Palliative Care of the Broken Heart

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Family Medicine Grand Rounds
September, 2010
Palliative Care at Fletcher Allen

- Barb Segal, RN, MS
- Maura McClure, RN, MSN
- Ursula McVeigh, MD
  - Director of Palliative Care Education and Hospice
- Ann Laramee, APRN, MS
  - Cardiology Clinical Nurse Specialist
- Bob Macauley, MD
  - Pediatric Advanced Care Team
Objectives

- To review the principles of primary palliative care for patients with late stage congestive heart failure.
- To know when the palliative care consultation can improve the care of heart failure.
- Case reports will be used to describe the benefits and risks of the newer technical interventions (bridge therapies) for late stage CHF.
Ninety Million Americans Now Have Chronic Life-Limiting Disease

1. Long period of good function with a few weeks of rapid decline (cancer, 20%, ~ 65-75 and older).
To examine the effect of early palliative care integrated with standard oncologic care on:

- Patient-reported outcomes
- The use of health services
- The quality of EOL care among NSCLC pts
“Palliative Care Extends Life, Study Finds”

“Study: Advanced Cancer Patients Receiving Early Palliative Care Live Longer”

“Palliative Care Can Help Cancer Patients Live Longer”

“Cancer strategy: Easing the burden Study shows patients who start palliative care early live longer”

“Palliative care, which helps the gravely ill make the most of the time they have left, provided a surprising bonus for terminal lung cancer patients: More time left to enjoy.”
Ninety Million Americans Now Have Chronic Life-Limiting Disease

(Butler, K: NYT June 20, 2010)

1. Long period of good function with a few weeks of rapid decline (cancer, 20%, ~ 65-75 and older).

2. Slow decline in physical capabilities with serious exacerbations, death can come suddenly (CHF, 25%, ~ 70-80).

3. Long term decline, needing years of personal care (dementia, 40%, 80-90).
What do you think when you are considering end of life care for CHF?

1. Palliative care means it is time to stop cardiac medications and all monitoring.
   - True or false

2. Patients with heart disease are rightfully optimistic about the benefits of CPR since this procedure has dramatically improved in the past 13 years.
   - True or false

3. It is so difficult to determine prognosis in patients with CHF that a hospice referral is rarely appropriate for end of life care.
   - True or false
Prevalence of Cardiovascular Disease in Americans

Source: © American Heart Association 2004
Cardiovascular Disease Mortality Trends for Males and Females

Source: © American Heart Association 2004
Why should Palliative Care focus on CHF?

- There are 500,000 new cases of CHF in the US each year (5m total) and one million hospital admissions.
- Yearly costs are over 30 billion dollars

At Fletcher Allen:
- 30-50% of CHF admissions exceed the Medicare DRG
- An average of 30 patients are admitted to FAHC each month with CHF (predicted 30 day mortality rate of 13.7%)
- This data has the attention of all who believe in chronic care management and the PCMH
“Where would you want to spend the last days of your life?”

<table>
<thead>
<tr>
<th>Option</th>
<th>N.H.</th>
<th>VT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>71.0</td>
<td>80.8</td>
</tr>
<tr>
<td>Inpatient hospice</td>
<td>15.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Home of friend/family</td>
<td>6.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Assisted living</td>
<td>4.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Hospital</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Nursing home</td>
<td>0.0</td>
<td>0.3</td>
</tr>
</tbody>
</table>
Zero percent would choose to spend the last days of their life like this-
Ramsay Rule #1

All patients with end stage CHF need a primary care physician (and rarely a palliative care consult).
Case Report #1

H.S. is an 87 year old woman with pulmonary hypertension, ASCVD, AF, and severe aortic stenosis. She is admitted with worsening edema, anasarca, and dyspnea. H.S. is weak but has been able to manage her own ADLs with family and social support. She has been on maximal doses of diuretics, metoprolol, lisinopril, and LTOT. After her last hospitalization she was transferred to SAR at a local nursing home and only stayed two weeks. At the time of this admission her BUN is 75 and creatinine 2.8. On the third hospital day the Palliative Care Service is consulted to assist in symptom management and developing a plan of care.
NYHA Functional Classification

I. No limitation of physical activity (mild)

II. Slight limitation - ordinary physical activity results in fatigue or dyspnea

III. Marked limitation of physical activity. Less than “ordinary activity” causes dyspnea, palpitations, or fatigue (moderate)

IV. Unable to carry out any physical activity without discomfort; symptoms at rest. Any physical activity increases symptoms (severe)
Palliative Care Issues in CHF

- **Pain** — "CHF is not usually a painful condition"

- **Dyspnea** — Optimize HF meds, diuretics, consider non-traditional therapies

- **Fatigue** — psychostimulants, SSRIs

- **Advanced Care Decisions**
Do patients with CHF have pain?

(J Pain Symptom Manage 35;594)
(Eur J Cardiovas Nurs 2003;213)

- Multiple studies of symptom burden in patients with late stage CHF have shown a pain prevalence of 33-67%
- Comparisons of pain reports between NSCLC and CHF patients show a similar incidence
- Edema (anasarca), ascites, ischemic bowel, arthralgia, arthritis, pleuritic pain from effusions.
- These misconceptions lead to undertreatment and significant EOL suffering
Dyspnea management in CHF
(J Amer Coll Card 2007:49;1136)

- Diuretics, opiates, oxygen, and (nitrates) are the mainstays of therapy.
- Diuretics vs. Ultrafiltration (200 pts)
  - At 48 hr inc fluid loss in UF group
  - No diff in dyspnea scores or creatinine
  - At 90d fewer rehosprehosp in UF group
  - No diff in 90d mortality
- HFSA categorizes UF as evidence Category C (expert opinion only)
- BiPaP can be used as a bridge therapy in acute pulmonary edema to avoid intubation during diuretic induction (HFSA Category B)
Case #1: CHF

H.S.’s medications were discontinued if not directly related to her symptoms (statins, warfarin). Metoprolol was continued and diuretics were used on an as needed basis. H.S. was begun on MSO4 5mg Q6H and her dyspnea improved. She was discharged home on Hospice the day following her palliative care consultation, to the care of her family physician. Three weeks after arriving home she developed more weakness and dyspnea. H.S. was transferred to Vermont Respite House. Six months later she recertified for hospice care at VRH.
Congratulations- You have outlived your Hospice prophecy!
Prognosis in Non-Malignant Conditions (CHF, COPD, CVA, Dementia)

- Doctors are poor prognosticators and tend to be overly optimistic.
- Only 20% predictions (defined as within 33% of actual survival) were accurate in one study.
- As the duration of the physician-patient relationship increases, prognostic accuracy decreases.

(BMJ 2000;320:469)

How undue optimism hurts our patients:
1) Impedes good care
2) Delays advanced planning decisions and DNR orders
3) Leads to an abrupt transition from curative to palliative care goals

Ask yourself: “Would I be surprised if this patient died in the next year?”

(Support. JAMA 1995;274:1591)
Prognosis in CHF

“Limited” prognosis variables:
- Hospitalization
- Elevated BUN/Creat
- SBP<100 or P>100
- Dec LV EF <30%
- Vent arrhythmias
- Anemia
- Poor performance status

NHPCO Admission Guidelines:
- Symptoms at rest (NYHA class IV)
- Optimal Rxn
- Resistant arrhythmias
- Hx of arrest or syncope
- Embolic stroke
- EF<20% (“helpful”)
Seattle Heart Failure Model and CHF

(Seattle Heart Failure Model: http://depts.washington.edu/shfm/)
Prognosis in CHF is not a Science

- There are seven models for predicting short and long term mortality.
- CHF follows an unpredictable disease trajectory.
- The meticulous use of CHF meds and device therapies continues to change CHF prognosis.
Prognostic Uncertainty in CHF
(Circulation 2009;120:2597-2606)

- Accurate prognostication is difficult in CHF
- This uncertainty can provide a basis for initiating end-of-life discussions:
  - Advance care planning
  - Educating patients and families about the unpredictable, but usually terminal nature of CHF (danger of sudden death)
  - Ascertaining specific goals of care
- *People are almost never upset when they have planned ahead and outlived our predictions!*
Ramsay Rule #2

Physicians should never rely solely on “bridge” therapies and technology to provide hope for their patients with end stage CHF.
Case # 2

JK is a 74 year old man with late stage CHF, COPD, and osteoarthritis. He has been on home O2 and maximal medical therapy for CHF over the past two years. His last measured EF was 25%. An ICD was placed 18 months ago. JK is transferred from an OSH for management of a hip fracture. Decision to transfer was prompted by chest pain and rising troponin c/w a NSTEMI. During the first three days of his hospital stay he develops worsening CHF requiring a brief period of BiPAP therapy. Diuretic therapy leads to renal failure and hypotension. Dobutamine infusion improves his creatinine and stabilizes his blood pressure. Repair of the hip fracture is postponed.
How long Do I have Doc and can you at least get me home?

- BiPAP
- Furosemide infusions
- Dobutamine
- AICD/CRT
- CPR
- MICU
Inotropic Therapy for CHF
(J Card Failure 2010;16(6):475)

- Milrinone (phosphodiesterase inhibitor) and dobutamine (beta receptor agonist) have been used for relief of symptoms in late stage CHF.
- Some home care infusion companies will provide dobutamine without proof of benefit with invasive cardiac testing.
- Mortality is high in patients on chronic inotropic therapy (> 50% at six months and increased over placebo for milrinone).
- Cost is high, even with reduction in hospital days.
- Patients being considered for chronic inotropic therapy should have a palliative care consult.
Implantable Devices and CHF
(Circ 2009:120;2597)

- Cardiac Resynchronization Therapy (CRT)
  - EF<35%, QRS>120msec, symptomatic
  - Reduced symptoms, reduced hosp, slight reduction in all cause mortality
  - Often combined with ICD

- ICD/PM
  - Qualitative studies show that patients do not fully understand how the devices work and develop a complex psychological relationship with them
  - Most devices remain active until death (1/3 turned off)
  - High likelihood the ICD will discharge prior to death
  - One small study showed no diff in the time between deactivation and death
CPR and CHF
(NEJM 2009;361:22)

- CPR studied from 1992 to 2005 in a national Medicare data base (433,985 pts)
  - 18 % pts survived to d/c- no diff over time
  - Fewer surviving pts were discharged home
  - A gradual increase occurred in the # of pts who had CPR prior to dying in the hosp

- Informed Assent ("It’s not really your choice")
  - All providers agree that CPR would not lead to restoration of meaningful life- is not indicated
  - Patient/family have the right to disagree
Case #2

JK’s pain was controlled with morphine 5-10mg po q2h prn. Cardiology and palliative care met to discuss the option of home dobutamine therapy. This would require additional invasive testing which would risk worsening his renal failure. Orthopedics was willing to repair his hip fracture whenever his preoperative medical clearance was completed. JK’s was despondent over the delay in decisions about surgery and began to state that his primary goal was to be at home. A meeting was held to discuss his current treatment plan.
Critical Care Family Conferences: The Evidence (Crit Care Med 2006;34:364)

- SUPPORT- “Strong proactive measures may be needed to improve end-of-life care” (1995)

- Eight studies (1994-2005) report outcomes from family members of patients who died in the ICU
  - *All eight indicated physicians must improve skills in communicating with families of dying patients*

- Thirteen trials (1995-2004) of interventions designed to improve communication with family members of patients dying in the ICU:
  - Earlier use of palliative care reduced ICU LOS
  - Collectively the results suggest that the major determinant of improving the care of families of dying patients in the ICU is early and intensive communication
Summary of Key Steps for an Effective Patient and Family Meeting

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<tbody>
<tr>
<td>1.</td>
<td>Pre-meeting planning</td>
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<tr>
<td>2.</td>
<td>Introductions/Build relationship</td>
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<tr>
<td>3.</td>
<td>What does the patient/family know?</td>
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<tr>
<td>4.</td>
<td>Medical review—including prognosis</td>
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<tr>
<td>5.</td>
<td>Discuss patient values</td>
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<td>6.</td>
<td>Silence, respond to emotions (conflict)</td>
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<tr>
<td>7.</td>
<td>Present options</td>
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<tr>
<td>8.</td>
<td>Empathy</td>
</tr>
<tr>
<td>9.</td>
<td>Transform goals into a medical plan</td>
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<tr>
<td>10.</td>
<td>Summarize and document</td>
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Being Heard at Life’s End
(through the valley of the shadow of death)

- Patients and families want two things: the prognosis for meaningful recovery and our recommendations based on that prognosis.
- You will not know what is meaningful without spending the time to explore the person’s life and values.
- Stopping burdensome therapies can be just as or even more hopeful than starting them.
Case #2

After a careful discussion of each of his treatment options JK agreed that he would not want CPR, defibrillation, or BiPAP if these interventions would lessen his chance of returning home. JK’s home hospice agency was contacted and his family were able to set up a 24/7 schedule to assist his wife. His discharge medications included morphine, oxygen, furosemide, aspirin, and prn lorazepam. JK remained bedridden due to his hip fracture and died peacefully at home 3 weeks after discharge.
## 2010 Palliative Care/Heart Failure Data

(Nationally 1.6% of CHF admissions are referred for hospice care)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Total</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Cardiomyopathy</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>CHF</td>
<td>50</td>
<td>63</td>
</tr>
<tr>
<td>End-stage HF</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>D/C alive</td>
<td>49</td>
<td>62</td>
</tr>
<tr>
<td>Family meetings</td>
<td>69</td>
<td>87</td>
</tr>
<tr>
<td>Hospice</td>
<td>11</td>
<td>22</td>
</tr>
</tbody>
</table>
Fletcher Allen’s Quality Improvement Project for CHF Patients

1. Educational programs focused on both disease management and palliative care.
2. Define primary and tertiary palliative care for patients with CHF.
3. Develop criteria that will assist with identification of inpatients who could benefit from palliative care.
4. Create protocols for CHF care management that can become a statewide “blueprint”.
CHF and Palliative Care

The specific aim is to improve the process and quality of palliative care for the patients and their families who are living with CHF.
If skydiving is on your bucket list, do it before your EF is:

- 30% (possibly)
- 20% (probably)
- 10% (definitely)
In an attempt to display competency or undying love, we lose sight of the double-edged nature of our cutting-edge wizardry. We battle away until the last precious hours of life, believing that cure is the only goal. We inflict misguided treatments on not just others but ourselves. During these final, tortured moments it is as if the promise of the nineteenth century has become the curse of the twenty-first.

from:
Final Exam: A Surgeon’s Reflections on Morality
Pauline Chen, MD
Internet Resources

- [www.eperc.mcw.edu](http://www.eperc.mcw.edu/) (Fast Facts about palliative care)
- [www.capc.org](http://www.capc.org) (Center to Advance Palliative Care)
- [www.aahpm.org](http://www.aahpm.org) (Amer Acad of Hospice and Palliative Medicine)