

Cyanotic CHD

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Cyanotic CHD

Etiology : Rt to Lt shunt

Cyanosis: O₂ sat < 92% , (clinical < 85%)

Anemia: decreased cyanosis

Polycythemia: increased cyanosis

The most common type: 5 T(**TOF**; Truncus arteriosus; d-TGA; Tricuspid Atresia; TAPVC)

Cyanotic CHD

Cyanosis with respir. distress:

increased pulm. blood flow (d-TGA)

Cyanosis without respir. distress:

decreased pulm. blood flow (TOF)

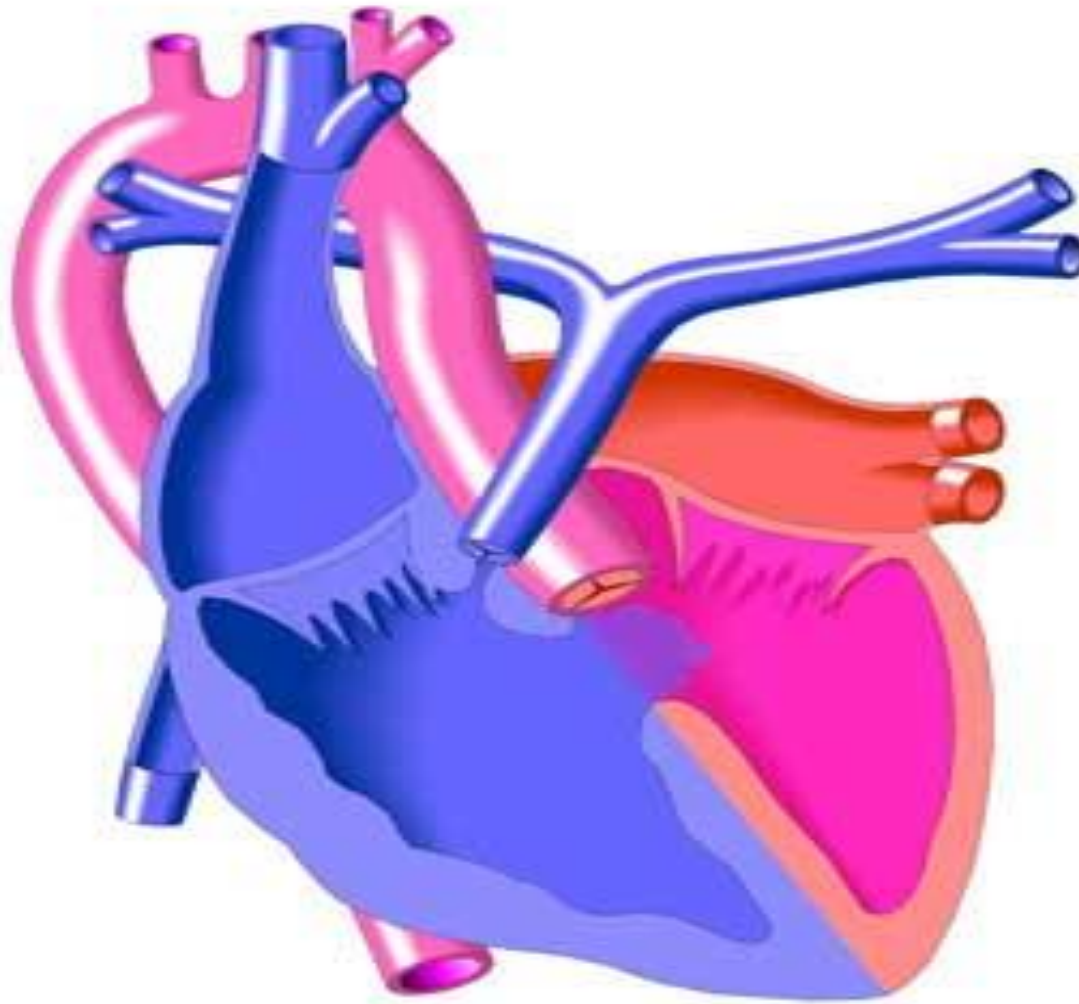
Hypoperfusion:

TAPVC with obstruction; AS; HLHS; CMP

Tetralogy Of Fallot

- # The most common cyanotic CHD(10%)
- # PS(the most common: infundibular) ;
VSD (sub Ao); Ao overriding ;
RVH(secondary)

TOF



Tetralogy Of Fallot

Clinical Manifestation:

degree of cyanosis: amount of PS

Initial MM: PS (upper LSB)

#S₂ : Single ,RV impulse in LSB

#Hypoxic spell (blue spell, tet spell , hypercyanotic spell):

restless, agitated, loss of murmur , hyperpnea, unconsciousness , seizure, hemiparesia , death

Tetralogy Of Fallot

Complications: brain abscess ;cerebral thromboembolism

ECG: RAD,RVH

CXR: boot shaped heart ,PVM↓

Tetralogy Of Fallot

Treatment:

Spell: Knee chest position, O₂, morphine, phenylephrine, Inderal, SBE prophylaxis,.....TFTC(5% LAD from RCA, crossing RVOT)

Blalock-Taussig shunt (subclavian to PA)

D-TGA

5% of CHD

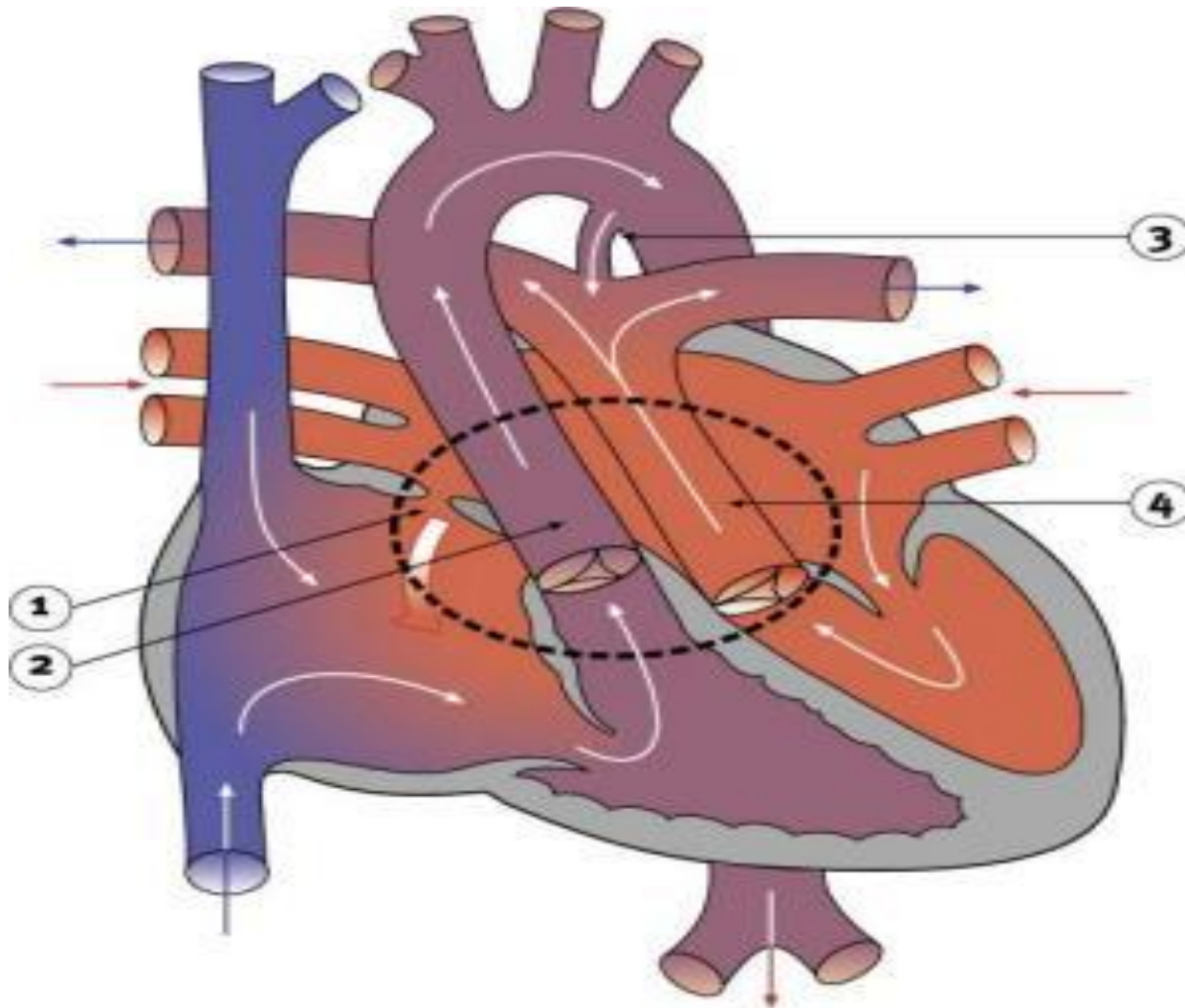
The most common cyanotic CHD to present in the newborn period: **d-TGA**

Mixing : atrial,ventricular,PDA

cyanosis: amount of mixing

#**S2**: single(A2)

D-TGA



D-TGA

d-TGA/IVS: no MM, severe cyanosis

d-TGA/VSD: mild cyanosis, HF, loud mm

ECG: RAD, RVH

CXR: PVM↑, egg on string

Treatment: PGE1, Rashkind balloon septostomy, surgery of choice (**Arterial switch**) within 2 weeks of life.

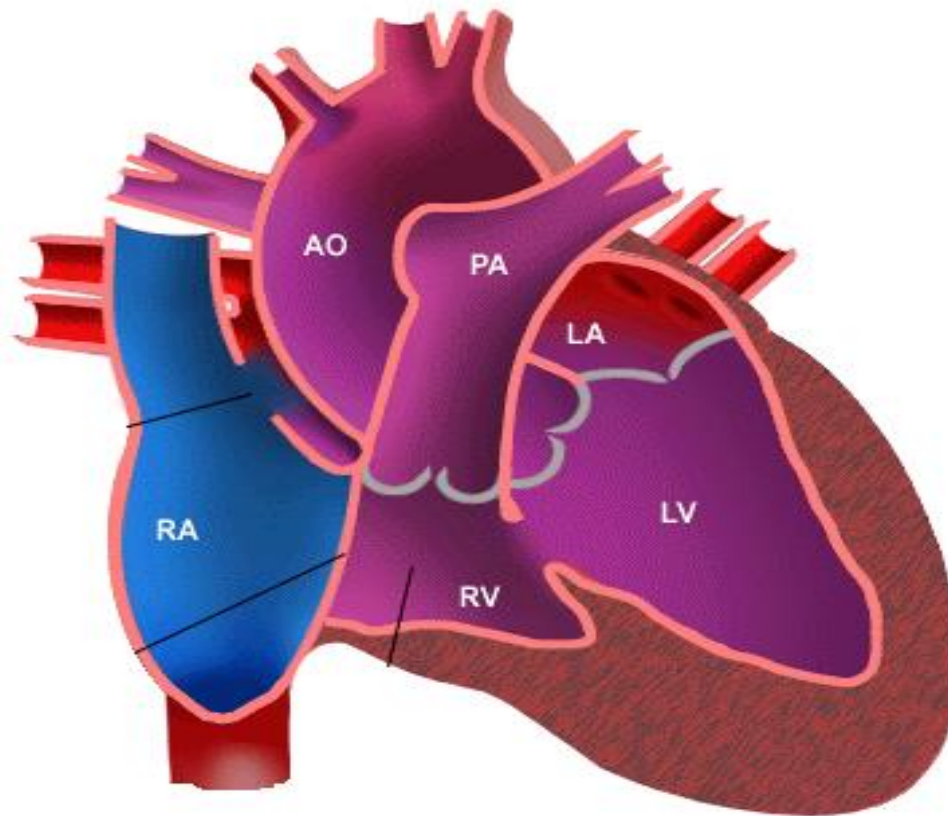
Tricuspid Atresia

2% of CHD

Hypoplastic RV, Rt to Lt shunt at ASD level, VSD is necessary

Severe cyanosis, single S2, frequently no significant MM(VSD MM, diastolic MM of MV)

Tricuspid Atresia



AO = Aorta
PA = Pulmonary Artery
LA = Left Atrium
RA = Right Atrium
LV = Left Ventricle
RV = Right Ventricle

Tricuspid Atresia

ECG: LVH, superior axis(0 to -90)LAD

CXR: NL size of heart or mild ↑

PVM ↓

Treatment:

Shunt (Blalock-Taussig): subclavian to PA

Glenn (SVC to RPA)

Fontan (IVC to PA)

Truncus Arteriosus

Single arterial trunk arises from heart with large VSD, pulmonary arteries arise from trunk.

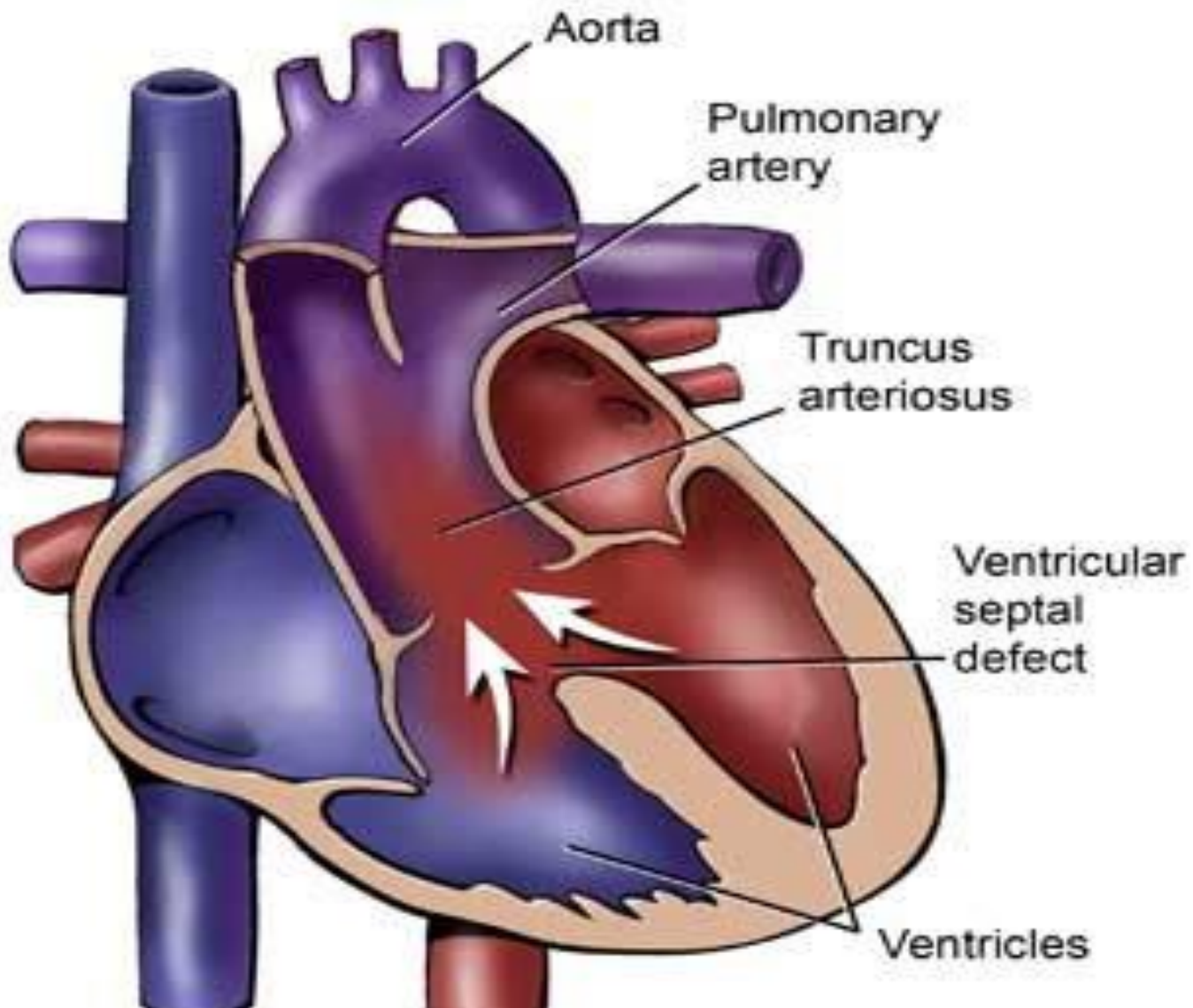
Cyanosis: amount of pulm. Flow

CHF: tachypnea , cough

Pulses: bounding

Heart: S2= single ,SMM(LSB),
systolic ejection click

Truncus Arteriosus



Truncus Arteriosus

ECG : CVH

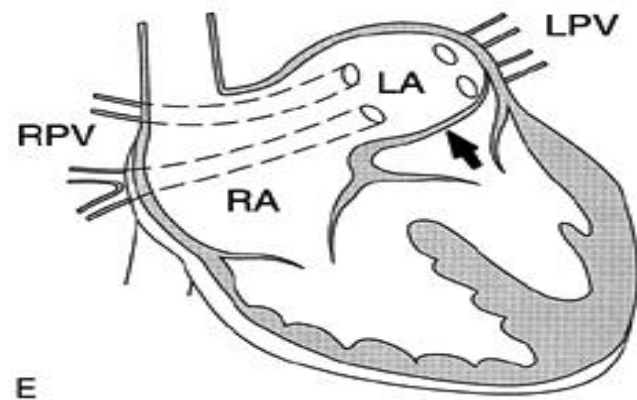
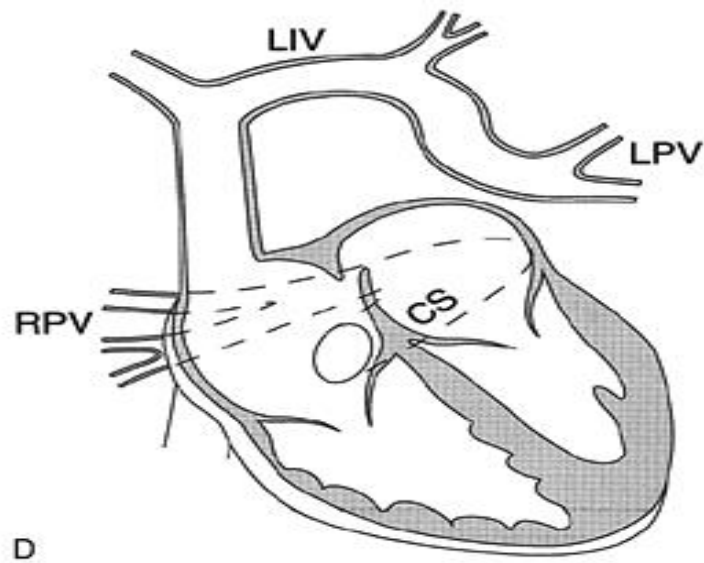
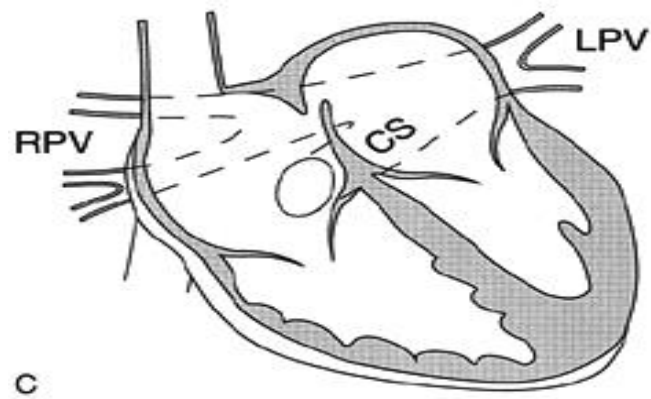
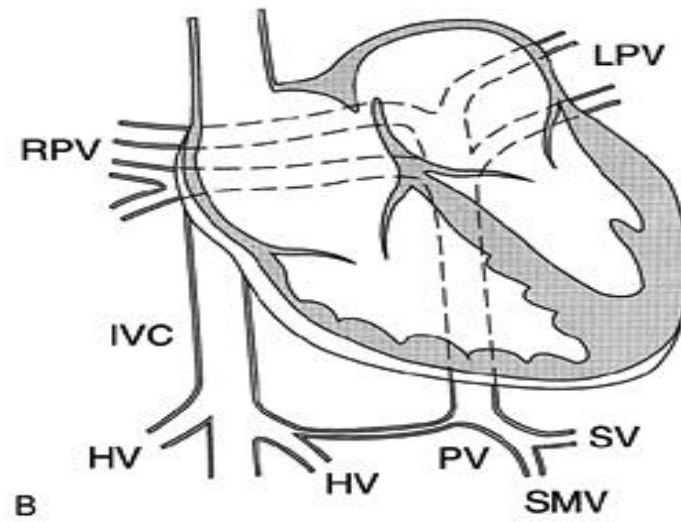
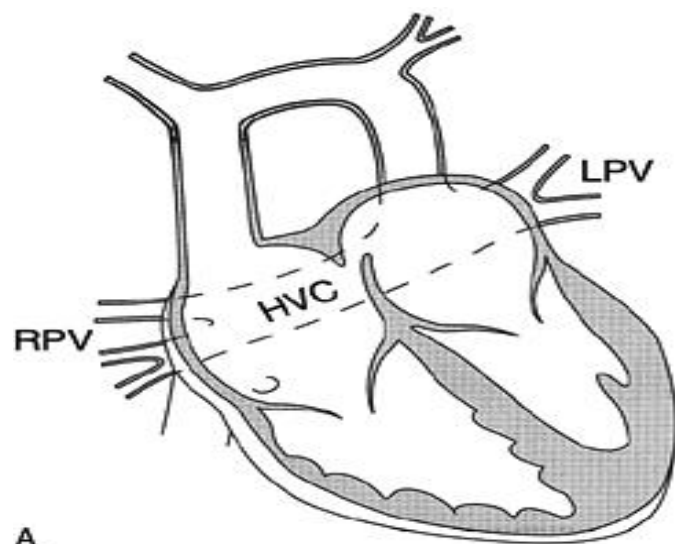
CXR: PVM↑, PA may appear displaced

treatment:

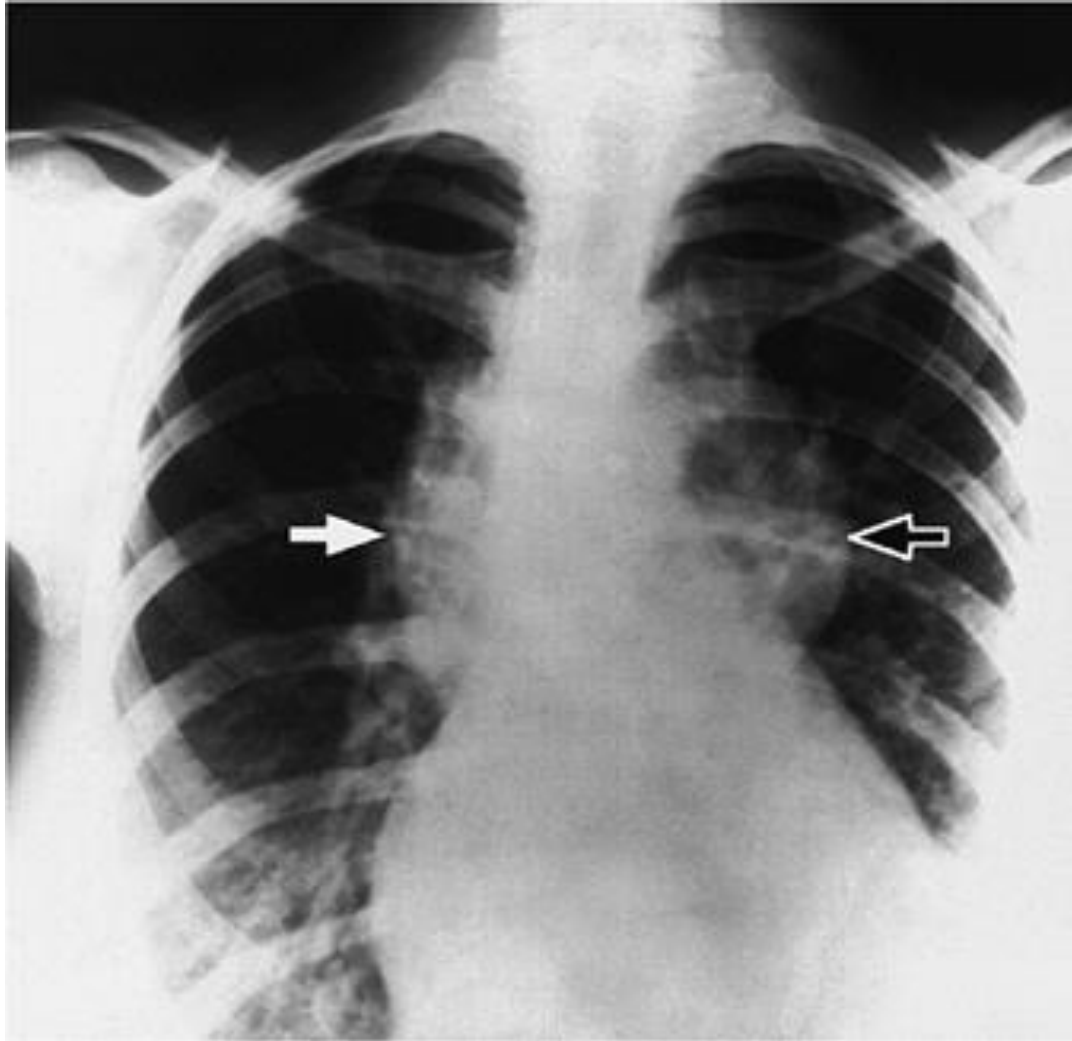
Digoxin +diuretic>>>>surgery

TAPVC

- # Disruption of development of PV during 3 week of gestation.
- # **Typing:** supracardiac, cardiac, infra, mixed
- # **ASD with Rt to Lt shunt** is necessary



TAPVC



TAPVC

Clinical manifestations:

1. Without obstruction
2. With obstruction

1. Without obstruction

Mild cyanosis, may be asymptomatic,
continuous murmur, **wide S2 split**,
systolic ejection MM (upper LSB)

ECG: RVH, RAD

CXR: C/T & PVM ↑

2. With obstruction

Cyanosis, tachypnea, dyspnea,
Rt heart failure (hepatomegaly), **no MM**

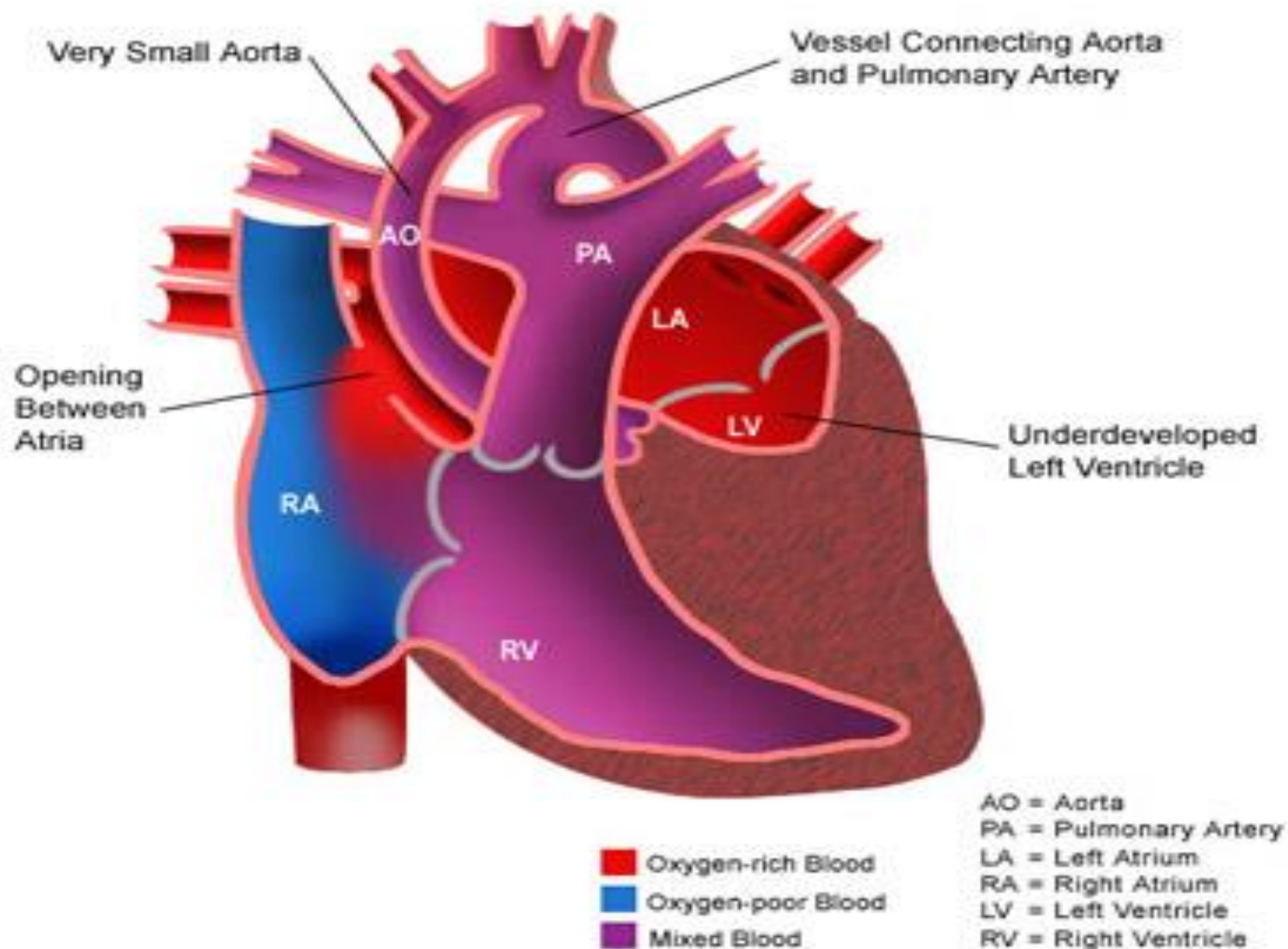
ECG: RAD, RVH

CXR: C/T= Normal,
pulmonary edema (HMD, pneumonia)

HLHS

- # The most common cause of death during neonatal period from CHD.
- # Hypoplastic LV, hypoplasia of ascending aorta & Ao arch.
- # Lt to Rt shunt at ASD level, Rt to Lt shunt at PDA level, retrograde flow in AAO.

Hypoplastic Left Heart Syndrome



HLHS

Clinical manifestations:

pulses=weak,

S2 =single & loud

No MM, Mild cyanosis

Grayish color, cool & mottled skin

If PDA constricts: CHF & death

HLHS

ECG: RVH

CXR: C/T ↑ ,pulmonary edema

Treatment:

PGE1,correction of acidosis, vent.support,

>>> Norwood ,Glenn, Fontan

Extracardiac complications of cyanotic CHD

1. Polycythemia
2. Anemia
3. CNS abscess & emboli
4. Gingival disease
5. Gout (polycythemia & diuretic)
6. Clubbing (hypoxia)
7. Infectious disease (asplenia; Di George; RSV)
8. FTT

