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FAST FACTS AND CONCEPTS #144

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Background The physical and psychological symptom burden in the dying heart failure (HF) patient is similar to that in the dying cancer patient. Symptom prevalence data in HF includes: pain (78%), dyspnea (61%), depression (59%), insomnia (45%), anorexia, (43%), anxiety (30%), constipation (37%), nausea/vomiting (32%), fatigue, difficulty ambulating, and edema. This Fast Fact reviews domains of medical management common to most end-stage HF patients.

General Symptom Management

- *Pain*. Common causes include: peripheral edema, arthritis, diabetic neuropathy, and post-herpetic neuralgia. NSAIDs are generally contraindicated because they antagonize the effects of diuretics and ACE inhibitors, promoting fluid retention while decreasing glomerular filtration and impairing renal function. Opioids are the agents of choice for nociceptive and neuropathic pain because of efficacy, rapidity of onset and potential to relieve dyspnea. See *Fast Facts* #18, 28, 53, 54, and 72.
- *Dyspnea*. Reassess/optimize HF medications and assess for reversible causes, e.g. pleural/pericardial effusions, dysrhythmias, COPD exacerbation. See *Fast Fact* #27.
- *Depression.* Short-term psychotherapy can be helpful for mild-moderate depression, but patient participation and logistical issues can be problematic. Selective serotonin reuptake inhibitors (SSRIs) are the antidepressants of choice because they preserve ejection fraction, lack hypotensive/dysrhythmogenic effects, and have few drug interactions. Sertraline in particular may be the agent of choice in HF patients. Psychostimulants (see *Fast Fact* #61) may accelerate the treatment response to SSRIs. **Note:** as there exists no data on the safety of psychostimulants in HF, therapy should be initiated with caution.

Heart Failure Pharmacotherapy Optimal drug use can improve symptoms and should be continued until the burden of administration outweighs benefits. Diuretic therapy can be crucial, but diuretic resistance is common. The following strategy can help overcome diuretic resistance:

- Optimize dose of oral loop diuretic (e.g. furosemide). Doses of up to 4000 mg/day have been found to be safe and effective.
- Change to intravenous or subcutaneous routes. IVboluses can produce symptom relief within minutes. Continuous infusions (3-200 mg/hr; 10-20 mg/hr in most patients) provide increased efficacy.
- Add a PRN oral thiazide diuretic (e.g. hydrochlorothiazide 25-100 mg/day or metolazone 5-20 mg/day. This can reestablish diuresis in a loop diuretic-resistant patient. Note: high dose and combination diuretics can result in electrolyte imbalances; consider electrolyte monitoring if death is not imminent.

Inotropes Intravenous inotrope therapy (dobutamine, milrinone, dopamine) has a substantial record of use but a paucity of data in the home setting. Data suggest these agents may improve symptoms, but with an increased risk of dysrhythmic death. In hospitalized inotrope-dependent HF patients, discharge on inotropes may provide the opportunity for death to occur at home if desired by patient/family.

Device therapies Decisions regarding previously implanted device therapies should be made in the context of goals of care. See *Fast Facts* #111,112 for a discussion of implantable devices and issues surrounding deactivation; *Fast Fact* #205 discusses ventricular assist devices.

Prognostic Uncertainty Accurate prognostication is virtually impossible in HF (see *Fast Fact* #143). While this

uncertainty is frustrating for physicians, it provides a basis for initiating end-of-life discussions. Clinicians can best help their patients by:

- Initiating advance care planning discussions before a crisis or following HF hospitalization (which triples one-year mortality).
- Educating patients and families about the unpredictable, but usually terminal nature of HF, and the ever present danger of sudden cardiac death (even when feeling well).
- Ascertaining specific goals of care (e.g. quality of life vs. length of life, living/dying at home vs. hospital) and assessing options for achieving these goals (e.g. initiating/handling device therapies including when and how to deactivate, hospice vs. serial hospital/critical care unit admissions, resuscitation preferences.

Patient Resources A free advance care planning packet for HF patients is available through the Heart Failure Society of America website at: http://www.hfsa.org/pdf/module9.pdf.

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