PALLIATIVE SURGERY FOR ADVANCED CANCER: CLINICAL PROFILE, SPECTRUM OF SURGERY AND OUTCOMES FROM A TERTIARY CARE HOSPITAL

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ABSTRACT

INTRODUCTION: Advance cancer is the one of the most common challenge for surgeons as patients presented to surgeon when the cancer progress to advance stage and cure from it is near to impossible. Palliative surgery and care play a vital role in the management of such patients. In palliative surgery, we treat the symptom and cure cannot be possible as disease is already in advance stage. AIMS AND OBJECTIVES: The purpose of study is to note the proportion of patients with advanced cancer who present with unrespectable disease, clinical presentation of advanced cancer, various options of palliative care available in the hospital for patients with surgically incurable cancer, evaluation of the prognosis of these patients.

MATERIALS AND METHOD: This is a prospective study conducted at the Department of General Surgery, M.K.C.G. MCH, Berhampur, Odisha, India form from July 2018 to June 2020. The present work is an observation on the incidence of advanced stage of cancer among all and response of palliative surgeries on advanced cancer patients. Cases were selected randomly among the admitted patients in wards and from those visiting the outpatient departments. The cases were diagnosed as advanced cancers both by clinical examination as well as through investigations.

RESULTS: Out of 63 Palliative procedures, Palliative procedures done for Carcinoma Stomach is 24(38.09%), biliary and pancreatic cancer is 10(15.87%) colorectal carcinoma is 09(14.28%), breast cancer is 06(09.52%), carcinoma rectum is 04(06.35%), carcinoma penis is 04(06.35%), soft tissue sarcoma is 03(04.77%) and Head and Neck cancer is 03(04.77%). Gastro-Jejunostomy (G.J.) which is 13 (20.63), second row indicates Colostomy which is 08 (12.69), third row indicates Feeding Jejunostomy (F.J.) which is 07 (11.11), fourth row indicates Hepatico-Jejunostomy (H.J.) which is 07 (11.11), fifth row indicates Cytoreductive surgeries which is 06 (09.52), sixth row indicates Toilet Mastectomy which is 06 (09.52), seventh row indicates Palliative Resection of the primary lesion which is 06 (09.52.

CONCLUSION: Palliative surgical procedure should be a part of treatment of advanced cancer patients along with other palliative care like palliative chemotherapy and radiotherapy and analgesia. Most of the terminally ill cancer patients want to stay at home. Thus, good palliative care with good quality of life should be accessible to each patient with advance

cancer disease. There is also good evidence that supportive services, such as palliative care or ethics consultation, can be helpful in challenging situations, although little evidence is available on effect on specific interventions.

KEYWORDS: Palliative surgery, Palliative care, Carcinoma, Sarcoma

Introduction

WHO defines palliative care is the active total care of patients whose disease is not responsive to curative treatment. Control of pain, of other symptoms and psychological, social and spiritual problem is paramount. [1] The goal of palliative care is the achievement of the best possible quality of life for patients and their families. Many aspect, of palliative care are also applicable earlier in the course of the illness, in conjunction with treatment. Palliative care extends, if necessary, to support in bereavement. [2]

All patients should ideally be getting appropriate psychosocial and spiritual support in addition to the medical and nursing interventions. Palliative care can be seen as part of this continuum of supportive care. The term palliative care is used to describe the supportive care when the disease is no longer responsive to curative treatment. [3]

Patients diagnosed with a disease like cancer require not only physical control of disease and symptoms but also need help in coming to terms with their disease. If the stage of disease is such that chance of cure is remote, they also need assistance in planning for life. [4] Patients with any chronic disease and especially a disease like cancer, undergo a great deal of suffering. To be maximally supportive, it is also necessary to show that you care about the patient as a person and that you are not just concerned about physical symptom. [5]

Suffering in chronic disease is more than just simple summation of the individual problems the interaction of each problem with others causes suffering to multiply. Also, suffering caused by the same problem may differ among individuals. [6] Therefore, such patients require expert trained support that is holistic in scope. Patient's families also undergo a great deal of trauma while caring for the patients. Hence, palliative care includes support to the patients. [7]

Terminal phase is defined as the period when day to day deterioration, particularly, of strength appetite and awareness, are occurring. It is notoriously difficult to predict when death will occur, and it is better not to do so. [8] The aim of care at this stage should be to ensure the patient's comfort holistically, and a peaceful and dignified death. Provide support to the family and patient through this transition.

Patient's comfort can be ensured by managing symptoms, stopping unnecessary drugs, upholding patient's wishes, alleviating fear and anxiety, taking care that the family is around him/her at this time, and dealing with patient's spiritual and religious needs. [9]

Support must also be extended to the patient's family. Help the family to come to terms with the fact that the patient will be leaving them soon. Let family members be around to see and talk with the patient. [10] Certain things may be distressing to the family like removal of intravenous fluids, apparent restlessness of the patient, change in skin colour etc. deal with their anxiety and fear gently. After the patient's death, give the family time and space to deal with their grief. [11]

Material and Method

This is a prospective study conducted at the Department of General Surgery, M.K.C.G. MCH, Berhampur, Odisha, India form from July 2018 to June 2020.

The present work is an observation on the incidence of advanced stage of cancer among all and response of palliative surgeries on advanced cancer patients. Cases were selected randomly among the admitted patients in wards and from those visiting the outpatient departments. The cases were diagnosed as advanced cancers both by clinical examination as well as through investigations. Each patient managed with the treatment modality individually suitable after initial build-up. Also, those who cannot tolerate chemotherapy or any surgical procedure are managed by supportive care, correcting all the deficiency factors – albumin, fluid and electrolytes, correction of anaemia by blood transfusion. The outcome was evaluated on the basis of evolution of symptoms and signs (thereby Quality of Life); evolution of the disease process and period of survival during the 6 months period of follow up.

INCLUSION CRITERIA:

- Elderly patient with new dyspepsia, unexplained anaemia and weight loss.
- All cases of advanced oral cancers
- Cases of advanced stomach cancers
- All patient of gastric outlet obstruction without suggestive evidence of pyloric stenosis.
- Elderly patient with advanced colorectal cancers
- Advanced cancers of Hepato-biliary system.
- Cases of advanced Cancers of breast with fungation, ulceration & pain
- Advanced intraperitoneal spread with intractable ascites
- All cancers with intractable pain.

EXCLUSION CRITERIA:

- Early stage of cancer.
- Neuro oncology cases.
- Gynaecological Oncology cases.
- Uro-oncological cases.
- Paediatric Oncology cases.
- Orthopaedics Oncology cases.
- Ophthalmic Oncology cases.
- Cardiothoracic and Vascular oncology along with oesophageal cancer.
- Lymphoma as it is mainly medical disease not fit for palliative surgery.

Surgical Procedures performed:

- Palliative Resection of tumour mass.
- Toilet mastectomy to palliate ulceration and bleeding.
- Colostomy and Ileo transverse Bypass to relieve obstruction.
- Cholecystojejunostomy and Hepaticojejunostomy to palliate obstructive jaundice in pancreatic cancer.
- Thyroidectomy or isthmusectomy to relieve airway compression for thyroid cancer.
- Feeding jejunostomy or Gastro-jejunostomy for gastric carcinoma.

Results

Table 1 – Incidence of Palliative Surgeries

Nature of Surgeries	Number of Cases	Percentage
Total number of curative surgeries	199	75.95
Total number of palliative surgeries	63	24.05
Total	262	100.00

This table describes the Incidence of Palliative surgeries. 63 patients underwent palliative surgical procedures out of total 262 cancer surgeries. Total patients underwent curative surgery are 199. The incidence of palliative surgeries is 24% in table 1.

Table 2 - Sex Incidence

Sex Variation	Number of Cases	Percentage
Male	32	50.79
Female	31	49.21
Total	**63**	**100.00**

First row describes number of male patients which is 32(50.79%) and second row describes number of female patients which is 31(49.21%). In this study, the ratio between male and female is almost equal to1.03::1 in table 2.

Table 3 - Incidence of Carcinoma/ Sarcoma

Description	Number of cases	Percentage
Carcinoma Stomach	24	38.09
Biliary and Pancreatic Cancer	10	15.87
Carcinoma Colon	09	14.28
Breast Cancer	06	09.52
Carcinoma Rectum	04	06.35
Carcinoma Penis	04	06.35
Soft Tissue Sarcoma	03	04.77
Head and Neck Cancer	03	04.77
Total	**63**	**100.00**

Out of 63 Palliative procedures, Palliative procedures done for Carcinoma Stomach is 24(38.09%), biliary and pancreatic cancer is 10(15.87%) colorectal carcinoma is 09(14.28%), breast cancer is 06(09.52%), carcinoma rectum is 04(06.35%), carcinoma penis is 04(06.35%), soft tissue sarcoma is 03(04.77%) and Head and Neck cancer is 03(04.77%) in table 3.

Table 4: – Abnormal CT scan Findings

Findings	No. of patients	%
Liver metastasis	11	20.7
Ascites	23	43.4
Local invasion by tumour	07	13.2
Abdominal Lymphadenopathy	33	62.3
Loss of fat planes	21	40

Out of 63 patients CT scan is done in 47 cases. Abdominal Lymphadenopathy is the most common finding on CT Scan which is seen in 33 patients (62.3%), 23 patients (43.4%) has findings of ascites, while 21 patients (40%) having features of loss of fat planes between tumour and adjacent structure, liver metastases is seen in 11 patients (20.7%), 07 patients (13.2%) having features of surrounding structures involvement or local invasion in table 4.

Table 5 - Response to Albumin administration

Response	No. of patients	Percentage
Improvement (Complete/ Partial response)	24	64.86
Deterioration (Progressive Disease)	03	08.10
Stable	10	27.02
TOTAL	**37**	**100**

Albumin administration lead to improvement in symptoms and overall survival in 24(64.86%) of patient and 10(27.02%) remained stable without deterioration and 03(8.1%) shows deterioration in symptoms in table 5.

Table 6 - Surgical Procedures Undertaken

Surgical Procedure	Number of Cases	Percentage
Gastro-Jejunostomy (G.J.)	13	20.63
Colostomy	08	12.69
Feeding Jejunostomy (F.J.)	07	11.11
Hepatico-Jejunostomy (H.J.)	07	11.11
Cytoreductive surgeries	06	09.52
Toilet Mastectomy	06	09.52
Palliative Resection of the primary lesion	06	09.52
Total/Partial amputation of penis	04	06.345
Ileo-transverse Bypass	03	04.77
Cholecysto-Jejunostomy (C.J.)	03	04.77
Total	**63**	**100.00**

First row indicates Gastro-Jejunostomy (G.J.) which is 13 (20.63), second row indicates Colostomy which is 08 (12.69), third row indicates Feeding Jejunostomy (F.J.) which is 07 (11.11), fourth row indicates Hepatico-Jejunostomy (H.J.) which is 07 (11.11), fifth row indicates Cytoreductive surgeries which is 06 (09.52), sixth row indicates Toilet Mastectomy which is 06 (09.52), seventh row indicates Palliative Resection of the primary lesion which is 06 (09.52), eighth row indicates Amputation of penis which is 04 (06.35), ninth row indicates Ileo-transverse Bypass which is 03 (04.77) and tenth row indicates Cholecysto-Jejunostomy (C.J.) which is 03 (04.77) in table 6.

Table 7- Symptoms Resolution for the most common Palliative Surgeries

Symptoms in Organ System	Most Common Operative Procedure	Number of Cases	Number of Symptom Resolved in Percentage

Upper G.I. Obstruction	Gastro-Jejunostomy, Feeding Jejunostomy and Palliative Resection	24	18(75%)
Wound/Tumour Hygiene	Excision of Tumour for Local Control	16	12(75%)
Lower G.I. Obstruction	Colostomy and Ileo-transverse Bypass	13	11(84%)
Jaundice	Bilio-enteric Bypass	10	8(80%)

It is observed from the above table that 63 Palliative procedures have been done for symptom relief. 75% of symptom relief occurred in upper G.I. Obstruction, 84% symptom relief in lower G.I. Obstruction, 80% symptom relief in Jaundice, 75% symptom relief in Wound/Tumour hygiene in table 7.

Discussion

In the present study, incidence of Palliative surgery is 24% this data correlates with the Essan et al and Manisha Bisht et al observed 23% and E.V.Ussiri et al observed 21% of palliative surgeries.[12] But another two studies by Robert S. Krouse et al Alan A. Thomay et al shows an incidence of 12.5%. Our incidence is bigger than these studies.[13] Most probable reason may be early detection and wide range of screening methods for malignancy is more in developed countries than Indian set up.

Sex incidence of our study is male to female ratio of 1.03:1 but other studies by Manisha Bisht et al says sex ratio was 1.5:1 and by P.T Lam et al found a ratio of 1.7:1.[14] Both these studies show a male predominance in advanced cancer than our study. The probable reason is more number of advanced carcinoma of breast and thyroids were included in our study.

In one study conducted by E.V Ussiri et al found incidence of colorectal carcinoma 20% and biliary and pancreatic cancer 12%. In another study conducted by P.T Lam et al shows incidence of lower GI malignancy is 14%.[15] Our study correlates with this study which shows lower GI malignancy 20.63%, biliary and pancreatic 15.87%. It differs from above study in upper GI malignancy which is 38.09% in present study due to increased incidence of upper GI malignancy in this geographic area.

Out of 63 patients CT scan is done in 47 cases. Abdominal Lymphadenopathy is the most common finding on CT Scan which is seen in 33 patients (62.3%), 23 patients (43.4%) has findings of ascites, while 21 patients (40%) having features of loss of fat planes between tumour and adjacent structure, liver metastases is seen in 11 patients (20.7%), 07 patients (13.2%) having features of surrounding structures involvement or local invasion. Existing literature has stressed that CT is useful for non-invasive assessment of abdominal lymphadenopathy, peritoneal disease, liver metastasis and for estimation of the degree of tumour penetration through the wall of the organ and local invasion.[16]

Albumin administration lead to improvement in symptoms and overall survival in 64.86% of patient and 27.02% remained stable without deterioration. This is similar to the findings of Oñate-Ocaña et al. where 65.1% patients had improvement in median survival time after albumin administration.[17]

Out of 63 surgical procedures done for Palliative surgeries, Gastro-Jejunostomy (G.J.) is 13 (20.63), Colostomy is 08 (12.69), Feeding Jejunostomy (F.J.) is 07 (11.11), Hepatico-Jejunostomy (H.J.) is 07 (11.11), Cytoreductive surgeries is 06 (09.52), Toilet Mastectomy is 06 (09.52), Palliative Resection is 06 (09.52), Amputation of penis is 04 (06.35), Ileo-transverse Bypass is 03 (04.77) and Cholecysto-Jejunostomy (C.J.) is 03 (04.77). Maximum surgical procedure done is Gastro-Jejunostomy and least for Ileo-transverse bypass and Cholecystojejunostomy.
According to a study conducted by Alan A. Thomay et al (Surgical Clinics of North America) symptoms resolutions were 75% in Gastro-Jejunostomy (GJ) and Feeding Jejunostomy (FJ) and 91% in lower GI resection or bypass and 90% in biliary bypass.[18] Present study correlates to above studies which show 75% symptoms resolution in upper GI obstruction, 84% symptoms resolution in lower GI obstruction and 80% resolution of symptoms in biliary bypass.

Palliative care treats advanced cancer patients and advanced cancer patients with incurable disease as individual and not a disease process. Patients have the chance to take control of their life and to decide how they want to spend their last time of living. Palliative surgeries play an important role in selective patients with advanced cancer to improve quality of life. Need to improve surgical training in palliative care surgery.

Conclusion

Palliative surgical procedure should be a part of treatment of advanced cancer patients along with other palliative care like palliative chemotherapy and radiotherapy and analgesia. Most of the terminally ill cancer patients want to stay at home. Thus, good palliative care with good quality of life should be accessible to each patient with advance cancer disease. There is also good evidence that supportive services, such as palliative care or ethics consultation, can be helpful in challenging situations, although little evidence is available on effect on specific interventions.

References

1. Piñeros M, Znaor A, Mery L, Bray F. A global cancer surveillance framework within noncommunicable disease surveillance: making the case for population-based cancer registries. Epidemiologic reviews. 2017;39(1):161–169.
2. Zipursky A. Sarcomas of Soft Tissue and Bone in Childhood. Canadian Medical Association Journal. 1982;126(10):1195.
3. .Kardinal CG, Yarbro JW. A conceptual history of cancer. Semin Oncol. 1979 Dec;6(4):396–408.
4. McCahill LE, Dunn GP, Mosenthal AC, Milch RA, Krouse RS. Palliation as a core surgical principle: part 1. J Am Coll Surg. 2004 Jul;199(1):149–60.
5. Harvey, A. M. (1974). Early contributions to the surgery of cancer: William S. Halsted, Hugh H. Young, John G. Clark. Johns Hopkins Med J. 135(6): 399-417.
6. Treede R-D. The International Association for the Study of Pain definition of pain: as valid in 2018 as in 1979, but in need of regularly updated footnotes. Pain Rep [Internet]. 2018 Mar 5
7. Caterina MJ, Julius D. The Vanilloid Receptor: A Molecular Gateway to the Pain Pathway. Annual Review of Neuroscience. 2001;24(1):487–517.
8. Sodium channels and pain therapy : Current Opinion in Anesthesiology [Internet], 565-72.

9. Max MB, Inturrisi CE, Kaiko RF, Grabinski PY, Li CH, Foley KM. Epidural and intrathecal opiates: Cerebrospinal fluid and plasma profiles in patients with chronic cancer pain. Clinical Pharmacology & Therapeutics. 1985;38(6):631–41.
10. Yaksh TL. Spinal opiate analgesia: Characteristics and principles of action. PAIN®. 1981 Dec 1;11(3):293–346.
11. Shimoyama N, Shimoyama M, Davis AM, Monaghan DT, Inturrisi CE. An Antisense Oligonucleotide to the N-Methyl-d-aspartate (NMDA) Subunit NMDAR1 Attenuates NMDA-Induced Nociception, Hyperalgesia, and Morphine Tolerance. J Pharmacol Exp Ther. 2005 Feb 1;312(2):834–40.
12. Block SD. Perspectives on care at the close of life. Psychological considerations, growth, and transcendence at the end of life: the art of the possible. JAMA. 2001 Jun 13;285(22):2898–905.
13. Cassem, Ned H., and Rege S. Stewart. Management and Care of the Dying Patient. The International Journal of Psychiatry in Medicine 6, no. 1–2 (March 1, 1975): 293–304.
14. Cherny NI, Coyle N, Foley KM. GUIDELINES IN THE CARE OF THE DYING CANCER PATIENT. Hematology/Oncology Clinics. 1996 Feb 1;10(1):261–86.
15. Foley KM. The relationship of pain and symptom management to patient requests for physician-assisted suicide. Journal of Pain and Symptom Management. 1991 Jul 1;6(5):289–97.
16. Scott-Warren J, Bhaskar A. Cancer pain management—Part I: General principles. Contin Educ Anaesth Crit Care Pain. 2014 Dec 1;14(6):278–84.
17. Portenoy RK. Opioid Therapy for Chronic Nonmalignant Pain [Internet]. Vol. 1, Pain Research and Management. Hindawi; 1996 [cited 2020 Aug 17]. p. 17–28.
18. Weissman DE, Haddox JD. Opioid pseudoaddiction — an iatrogenic syndrome. Pain. 1989 Mar 1;36(3):363–6.