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Palliative Care in Heart Failure

The incidence and attributable costs of heart failure are significant. Chronic heart failure (CHF) is increasingly and appropriately being evaluated for means to ensure cost-effective resource utilization. A key strategy incorporates palliative care as described in its currently appreciated and broader, more accurate definition (see right). A successful palliative care plan addresses factors across a range of disciplines, including if and when to transition the patient to hospice.

This continuing educational offering will address common symptoms of chronic heart failure and how they can be managed within a palliative care plan, including the use of such therapies as inotropes and pain management.

Heart Failure

A continued rise in the incidence of heart failure in the United States is anticipated. This is no surprise given our aging population — CHF is primarily a syndrome of the elderly — as well as today's earlier diagnoses for many patients.

According to the American Heart Association, heart failure diagnosis and treatment in the U.S. contributes to:

- 6.6 million adults diagnosed (2.8%), with an additional 3 million people diagnosed by 2030
- 670,000 new diagnoses each year
- ~1.1 million annual hospital discharges
- >3.6 million office/ER visits
- Annual direct costs = $39.2 billion[1]

Clearly the impact on resource utilization management is significant. Also significant is the opportunity for improving and maintaining quality of life for patients and their families; this is where palliative care makes a real difference.

Palliative Care

The World Health Organization (WHO) originally defined palliative care as:

"…an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early intervention and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual."[2]

WHO has since modified its definition to incorporate the role of palliative care as follows:

"…early in the course of illness, in conjunction with other therapies that are intended to prolong life."[3]

Palliative care is essentially the umbrella of care management, from diagnosis through treatment and potentially to end of life (which may include hospice). While the discipline of palliative care historically focused on end-of-life care, it is now recognized as meeting needs throughout the patient's care. There are typically spikes of need; for example, the patient may experience more symptoms or side effects at times, or may have a setback in the healing process. Over time, the needs may progress to the point of preparing for death, and attention to the bereavement process becomes a need for many families.

During the treatment phase, palliative care complements disease-modifying therapy, supporting patients through the emotional and physical challenges often accompanying their diagnosis and treatment. At end of life, palliative care may appropriately focus on helping patients live their last days with comfort and dignity as they and their families prepare for death.

The goal of palliative care, even at the point of hospice, is neither to hasten nor delay death, but to reduce and/or manage the symptoms of disease and to support a quality care process for both patients and their families. Interventions are incorporated which:

- Are applicable early in the course of illness, in conjunction with prescribed therapies intended to prolong life, and directed towards providing relief from pain and other discomforting symptoms.
- Help improve disease outcomes as possible.
- Affirm life.
- Consider dying a normal process.
- Integrate psychological and spiritual aspects of patient care.

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- Offer a support system to help patients live as actively as possible and help the family cope during the patient's illness and in their own bereavement, should that be the ultimate outcome.

Palliative Care in Heart Failure

Recognizing a need, the Palliative Care – Heart Failure Education and Research Trials (PC-HEART) Collaborative research network was formed in 2003. This network was created as an outgrowth of the consensus conference on Palliative and Supportive Care in Advanced Heart Failure, its goal to understand and optimize heart failure care. Also, in recognition of the small percentage of heart failure patients referred for palliative care, the American College of Cardiology / American Heart Association amended their heart failure guidelines to include palliative/hospice care referral for end-stage heart failure (Level of Evidence 1A).[4] These guidelines recommend ongoing discussion with patients and families about prognosis, advance directives, palliative and hospice care, the option to deactivate implantable cardiac defibrillators (ICDs), and the provision of care geared toward symptom management, including use of opiates.

CHF patients experience multiple symptoms, which are explainable given the accompanying physiologic changes of cardiac dysfunction. Patients' symptoms may impact both their ability to perform activities of daily living (ADLs) and their quality of life (QOL). With its unique illness trajectory, CHF patients are often highly symptomatic, are often disabled, and have a significant risk of sudden death.

The symptom burden of CHF may include:

- Shortness of breath (dyspnea)
- Paroxysmal nocturnal dyspnea
- Fatigue
- Pain

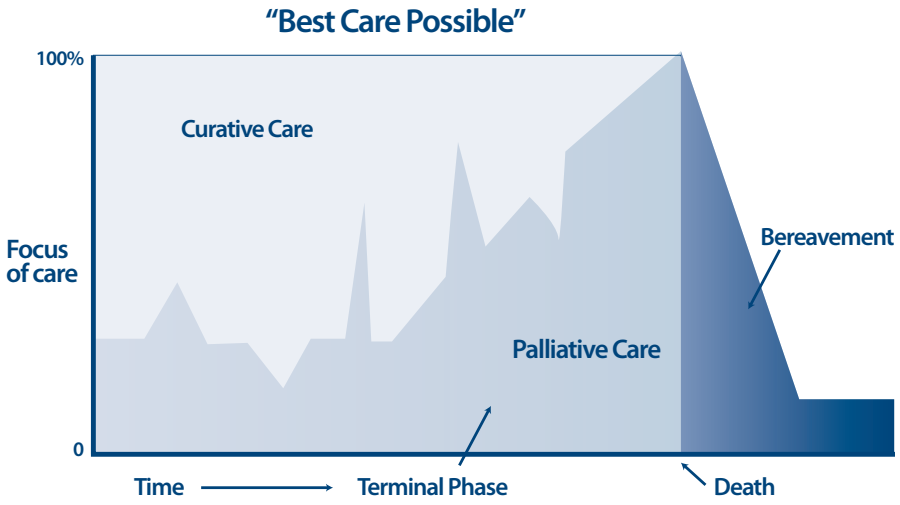

Table 2

- Depression
- Cognitive impairment
- Dependent edema
- Persistent cough
- Decreased appetite
- Nausea
- Tachycardia
- Risk of sudden death

Some symptoms may overlap with comorbidities and/or may be impacted by depression and the patient's perceived lack of control over their condition. For a significant percentage of CHF patients, death from heart failure is the ultimate outcome.

With heart failure, much can be done to meet the goals of palliative care and help patients manage their expectations and prepare as they progress through their illness. The American College of Cardiology (ACC) and the American Heart Association (AHA) have established criteria for palliative care referrals that includes the following:

- Patient is aware of diagnosis.
- Patient presents with advanced heart failure:
  - NYHA (New York Heart Association) Stage 3 or 4
  - ACC/AHA (American College of Cardiology/American Heart Association) Stage D
    - Ongoing physical or psychological symptoms despite maximal medical therapy, including at rest
    - Advanced left ventricular enlargement
- Patient is not a candidate for cardiac resynchronization therapy (CRT) or heart transplantation.
- Life expectancy is anticipated to be less than 12 months.
- Patient has had three hospital admissions within the last twelve months with symptoms of decompensated heart failure.

Unlike oncology patients, for example, CHF patients typically continue to take all of their heart medications as long as they can tolerate them, even as they reach end stage. New medications may even be started.

Symptom Management

Dyspnea. Diuretics are the cornerstone of therapy for shortness of breath. If patients develop increasing levels of diuretic resistance, aquapheresis may be considered. Opioids and/or oxygen may be prescribed. Inotropic therapy may be appropriate in select patients.

Pain. Pain is common in end-stage heart failure, although often underappreciated

and undertreated. Successful palliative or hospice care should ensure freedom from pain. Opioids such as morphine are typically prescribed as first-line therapy for moderate to severe pain. Morphine is effective at treating both pain and dyspnea and its administration does not necessarily accompany end of life. Morphine relaxes the chest wall muscles, dilates pulmonary blood vessels, and reduces the central nervous system's sensation of breathlessness. Other opiates such as methadone may be effectively substituted, although methadone may increase the QT interval. As with pain management in general, maintaining adequate blood levels of pain medications with "around-the-clock" administration is more effective for overall pain control as compared to PRN dosing.

Depression. Typically, the more severe the heart failure, the greater the rate and severity of depression. Severe depression can lead to increased morbidities and rehospitalizations, resulting in both higher mortality and cost. In order to manage depression, it is essential to address uncontrolled symptoms such as pain and dyspnea simultaneously. Patients may benefit from antidepressant prescription; however, given the risk of hyponatremia with some agents, electrolyte monitoring is required with this treatment. Psychotherapy and/or cognitive behavioral therapy may be effective adjunctive therapy as well.

Fatigue. The treatment of fatigue requires assessment of and intervention for possible secondary causes. These may include conditions such as anemia, infection, dehydration, electrolyte imbalance, thyroid dysfunction, and depression. In the case of primary fatigue, stimulants may be prescribed with or without physical therapy. If sleep apnea contributes to fatigue, noninvasive therapies such as medications may be used; these include stimulants, such as methylphenidate. Non-pharmacological techniques may also be used, such as training in energy conservation and aerobic exercise. Sleep apnea can also be treated with noninvasive ventilation such as continuous positive airway pressure (CPAP).

Palliative Care

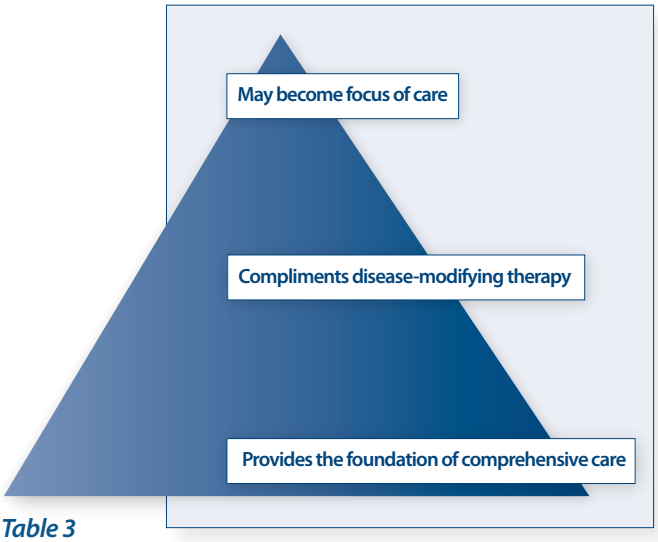

Table 3

Edema. Edema may cause significant discomfort. Diuretics are the primary treatment option; other treatments include compression stockings for lower-extremity edema or paracentesis for refractory ascites.

Cognitive changes. These are often the result of electrolyte imbalance, primarily hyponatremia, which can be addressed through electrolyte monitoring and appropriate intake.

Tachycardia. This is a compensatory mechanism for decreased cardiac output and typically requires pharmacologic intervention.

Sudden death. Given that approximately one-half of CHF patients die suddenly as opposed to from progressively worsening cardiac function, the risk of sudden death must be proactively addressed with the patient and family.

As symptoms worsen, re-assessment of medications and other interventions is paramount, with evaluations addressing the goals of care. Therapies that provide symptom relief should be maintained. Therapies that are ineffective or burdensome should be discontinued. New therapies may be added, along with the use of response monitoring.

Inotropic Therapy in Palliative Care

Inotropic agents may be indicated for:

1. Short-term treatment of acute heart failure syndrome that is unresponsive to adequate doses of diuretics, especially when associated with systemic hypotension,
2. Bridge to recovery (e.g., as following myocarditis),
3. Bridge to definitive treatment (e.g., a heart transplant), or
4. Palliation when symptomatic relief is the agreed-upon goal.

Intravenous inotropes (milrinone or dobutamine) may be considered to relieve symptoms and improve end-organ function in patients with advanced HF characterized by LV dilation, reduced LVEF, and diminished peripheral perfusion or end-organ dysfunction (low output syndrome), particularly if these patients have marginal systolic blood pressure (<90 mm Hg), have symptomatic hypotension despite adequate filling pressure, or are unresponsive to, or intolerant of, intravenous vasodilators. HFSA 2010 Guidelines[5]

While many patients face significant adverse effects — such as hypotension, new arrhythmias and risk of sudden death — from the use of inotropic medications, inotropes do support an improved quality of life. Patients experience significant symptom relief while on these agents, thereby meeting the critical goal of palliative care: improved QOL. In fact, the most recent heart failure guidelines reinforce the acceptability of long-term inotrope infusions "purely for palliative care" (a Class IIb indication).[6,7] Patients on inotropes can be discharged home without congestive and other symptoms. Patient education must include acknowledgement that inotropic therapy is not curative and, in fact, may increase the overall risk of death. Patients can make an informed decision regarding the risk/benefit ratio.

Implantable Cardioverter Defibrillators in Palliative Care

Implantable cardioverter defibrillators (ICDs) are considered the treatment of choice for the treatment of potentially life-threatening arrhythmias, which may occur with CHF. ICDs also reduce the likelihood of death from the arrhythmia. However, the patient experience is often fear- and anxiety-provoking, due to factors such as the sensation of the shock itself, device malfunction, fear of pain or embarrassment, or even fear of death. As heart failure worsens, patients are likely to receive more frequent shocks, which contributes to more pain and anxiety. In advanced heart failure when death is near, patients and families may choose to have the ICD deactivated. As with all aspects of care, informed decision-making is essential.

Another treatment — cardiac resynchronization therapy — has been shown to improve quality of life. It may be appropriate to continue biventricular pacing, even if or when the decision is made to turn off an ICD.

Progression to Hospice Care

Predicting death in the heart failure population is often difficult given the illness's uncertain trajectory, including risk of sudden death; thus, it is difficult to calculate a distinct time of transition from palliative care to hospice. Recognizing hospice care as palliative care at the end of life, with the inevitable worsening clinical condition and impending death, a hospice care plan should continue to focus on symptom management and incorporate preparation for and through death and bereavement. For example, ICDs may be deactivated. Inotropic therapy may continue if appropriate for symptom management, or be withdrawn when imminent death is anticipated. The focus is on patient and family comfort, preparation and support.

Summary

Given the significant incidence, costs and negative patient experiences with chronic heart failure, it is important to understand and incorporate palliative therapies in the patient's care plan. A multidisciplinary approach is necessary to successfully help patients and their families manage symptoms and support their dignity and quality of life. Communication and reviews of care management strategies, which must be based on informed consent and patient choice, are incorporated throughout the course of care, with modifications made as the patient's clinical condition changes.

Considerations for Palliative Care Planning

- Goals of care, including desired symptom relief
- Site of care
- Care delivery requirements
- Symptom management
- Family and caregiver needs and capabilities
- Education regarding likely disease course and management of anticipated and potential events
- Physical, psychosocial and spiritual needs
- Preferences for end-of-life care

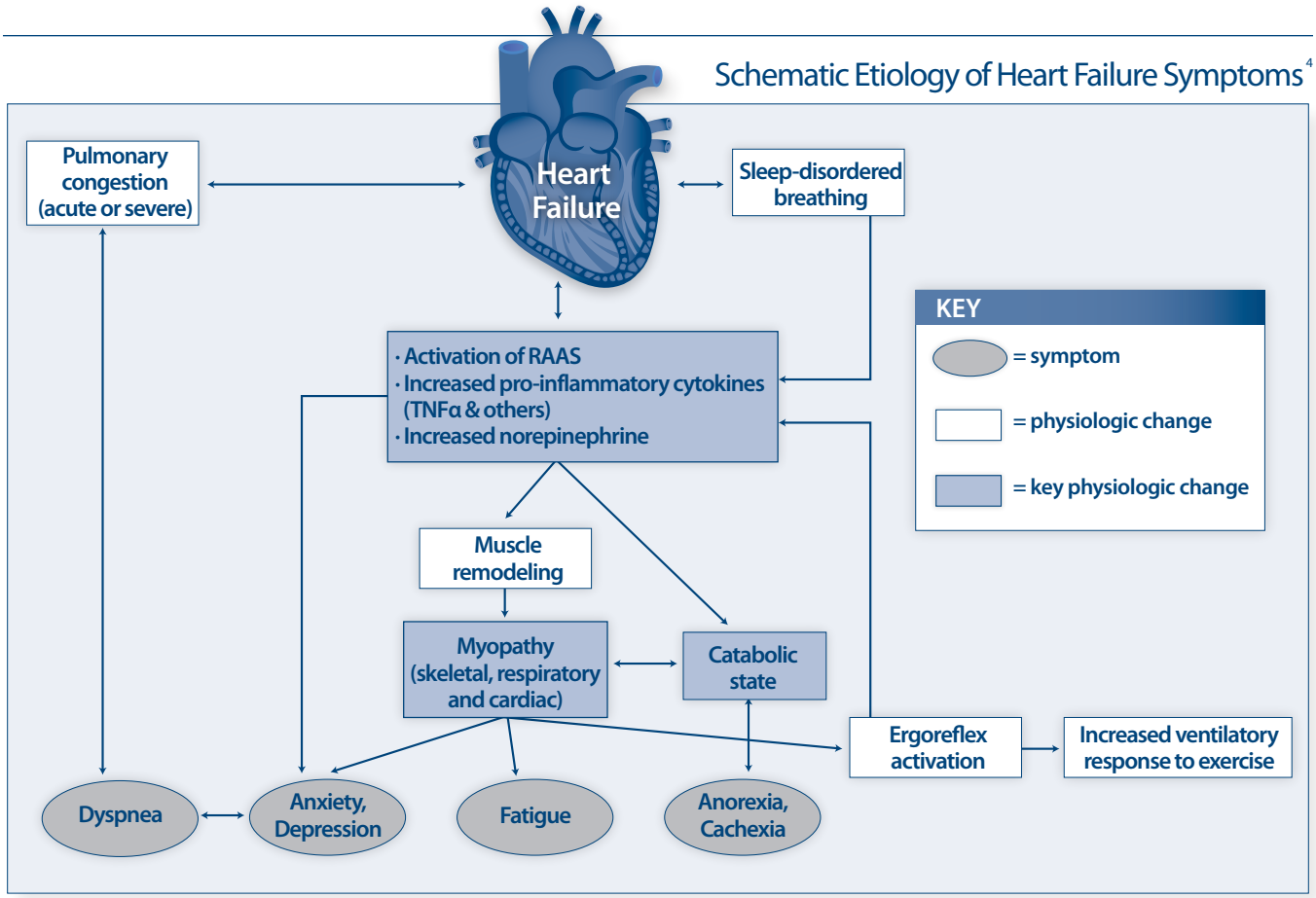

Table 4

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Additional Resources

1. Lynch B, Paice J. Pain and palliative care needs of cancer survivors. *J of Hospice and Palliative Care Nursing*. 2011;13(4):202–207.
2. Wittenberg-Lyles E, Goldsmith J, Ragan S. The shift to early palliative care: A typology of illness journeys and the role of nursing. *Clin J Oncol Nurs*. 2011;15(3):304–310.

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Palliative Care in Heart Failure

LEARNING GOAL

To understand an inclusive palliative care model for chronic heart failure.

LEARNING OBJECTIVES

Upon completion of this continuing education program, the reader will be able to:

1. Provide a current definition for palliative care.
2. State three symptoms that indicate why palliative care is appropriate in the treatment of heart failure.
3. List two medications that may be prescribed for the palliative care/ hospice heart failure patient.
4. Identify two potential challenges for determining the timing of transition to hospice.

SELF ASSESSMENT QUESTIONS

Circle the correct answer for each question. The passing score is 100%.

1. **A continued rise in the incidence of heart failure in the United States is anticipated due to:**
   a. Our aging population.
   b. The fact that CHF is primarily a syndrome of the elderly.
   c. Earlier diagnosis for many patients.
   d. A and B.
   e. All of the above.

2. **Palliative care is defined as the period immediately preceding hospice.**
   a. True
   b. False

3. **Palliative care:**
   a. Provides the foundation of comprehensive care.
   b. Complements disease-modifying therapies.
   c. May become the focus of care.
   d. B and C.
   e. All of the above.

4. **According to the American College of Cardiology (ACC) and the American Heart Association (AHA), criteria for palliative care referral include all of the following EXCEPT:**
   a. Patient presents at any stage in the NYHA Classification.
   b. Patient remains symptomatic, including at rest, despite maximal medical therapy.
   c. Patient is a candidate for heart transplantation.
   d. Life expectancy is anticipated to be less than 12 months.
   e. A and C.
   f. B and D.

5. **A key goal of palliative care is to reduce or manage the symptoms of disease.**
   a. True
   b. False

To obtain two contact hours toward CE credit, please circle the correct answer (on the back) for each question and forward to:

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6. **Many CHF patients:**
   a. Are highly symptomatic.
   b. Are disabled.
   c. Have a significant risk of sudden death.
   d. A and C.
   e. All of the above.

7. **Pain is common in end-stage heart failure.**
   a. True
   b. False

8. **Inotropic agents may be prescribed for palliative care.**
   a. True
   b. False

9. **Inotropic agents may be prescribed during hospice care.**
   a. True
   b. False

10. **ICDs are commonly used with inotropic therapy for palliative care.**
    a. True
    b. False

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ANSWERS
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Mark answers below to receive continuing education credit.

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