43. Atrial Septal Defects

Incidence: ● ASD accounts for 25% of congenital heart lesions seen in adults
● Women outnumber men 3:1

Anatomy: 1) ***Secundum*****:** 70%. In foramen ovale. No SBE prophylaxis. Often with MVP.
2) ***Primum*****:** 15%. Partial AV canal, region of AV junction. 2/3 have cleft anterior mitral valve leaflet. SBE prophylaxis required.
3) ***Sinus venosus*****:** 15%. Posterior septum. 1/2 anomalous drainage right pulmonary veins.

Physiology: "Left to Right" shunting causes right atrial and RV volume overload.
"Right to Left" shunting-End stage pulmonary hypertension "Eisenmenger's"

Clinical Course:
- Increased incidence of respiratory tract infections as child
  - Often not diagnosed until adult life
- Palpitations. dyspnea, strokes, paradoxical embolus, A Fib 50%
- Severe irreversible pulmonary vascular obstruction may occur with shunt reversal. (actually fairly rare)

Clinical Findings: Large hyperdynamic RV
Fixed split S2. II/VI SEM (increased flow across pulmonic valve)

ECG:
- Secundum and sinus venosus: rsR' in V1, RAD
- Primum: rsR' in V1, LAD

CXR:
- Increased pulmonary vascular markings
- RV and RA enlargement

ECHO Doppler and Cardiac Cath: Determines location and degree of shunt

Special Syndromes:
1) Lutembacher's syndrome: Mitral stenosis and ASD
2) Holt-Ortum syndrome. ASD, congenital hyperplasia of thumb and radial bones
3) Patent foramen ovale: 30% of 30 year old normals, decreases with age.

Treatment: Shunts with QP: QS > 1:1.5 should be fixed.
Increase survival, decrease strokes and atrial fibrillation risk
1) Surgery with pericardial patch
2) Transcatheter clam-shell closure

PA Chest X ray-Large Secundum ASD Large right atrium and right ventricle, and pulmonic trunk

Posteroanterior chest roentgenogram