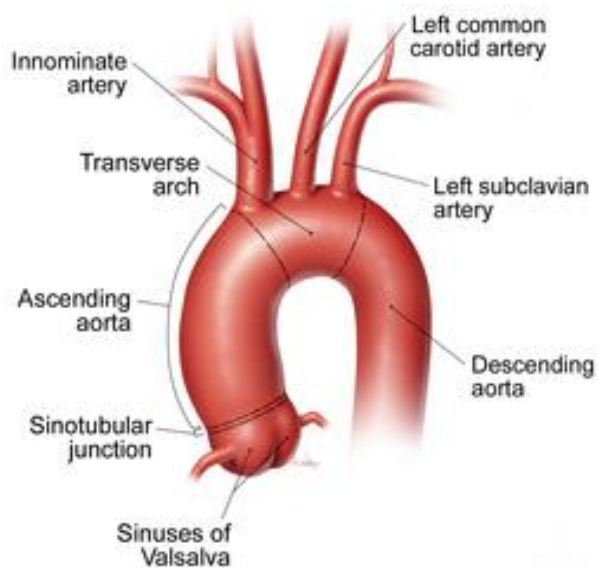


COARCTATION OF THE AORTA

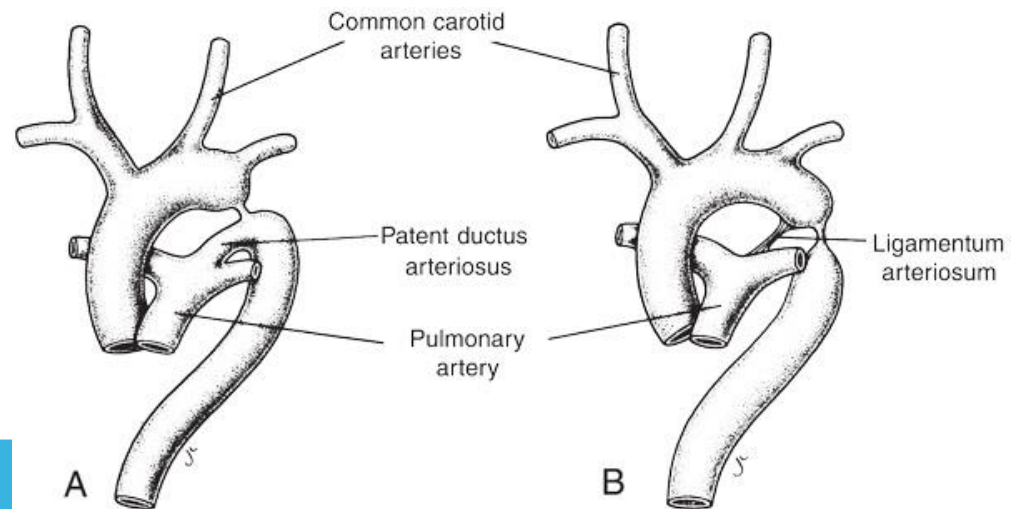
Coarctation of the aorta (COA) Definition-

Is a congenital condition whereby the aorta is narrow, usually in the area where the patent ductus arteriosus inserts.

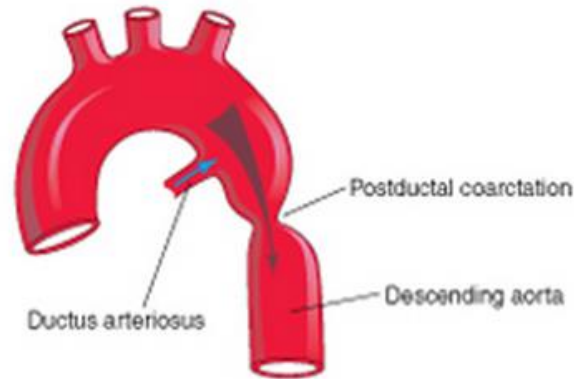
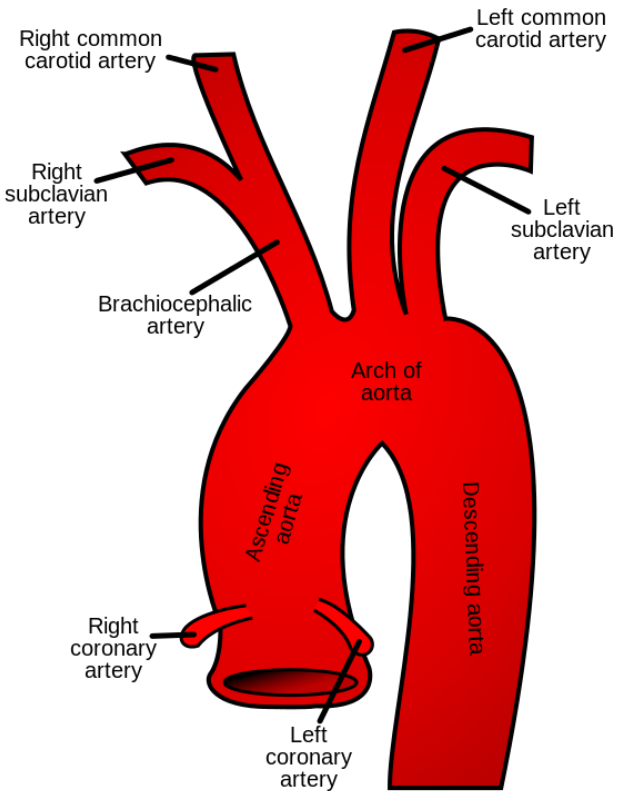
NORMAL AORTIC ARCH



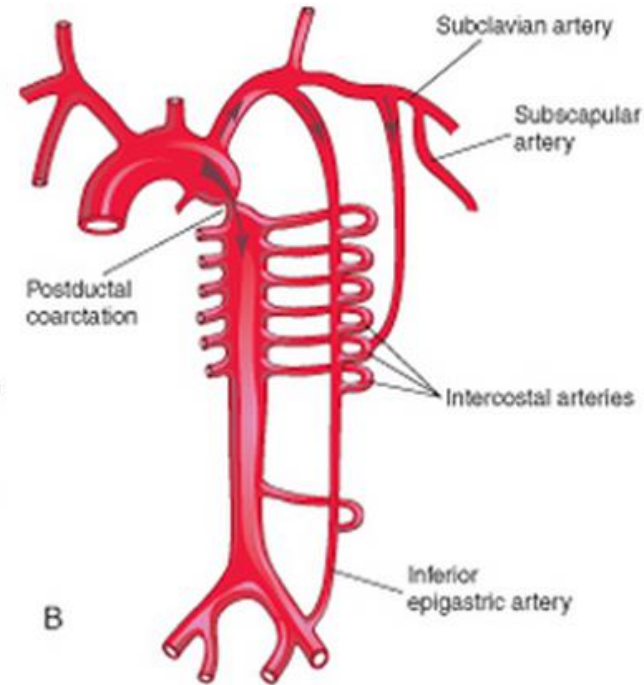
COARCTATION OF AORTA



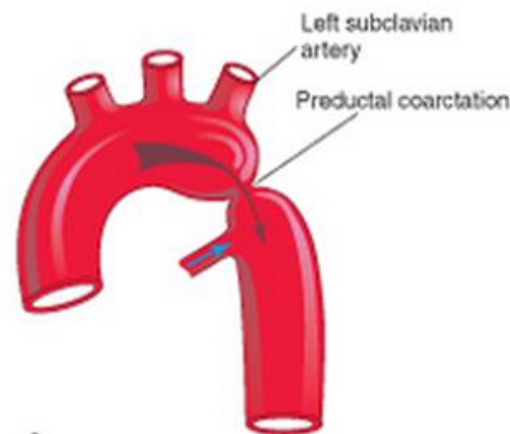
DIFFERENT TYPES OF COARCTATION-



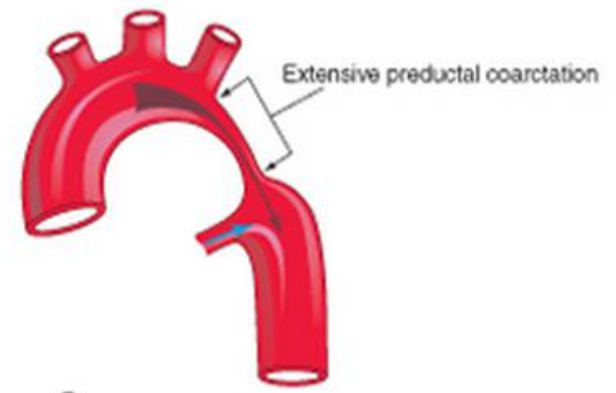
A



B



C

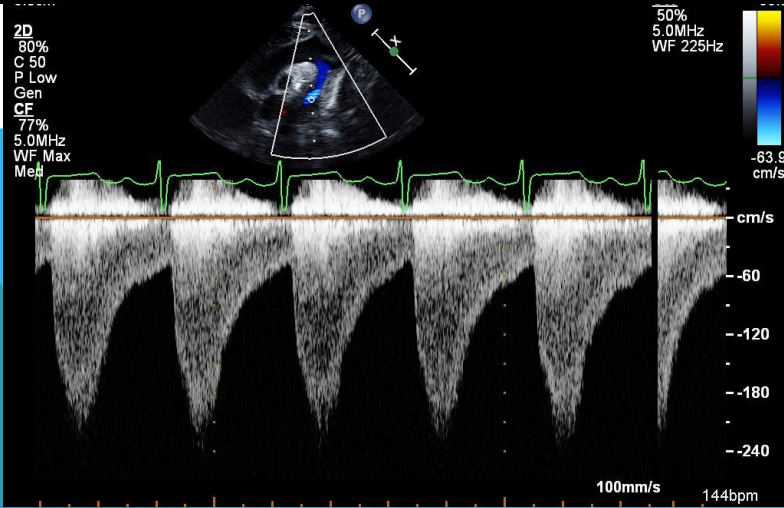
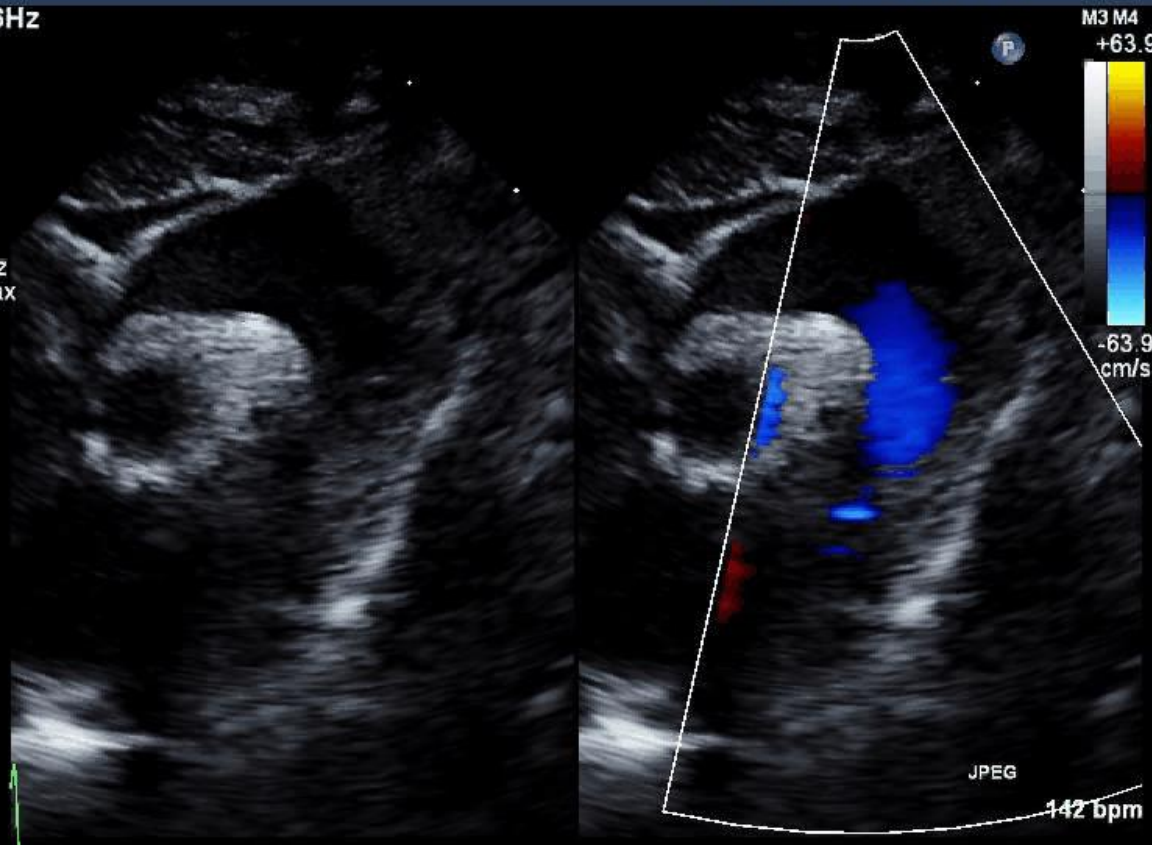


D

- For unknown reasons, mild to severe narrowing develops in part of the aorta. Although aortic coarctation can occur anywhere along the aorta, the coarctation is most often located near a blood vessel called the PDA.

FR 36Hz
6.0cm

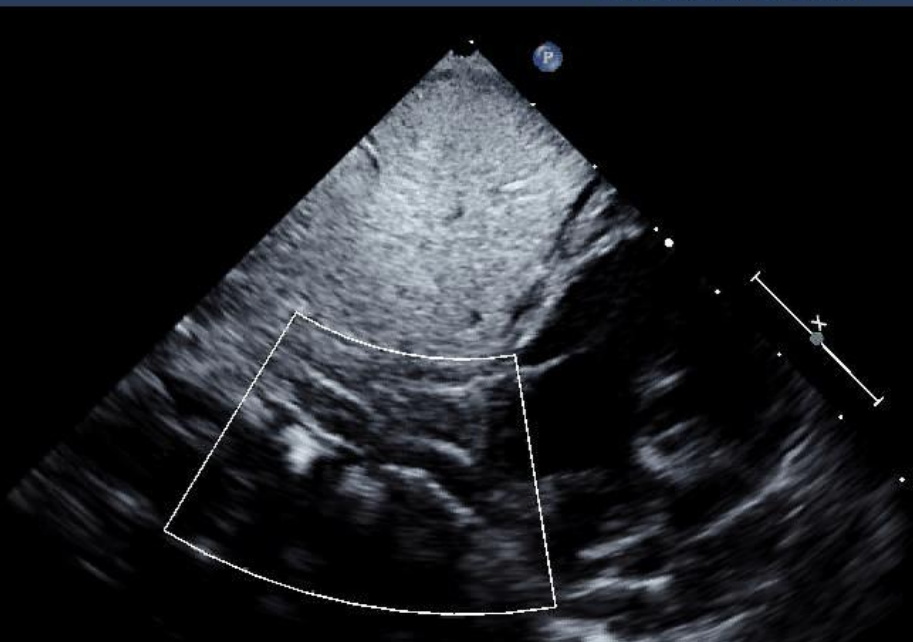
2D
80%
C 50
P Low
Gen
CF
77%
5.0MHz
WF Max
Med



FR 25Hz
8.1cm

2D
86%
C 46
P Low
Gen

CF
77%
5.0MHz
WF Max
Med



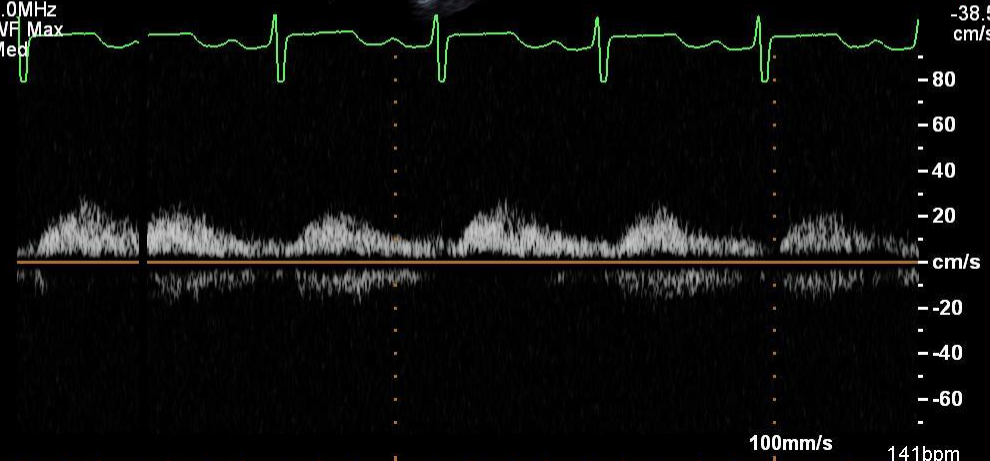
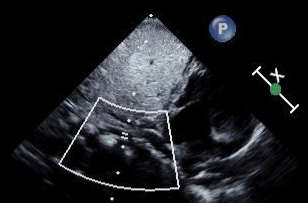
JPEG

139 bpm

C 46
P Low
Gen

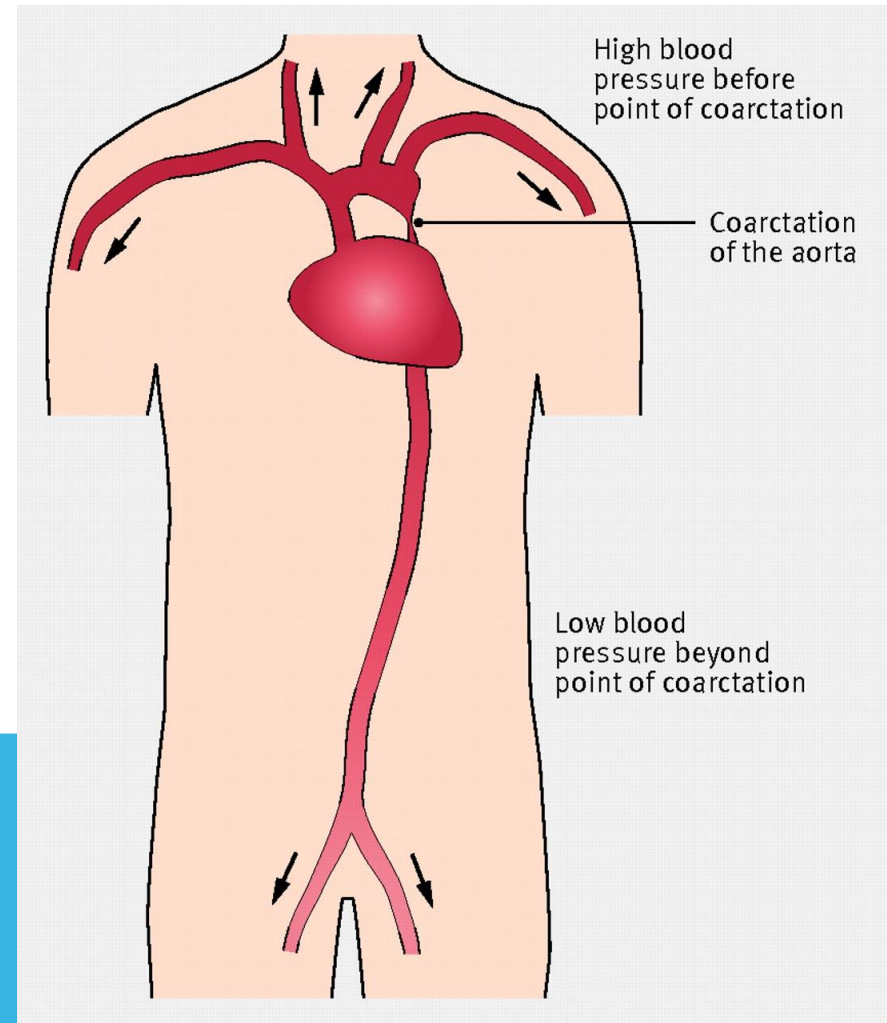
CF
77%
5.0MHz
WF Max
Med

PW
55%
4.5MHz
WF 175Hz
SV 1.5mm
4.6cm



WHY TAKING FOUR LIMB BLOOD PRESSURE IS SO IMPORTANT?

- Coarctation of the aorta can often lead to hypertension in your upper extremity and decreased lower blood pressure in your lower extremities.
- >20 mmHg
- With coarctation of the aorta, the lower left heart chamber (left ventricle) of your heart works harder to pump blood through the narrowed aorta, and blood pressure can increase in the left ventricle. This may cause the wall of the left ventricle to thicken (hypertrophy).
- Weak, absent, and/or delayed femoral pulses



COARCTATION FACTS

- Unknow cause for coarctation of the aorta.
- 1 and 2,500 babies are born with CDH
- 5-8 % of people with CDH have coarctation means 50,000 people in the USA living with this.
- Making this the seventh most common CDH.
- Aprox. 64% of patients manifests as the dominant CHD soon after birth.
- 50-85% with a coarctation have a BAV and VSD
- COA Male to Female 2:1.
- In prenatal diagnoses of CHD is 3-10 %
- Discrete coarctation 2-3mm to a long segment 7-20 mm

GENETIC COMPONENT

- Alcohol- 25-30% ASD, VSD, IAA and coarctation.
- Dilantin- 2-3% ASD, VSD, IAA and coarctation.
- CHARGE syndrome- 50% AVSD, coarctation, ASD and VSD.
- DiGeorge syndrome- 95% VSD, coarctation, TA and TGA.
- Ehlers-Danlos syndrome- IAA, coarctation, ASD and VSD.
- Noonan syndrome- 65% PS,VSD,ASD,IAA and coarctation.
- Trisomy 21- 50% AVSD,VSD,ASD,TOF and coarctation
- Turners syndrome- 20+% BAV,AS and coarctation.

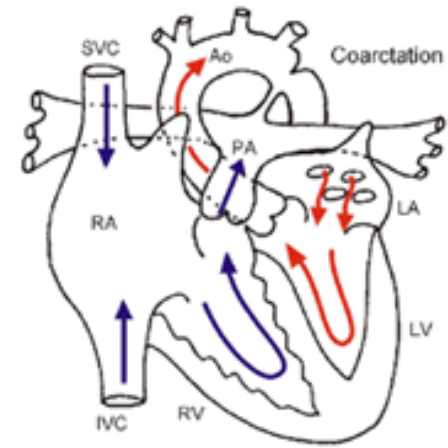
COMPLICATIONS OF COARCTATION

- High blood pressure
- Stroke
- Enlargement in a section of the wall of the aorta (aneurysm)
- Aortic rupture or tear (dissection)
- Premature coronary artery disease — narrowing of the blood vessels that supply the heart
- Heart failure
- A weakened or bulging artery in the brain (brain aneurysm) or bleeding in the brain (hemorrhage)
- If CoA is left untreated, people with CoA generally die in their 30s or 40s of heart failure, ruptured aorta, stroke, or other conditions.

SURGICAL REPAIR OF COARCTATION

Initially a prostaglandin infusion is used for severe coarctation in the neonate.

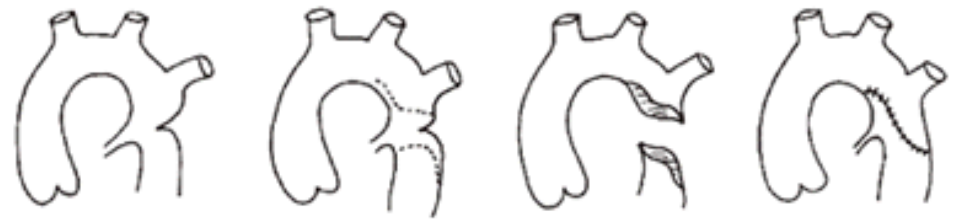
Coarctation of the Aorta



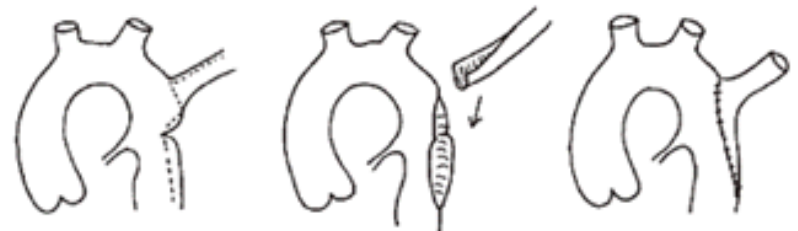
1. Left Subclavian Flap Angioplasty



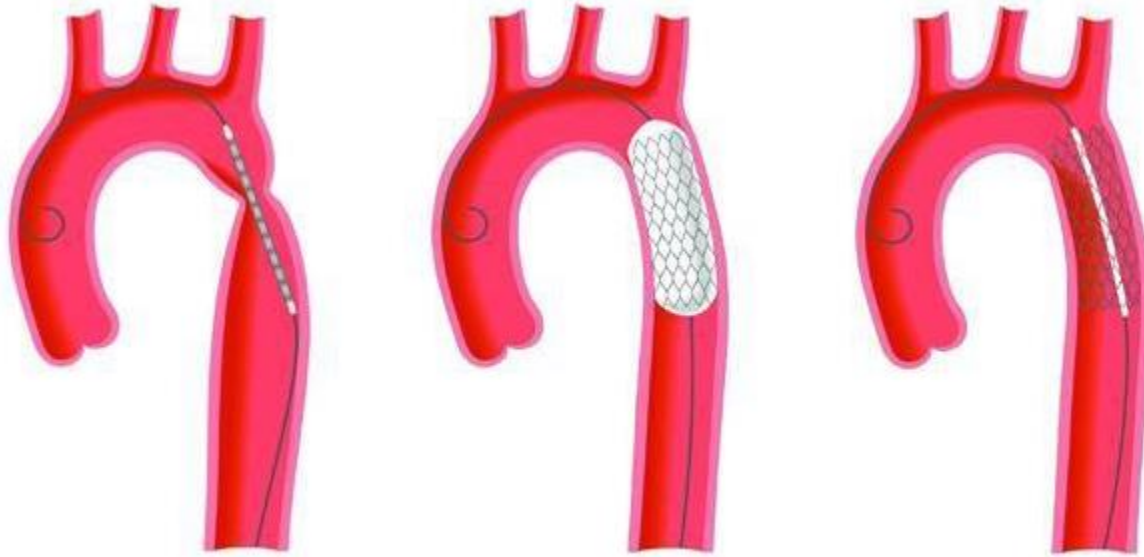
2. End-to-End repair with resection of coarctation segment



3. Left Subclavian Translocation Angioplasty



CATH APPROACH



Thank you

