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Clinical Practice Guidelines for the Management of Congestive Heart Failure in Adults

Source: The Cleveland Clinic Foundation HF management SOC/NYHA Functional Class/ACC/AHA Guidelines endorsed by the Heart Failure Society of America, 2001

Assessment:

- Determine Systolic vs. Diastolic Dysfunction
  - Obtain new echocardiogram (Echo) if previous Echo > 1 year ago with EF < 40% (Echo, MUGA, Cardiac Cath.)
- Determine etiology beyond LV function
  - Complete Metabolic Profile, TSH, T4, ECG, CXR, CBC, serum BNP {brain natriuretic peptide}, hepatic function studies
- Adjunct Studies: Max O_2 Uptake, RVEF, PET Scan
- Determine NYHA Heart Failure Classification:
  - Class I: Asymptomatic on ordinary physical activity
  - Class II: Symptomatic on ordinary physical activity (i.e. long distance walking, climbing two flights of stairs)
  - Class III: Symptomatic on less than ordinary physical activity or marked symptoms with ADL (i.e. short distance walking, climbing one flight of stairs)
  - Class IV: Symptomatic at rest or on any activity

Non-Pharmacologic Therapies:

- Fluid restriction < 2 L/day (2000cc/day)
  - Decrease the fluid restriction to < 1500 cc/day with serum Na^+ below 130mEq/L
- 2-gm sodium diet for HF classes II, III and IV
- Cardiac Rehab consult for Phase II program (if not home bound)
- Home health consult (if homebound)
  - Dietary consult if noncompliant with diet and/or fluid restriction
  - Social service consult
  - Medication treatment plan
- Assess if patient has a scale at home (daily weight monitoring)
- Patient education regarding: diet, medications, activity, fluid management (including daily weights, "ideal" weight and how to treat weight increase), and signs & symptoms of worsening condition.

Pharmacologic Therapies:

Loop diuretic for volume overload: furosemide, bumetanide, spironolactone, zaroxolyn:

- Maintenance dosing vs. aggressive dosing with symptoms
- Add thiazide drugs for synergistic response as necessary
- Add spironolactone (if creatinine < 2.5mg/dl) 25mg qd (or less) for Class III & IV (used as an aldosterone inhibitor)

Digoxin dose based on weight, age, gender, creatinine clearance, and concomitant meds

- Generally initiated at a dose of 0.125-.25mg qd, start at 0.125mg qod for those patients 70 years of age, impaired renal function or lean body mass. Maintain serum digoxin level of 0.7-2.0 ng/dl

ACE inhibitor: Titrate to target dose, as tolerated: captopril, *enalapril, *lisinopril
Do not use if creatinine: > 3.0 mg/dL or potassium > 5.5 mEq/L

- Begin therapy if SBP > 90mm Hg without vasodilator therapy or > 80mm Hg and asymptomatic with other vasodilator therapy
- Begin therapy if serum sodium > 134mEq/L
- Alternative to ACEI: Hydralazine/Nitrate combination or Angiotensin II Receptor Blocker
- Do not hold vasodilator unless SBP < 80mmHg or signs/symptoms of orthostasis, mental obtundation, or decreased urine output

Beta-blocker: Titrate to target doses as tolerated:**Coreg®, metoprolol SR

- **Use in NYHA Class II or III patients. May be used in NYHA Class I patients with history of MI or HTN
- **May begin in NYHA Class IV patients who are euvolemic without significant signs/symptoms of volume overload
- Do not initiate therapy if history of hepatic failure, bronchospasm, heart blocks, sick sinus syndrome without permanent pacemaker, overt congestion, symptomatic hypotension

Ischemic Cardiomyopathy: Add nitrate therapy, aspirin and lipid lowering agents to reduce LDL

***Enalapril and lisinopril have a longer duration of action.**
****Coreg® is the only beta-blocker indicated in mild, moderate, and severe HF and in essential HTN**

Contributing Factors:
To be assessed at the patient's initial examination:

- Identification of cardiovascular risk factors: hypertension, dyslipidemia, coronary heart disease, diabetes
- Identification of fixed risks: family history, age, gender
- Identification of modifiable risk factors: sedentary lifestyle, obesity, stress, smoking, hypertension
- Identification of co-morbidities i.e. history of diabetes, respiratory disease, renal disease, etc.

Patient Education:

- Patient should receive written management plans that are reviewed annually and/or as needed with the assistance of the physician and appropriate specialists. The management plan should incorporate the following facets of care:
- Basic facts about congestive heart failure (provide written material for patient reference)
- Medication facts
- Planning activities of daily life in conjunction with activity tolerance
- Emphasize importance of daily weights with instructions of when to notify MD
- Smoking Cessation program referral as indicated
- Refer to WellCare Congestive Heart Failure Disease Management Program
- Emphasize importance of adhering to a low sodium diet