgeries were performed in 180 (49.19%) cases and 186 cases (50.81%) underwent palliative surgery. These 186 cases undergoing palliative surgery were included in the study population. Male to female ratio was 1.6:1. The median age of presentation was 55 years with the age range of 16 to 78 years. The most common age group affected was 50-60 years accounting for 27.4% cases.

**Table 1: Total number of gastrointestinal surgeries.**

Gastrointestinal surgeries	Total number (%)
Radical	180 (49.18)
Palliative	186 (50.81)

**Table 2: Organ specific distribution of palliative surgeries.**

Organ	Radical (%)	Palliative (%)	Total (%)
Stomach and oesophagus	90 (43.68)	116 (56.31)	206
Hepatobiliary	27 (77.3)	8 (22.85)	35
Intestine and colon	63 (50.4)	62 (49.6)	125

**Table 3: Age distribution for palliative surgeries.**

Age in years	No of patients (%)
<30	9 (4.8)
31-40	26 (13.9)
41-50	41 (22.04)
51-60	51 (27.41)
61-70	41 (22.04)
>70	18 (9.67)
Total	186

**Table 4: Palliative surgery performed.**

Surgery	No of cases (%)
Gastrojejunostomy and jejunoejejunostomy	69 (37.9)
Feeding jejunostomy	48 (25.8)
Colostomy	44 (23.65)
Ileostomy	12 (6.45)
Triple bypass	7 (3.7)
Ileo transverse bypass	6 (3.22)

**Table 5: Postoperative course.**

Surgery	No of cases	Average postop stay (days)	Major complications	Minor complications
<b>Gastrojejunostomy+ jejunojejunostomy</b>	69	10	3 (4.34%)	8 (11.59%)
<b>Feeding jejunostomy</b>	48	6	2 (4.16%)	2 (4.16%)
<b>Colostomy</b>	44	8	2 (4.54%)	10 (22.72%)
<b>Ileostomy</b>	12	8	2 (16.66%)	4 (33.33%)
<b>Triple bypass</b>	7	9	1 (14.28%)	1 (14.28%)
<b>Ileotransverse bypass</b>	6	12	1 (16.5%)	3 (50%)

In terms of the organs affected Stomach was the most common primary consisting of 58.60% affected followed by colorectal (23.66%), rest of the cases were of small intestine (9.68%), hepato-pacreatico-biliary (HPB) (4.30%), and oesophageal (3.76%) primary. Patients with carcinoma of stomach undergoing palliative surgery had average duration of clinical presentation for 6 months with the range of 15 days to 1 year with vomiting (62.42%) being the commonest symptom, followed by pain abdomen (54.12%), bleeding (43.58%) and abdominal distension (10.55%). For HPB cases the indication of surgery was duodenal obstruction patients without obstruction were managed by endoscopic retrograde cholangiopancreatography (ERCP) and stenting/ PTC, apart from duodenal obstruction jaundice and pruritis was the commonest presentation consisting of 91.32% of patients followed by pain abdomen (54.78%) and duodenal obstruction (%). Intestinal obstruction was the most important presentation for patients of small intestine and colorectal cancers i.e. 88.67% of cases. Gastrojejunostomy plus jejunojejunostomy was the most common palliative surgery, followed by feeding jejunostomy, Colostomy, ileostomy, feeding gastrostomy, ileotransverse bypass, triple bypass procedures were performed consisting of 37.9%, 21.50%, 21.50%, 9.67%, 3.70%, 2.15% and 2.15% of the study population respectively.

The outcome of surgery was symptomatic relief in most of the patients i.e. 96.77%. Major complications were seen in 9 cases (4.83%) i.e. Gastrojejunostomy leak in 2 cases, burst abdomen in 3 cases, intestinal obstruction in 1 patient, pneumonia in two and feeding tube blockage in 1 patient. Minor complications were noted in 15 (8.64%) cases which constituted of surgical site infection (most common), fever, persistent ascitic drain, paralytic ileus, vomiting and constipation most of the above complications were managed conservatively. Institutional death was noted in 2 (1.07%) cases of stomach and 1 (0.53%) case of ca rectum.

Fourty nine (26.34%) cases were dead within 6 months of follow up and 28 (15.05%) cases went missing may be considered dead in this setting. Average symptomatic relief was observed for 5.5 months in cases of stomach and 7 months in case of colorectal malignancies. 66

patients (35.48%) were alive at the end of one year. Here we will like to mention that out of 186 palliative patients 156 (83.87%) patients were subjected for chemotherapy/ radiotherapy thus offering a chance of improvement/ prolongation of life.

## DISCUSSION

World Health Organization defines palliative care as “the total active care of patients whose disease is not responsive to curative treatment.<sup>1</sup> The goal of palliative care is to achieve the best quality of life for patients and their families.<sup>4,8</sup> Surgical palliation of malignancy is defined best as a procedure used with the primary intention of improving quality of life or relieving symptoms caused by an advanced malignancy.<sup>1</sup> The World Health Assembly states that palliative care is “an ethical responsibility, irrespective of whether the disease or condition can be cured”. Thus, surgery and anaesthesia are components of palliative care in any setting.<sup>3</sup>

Palliative GI surgery is common in surgical oncology practice, consisting of 20-30% of all surgery performed in western world according to various literature.<sup>2,6</sup> In our setup with lack of proper screening and health being the most neglected part of life, with the presentation usually in stage III/ IV as compared to early presentation, the role of palliation becomes even more important. It accounts for 50.88% of cases in our setup, reasons being delayed presentation due to lack of awareness, negligence, poverty and illiteracy.

Though it is often associated with end-of-life care, it may be performed in patients with anticipated long-term survival. As such, many patients undergoing palliative surgical procedures may have a longer predicted survival than some patients undergoing procedures that are not classically viewed as ‘palliative’.<sup>4</sup> As palliative care gains increasing traction as a specialty and becomes increasingly pervasive among health care institutions, surgeons have an opportunity, and arguably, an obligation to be engaged in shaping palliative care in surgery.<sup>5</sup>

Previously it was taught that in advanced/incurable disease - chemotherapy is the treatment of choice,

radiation only for symptomatic lesions, cure or even long-term progression free survival is not likely and surgery was rarely considered, it was like passive euthanasia-patient left to die without any intervention.<sup>5</sup>

In advanced/incurable disease arguments against surgery are; survival is driven by the rate and volume of metastatic burden, unhealthy patients that can't tolerate surgery, risk benefit ratio is heavily weighted toward the risks, theoretical risk of "angering the tumor" or "letting the air in", elaboration of VEGF or other angiogenic factors from anaesthesia, surgical stress, blood transfusion and various other unknowns.<sup>6</sup>

Whereas arguments for surgery; improving quality of life and symptom control, debulking gives chemotherapy a fighting chance, alter the metastatic cascade, by removing the primary tumor and removing the metastases – Removing the inhibitory peptides/molecules that depress the local immune response to the tumor thus enhancing the anti-tumor immunity to the remaining tumor cells.<sup>6</sup>

There are certain other issues related to palliative surgery like what should be the critical point to subject a patient for palliation rather than curative intent, this becomes even more important in today world with so many advances being taking place in medical and radiation oncology and when selective metastectomy is being performed. In some cases, the only realistic alternative to aggressive surgery may be supportive care or hospice, in which case major surgery would be a more attractive option in a favourable and motivated candidate.<sup>4</sup>

The decision-making points for palliative surgery like expectations following the surgery, the resources available, cost issues, feasibility, expected degree of symptom resolution, durability of the procedure must be discussed with the patient and attenders and they should be taken into confidence.

Previous results of palliative surgeries were not promising and unsatisfactory outcomes after operations in these cases occur for two main reasons: the goals of our surgical interventions are not well defined preoperatively, and the morbidity and mortality of the operation are unacceptably high.<sup>2</sup> In contrast to the high rates of morbidity and mortality reported in earlier series, a more recent study reported a 30-day morbidity and mortality rate of 20% and 4%, respectively.<sup>2</sup> These improved outcomes were attributed to enhanced patient selection through shared decision-making between the patient, family, and surgeon, i.e., the 'palliative triangle'.<sup>8</sup> Furthermore, relief of symptoms is durable, with patients remaining symptom free for a median of 4.5 months postoperatively.<sup>8</sup> In our study major complications were observed in 4.83% and minor complications were reported in 8.63%.

One last question is-Is this really that important? When end of life care consumes 12% of national health care

expenditure and 27% of Medicare expenditures, The need for palliative care is proportionate to the density of health-care providers and the availability of resources: 80% of those in need are in low-income and middle-income countries (LMICs) where the health-care workforce is limited. In such areas, the surgical workforce might feel obligated to triage the patients because it might get too late to help the curable patients.<sup>3</sup> But To relieve suffering in people is the ultimate goal of all medical and surgical specialties and patients with terminal illnesses can be helped to live and die without physical or psychosocial pain, financial difficulties, or stigma.<sup>3</sup> This issue is to be solved but the goal of palliative surgery is not to perform palliative surgery, i.e. we should move towards cure rather than palliation.

### Limitations

It was a retrospective study, the study included only surgical cases and there was no comparison between surgical palliative options and non-surgical palliative options, benefit of chemotherapy/ radiation therapy was not studied, non-curative and palliative surgeries were not differentiated

### CONCLUSION

Palliative surgery adds life to days rather than adding days to life, improves quality of life, let the patient to accept the fact and provides them with time to accept death and live rest of the life in a dignified manner. on one hand it shows the caring heart of surgeon but at the same time shows the deficiency in health care system leading to late presentation.

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