

## Review Article

### Palliative Cancer Surgery

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**Palliative care or End-of-life care in terminally-ill patients requires multi-disciplinary approach and therefore, different modalities of treatment. The aim of palliative care is to improve the quality of life and make the subject as comfortable as possible. Palliative cancer surgery is a branch of surgical oncology which relieves the symptoms of the patient with advanced cancer at the end-stage. Majority of the patients in our environment present at late with advanced cancer. Majority of the cancer patients are managed by general surgeons in many centers due to lack of oncology surgeons and therefore, literature review in palliative Cancer Surgery. It was concluded that palliative cancer surgery play an important role in patients with advanced cancer to improve quality life as well as a need to improve surgical training in palliative cancer surgery.**

### Introduction

Cancer (syn. malignancy)<sup>1</sup> is a group of diseases characterized by the uncontrolled growth of abnormal cells that spread from the anatomic site of origin to other tissues through various routes leading eventually to organ failure or other mortal events. Palliative treatment (syn. End-of-Life Care)<sup>2, 3, 4, 5</sup> means to relieve, alleviate or ease uncomfortable symptoms due to advanced cancer (incurable disease by any modality). Uncomfortable symptoms of advanced cancer commonly include:

- Pain (75%)
- Inability to move or function as usual
- Obstruction (Bowel, Urinary Bladder, oesophagus etc)
- Haemorrhage
- Vomiting (due to advanced cancer or cancer treatment)

The aim of palliation is to improve the quality of life and make the subject as a comfortable as possible without much change in survival.

### Modalities of palliative treatment

- Medical therapy
- Radiation therapy
- Surgical Palliation
- Psycho-social support

Palliative treatment should be continuous and consistent for the rest of the patient's life.

### Role of Surgery in Cancer Patients<sup>(5, 6, 7, 8)</sup>

Most cancer patients require surgery for preventive, diagnostic or therapeutic purposes of cure or palliation.

(i) Prevention of cancer e.g.

- Orchidopexy in cryptorchidism reduces risk of testicular cancer (10% risk of cancer).
- Prophylactic mastectomy in high risk individuals for Breast cancer (BRCA 1 & 2 has 40-80% risk of cancer)
- Colectomy in familial polyposis or ulcerative colitis (40% risk of cancer occurrence).

(ii) Diagnosis and staging:

Surgical techniques in diagnosis include;

- FNAC (± USS/CT guided)
- Core Needle Biopsy
- Incisional/Excisional Biopsy
- Endoscopic Biopsy
- Surgical Exploration e.g. Laparotomy, Laparoscopy, Thoracotomy, Thoracoscopy or Mediastinoscopy.

Surgical techniques in staging purposes include;

- Staging Laparotomy e.g. Lymphoma (no longer done after development of ultrasound, CT-scan and MRI).

- Staging Laparoscopy
- Staging mediastinoscopy

## (iii) Treatment

The objective of surgical treatment is either for curative or palliative purposes.

- Curative Surgery – surgical procedures leading to disease free survivals and individuals remain with almost the same life expectancy as the general population.
- Palliative Surgery – surgical procedures for the purpose of improving the quality of life without necessarily altering significantly the disease progress in terms of survival.

**Palliative Cancer Surgery** <sup>(5, 9, 10, 11, 12)</sup>

Palliative surgery is a branch of Surgical Oncology. It requires a multi-disciplinary approach such that decision making is complex. It accounts for 21% among all cancer patients in Surgical Oncology Department. Carries significant morbidity i.e. may end-up with deformity and/or loss of function. Limited surgery to avoid damage to the vital organs and ensure that a patient is not worse than before surgery.

**Surgical Evaluation for Palliative Surgery** <sup>(13)</sup>

Patient preparations include:

- History of presenting symptom(s) i.e. duration, severity and location.
- Physical examination to assess the extent of disease.
- Imaging studies to confirm extent of disease (CXR, USS, CT scan and MRI)
- Prognostic information should be explained.

Questions to answer include the following:

- Is the surgery technically feasible? e. g. cancer of stomach involving cardia.
- Is the patient fit, both physically and emotionally, for surgery and recovery? (general anaesthesia)

- Is the patient likely to benefit from the surgery? (General condition of the patient).

**Absolute contraindication to palliative surgery (advanced abdominal cancer)** <sup>(14)</sup>

- Laparotomy demonstrating that further corrective surgery was not possible.
- Previous abdominal surgery showing diffuse metastatic cancer.
- Involvement of proximal stomach.
- Intra-abdominal carcinomatosis with severe motility disorder.
- Diffuse palpable intra-abdominal masses.
- Massive ascitis which recurs immediately after drainage.

*'Detailed operative notes in cancer patients are over-emphasized'.*

**Relative contraindication to palliative surgery** <sup>(14)</sup>

- Extra-abdominal metastases producing difficult-to-control symptoms e.g. dyspnoea.
- Non symptomatic but extensive extra-abdominal metastatic disease e.g. pleural effusion.
- Poor general condition of the patient.
- Poor nutritional status e.g. ASA IV, cachexia, hypoalbuminaemia.
- Advanced age in association with cachexia.
- Previous Radiation therapy to the abdomen or pelvis.

**Developing treatment plan** <sup>(9, 10, 11, 12)</sup>

Discussion with patient and family members if given consent by the patient. Surgeon should give honest and accurate *prognostic information* without destroying hope. A common understanding and agreement should be reached between surgeon, patient and family members. These will enable the patient to have *'Self control, dying with hope and dignity death'*

The surgeon's dilemma in palliative surgery is to provide prognostic and accurate information without destroying hope and avoidance of dying patients. It has been found that:

- 85% of terminally ill patients desire as much prognostic information as possible.
- 7% want only good news and
- 8% want no details.

The extent of surgery anticipated due to presenting symptom(s) should be explained to the patient and family members. Treatment option is based on available data as well as local treatment preference(s). Patient preferences regarding surgical procedure should be considered.

### Surgical procedures<sup>3, 4, 5, 9</sup>

Magnitude in Surgical Oncology Department:

- Cancer-related, surgical case-load =60-80%
- Curative surgery in cancer = 77%
- Palliative surgery in cancer =21%
- Others = 2%
- Morbidity in palliative surgery = 25%
- Mortality in palliative surgery = 23%

Common palliative cancer surgeries include:

- Lung (21%),
- Colorectal (20%),
- Breast (19%),
- Esophageal (16%),
- Prostate (12%),
- Pancreatic (12%), and
- Biliary (2%).

Palliative surgery has been found to be beneficial (good outcome) in 64% of symptomatic patients.

### Experience at Muhimbili National Hospital (MNH).

Cancer patients are managed by General Surgeons as there is no oncology surgeon. Thereafter these patients are referred to Ocean Road Cancer Institute (ORCI) for adjuvant therapy (radiation and/or chemo-therapy) depending on the type and stage of the cancer. Common malignancies seen in surgical practice include those of the oesophageal, breast, colorectal, anorectal, prostate, pancreas, skin, soft tissue sarcomas, and thyroid.

Palliative surgical procedures done at Muhimbili National Hospital include:

- oesophageal intubations for distal tumors with or without tracheo-oesophageal fistula

to palliate Dysphagia and oesophageal dilatation for oesophageal cancer.

- Toilet mastectomy to palliate ulceration and bleeding, salvage surgery following tumor down-staging with chemotherapy and pleurodesis for metastatic pleural effusion to relief airway distress in advanced breast carcinoma.
- Colostomy to relief obstruction, palliative resection for resectable but metastatic tumors and by-pass surgery for relief obstruction for anal and colorectal cancer.
- Bilateral subcapsular orchidectomy which also can offer long term disease control and trans-urethral resection (TUR) in prostate cancer.
- Cholecystojejunostomy to palliate obstructive jaundice and gastrojejunostomy to palliate gastric outlet obstruction or both in pancreatic cancer.
- Thyroidectomy or isthmectomy to relieve airway compression for thyroid cancer
- Excision + adjuvant radiotherapy and Palliative amputation for non-functional limb for skin malignant melanoma and squamous/basal cell carcinoma.
- Excision + adjuvant radiotherapy in soft tissue sarcomas that are locally aggressive tumors and very high recurrence rate.

Refer few patients (photograph 1 - 5 ) who underwent palliative surgery:

- 1.70/F: Carcinoma of the right breast (T<sub>4b</sub>N<sub>2</sub>M<sub>0</sub>) Tumor down-staging with six cycles of chemotherapy was given at ORCI. Toilet mastectomy and axilla dissection was done at MNH to be followed by Loco-Regional Radiotherapy at ORCI.
- 2.62/F: Carcinoma of the right breast (T<sub>4</sub>N<sub>2</sub>M<sub>0</sub>) Toilet mastectomy and axilla dissection was done at MNH to be followed by hormonal therapy at ORCI.
3. 23/M: Recurrent liposarcoma of the lateral aspect of the right thigh. Re excision was done at MNH to be followed by radiotherapy to the tumor-bed at ORCI. Wound was left open.
4. 64/F: Advanced thyroid carcinoma with recurrent laryngeal nerve palsy. Near-Total Thyroidectomy was done at MNH to be

followed by radio-active iodine therapy at ORCI.

5. 65/M: Advanced carcinoma of the right foot (non-functional limb) Below knee amputation was done at MNH to be followed by right groin lymph node irradiation at ORCI. Patient was mobilized with crutches.

### Conclusion

- Palliative cancer surgery plays an important role in selected patients with advanced cancer to improve quality of life.
- Need to improve surgical training in palliative cancer surgery.

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