**Congestive Heart Failure**

*General Management Principals*

- Stop smoking
- Restrict alcohol use
- Salt restriction to 2 or 3 grams of sodium per day, or less
- Weight reduction in obese members to within 10 percent of ideal body weight
- Daily weight monitoring and logging to detect fluid accumulation before it becomes symptomatic
- Review for drugs that might contribute to CHF or worsen some aspect of the condition (partial list of important drugs shown below)
  - NSAIDs – causes fluid retention
  - Aspirin – can interfere with the effects of beta-blockers
  - Cardiodepressive calcium channel blockers, like Verapamil
  - Thiazolidinediones – cause fluid retention
  - Metformin – required sometimes in Type II diabetics, but increase risk of lactic acidosis.
  - Cardiotoxic chemotherapeutic drugs, like Cytoxan, anthracyclines, etc. – decrease myocardial contractility
  - Tumor necrosis factor inhibitors, like infliximab – worsen CHF
  - Glucocorticosteroids – cause sodium and water retention
  - Carbamazepine – negative inotropic effect
  - Tricyclic antidepressants – negative inotropic effect
  - Itraconazole – negative inotropic effect
- Annual pneumococcal and influenza vaccination

*Important Clinical Interventions*

- Treat Contributing factors
  - Eliminate unneeded drugs that exacerbates CHF
  - Control elevated blood pressure
  - Correct anemia
  - Correct abnormal heart rhythms, especially atrial fibulation.
  - Recognize and treat heart valve problems
  - Correct hypothyroidism, if present
  - If bed ridden, post-operative, or hypercoaguable state (i.e. cancer), exclude pulmonary embolus
  - Rule out superimposing infection, such a pneumonia
  - Correct electrolyte abnormalities
  - Recognize and treat renal dysfunction
  - If child-bear age female, exclude pregnancy

- **Pharmacotherapy**
  - **Required**
    - Angiotensin converting enzyme inhibitors (ACE inhibitors) in all CHF patients who can tolerate them, unless contraindicated
    - Angiotensin receptor blockers (ARBs) in CHF patients who cannot tolerate ACE inhibitors, unless contraindicated
    - Diuretics and salt restriction for fluid retention
- Beta blockers in all stable patients, unless contraindicated. Especially, bisoprolol, carvedilol, and sustained-release metoprolol.
- African-American patients with moderately severe CHF may benefit from hydralazine and nitrates.
- Aldosterone antagonist for selected members with moderately severe or severe CHF who can tolerate them.
  - Creatinine should be less than 2.0 mg/dl in women and 2.5 mg/dl in men.
  - Potassium should be less than 5.0 mEq/L, and should be monitored if on ACEI or ARB.

Helpful
- Digitalis in members with poor symptom control may reduce hospitalizations
- Addition of hydralazine and nitrates to symptomatic members already taking ACEI and beta-blockers.
- Addition of ARB to members already taking ACEI, and other drugs, if uncontrolled

Other Indicated Clinical Interventions
- Exercise training in stable ambulatory members
- AICD in members with sudden cardiac arrest, ventricular fibrillation, or hemodynamically destabilizing ventricular tachycardia
- Cardiac resynchronization therapy (CRT), with or without an ICD, unless contraindicated, in patients who meet the following criteria: cardiac dyssynchrony as defined by a QRS duration >120 msec, LVEF ≤35 percent, sinus rhythm, and New York Heart Association functional class III or ambulatory class IV symptoms despite optimal medical therapy

Patient Education Issues
- Medication noncompliance
- Dietary indiscretion
- Alcohol consumption
- Tobacco and other substances abuse
- Weight monitoring
- Early symptom recognition (i.e. ankle swelling, PND, orthopnea, DOE, etc.)

ACC Guideline at http://content.onlinejacc.org/cgi/reprint/46/6/1116.pdf


References


11. Lok, CE, Morgan, CD, Ranganathan, N. The accuracy and interobserver agreement in detecting the 'gallop sounds' by cardiac auscultation. Chest 1998; 114:1283.


