Congenital Heart Defects

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- Kansas State University Cardiology Residency (2006)

Heart Disease

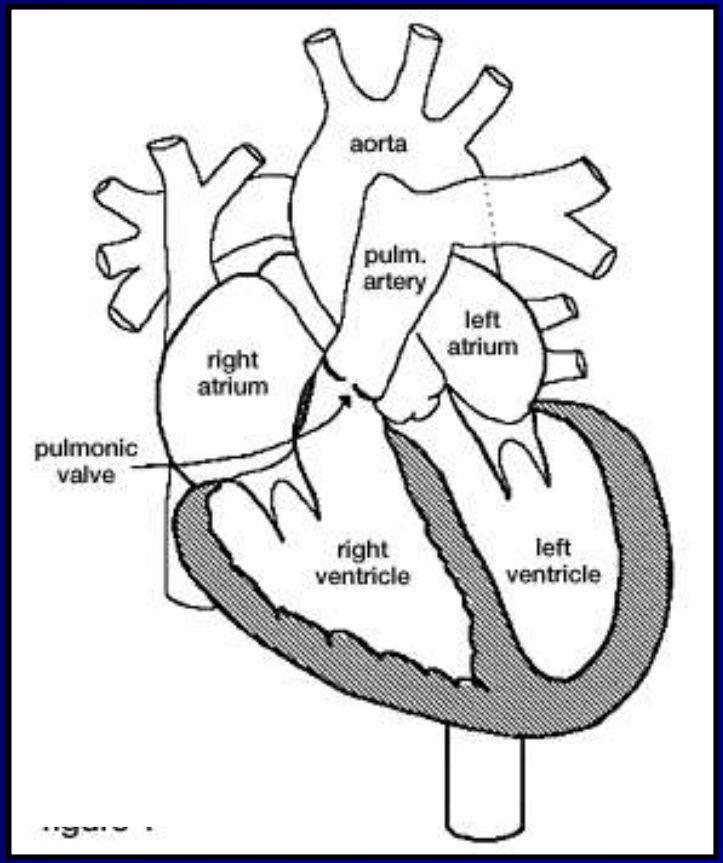
- Congenital
  - Present at birth
  - Can be genetic
  - Auscultation least expensive and fairly accurate screening test
  - Samoyeds overrepresented for some congenital defects
- Acquired
  - Develops later in life
  - Can be genetic but also multifactoral
  - Currently no great prescreening test
  - Samoyeds not overrepresented

Congenital Lesions

- Pulmonic Stenosis: statistically overrepresented in 2 studies
  - $p = 0.027$, $p<0.001$
- Atrial Septal Defect - suggested
- Subaortic Stenosis - suggested
- Patent Ductus Arteriosus – not estimated to have an increased relative risk

Pulmonic Stenosis

Pulmonic Stenosis

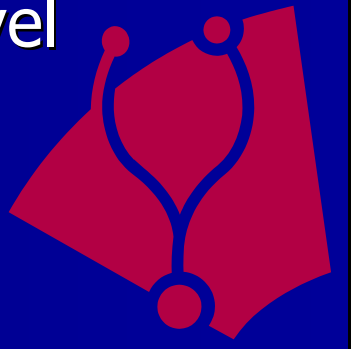


Pulmonic Stenosis

- Usually asymptomatic
- Murmur ausculted
- Severe cases
  - Exercise intolerance
  - Shortness of breath
  - Syncope (fainting)
  - Potential right heart failure

Physical Exam

- Harsh murmur heard at left heart base
- Potential jugular distention/pulsation
- Normal arterial pulse quality
- Cyanosis possible (blue mucous membranes)
  - If right to left shunting at atrial level



Diagnostic Tests

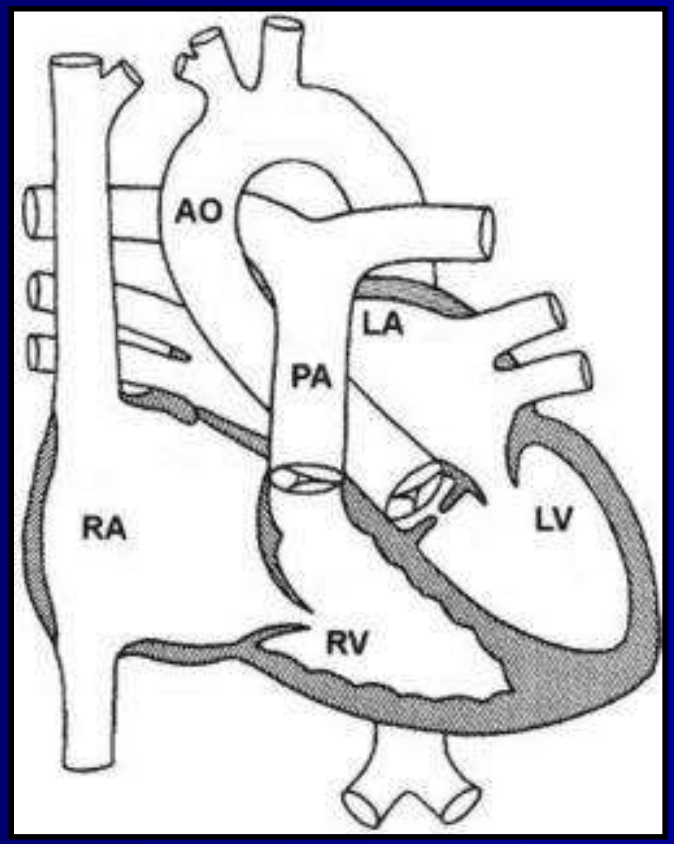
- Electrocardiogram (ECG, EKG)
- Chest Radiographs
- Cardiac Ultrasound (Echocardiogram)
- Labwork possible

Therapeutic Recommedations

- **Mild:** <50mmHg – recommend against breeding, likely to remain asymptomatic
- **Moderate:** 50-80mmHg – recommend against breeding, +/- medical management
- **Severe:** >80mmHg – recommend against breeding, balloon valvuloplasty +/- medical management

Subaortic Stenosis

Subaortic Stenosis



Subaortic Stenosis

- Fibrous ring that lies immediately below the aortic valve
- Murmur ausculted on physical exam
- Exercise intolerance
- Syncope (fainting) or potential for sudden death

Therapeutic Options

- Currently not an accepted surgical or interventional option
- Medical management
  - Atenolol
  - Heart failure medication
    - Enalapril
    - Lasix

Prognosis

- **Mild:** Usually asymptomatic, recommend against breeding, prophylactic antibiotics
- **Moderate:** Most asymptomatic, recommend against breeding, prophylactic antibiotics
- **Severe:** Usually die of arrhythmia or progress to heart failure by age of 2, recommend against breeding, prophylactic antibiotics, medical management

Prognosis

- Without intervention – heart failure likely within 12 – 18 months
- With intervention – can return to normal

Summary

- Auscultation important screening tool for congenital heart defects
- Breeding not recommended in patients with significant defects
- Patient may remain asymptomatic
- Interventional/surgical/medical management may be indicated to improve quality/quantity of life