Pulmonary Hypertension: Three Illustrative Cases

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28 year old woman with dyspnea

28 yo Molecular Biologist  
- Presents to her Primary Care Provider, who knows her well  
- Complains of shortness of breath with exertion x ~ 5mos  
  – 1st noted when power-walking and doing kick-boxing  
  – Dieted to lose some weight but didn't help  
  – Never at rest  
  – Sx are the same every day

- Otherwise healthy  
- FH: asthma in her brother  
- Never smoked, no illicits  
- No Medications

28 yo Molecular Biologist

- Seen in Walk-In Clinic 2 weeks ago  
  – Exercise-induced asthma suspected  
  – Pulmonary functions tests were ordered  
  – Albuterol prescribed—didn't help, and gave her palpitations

28 yo Molecular Biologist  
- Well-appearing young woman in no acute distress  
  - Pulse: 86  height: 67 in, weight: 136 lbs  
  - BMI: 21.8

- Neck: JVP no jugular venous distention  
- Chest: Clear to auscultation.  
- Cardiac: Regular, P2 louder than A2?  
- + soft systolic murmur at lsb  
- Abdomen: benign  
- Extremities: No cyanosis, clubbing or edema.

Pulmonary Function Testing—all within normal limits

- Forced Exp. Volume 1 sec (FEV1) 3.55 (103%)
- Forced Vital Capacity (FVC) 4.29 (106%)
- Total Lung Capacity (TLC) 5.98 (99%)
- Diffusing Capacity (DLCO) 22.39 (86%)
24 yo Engineering Student

- DOE worsening over the last year
- Now limited to 20-30 feet
- Trial of asthma treatment: no change
- PMH:
  - lupus
  - Nephritis
  - Cerebritis
  - Pericarditis
  - No h/o diffuse parenchymal lung disease

24 yo engineering student

- PE-slender young woman
- Cardiac exam—JVD ~ 13 cm,
- +sm @LSB, loud P2
- Lungs clear
- Trace lower extremity edema
- PFTs
  - normal spiro/volumes
  - DLCO = 66%
- ECHO-RVSP 114 mmHg est, RV dilated and diffusely hypokinetic, Septum bows into left ventricle
Case 3
57 yo School Teacher

Case History

- 57 year old woman with a 2-year history of progressively worsening dyspnea
- Echo: increased RV systolic pressure
- Frequent lower extremity edema
- Denied chest pain, light headedness, or syncope

Case History

- PMH-
  - systemic hypertension
  - Type II diabetes
  - 3 uncomplicated vaginal deliveries
- ROS: Denied symptoms of GERD, arthralgias or myalgias, poor sleep quality or daytime somnolence, and HIV risk factors

Case History

- SH: Past tobacco use of about 12 pack years, no history of alcohol or illicit drugs or other stimulants
- FH: Type II DM in her mother
- Current medications were verapamil 240 mg bid and atenolol 25 mg qd

Physical Exam

- HR: 78; BP: 148/88 mmHg; SpO₂ 94%
  - Height: 5’ 4” , Weight: 180 lb
- JVP to 6cm; normal carotid pulse
- Clear lungs
- Palpable RV tap, loud S₂, +S₄, II/VI HSM, 1+ lower extremity edema
- Abd is obese
- 2+ edema