Disclosures

- I still have no financial disclosures.
Our Patient

- 52 year old male presenting for three days of chest tightness and shortness of breath
- Woken up from sleep with shortness of breath, right-sided chest pain, diaphoresis
- Denies fevers, chills, productive cough, pleuritic pain, lower extremity edema
Our Patient

PMH:
- Hypertension
- Benign prostate hyperplasia

PSH:
- Lithotripsy in 2010

Allergies:
- None
Our Patient

- **Physical Exam:**
  - **Vitals:**
    - T 97.6  HR 115  BP 151/101  O2 99% RA
  - **General:** Moderate distress, difficulty making 5 word sentences
  - **HEENT:** No appreciated JVD
  - **CV:** Tachycardic, regular rhythm, no significant murmurs heard
  - **Pulm:** Dependent rales bilaterally, increased work of breathing, no wheezing
  - **Abd:** Soft, non-tender, no ascites, no discomfort
  - **Extremities:** No rashes, 1+ symmetric lower extremity edema
  - **Neuro:** No focal deficits
  - **Psych:** Appropriate affect
Our Patient

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Our Patient

Sinus tachycardia, nonspecific ST abnormality
Our Patient

Next step in management?

- Placed on BiPAP support
- Started on nitroglycerin drip
- Admitted to the ICU

- Echocardiogram ordered
Our Patient

- Echocardiogram:
  - Normal LV size and normal to hyperdynamic systolic function, LV EF 68%
  - Normal RV size and function
  - Moderate-severely dilated left atrium
  - Prolapse of posterior mitral valve leaflet with flail cord and associated severe anteriorly-directed mitral regurgitation
  - TEE recommended
Our Patient

- Severe posterior leaflet prolapse
- Flail P2 and P3 segments
- Severe mitral valve regurgitation
- Moderate-to-severe pulmonary venous hypertension
Our Patient

- **Summary**
  - 52 year old male with 3 days of chest tightness and shortness of breath
  - Presenting in respiratory distress and pulmonary edema
  - Stabilized and weaned from nitroglycerin
  - Severe mitral valve regurgitation on echo

- **Next step?**
  - Ischemic evaluation
Our Patient

- Angiogram
  - Single vessel coronary artery disease in the proximal-mid left anterior descending artery

- Next step?
Our Patient

- Cardiothoracic Surgery consulted
  - Recommended mitral valve repair with single-vessel bypass of the LAD
- Successfully underwent surgery
- Discharged home 4 days later
- Doing well at most recent follow-up
Indications for Surgery for Mitral Regurgitation (Modified)

Mitrail Regurgitation

- Primary MR
  - Severe MR
    - Vena contracta ≥ 0.7 cm
    - RVol ≥ 60 mL
    - RF ≥ 50%
    - ERO ≥ 0.4 cm²
    - LV dilation
    - Symptomatic (stage D)
      - LVEF > 30% or LVESD ≥ 40 mm (stage C2)
      - No
      - Progressive increase in LVESD or decrease in EF
      - MV Surgery* (IIb)
    - Asymptomatic (stage C)
      - LVEF 30% to < 60% or LVESD < 40 mm (stage C1)
      - MV Surgery* (IIa)
      - New-onset AF or PASP > 50 mm Hg (stage C1)
      - Yes
      - Expected mortality < 1%
      - MV Repair (IIa)
      - No
      - Periodic Monitoring

- Secondary MR
  - CAD Rx
  - HF Rx
  - Consider CRT
  - Symptomatic severe MR (stage D)
  - Asymptomatic severe MR (stage C)
  - Progressive MR (stage B)
  - Persistent NYHA class III-IV symptoms
  - Periodic Monitoring
  - MV Surgery* (IIb)

*MV repair is preferred over MV replacement when possible.

2017 ACC/AHA Guidelines for Treatment of Valve Disease: Mitral Valve Regurgitation