Palliative Care and Interventional Pulmonology

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KEYWORDS

• Palliative care • Interventional pulmonology • Chronic obstructive pulmonary disease
• Lung cancer • Bronchoscopy

KEY POINTS

- Lung cancer and chronic obstructive pulmonary disease are among the leading causes of death worldwide. Unfortunately, these patients are at high risk of having unmet palliative care needs.
- Non-interventional therapies, including opioids, antibiotics, antifibrinolytics, exercises, and so forth, should be tried to palliate symptoms, such as dyspnea, cough, and hemoptysis.
- Many of these patients will be candidates for invasive pulmonary interventions with palliative intent.

INTRODUCTION

The World Health Organization defines palliative care as "an approach which improves the quality of life of patients and their families facing life-threatening illnesses, through the prevention, assessment and treatment of pain and other physical, psychosocial and spiritual problems."[1] Because pulmonary pathologies, such as lung cancer and chronic obstructive pulmonary disease (COPD), are some of the leading causes of morbidity and mortality around the world, pulmonologists are likely to encounter patients with unmet palliative care needs.[2,3] This article focuses on the symptoms and complications encountered by patients with terminal pulmonary conditions, briefly describes the non-interventional palliative strategies, and then discusses more advanced therapies available in the realm of interventional pulmonology. Most of the literature discussed here is derived from patients with lung cancer and COPD.

Malignant and Nonmalignant Pulmonary Disease Burden

Lung cancer is not only the most common cancer but also the most common cause of cancer-related deaths in the world.[4] Unfortunately, for 79% of patients, the diagnosis is made in stages III and IV.[5] At these stages, the 5-year survival is only 9.5% to 16.8%. At the same time, chronic lower respiratory tract diseases are the third leading cause of death in the United States. In fact, COPD is the only major cause of worldwide mortality, whose age-adjusted mortality is increasing.[6] Other nonmalignant pulmonary diseases, such as interstitial lung diseases (ILDs), cystic fibrosis, and pulmonary hypertension, are also associated with significant disease burden.[7]

Symptoms Encountered

The symptoms most commonly encountered by patients with lung cancer include pain, dyspnea,

Conflict of Interest: The authors have no conflict of interest to declare.
Funding Sources: The authors have not received any funding.
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Clin Chest Med 39 (2018) 57–64
https://doi.org/10.1016/j.ccm.2017.11.001

cough and restlessness.[8–10] One symptom in particular that merits special mention is the presence of terminal secretions (also known as *death rattle*). It results from the pooling of secretions at the back of the throat and airways and typically heralds the last few hours to days before death.[11] The causes of dyspnea in advanced lung cancer include parenchymal destruction, airway obstruction, pleural effusions, pulmonary embolism, superior vena cava obstruction, muscle weakness, and so forth.[4] Symptoms from nonmalignant pulmonary diseases overlap the symptoms previously described for malignant diseases. In fact, some studies suggest that the symptom burden of nonmalignant diseases may even be higher than malignant diseases.[12] Although dyspnea is the most serious symptom encountered in COPD, other symptoms include fatigue, depression, anxiety, weight loss, and insomnia.[13]

Why Palliative Care?

The goal of palliative care is to relieve the suffering experienced by the patients and their caregivers. This relief is accomplished by comprehensive assessment and management of afflictions in physical, psychosocial, existential, and spiritual domains.[3] The role of palliative care just does not end there. As Dame Cicely Saunders, father of the modern hospice movement, famously said: "How people die lives on in the memories of those who live on."[4] In line with this spirit, after patients pass away, palliative care focuses on providing support to the bereaved family.[14] Recent studies have shown that instituting palliative care is associated with greater use of symptom control medications and improved quality-of-life scores.[15]

The common practice has been of following a dichotomous approach, whereby the patients would initially get aggressive life-prolonging or curative therapies and at some point they would be transitioned to palliative care. The Center to Advance Palliative Care has countered this notion. They have advocated that palliative care is appropriate at any age and stage of a serious illness and can be provided along with curative treatment.[16] Temel and colleagues[17] reported a trial of newly diagnosed metastatic non–small cell lung cancer whereby patients were randomized to either palliative care with standard oncologic care or standard oncologic care alone. The patients in the early palliative care group had improvements in the quality-of-life and depression scores. Interestingly, these patients were less likely to receive aggressive therapies and yet their median survival was longer than patients receiving standard oncologic care alone. Other investigators have also reported improved 1-year survival with early palliative care consultation.[18] Despite these unequivocal benefits, unfortunately, trends show that palliative care is underutilized and the proportion of patients getting aggressive medical therapies toward the end of their lives is increasing.[19]

Underutilization of Palliative Care

There are multiple reasons behind the underutilization of palliative care. Firstly, significant knowledge gaps exist when determining the most potent and cost-effective palliative care interventions. Aslakson and colleagues[20] determined key areas that should be the subject of future research to address these knowledge gaps. Secondly, even though the availability of palliative care has increased over the last few years, significant disparities still exist globally.[21] Even within developed countries, comprehensive palliative care teams are less likely to be available in safety-net hospitals. As a result, ethnic minorities, immigrants, and underprivileged patients face greater barriers to seeking palliative care. Thirdly, often times, no distinction is made between palliative care on the one hand and hospice and end-of-life (EOL) care on the other.[22] Although hospice care is generally reserved for patients in their last 6 months of life, palliative care is appropriate at any stage of a serious illness.[23] Given this confusion in terminology, patients are likely to have misconceptions that by opting for palliative care, they will be deprived of other potential disease-modifying therapies. It needs to be emphasized to the patients that although palliative care is an indispensable component of high-quality EOL care, it should not be limited to just the EOL.[3] Fourthly, patients and at times even physicians tend to think that palliative care is only appropriate for patients with cancer. Brown and colleagues[24] reported that among the patients dying in the intensive care unit, patients with COPD and ILD received fewer elements of palliative care as compared with the patients with lung cancer. Other investigators have also reported discrepancies in palliative care involvement and EOL care discussions in patients with COPD. Palliative care should be embraced for all patients with life-threatening illnesses, regardless of their cancer status.[7]

Some of the aforementioned issues can be addressed by increasing awareness regarding the role and scope of palliative care among primary care physicians, pulmonologists, and oncologists, so that they may, in turn, be more open to having this discussion with their patients. Investigators have also looked at other innovative strategies to enhance the delivery of palliative care. One such strategy is to increase the availability of palliative