Competencies in Palliative Care for Cardiology Fellows

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An 87-year-old man with a history of coronary artery disease, and having had 1-vessel coronary artery bypass surgery 10 years prior to admission, was admitted in a severe coma to the cardiovascular intensive care unit (CCU) for an acute myocardial infarction complicated by cardiogenic shock. He was intubated and started on inotropic and vasopressor support along with insertion of an intra-aortic balloon pump. Cardiac catheterization revealed 90% stenosis of the proximal left anterior descending artery, and a drug-eluting stent was implanted. However, he remained comatose and dependent on mechanical circulatory support. He rapidly developed acute kidney injury, requiring initiation of continuous venovenous hemodialysis.

On the fourth hospital day, the family reported that the patient had stated on multiple occasions that he would not want to undergo aggressive diagnostic and treatment modalities if he was very sick and the prognosis was grim. The family requested to withdraw invasive and aggressive means of care. All life-sustaining measures were stopped, including inotropes/vasopressors, enteral feedings, the intra-aortic balloon pump, and continuous venovenous hemodialysis. He was provided with pain medication (for pain/dyspnea) and sedatives (for distress), with subsequent extubation. A few hours later, he peacefully passed away.

In this case, intensive care was withdrawn at the family's request. The team and family agreed that this course of action best honored the patient's wishes. It is sometimes painful to us, as physicians, to admit that our interventions do nothing else but prolong patient suffering. We often encounter situations like this during our fellowship training, especially in the CCU, where we deal with sick and complex patients who also have complicated end-of-life issues; thus, the following are some skills that we should seek to master to effectively and compassionately care for our terminal patients.

1. **Prognostication.** Prognostication, along with diagnosis and treatment, is a traditional core clinical skill of every physician (1) and should be part of every clinical encounter. For example, we now know that mortality rates among patients who develop refractory cardiogenic shock range from 50% to 80% and that only one-half of the patients with refractory heart failure who receive mechanical circulatory support survive to hospital discharge (2). However, in patients with compensated advanced heart failure, this is difficult to predict, because unlike many cancers that are characterized by a steep linear decline in performance status during the last few months of life, heart failure is characterized by unpredictable decompensations and improvements, with a subtler decline over time (3). Hyponatremia, hypotension, decline in functional status, and cachexia are associated with an increased mortality risk. Therefore, we should seek to develop a treatment plan but also formulate an individualized prognosis for each of our patients.

2. **Communication.** Most of the time, we avoid telling the patient that he/she has a terminal illness or that, despite optimal treatment, a severe unpredictable decompensation may happen at any time for many reasons. It could be that we might not feel comfortable with our skills or we do not want to be the bearer of bad news. We want to be optimistic and do not want the patient to suffer. However, this is not in the patient's best interest. A study showed that only 37% of patients with advanced heart failure were aware of a poor
prognosis, only 8% of patients and 44% of family members were told by a physician that time was short, and 36% of these patients died alone (3). Patients need to know their prognosis in advance, so they can start discussion about goals of care and also make arrangements for their final days.

3. Discussing goals of care, end-of life care, and resuscitation status. It is challenging to discuss goals of care with these patients. The array of treatment options is broad in cardiovascular diseases and includes a number of technologically invasive therapies. Because there is frequently “1 more thing to try,” shifting the focus of care from life extension to symptom relief can be particularly difficult. It is very important to get a sense—from the patient her-himself or the designated surrogate/proxy—of how the patient wants to spend his or her final days during the struggle with serious illness. There is increased awareness of the existence of the “do not intubate/do not resuscitate” orders in the general population, but very frequently it is not well understood and is mistaken with “do not treat,” leading to the patient’s initial objection to be listed as “do not intubate/do not resuscitate.” They should be made aware that out of 100 patients with in-hospital cardiac arrest, only 22 survive and 16 of those will have good cerebral performance. (They may have mild neurologic or psychological deficit but they will be capable to work [4].) Chances of achieving a good neurological outcome are even less in the setting of organ failure. Because we are the primary team taking care of the patient in the CCU, we should begin discussions around goals of care, which should then be continued by the palliative care team, if needed.

4. Understanding what palliative care actually is. There is controversy regarding the boundaries of the concept of palliative care. Palliative care is not only hospice. Palliative care is any treatment that does not have the goal of being curative. Without knowing it, we also are providing palliative care when managing dyspnea in a patient with advanced heart failure. Palliative care teams make more comprehensive assessment of the patient’s quality-of-life screening for medical problems associated with advance diseases, such as depression/anxiety, fatigue, and deconditioning. They can help with organizing the patient’s family to help with the patient’s care and cope with any symptoms. There is no conflict between the administration of therapies that are intended to prolong survival and nonhospice palliative care. When the patient’s goals are to die peacefully following the natural course of the disease, hospice care would better fulfill the patient’s expectations.

5. Timely referral to palliative care. Guidelines do not specifically address when to refer patients with cardiovascular diseases for hospice/nonhospice palliative care. It would be worthy to consult/refer to palliative care when a patient has stage D heart failure, or has severe valvular disease, or before left ventricular assist device (LVAD) implantation. In patients receiving palliative care (nonhospice and hospice care) and guideline-directed therapies, patient satisfaction is higher.

6. Symptom palliation. As cardiology fellows, we feel most confident with this competency. The mainstay of symptom management in cardiovascular diseases is optimal management of the disease itself, and our training is focused on mastering these skills. However, pain and mood disorders are also common problems that palliative care teams can help to identify and manage appropriately.

7. Deactivation of rhythm control devices. Before implantation of implantable cardioverter-defibrillators (ICDs), clinicians should discuss ICD deactivation with patients, because as heart failure worsens, patients are likely to receive more frequent shocks that cause significant pain and anxiety. However, clinicians infrequently discuss deactivation with patients, and most devices remain active until death (5). If the conversation is started after implantation of these devices, patients may be reluctant to deactivate them. Patients should be educated about their options. For example, we often offer to deactivate the ICD while maintaining full function of the pacemaker. We explain what the difference means for the patient. Before ending the conversation, we ensure that the patient verbalizes understanding. Before destination therapy LVAD placement, patients should clarify what they would want in specific undesired conditions, such as a disabling stroke or organ failure (6). If the conversation is postponed, then the team should discuss with the patient soon after LVAD placement.

Back to our initial 87-year-old male patient, when should the conversation about goals of care and end-of-life care have started for him? It should have started in the outpatient setting. At that time, the patient should have been able to express his wishes coherently and without distress. In addition,
documentation of his advance directives could have been collected and helped guide care decisions. However, what would happen if this patient was brought to the emergency department in a comatose state without any advance directives on file and his loving family wanted him to survive this event? This is why goals of care should be addressed before performing intubation. If it is not done, then it should be done before advanced life support is initiated. If the family is not prepared for the discussion, then pose the question “What would the patient have wanted for his care?”

It is an exciting time to be a cardiologist. Extensive and evolving research has improved our diagnostic capabilities and our ability to extend life. However, many of our patients have progressive worsening disease that we cannot cure. We have been able to delay their death with an acceptable quality of life. We should be able to provide a prognosis when our patients’ time to die is approaching and prepare them for a dignified death.

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RESPONSE: Palliative Cardiovascular Care Is Not an Oxymoron

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Specialists in cardiovascular disease and cardiothoracic surgery develop skills of administering end-of-life care throughout medical school, residency, and fellowship training. In addition to the curative care focus of cardiovascular disease, the “palliative” care focus does warrant attention among trainees. “Palliative care” is often misinterpreted as “giving up” or “accelerating end of life.” True palliation, or providing comfort, actually exemplifies “optimization of quality-of-life care.” As Dr. Munoz-Mendoza discusses, trainees in cardiovascular medicine should master competency in discussing the goal of care with patients throughout the course of training. Importantly, ethical and legal issues related to end-of-life care should be highlighted during training.

Cardiologists are facing increased opportunities and challenges in caring for older patients with complex cardiovascular disease. Advances in treatment of coronary disease, valvular disease, and arrhythmias are extending length of life for cardiac patients. Historically, patients with a diagnosis of congestive heart failure with reduced ejection fraction were the focus of interaction between cardiologists and specialists in palliative care medicine. Since 2009, the National Consensus guidelines have allocated palliative care referrals for patients with stage D heart failure as a Class 1A recommendation. Current use of transcatheter aortic valve replacement and mitral valve repair procedures provide the opportunity to improve the quality of life of patients with severe valvular disease and comorbid medical conditions. Evaluations of pre-operative functional status as well as goals of care are vital components of the cardiovascular discussion. A focus on maximizing quality of life rather than prolonging life is the goal of palliative care medicine.

It was only 11 years ago when a cardiology fellow applied for a second fellowship to the integrated geriatrics

REFERENCES

and palliative care program at Mount Sinai. At the time, a senior cardiologist described the term “palliative cardiovascular care” as an oxymoron. Since then, palliative medicine has become an integral component of care of hospitalized patients. In addition to enhancing communication skills, fellowship training should provide the trainee with adequate knowledge of both ethical and legal aspects of care at the end of life. Understanding patient beliefs and goals of care are paramount. Palliative cardiovascular care is no longer an oxymoron.

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