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Review Article

**PALLIATIVE TREATMENT OF LUNG CANCER-REVIEW
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Article Received: March 2021**Accepted:** March 2021**Published:** April 2021**Abstract:**

During the last decade, there has been significant growth of PC services and increasing international awareness of the role of PC for patients with advanced illness and their caregivers. The primary goal of the palliative care inter-professional team, consisting of nursing, spiritual care, social work, and pharmacy, is to improve the quality of life of patients and their families. Palliative care (PC) has shown multiple benefits to cancer patients such as better quality of life, higher patient and family satisfaction, improved disease understanding, less symptom burden, fewer depressive symptoms, less aggressive end of life care, and even improved survival with early implementation. Early integration of palliative care should be standard of care in advanced lung cancer, and ultimately in all advanced malignancies.

Keywords: *palliative care, lung cancer, oncology, chemotherapy, supportive care*

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INTRODUCTION:

The World Health Organization's defines palliative care (PC) 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 [4].

During the last decade, there has been significant growth of PC services and increasing international awareness of the role of PC for patients with advanced illness and their caregivers [5]. Research has demonstrated that PC is associated with better quality of life and mood, improved symptom control, more appropriate health resource use, increased patient and caregiver satisfaction, health care savings, and possibly even survival [6].

The primary goal of the palliative care inter-professional team, consisting of nursing, spiritual care, social work, and pharmacy, is to improve the quality of life of patients and their families. It is a common misconception that palliative care only concentrates on physical needs. In reality, there is a wide net of consideration cast out to assess psychological, cultural, ethical, legal, psychiatric, religious, and social needs as well [7].

For several decades lung cancer has been the most common cancer in the world. It is the third most common cancer after breast and prostate, but has the largest proportion of all cancer-related deaths (22%). Lung cancers are divided into two main histological subtypes: small cell (SCLCs) and non-small cell lung cancers (NSCLCs) [8]. These two types represent cancers that grow and respond to treatment in very different ways and are studied and treated as separate diseases. SCLCs account for 15–20% of lung cancers, tend to grow rapidly and are classified as either limited or extensive stage. NSCLC is a collection of several tumour histologies including adenocarcinoma, squamous-cell and large cell carcinomas. NSCLC accounts for 80–85% of all lung cancers and is characterized by retarded growth and spread compared to SCLC. NSCLC is staged using the traditional TNM solid tumour staging system, which is based on tumour size, nodal status and presence or absence of metastases [9- 11].

Palliative treatment is one of the methods of treatment of patients with chronic, progressive, life-limiting illness with different times of survival. Lung cancer patients are at high risk of suffering due to severe and refractory symptoms, concomitant

respiratory comorbidity, frequent disease progression, and treatment that can worsen and compromise quality of life. Palliative care (PC) has shown multiple benefits to cancer patients such as better quality of life, higher patient and family satisfaction, improved disease understanding, less symptom burden, fewer depressive symptoms, less aggressive end of life care, and even improved survival with early implementation [12].

Studies have been conducted during the past few decades to determine the effect of early introduction of palliative care in cancer. Temel et al examined the effect of early specialist palliative care support compared with standard care in ambulatory patients with metastatic NSCLC referred to the medical oncology outpatient department. They found a significant difference in median survival with the early supportive care group, 11.6 months, compared to 8.9 months in the standard care group. These patients also had a better quality of life score and fewer depressive symptoms (based on questionnaire results) and were less likely to require aggressive end-of-life care support [13]. Overall evidence on the impact of early, concurrent palliative care on the outcome of cancer care is just being developed which reflects the existence of barriers to the incorporation of such care in usual medical management including patient, professional, and system barriers [14].

Almost 60% of patients with lung cancer are not eligible for radical treatment at the time of diagnosis. Soothing and supportive treatment is a treatment of choice. Currently, palliative inpatient and home care are used in patients who present with symptoms of constant, severe dyspnea at rest, chronic coughing, severe pain, cachexia and fatigue, anxiety and depression as well as significantly reduced physical and intellectual activities. Knowledge about various methods of palliative procedures allows one to alleviate the symptoms of patients in an advanced stage of the disease with an expected short survival period [15].

Palliative care for lung cancer can be subdivided into two main categories: the first category is supportive (patient-centered) care and the second category is tumor-directed therapy. Supportive care, which can include antibiotics, corticosteroids, analgesics, antiemetics, transfusions and psychosocial support [16], is targeted directly at improving the wellbeing of the patient. Tumour-directed therapy also aims to improve patient wellbeing but does so indirectly by targeting the cancer itself using strategies that decrease tumor burden, which in turn, improves patient symptoms and wellbeing [17].

Chemotherapy in palliative care of lung cancer:

For locally advanced unresectable and metastatic NSCLC (stages IIIB and IV, which are unsuitable for curative treatment options), the standard first-line palliative treatment is palliative chemotherapy with supportive care [18]. Palliative chemotherapy means chemotherapy given primarily for rapid relief of symptoms, not non-curative chemotherapy. Dyspnea related to pulmonary parenchymal toxicity from chemotherapy should be managed with discontinuation of the chemotherapeutic regimen and institution of steroids [16]. The urgency of administering treatments, in an attempt to mitigate deterioration, can also result in under-preparation of patients and families at the end of life and patients become less likely to die in their preferred place of death. Early links with palliative care teams improve the timing of final chemotherapy administration and transition to hospice services. Studying the treatment decision-making process, alongside the patient clinical pathway, helps to understand the interaction of factors at different levels and how these influences the success or the failure of patient-centred care in the context of these very sensitive consultations [19]. Brutsche et al. studied 144 patients with advanced NSCLC who received palliative chemotherapy. They evaluated whether central airway obstruction was a negative prognostic factor. Median survival period was 8.4 months for patients without airway obstruction and 8.2 months in patients with central airway obstruction. Significant differences in this aspect were not observed. Central airway obstruction does not seem to be a bad prognostic factor but in order to improve the quality of life the introduction of the stent is justified [20].

Palliative Surgical Management of Lung Cancer:

Historically, palliative surgery has not been offered for patients with advanced cancer. It was argued that this approach extends the hospital stay, increases medical costs, causes more frequent complications and higher mortality [21]. Palliative surgical procedures are carried out to relieve pain or restore organ function in order to ensure optimal patient QL up to death. Another purpose of this procedure is to improve the response to other treatments such as chemotherapy and radiotherapy, increasing their efficiency and prolonging survival free of cancer progression [22].

Surgical intervention may be beneficial in patients with lung cancer, if there is airway obstruction, hemoptysis, pleural or pericardial exudate, or metastases to the brain or bone. Symptoms such as severe breathlessness, wheezing, or hemoptysis need rapid implementation of bronchoscopy. Changes

inside the airway lumen or airway pressure from the outside may be the causes of airway obstruction. Bronchoscopy could be very effective in these cases [23].

Palliative surgical treatment in patients with advanced cancer includes tumor bypass procedures, endoscopic procedures, partial resection of the tumor, and the removal of metastases. Surgical intervention may be beneficial in patients with lung cancer, if there is airway obstruction, hemoptysis, pleural or pericardial exudate, or metastases to the brain or bone [24]. According to Hanna et al., the best clinical results of palliative surgery are achieved in patients whose expected survival is at least three months and performance status according to Karnofsky exceeds 50% [25].

Palliative Radiotherapy in Lung Cancer:

Palliative radiotherapy remains an important and commonly used form of treatment for patients with lung cancer. Palliative radiotherapy is used to treat symptoms arising from the primary cancer or sites of secondary spread. Palliative radiation therapy can be used throughout the course of lung cancer: prior to surgery, along with chemotherapy, or as an independent treatment modality. Radiation therapy can be used as primary treatment of a lung cancer in settings where surgery is not indicated, because of location of tumor, advanced stage, comorbidities, or patient preference [26].

The primary cancer may be treated when it causes symptoms such as breathlessness due to endobronchial obstruction or vascular obstruction, persistent cough, haemoptysis and chest pain. Radiotherapy regimens vary from single to multiple fractions and are given in high dose where the aim is to substantially reduce the size of the cancer. Secondary sites are normally treated with radiotherapy if they are causing pain. Symptoms respond in around two-thirds of patients [27].

Radiation therapy has a wide spectrum of complications, depending on site, dose, method of dosing, and co-morbid conditions. Although it is very uncommon for patients to die as a complication of radiation therapy, radiation pneumonitis can cause cough, shortness of breath and even death in a small percentage of patients. Spontaneous rib fractures can occur following a radiation treatment of the chest. Radiation-induced mucositis, esophagitis and skin changes are common complications, and radiation therapy effect on the heart and lung can combine with loss of function secondary to comorbid conditions

and lung resection to impair cardiorespiratory function [28].

During the analysis of 1250 patients with NSCLC treated with palliative radiotherapy satisfactory results were achieved. As many as 92% of them tolerated this method of treatment. Relief of symptoms was observed in 54% of patients for cough, 68% for hemoptysis, 51% for chest pain, 38% for dyspnea, 12% for hoarseness and 8% for dysphagia. Early treatment of toxicity has been implemented in 4.6% of patients and consisted of pneumonia in 2.3%, intense nausea and vomiting in 0.6%, and severe inflammation of the esophagus in 0.5% of patients [29].

Other Palliative Management Options:

The broad term of “supportive care” for patients with advanced lung cancer can include a variety of medical, psychological and alternative therapies, all of which can aid in the palliation of symptoms. One medical example would be the use of blood transfusions, which can alleviate fatigue and dyspnea associated with anemia, as well as improve quality of life. The panelists agreed that all symptoms should be assessed and managed at a basic level, with special attention to common oncologic symptoms of pain, nausea, vomiting, diarrhea, and dyspnea. Interventions such as guided imagery, breathing techniques, educational tools can have a positive impact on common psychologic symptoms such as anxiety and depression that undermine quality of life [30]. Alleviating discomfort often requires several treatment modalities to reach an acceptable goal of palliation. Clinicians should evaluate for potentially correctable causes of discomfort, and proceed with non-interventional symptom management if no cause can be identified [31].

Models for delivery of palliative care vary by institution, and may include specialty-trained physicians, nurses, physical therapists, psychologists, nutritionists, and social workers. The palliative care team can assess and address disease-related symptoms in the outpatient, inpatient, and in-home settings, depending on the availability of services [32].

End-of-Life Care:

Care near and at the end of life for patients with metastatic cancer is often aggressive. In a study evaluating end-of-life care in patients with advanced NSCLC, up to half of the patients studied were found to undergo aggressive care measures within the last month of life, including emergency room visits, hospital admissions, and anticancer therapy [33]. In

patients with metastatic cancer, aggressive care at the end of life has been linked with poor outcomes and overall poor perceptions of care for both patients and their caregivers. Patients are often enrolled onto palliative care and/or hospice late in the disease course, and many patients with advanced lung cancer are never enrolled on hospice [34]. It is important, however, to be able to manage this phase of life well because a great deal of suffering can occur at this time, not only for the patient, but also for those who love and care about the person who is dying.

Providing physical treatment is seen as being easier than having to confront distraught patients and families with end-of-life discussions. Making clinical decisions for patients with advanced cancer who are approaching the end of life can be challenging, and at times, pose moral dilemmas for the clinical team. This is because as health professionals, there is a perceived duty to preserve and uphold the sanctity of life. At the same time, clinicians also have a duty to act in the best interest of the patient [35].

CONCLUSION:

Palliative treatment is an important component of lung cancer treatment. It should also be a standard for other life-limiting illnesses. Early integration of palliative care should be standard of care in advanced lung cancer, and ultimately in all advanced malignancies. Further investigation is needed to identify the optimal methods to deliver palliative care to patients with advanced malignancies, but it is likely best to include multidisciplinary approaches and universal access to patients in need.

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