Palliative Care and Dyspnea

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Dyspnea is a frequent focus of palliative care, which nurses can better address using the skills of comprehensive assessment and an updated knowledge base about appropriate medical, pharmaceutical, and nonpharmaceutical interventions. A solid clinical foundation about dyspnea allows clinicians to establish an effective plan of care. This column features two clinical case studies, which review clinical assessment in palliative care and appropriate targeted treatment strategies and interventions.

The American Thoracic Society (ATS, 1999) defined dyspnea as an uncomfortable awareness of breathing. Patients sometimes refer to dyspnea as shortness of breath, air hunger, or a smothering sensation. Those descriptors are not always associated with hypoxia or decreased oxygen saturation, specifically less than 90%. Patients can experience hypoxia and dyspnea together or separately.

An estimated 15%-70% of patients with cancer experience dyspnea (Dudgeon, Kristjanson, Sittl, & Clement, 2001; Dudgeon et al., 2010; Klein, Lang, Bükkí, Sittl, & Ostgathe, 2011). The cause of dyspnea in patients with cancer may or may not be related to the cancer itself. Dyspnea related to cancer can be a result of lung cancer (primary or metastasis), pulmonary toxicity related to chemotherapy or radiation treatments, or surgical treatments to the thoracic cavity and effusions (Joyce, 2010).

Although a patient's history of cancer may not suggest a risk for dyspnea, many noncancer factors increase the risk of dyspnea, including diagnosis or history of asthma, chronic obstructive pulmonary disease (COPD), allergies, anxiety, congestive heart failure (CHF), and smoking (Dudgeon et al., 2001). Dyspnea also increases at the end of life, frequently signaling to clinicians that the change in respiratory status means death is imminent.

Assessment

With multiple risk factors associated with dyspnea, a thorough assessment identifying its causes leads to appropriate and effective treatment options. Figure 1 lists objective and subjective areas of assessment.

Dyspnea assessment should begin by asking the patient if he or she is short of breath. At the end of life, patients' cognitive function often declines, leaving them unable to respond to yes or no questions. One assessment tool to use with unresponsive or cognitively impaired patients is the Respiratory Distress Observation Scale (RDOS). The RDOS is an ordinal scale that uses eight parameters, allowing the clinician to rate dyspnea based on their own observations of the patient (Campbell, Templin, & Walch, 2010).

Assessments can suggest the cause of the dyspnea. For example, if the patient has a long-standing COPD history, he or she may show signs of clubbing on finger tips. If a pleural effusion is present, lung sounds may be absent or diminished (Joyce, 2010).

Treatment

Guidelines for palliative care recommend that initial treatment for dyspnea should target the underlying cause—cancer or noncancer related (National Comprehensive Cancer Network [NCCN], 2013). Then, relief of symptoms can proceed. With a confirmed effusion, the treatment of choice usually is fluid removal. If accumulated fluid is a pleural effusion, thoracentesis is ordered (Joyce, 2010). Typically, the procedure is performed at the bedside or in a procedural area (e.g., interventional radiology).

During thoracentesis, a needle is inserted into the effusion area and fluid is drawn out. Pathology review of the fluid determines the cause of the fluid collection. If the evaluated fluid is related to malignancy, the effusion will likely return. If a patient is having multiple procedures to drain the effusion, the physician may order placement of an indwelling catheter to manage the malignant effusion.

A hypoxic patient is treated with oxygen therapy. When patients are anxious, benzodiazepines are a treatment option (NCCN, 2013). If inflammation is present, corticosteroids may be ordered (Klein et al., 2011). The inflammation could be related to a malignancy, allergies, or noncancerous pulmonary conditions.

At the end of life, excess secretions can be present, often referred to as the "death rattle." Scopolamine, atropine 1% sublingual drops, and glycopyrrolate all have been shown to be effective treatments (NCCN, 2013). With known or unknown etiology for dyspnea, opioid treatment can decrease symptoms. For cases of confirmed effusion when the patient is waiting for thoracentesis, opioid treatment can help...
Clinical breathing strategies can promote effective lung function, feelings of relaxation, and pacing to prevent rushing ultimately can worsen dyspnea (Joyce, 2010). When dealing with dyspnea at the end of life, the use of a fan or air flow across the face can reduce dyspnea by stimulating the trigeminal nerve (NCCN, 2013). As with patients with COPD, positioning and sitting patients upright and leaning forward can help reduce symptoms (Joyce, 2010).

Keep in mind that patients experiencing dyspnea report subjective symptoms; no definitive objective dyspnea measures exist. Assessments can provide clues to the possible cause of shortness of breath or exacerbation. Because almost 90% of patients experience dyspnea just before death, the clinician’s challenge is to reduce the patient’s suffering prompted by dyspnea (Dudgeon et al., 2001).

Case Study 1

Mrs. S is a 67-year-old patient with breast cancer. During the past few weeks, she has experienced an increase in fatigue and shortness of breath. Five years ago, Mrs. S was initially diagnosed with stage III breast cancer. During those five years, she has received numerous cycles of chemotherapy through a Port-a-Cath®, radiation, and surgical treatment. In the past two years, Mrs. S has lost 20 pounds from her prediagnosis weight of 150 pounds.

Recent diagnostic testing shows new metastases in the lung, bone, and brain. Mrs. S also has bilateral pleural effusions. Mrs. S is considering changing her goal of care from control to palliation.

Objective Assessment

The patient has a heart rate of 120 beats per minute, temperature of 98.8°F, respiratory rate (RR) of 25 breaths per minute, and a pulse oxygenation level (PO2) of 89%. As expected, lung sounds are diminished bilaterally.

Subjective Assessment

Mrs. S is currently experiencing shortness of breath and is distressed because of its impact on her quality of life. During inspiration, she reports pain of 7 on a scale ranging from 1 (mild pain) to 10 (severe pain). Mrs. S says she just wants to be comfortable.

Case Study 2

Mr. B is a 70-year-old man recently evaluated in the emergency room for severe shortness of breath, hemoptysis, and fever. He has smoked since age 15 years and currently is diagnosed with COPD and asthma. After chest x-ray and computed tomography scans, Mr. B is diagnosed with confirmed bilateral pneumonia. Mr. B also has a suspicious mass in his lower right lung. After biopsy, Mr. B is diagnosed with small cell carcinoma of the lung. A magnetic resonance image of the brain also reveals multiple brain lesions.

Objective Assessment

Mr. B has a heart rate of 110 beats per minute, temperature of 100.1°F, RR of 25

Nonpharmacologic Treatment

When treating dyspnea, interventions include pharmacologic as well as nonpharmacologic options. Despite effective outcomes with nonpharmacologic treatments, patients and family members may perceive that physician-prescribed treatments are more effective than patient or clinician-initiated interventions and need to be educated about the benefits of both approaches.

Effective nonpharmacologic interventions include breathing exercises and coaching patients on diaphragmatic, deep, and pursed-lip breathing. Those breathing strategies can promote effective lung function, feelings of relaxation, and stress reduction (Cairns, 2012).

When dyspnea is chronic—requiring patients to adapt to life with dyspnea—energy conservation, prioritizing activities, and pacing to prevent rushing ultimately can worsen dyspnea (Joyce, 2010). When dealing with dyspnea at the end of life, the use of a fan or air flow across the face can reduce dyspnea by stimulating the trigeminal nerve (NCCN, 2013). As with patients with COPD, positioning and sitting patients upright and leaning forward can help reduce symptoms (Joyce, 2010).

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Objective Assessment

Mr. B has a heart rate of 110 beats per minute, temperature of 100.1°F, RR of 25
breaths per minute, and a PO2 of 90%. The patient’s color is dusky, and his hands show signs of clubbing. In addition, Mr. B appears malnourished.

Subjective Assessment

Mr. B is feeling “smothered” and cannot catch his breath. With the recent confirmed diagnosis of lung cancer, he is visibly distressed. He is not sure what he wants to do. He states that his brother recently died of lung cancer and he remembers his deterioration after chemotherapy treatment. Mr. B states he is not sure if he wants to go that route.

Later in the evening, Mr. B's dyspnea worsens and his oxygen saturation drops to 85%. Oxygen therapy is initiated at 2 L per nasal cannula; oxygen saturation increases to 93%. Despite his improved oxygenation, Mr. B's dyspnea remains. Based on earlier discussions with him, Mr. B's dyspnea could be related to anxiety.

Mr. B denies any pain. He currently takes corticosteroids for his brain metastasis. He may benefit by taking the ordered alprazolam 0.5 mg every eight hours PRN for anxiety. Other treatments to consider would be breathing exercises and positioning, particularly because of his COPD history. To further address his anxiety, consults to a chaplain or palliative care could be initiated.

Conclusion

Dyspnea is a very common and distressing symptom for patients with cancer. Keen assessment skills aid clinicians in providing appropriate treatment interventions. Because the cause of dyspnea can be multifactorial, treatment options include pharmacologic, surgical, and nonpharmacologic interventions. Clinical knowledge about dyspnea etiologies, assessment skills, and treatments better equip clinicians to provide effective palliative care for patients with cancer.

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References


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