

23. Heart Failure-Rescue Therapy

1. Mnemonic for Acute Treatment: Give them "L – O – V – E"

- L - Lasix®/Furosemide - or other IV loop diuretics
- O - Oxygen
- V - Vasodilator: either IV Nitrate or Natrecor
- E - Elevated-Upright Posture

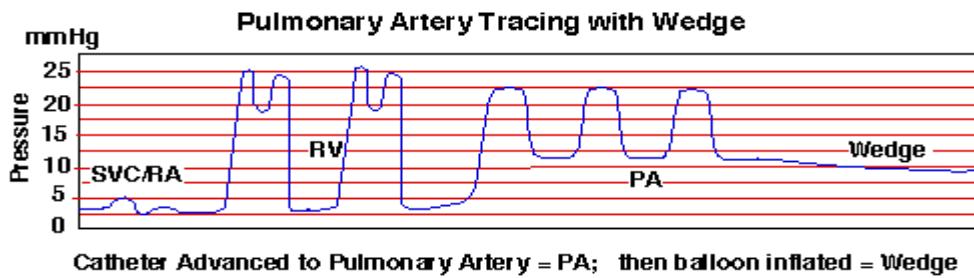
2. In-patient Care Setting Therapeutics:

- a. Oxygen usually 2 L Nasal canula
- b. Vasodilation
 - Nitroglycerin: start 5 mcg/min go to at least 10 mcg/min or
 - Natrecor®/Nesiritide: 2 mcg/kg bolus, then 0.01 mcg/kg/min up to 0.03
After 3 hours can rebolus at 1 mcg/kg over 60 seconds, increase infusion to 0.015 mcg/kg/min
Long term Harm?
- c. Diuretic, avoid over-diuresis after initial response
- d. Beta blockers-NOT Rescue Therapy, but can be used early when initial volume overload corrected.
- e. Short duration Intubation or BiPAP may be required
- f. Viagra/Sildenafil 50 mg bid for right heart failure/ pulmonary hypertension
- g. Pressors increase mortality, have very few indications

3. Precipitating factors:

- a. Sodium and/or fluid overload
- b. Poor compliance with therapeutic regimen
- c. Myocardial ischemia, Acute valvular dysfunction
- d. New arrhythmia, especially atrial fibrillation
- e. Exacerbation of other comorbidities such as cancer, renal dysfunction, cirrhosis

4. Hemodynamic Monitoring: Wedge has Unclear Clinical Relevance in Chronic CHF Swan PA Monitoring may actually significantly INCREASE mortality.



ICG "Non Invasive Swan" (CardioDynamics BioZ) uses electrical bio-impedance but has yet to establish the indicators and the timing for the appropriate use.

5. Pressor

- 1. Indicated for PROFOUND hypotension causing CNS dysfunction, or renal failure
 - 2. Vasopressin preferred
 - 3. Dopamine, Milrinone... increase intermediate mortality.
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- Pitressin®/Vasopressin: 2 - 5u bolus, then 0.2- 0.5 U/min IV (BEST)
 - Intropin®/Dopamine (D1&2, $\alpha\beta$) : Low = 0.5 – 3.0 mcg/kg/min, Moderate = 3-10 mcg/kg/min
 - Dobutrex®/Dobutamine(β 1): 2 - 20 mcg/kg/min IV
 - Isuprel®/Isoproterenol(β 1&2): 0.02 to 0.06 mg bolus 2 to 20 mcg /min (chronotropic support)
 - Neosynephrine®/Phenylephrine (α) 0.1 to 0.5 mg IV q 10 minutes, 100 mcg/min IV
 - Primacor®/Milrinone(PDE-3): 50 mcg/kg over 10 minutes, then 0.4 - 0.7 mcg/kg/min IV
 - Levophed® (*Leave-them-dead*)/Norepinephrine ($\alpha\beta$): 0.5 - 30 mcg/min IV