Congestive Heart Failure Comorbid Conditions: Renal Failure

Background

1. Cardiovascular dz accounts for approx. 50% of deaths in pts undergoing maintenance dialysis
    - Probability of hospital admission for HF and/or myocardial ischemia is 20%
2. Three year mortality for pts with CHF and end stage renal dz (ESRD) is 83%

Left Ventricular Hypertrophy

1. Major cause of CHF in pts w/ ESRD
2. Found in up to 75% of pts
    - Left ventricular mass index $\geq$ 134 g/sq.m body surface in men, $\geq$ 110 g/sq.m in women
3. Major risk factor for cardiovascular morbidity / mortality
    - Two-thirds of pts with LVH and renal failure die from HF or sudden death
4. Poor prognosis can be improved by reducing left ventricular mass towards normal
    - Control of HTN and anemia
    - ACEi and CCBs reduce left ventricular mass more rapidly than other antihypertensives

Treatment

1. Medications
    - Pts with HF secondary to systolic dysfunction may benefit from Tx with ACEi, BBlkr and digoxin
    - Lower mortality and admission rate
2. Loop diuretic bolus
    - If no response
        - Loop diuretic PLUS thiazide PLUS continuous loop diuretic infusion
3. Correction of anemia may improve cardiac function
4. Prevention of hypocalcemia to reverse the deficit in cellular calcium utilization

Evidence-Based Inquiries

1. Is combining ACE inhibitors and ARBs helpful or harmful?
2. What is the most effective beta-blocker for heart failure?
3. Do anti-arrhythmics prevent sudden death in patients with heart failure?
4. What is the best management strategy for patients with renal failure and volume overload who are unresponsive to loop diuretics?

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