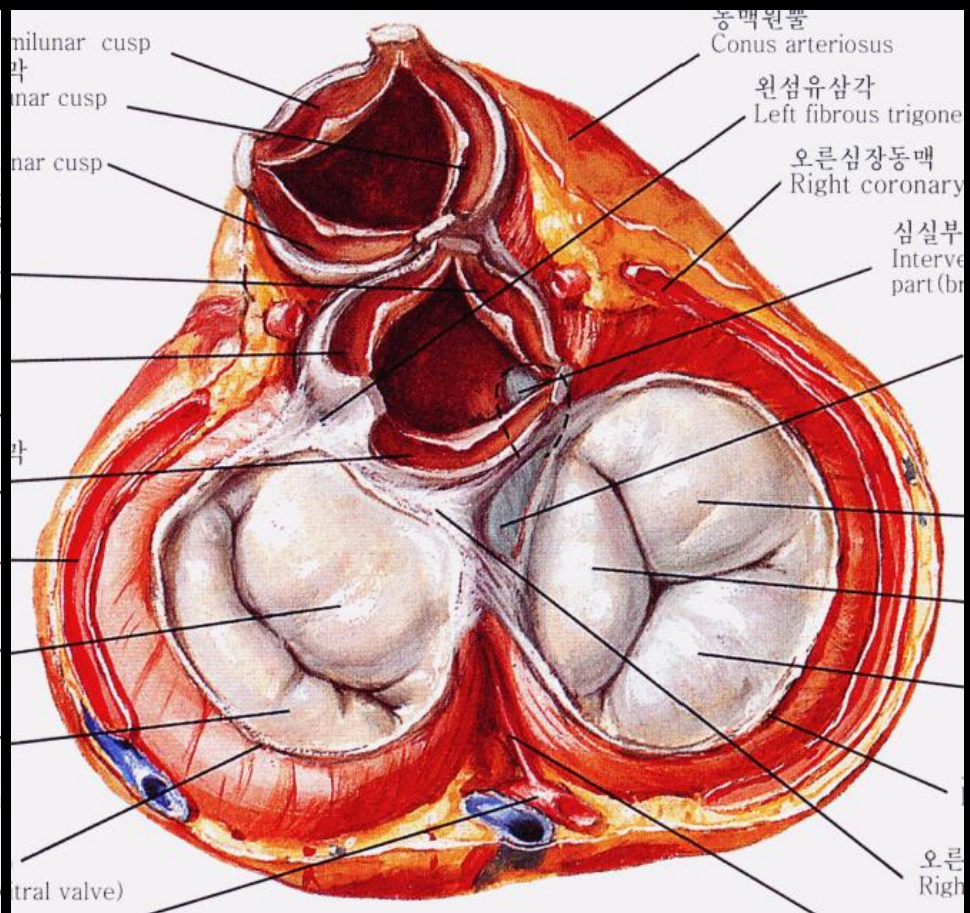
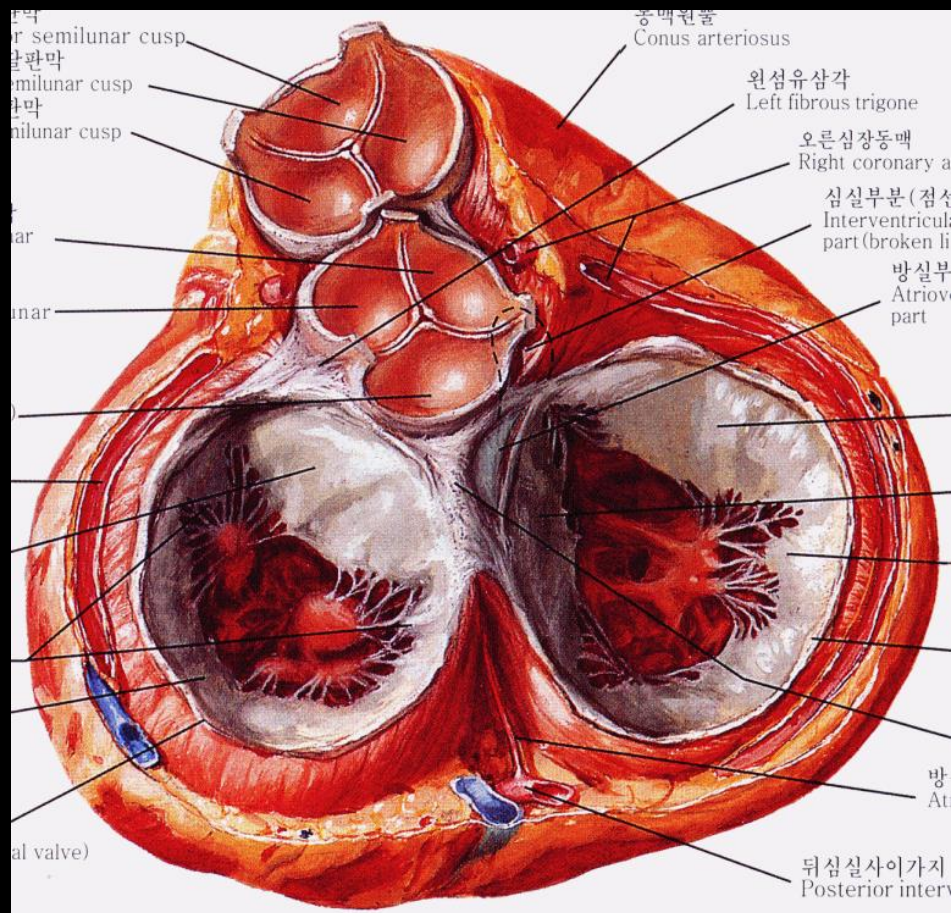


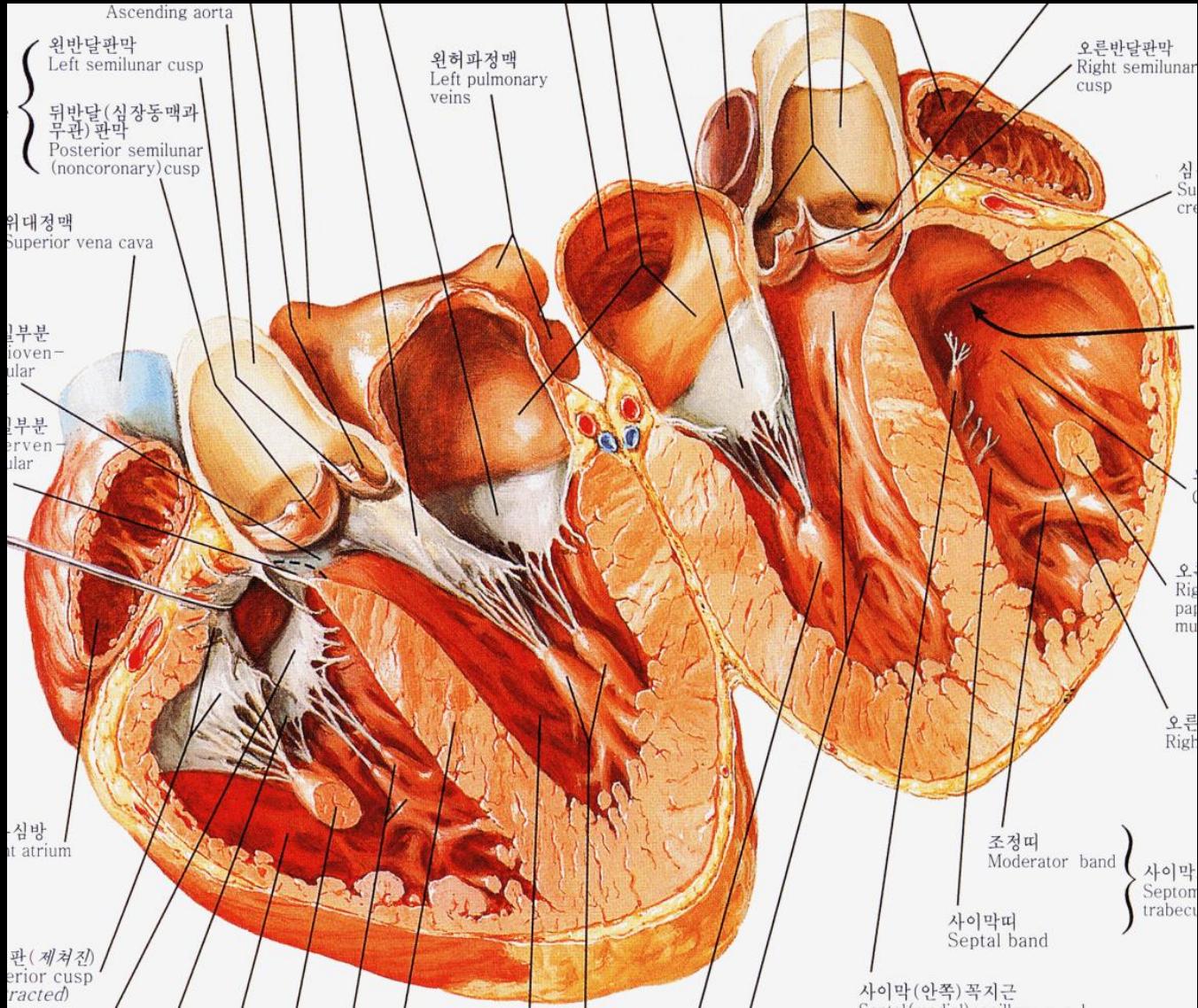
AVSD (atrioventricular septal defect)

서울아산병원 소아심장외과

최은석







Terminology

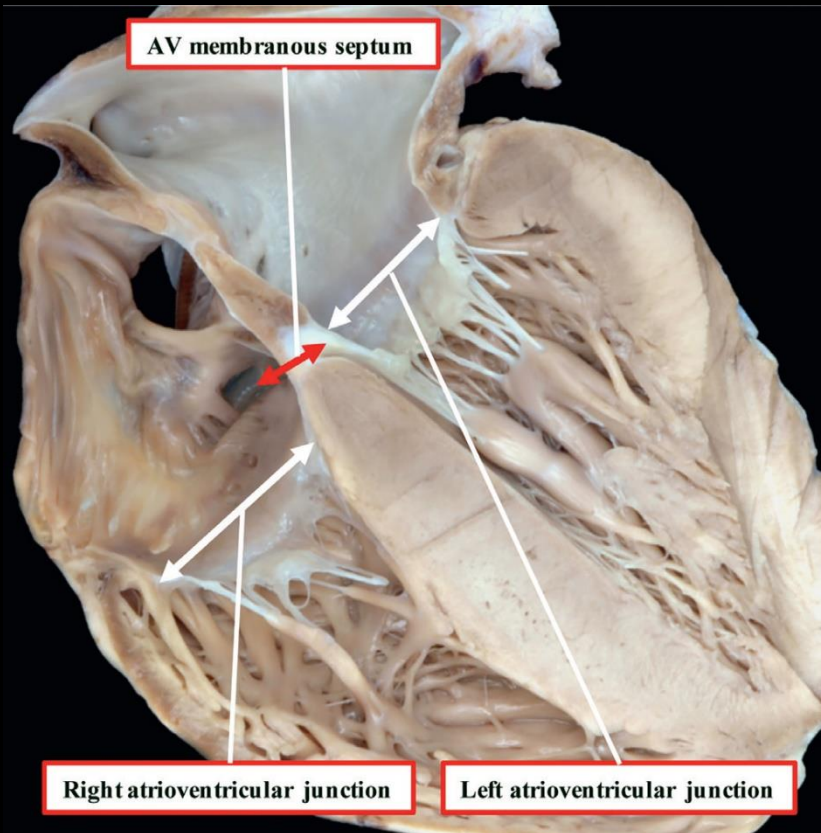
- Atrioventricular septal defect (AVSD)
- Atrioventricular canal defect
- Endocardial cushion defect (ECD)



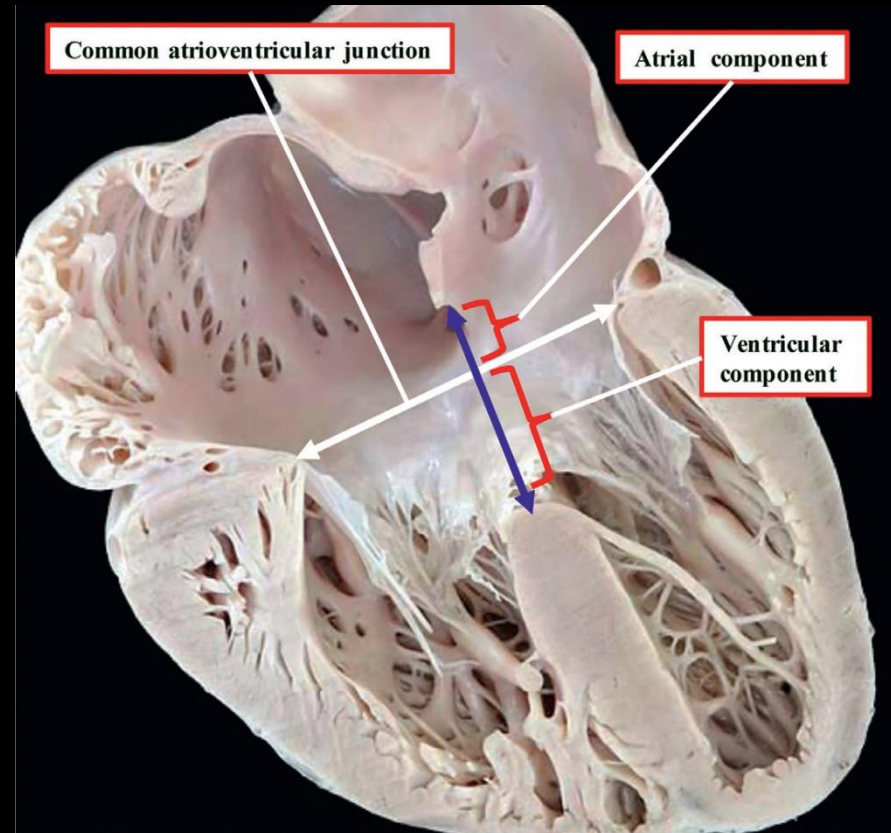
AVSD

- 4%
- Down syndrome
- **Anatomic features**
 - **Common atrioventricular junction**
 - **Trifoliate left AV valve**
 - **Unwedging of aortic valve**
 - Disproportion btw the inlet and outlet dimensions of the LV

Common AV Junction

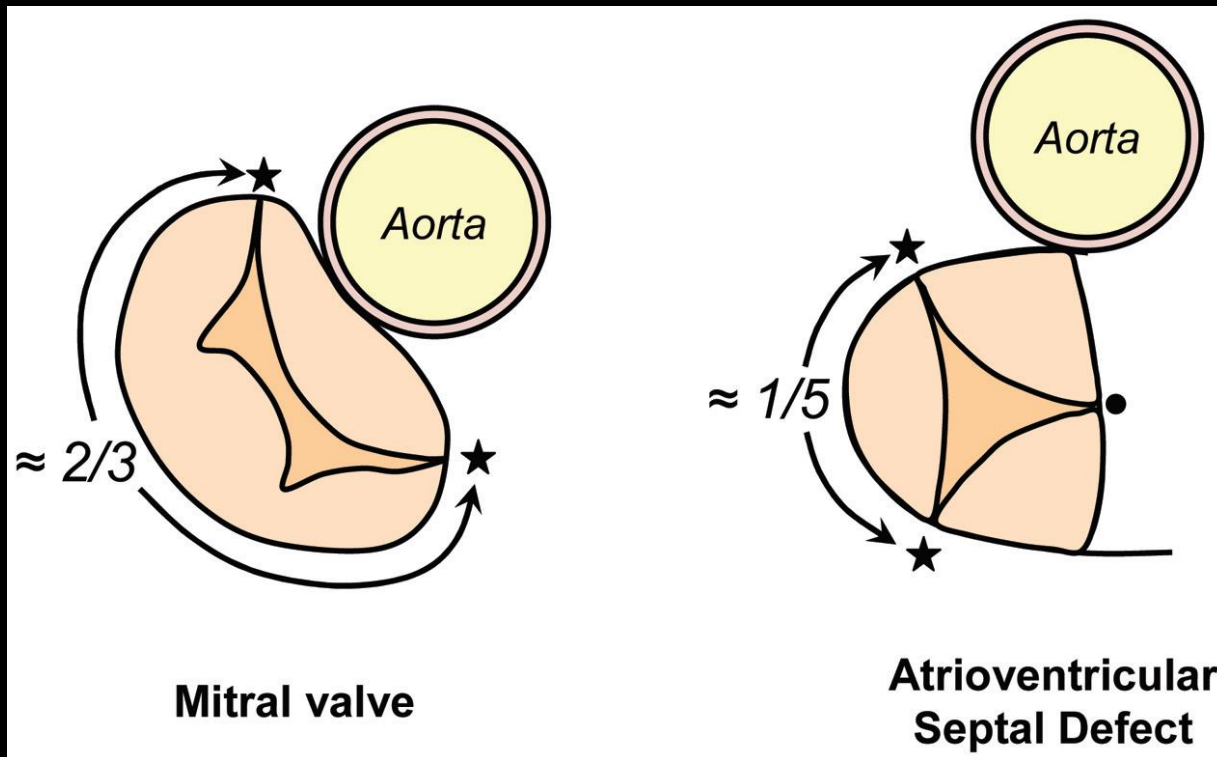


Normal Heart

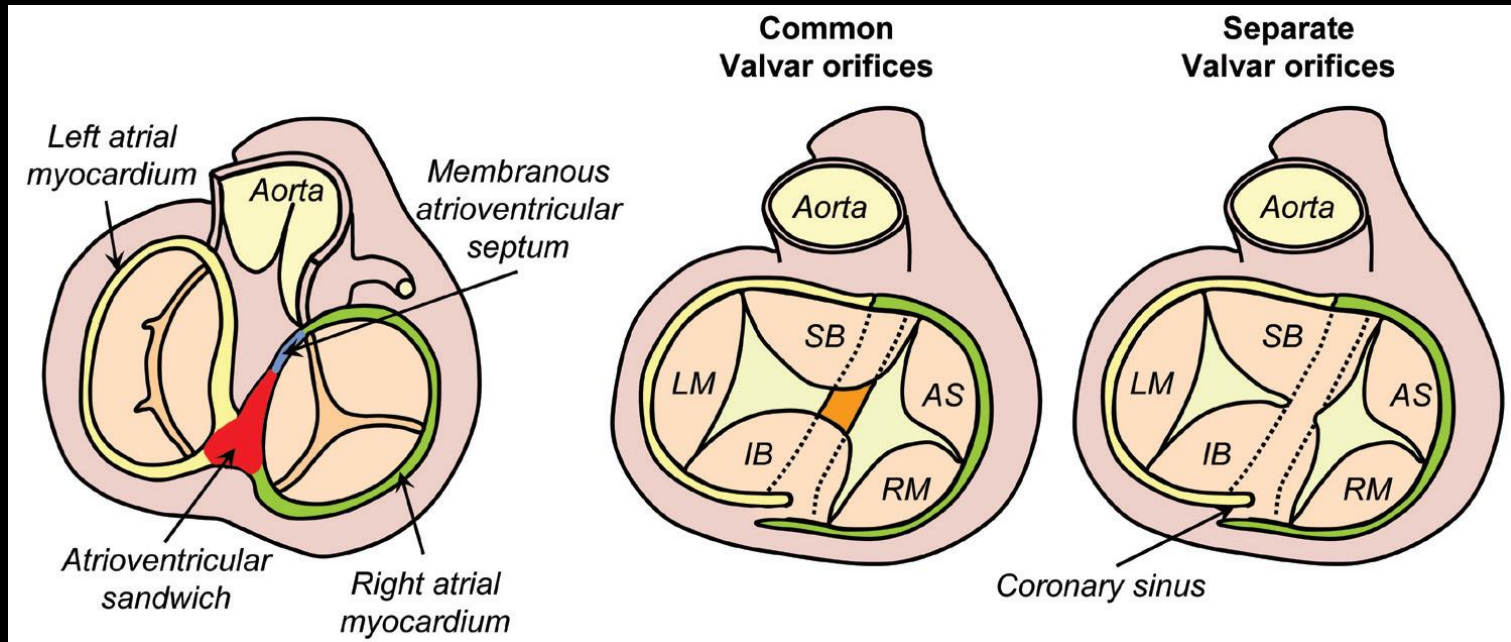


AVSD

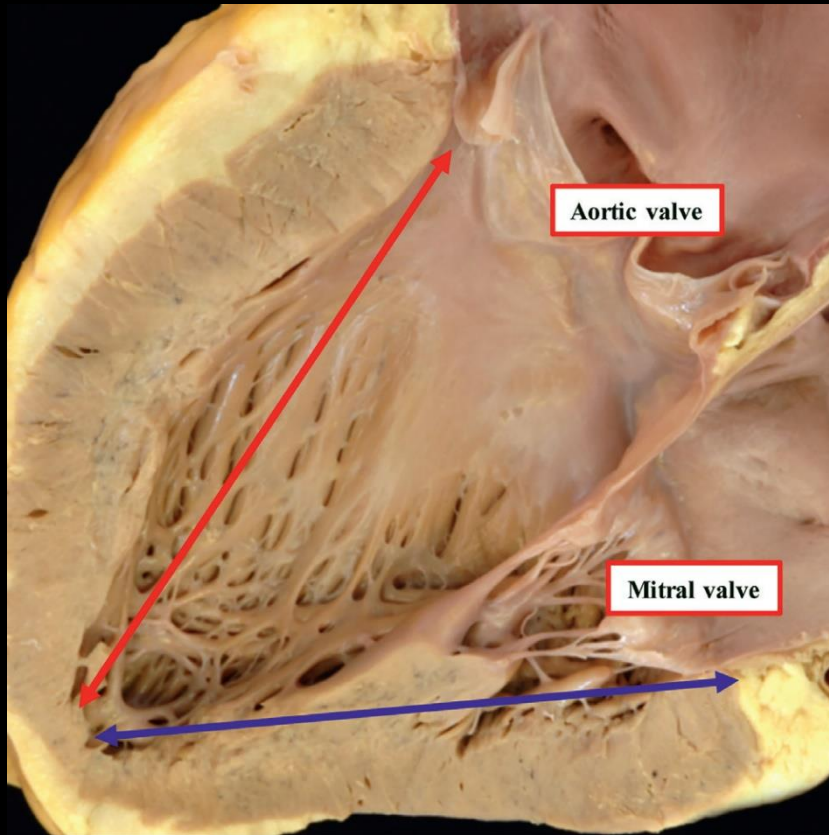
Trifoliate Left AV Valve



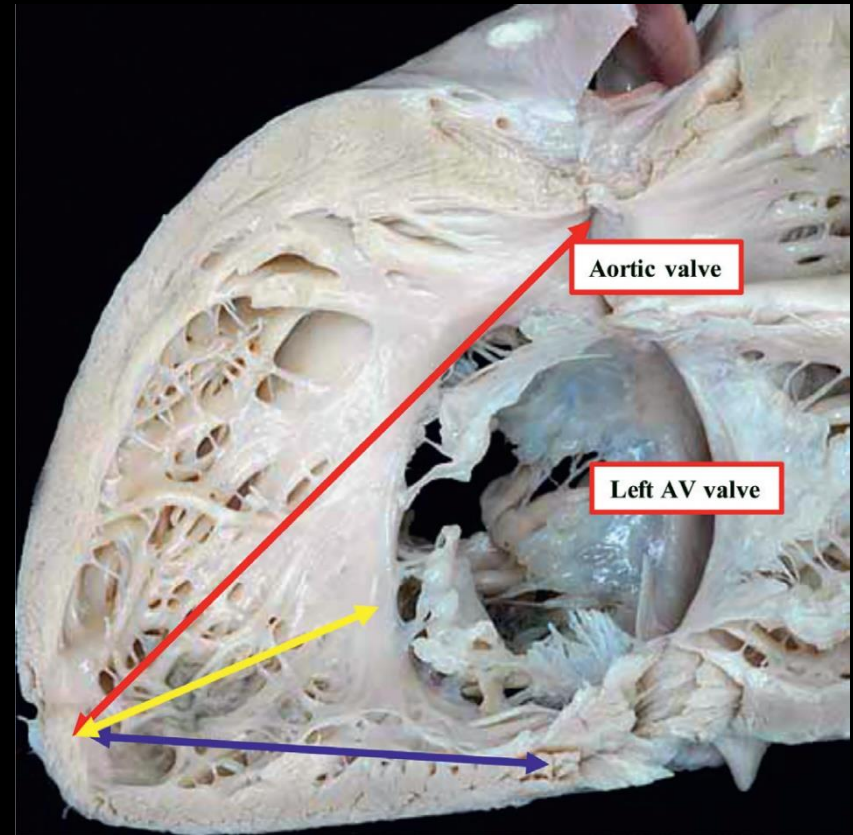
Unwedging of Aortic Valve



Dimension of the LV: Inlet \neq Outlet



Normal Heart

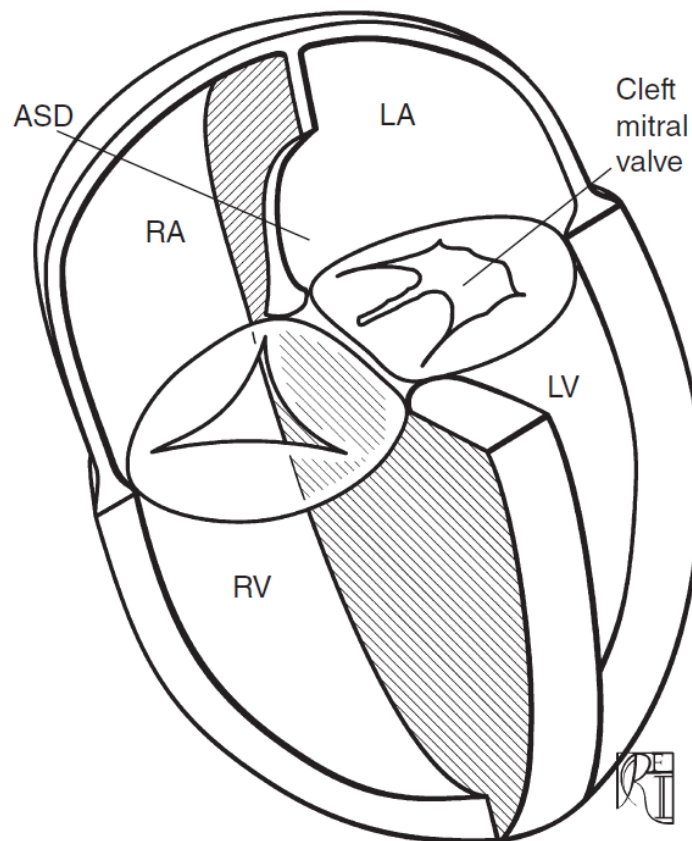


AVSD

Wide Spectrum

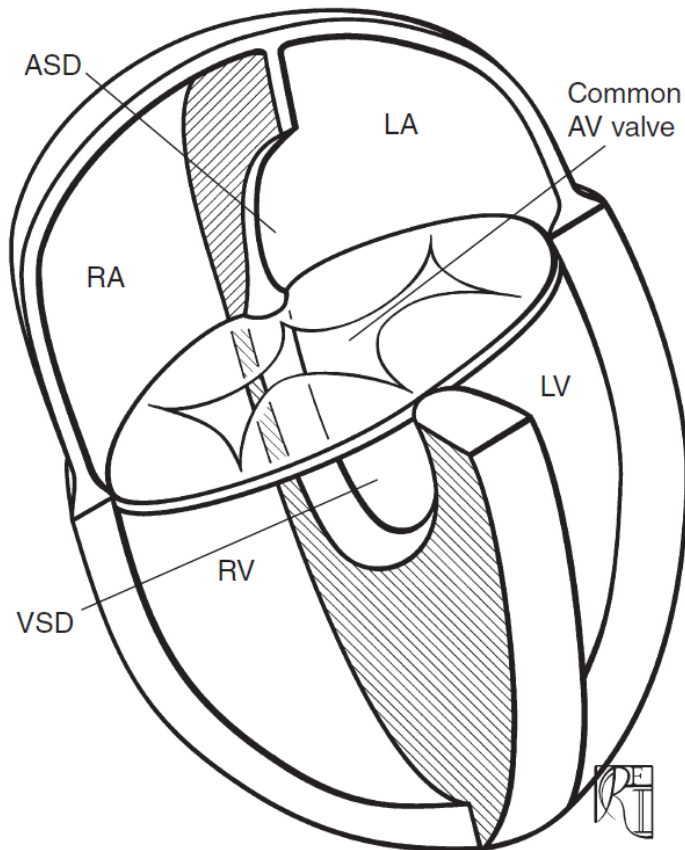
- **AVSD**
 - **Partial**
 - Intermediate (transitional)
 - **Complete**
 - AVSD with TOF
 - AVSD with DORV
 - Unbalanced AVSD
 - Heterotaxy syndrome

Partial AVSD

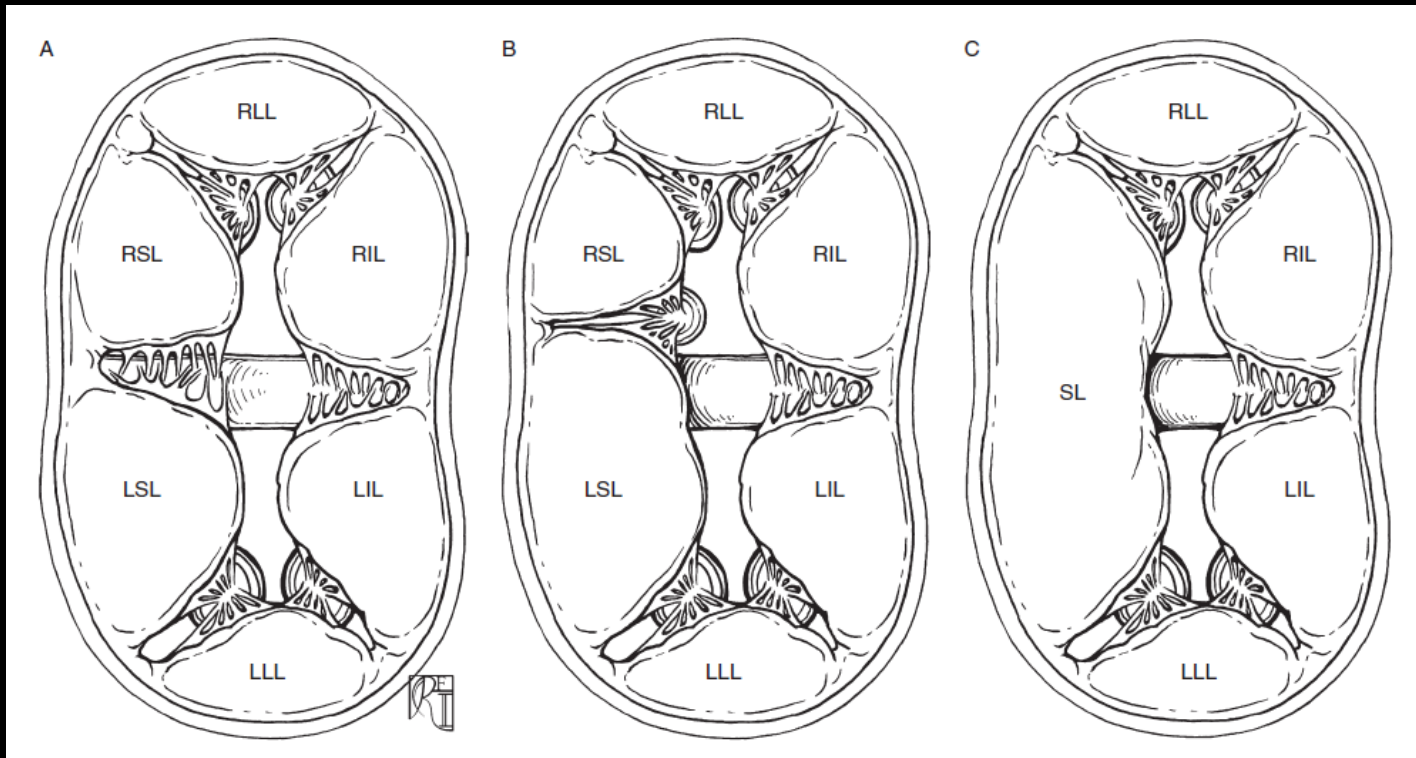


- ASD
 - Primum
- Left AV valve cleft
 - insufficiency

Complete AVSD

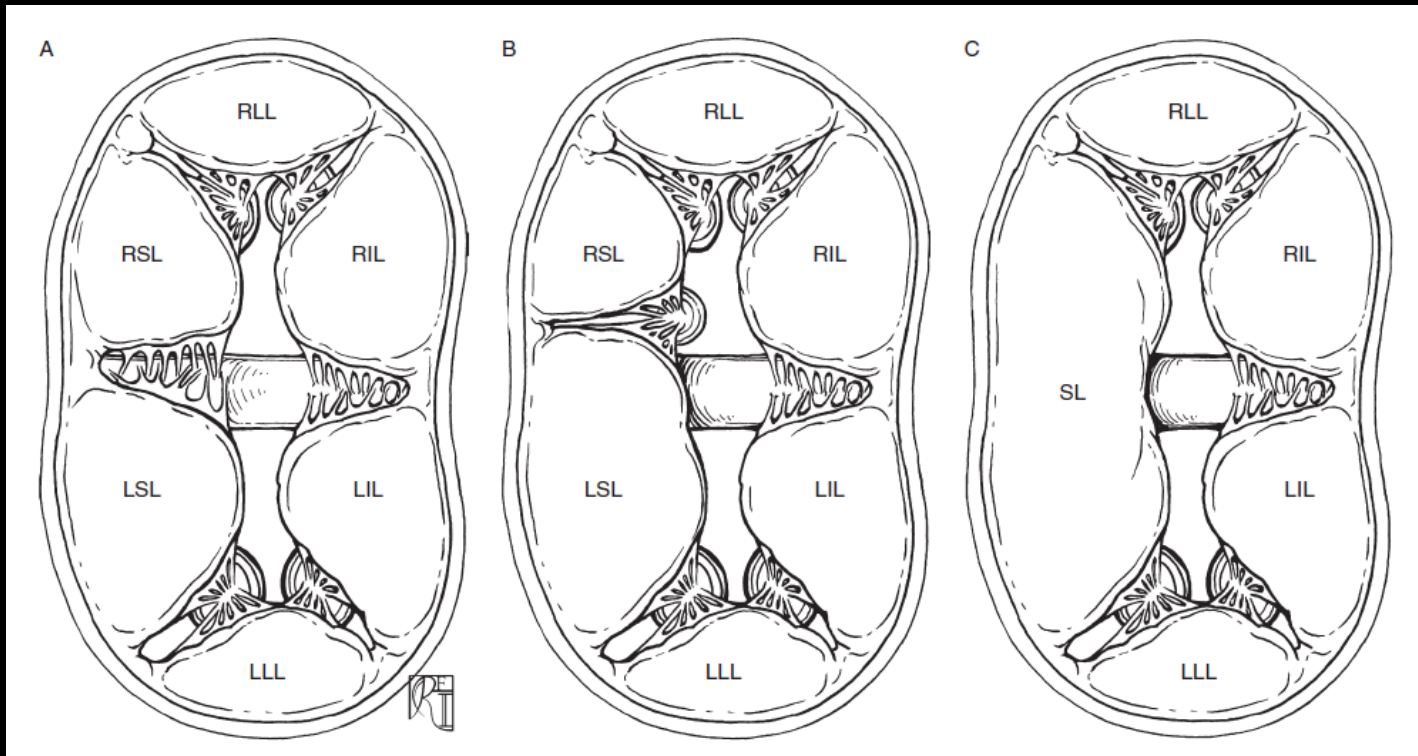


- VSD
- ASD
- Common AV valve
- Bridging leaflet



- Superior (anterior) bridging (common) leaflet
- Inferior (posterior) bridging (common) leaflet
- Left mural (lateral) leaflet
- Right mural (lateral) leaflet

Rastelli classification



70%

10%

20%

Hemodynamics

- **Left to right shunting**
 - ASD
 - VSD
 - AV valve regurgitation
- **AV valve regurgitation**

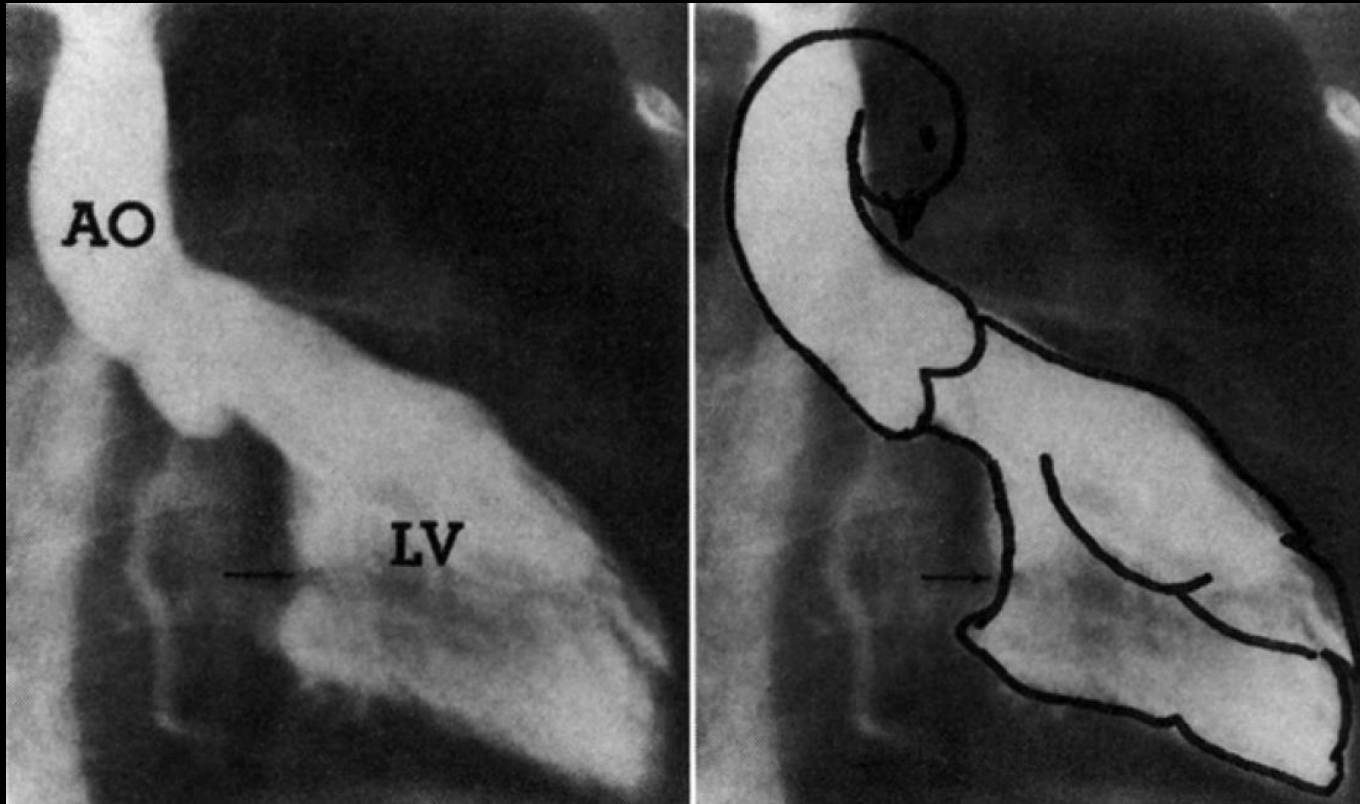
Symptom and Sign

- **Congestive heart failure**
 - Poor feeding
 - Inadequate weight gain
 - Sweating
 - Frequent URI
 - Tachypnea

Diagnosis

- **Echocardiography**
 - VSD, ASD
 - Valvular abnormalities
 - Associated anomalies



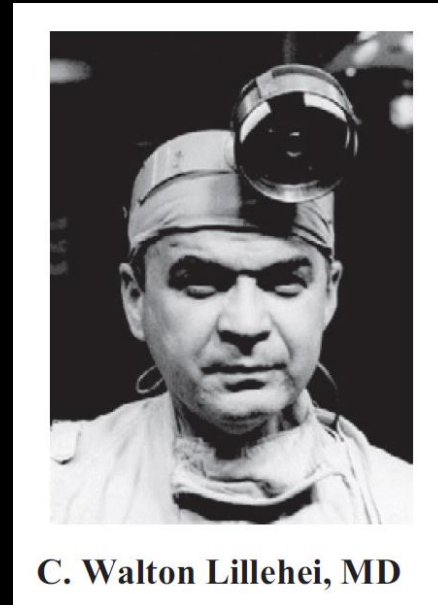
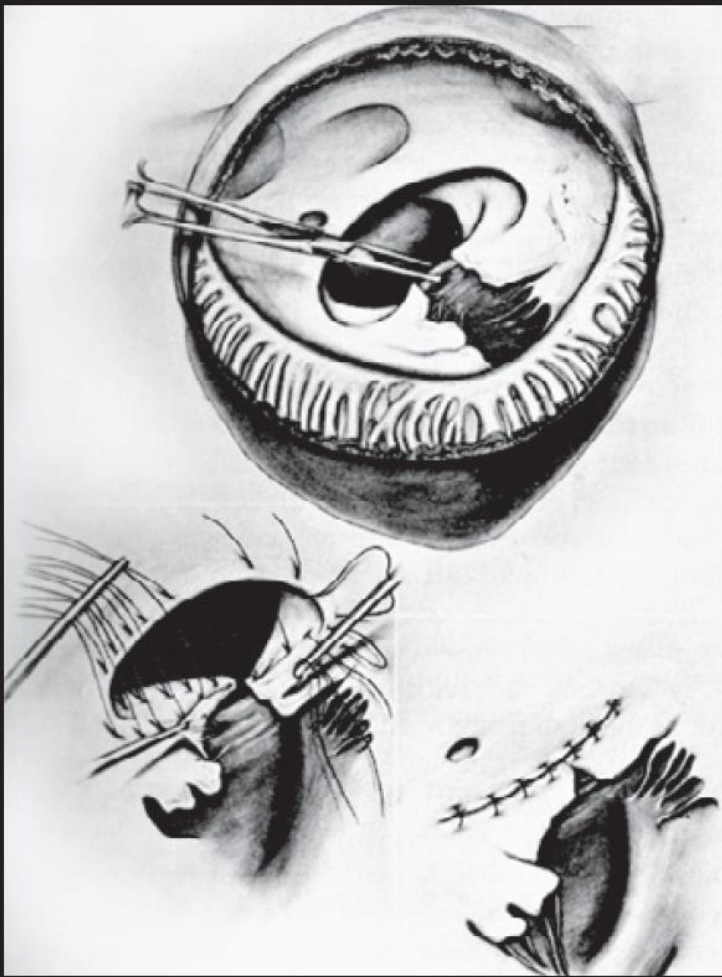


- LVOT is elongated and narrowed
 - **Goose-neck deformity**
 - Caused by the unwedging of the aorta

Operations

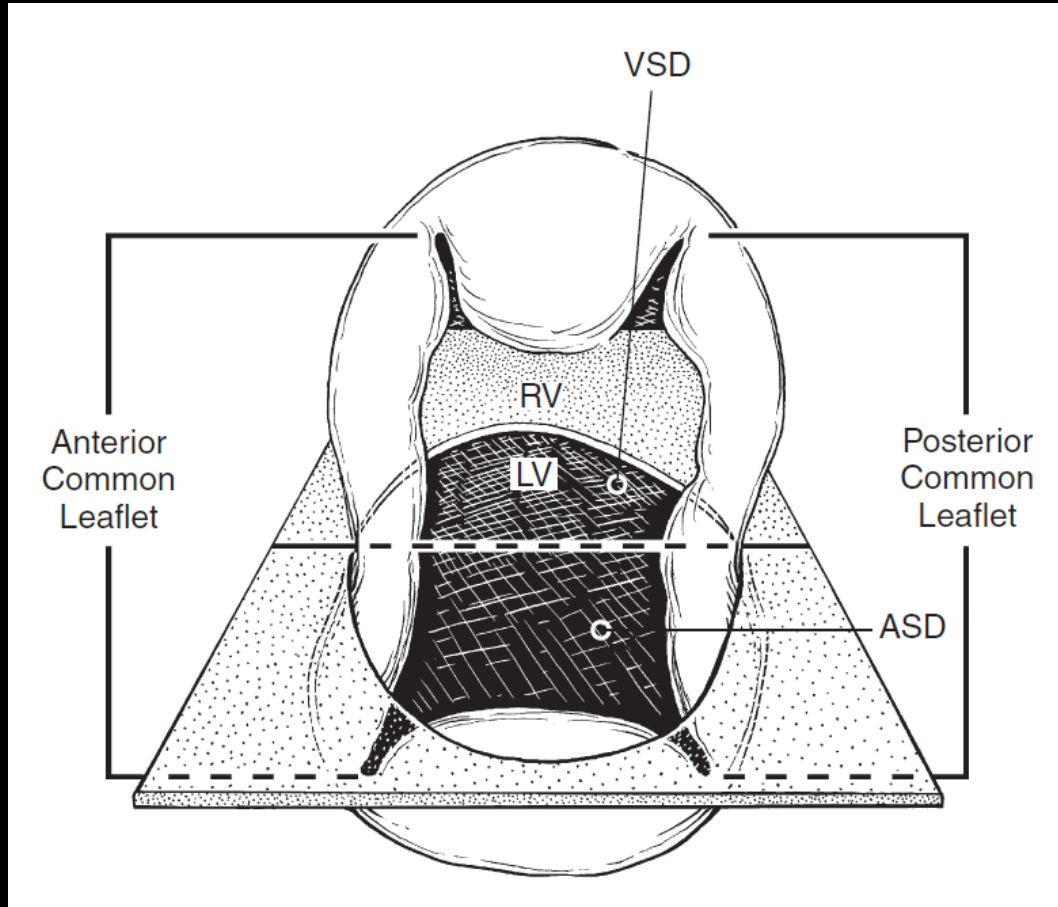
- **Timing**
 - Partial: 1 to 4 years
 - Complete: 3 to 5 months
 - Exceptions
- **Early** primary repair
 - vs. **PAB**
- **Intraoperative TEE**

History

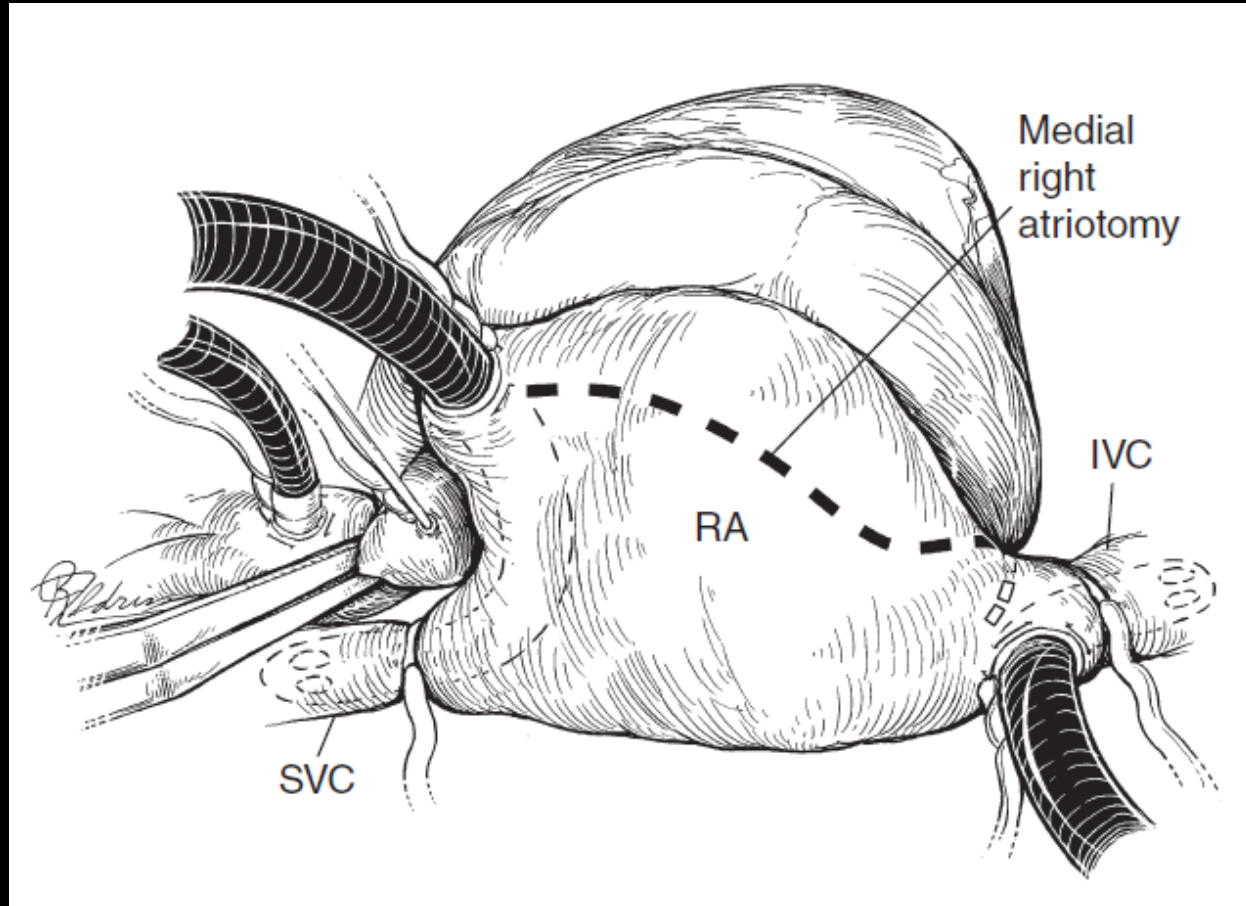


C. Walton Lillehei, MD

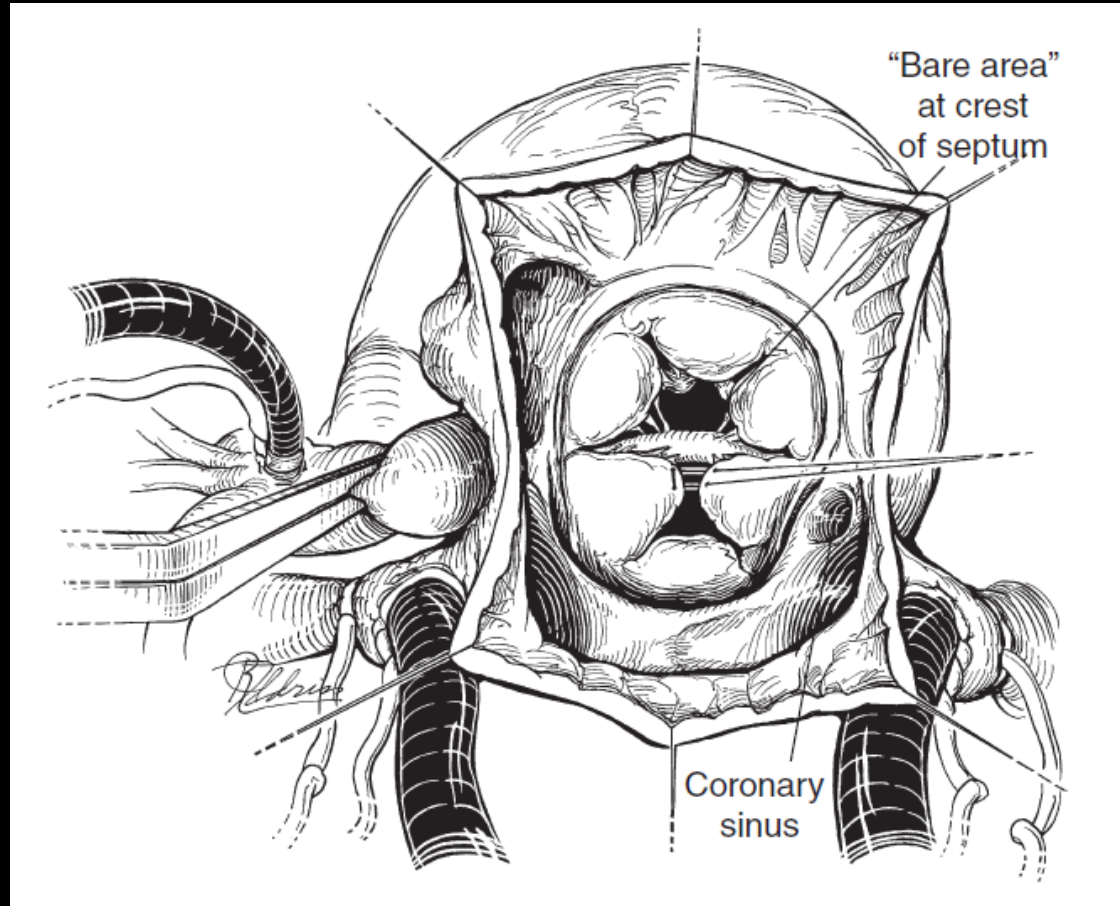
Surgical repair of AVSD



Surgical repair of AVSD



Surgical repair of AVSD



별의 진화



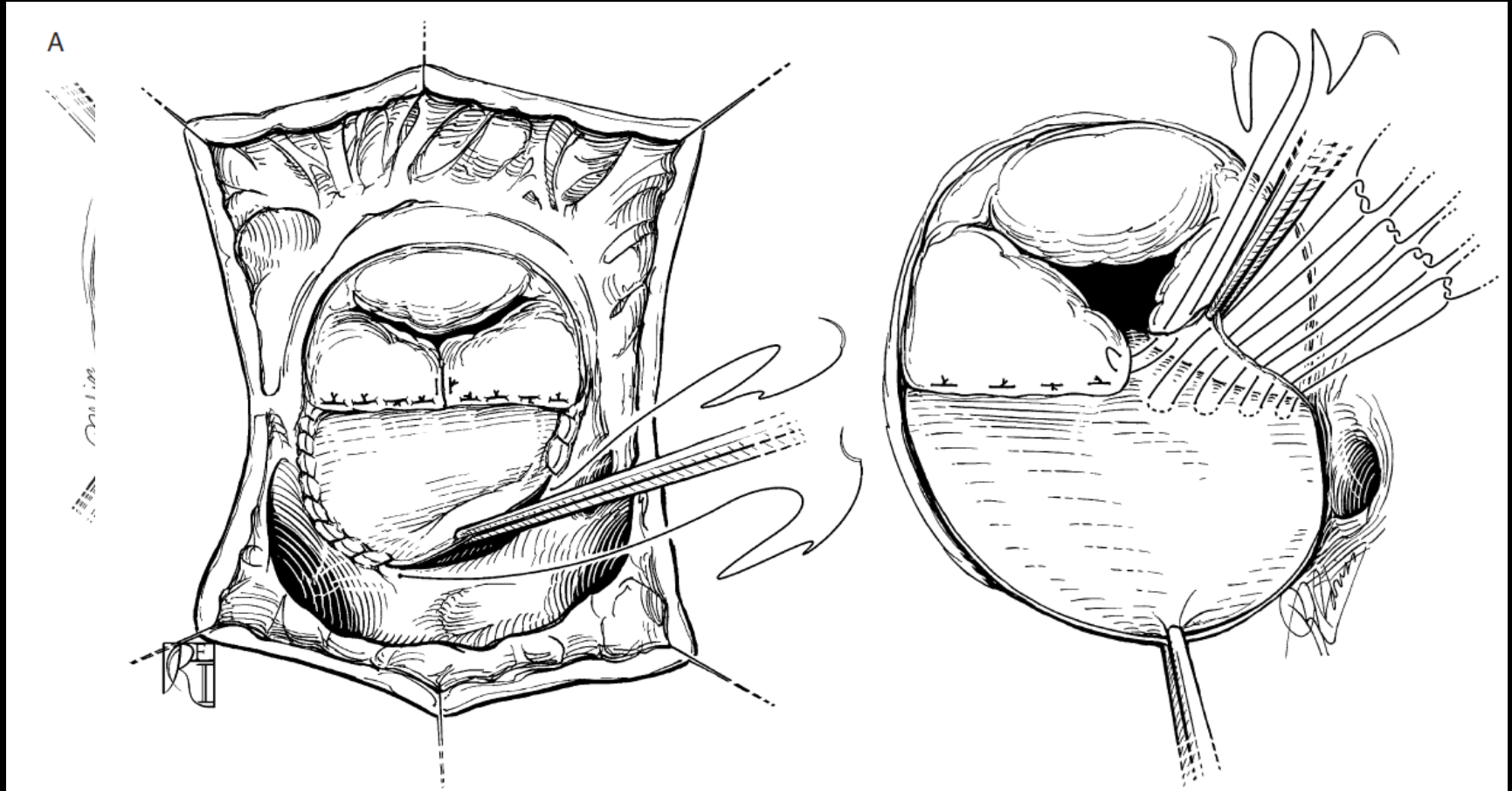
Surgical Techniques

- Single-patch

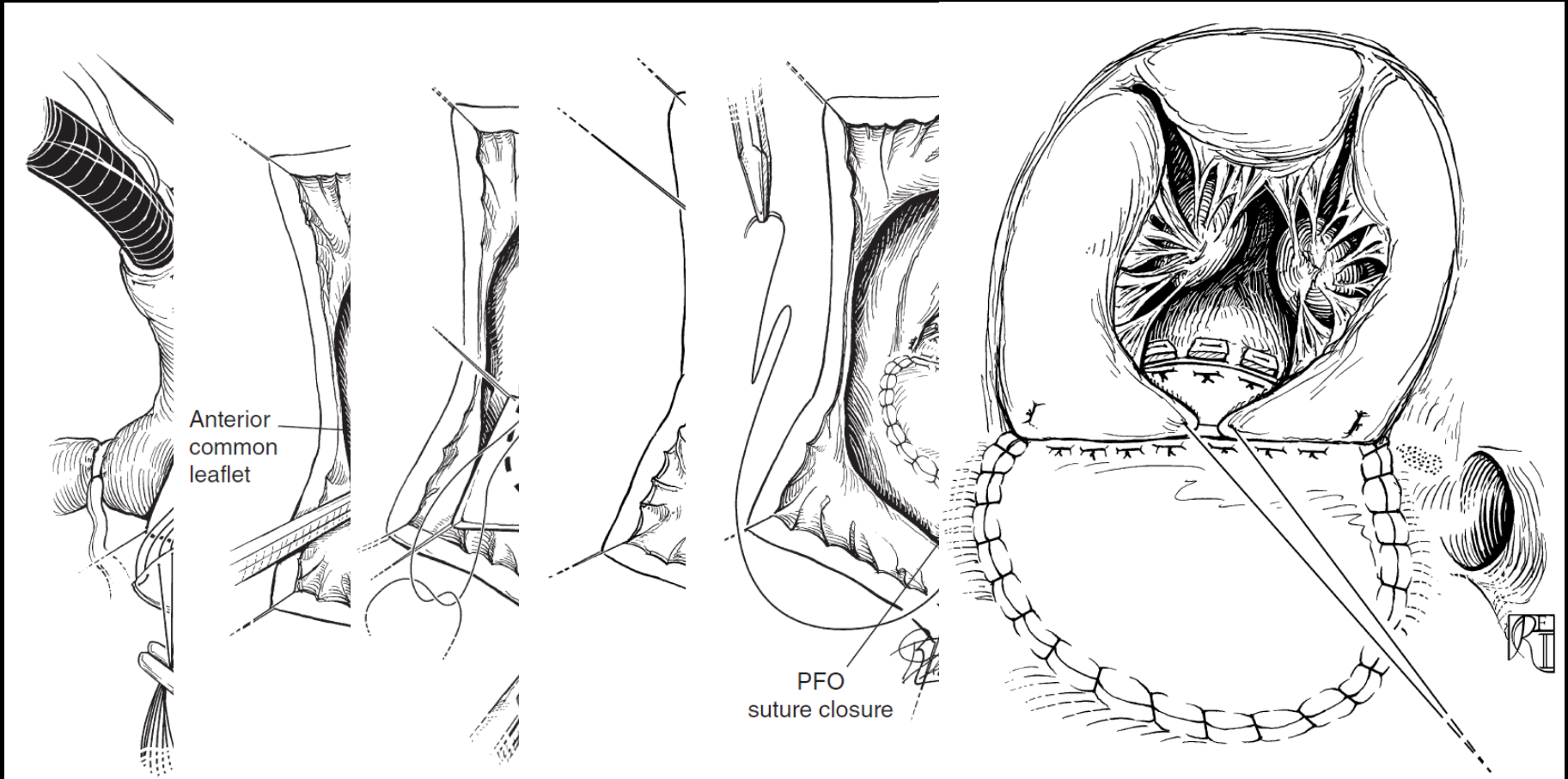
- Two-patch

- Modified single-patch

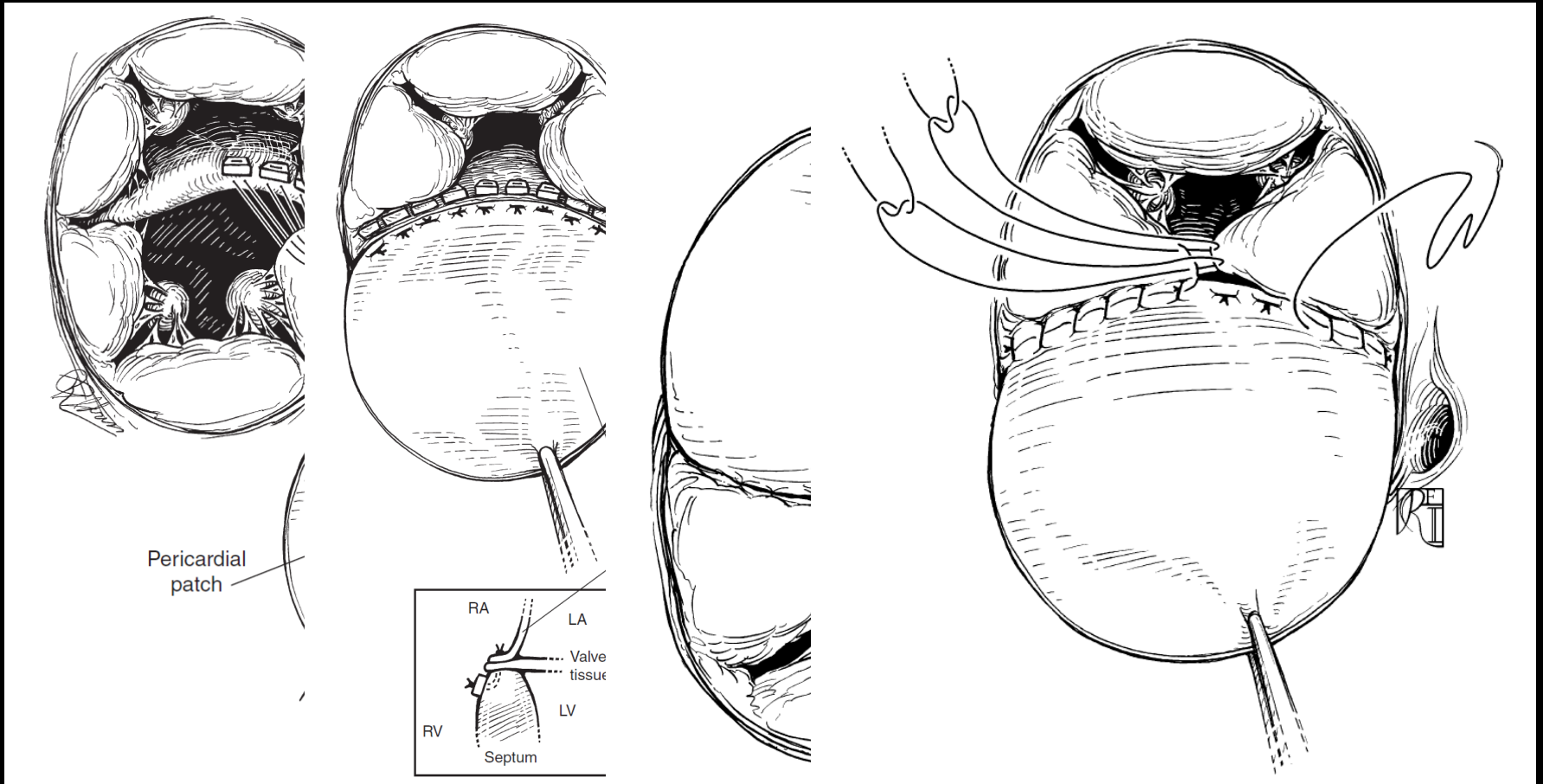
Single-Patch technique



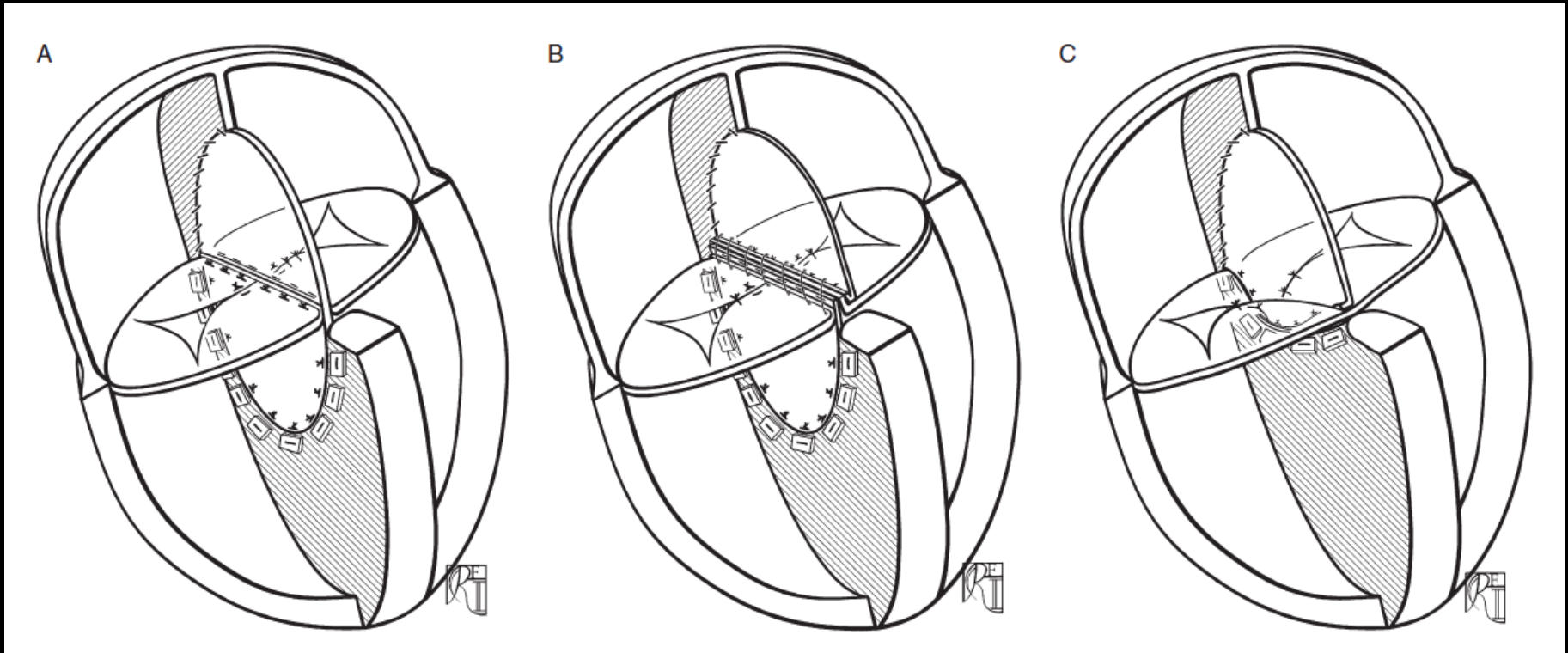
Two-Patch technique



Modified Single-Patch technique



Different Surgical Techniques



Single-patch

Two-patch

Mod. single-patch

Postoperative Complications

- Pulmonary hypertensive crisis
- Complete AV block

- Left AV valve insufficiency
- LVOTO

Prognostic Factors

- Age at operation
- Preop. valve incompetence
- Double orifice left AV valve
- Zone of apposition
- Trisomy 21

CASE



서울아산병원
소아청소년병원 심장외과
Asan Medical Center Children's Hospital Cardiac Surgery



Brief Hx

- GA 38+6 wks
- 2.8 kg, female
- OPD f/u for AVSD

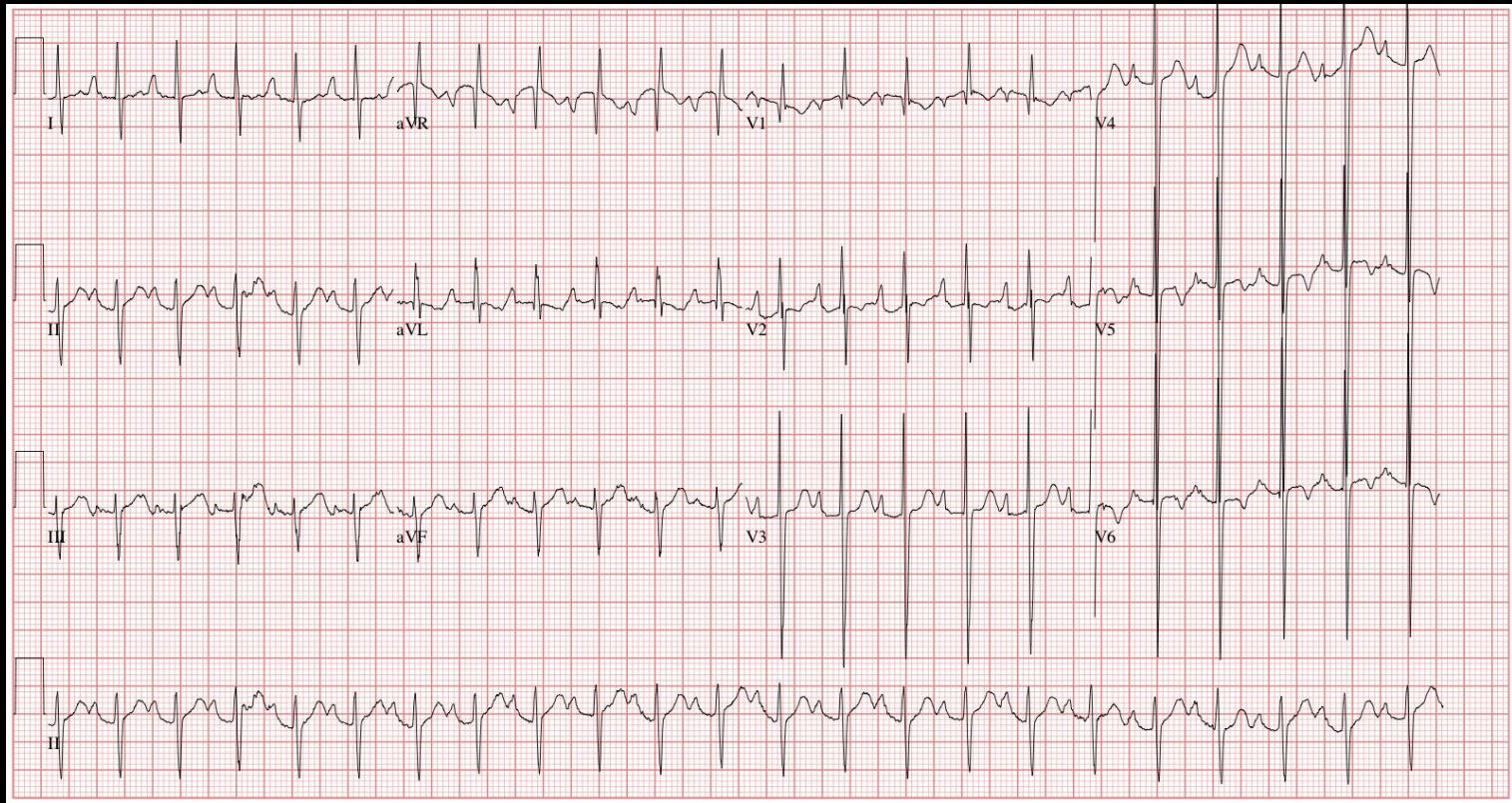


Preop. CXR

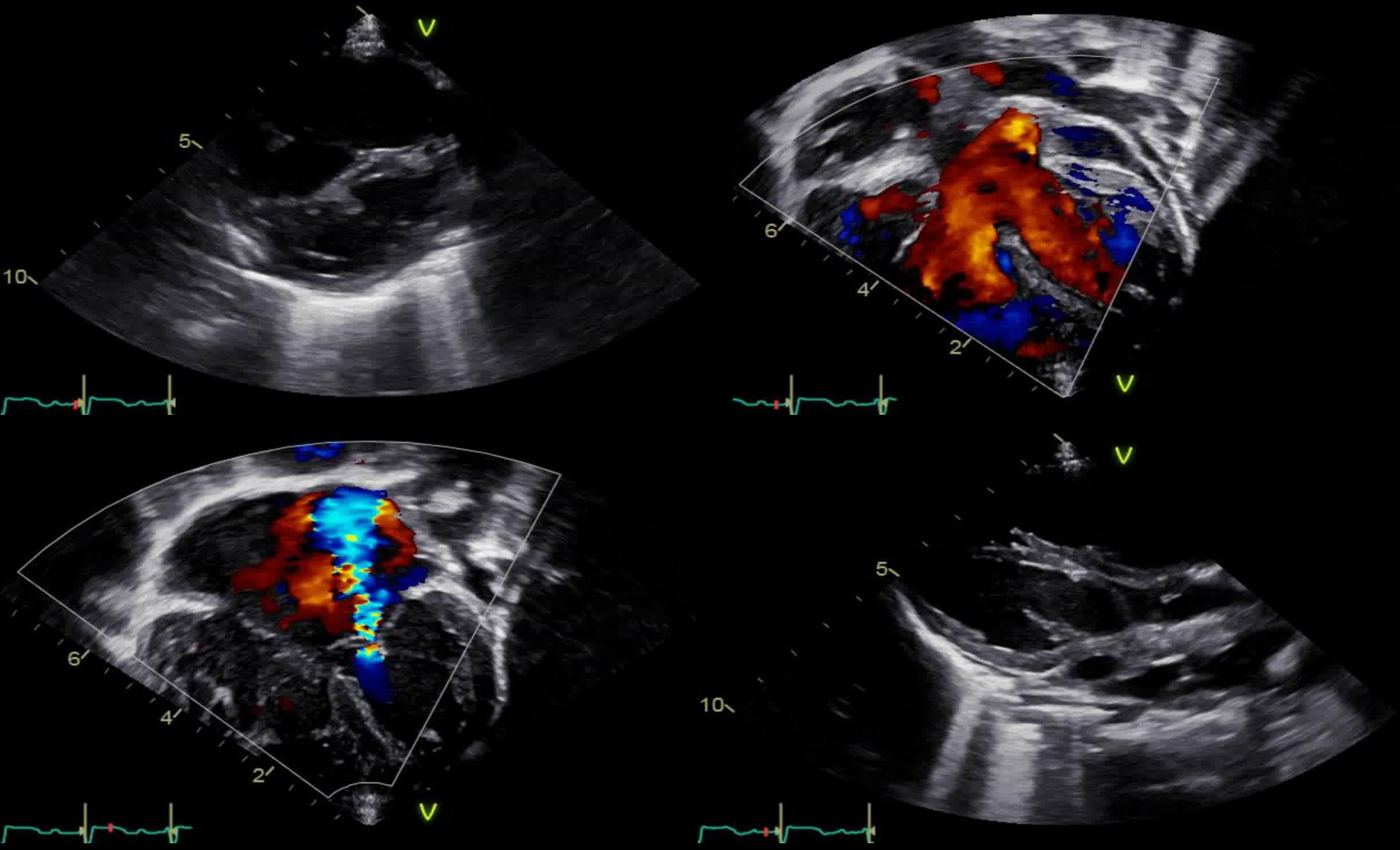
R



Preop. ECG



Preop. EchoCG



Operation

- F/14 mon, 6.9kg
- Diagnosis
 - Complete AVSD
 - Spontaneously closed VSD
 - MR (moderate)
 - ASD (single atrium)
- Operation
 - MV repair
 - Atrial partitioning

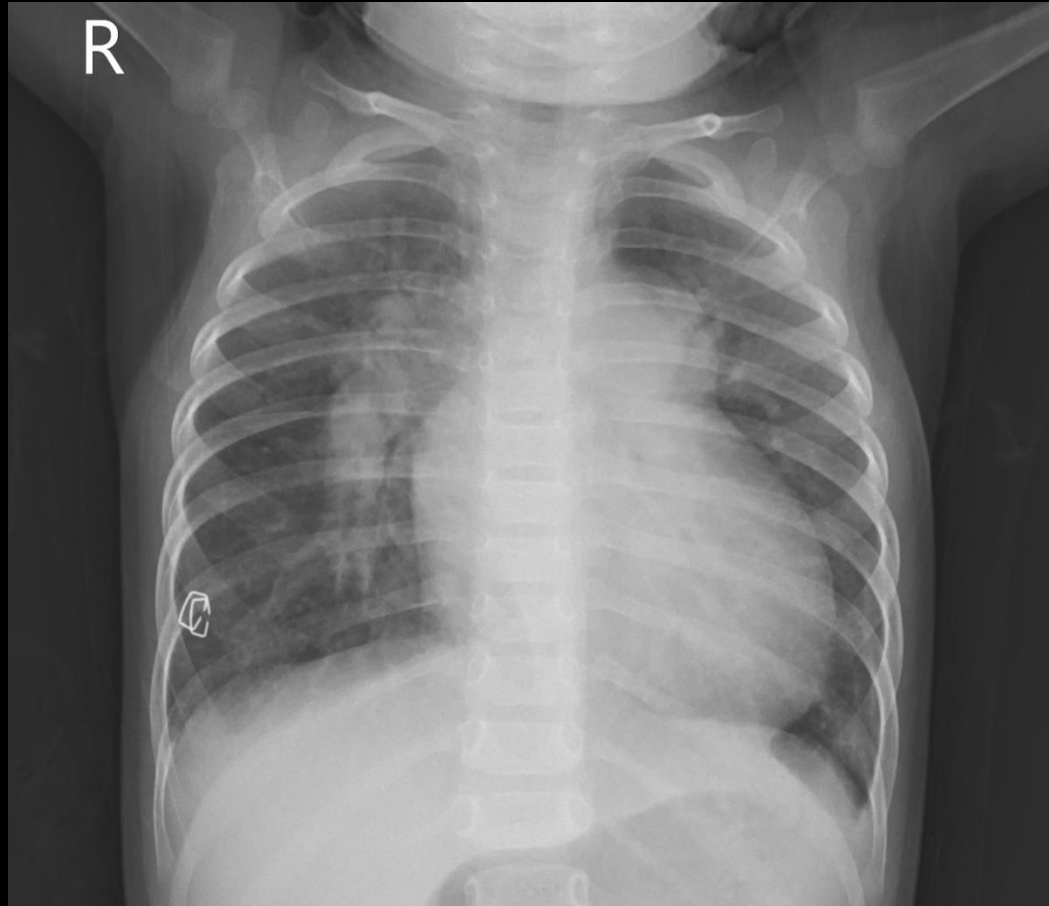
Operation

Postop. course

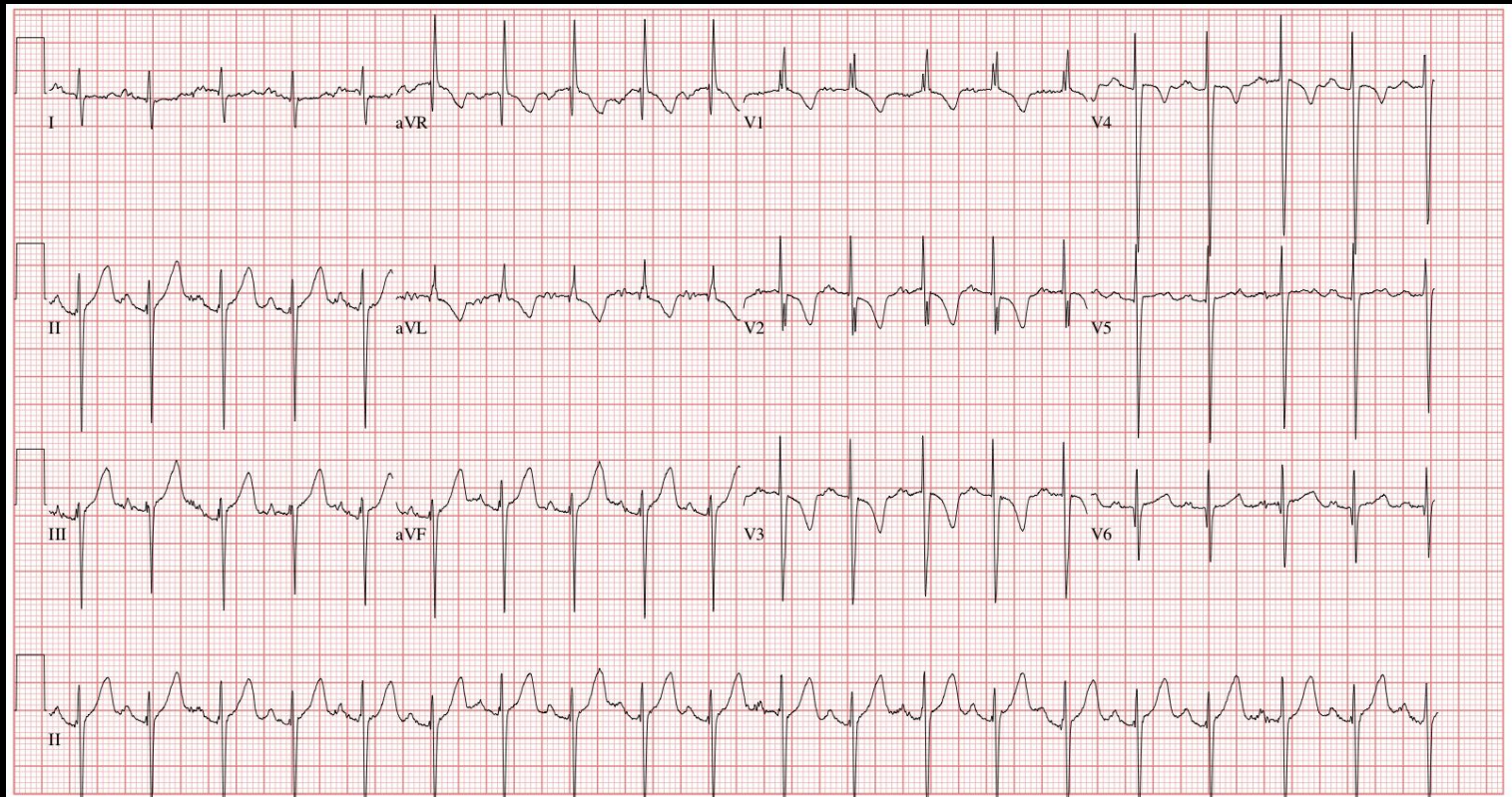
- POD #1 extubation
- POD #3 Transfer to general ward
- POD #8 discharge



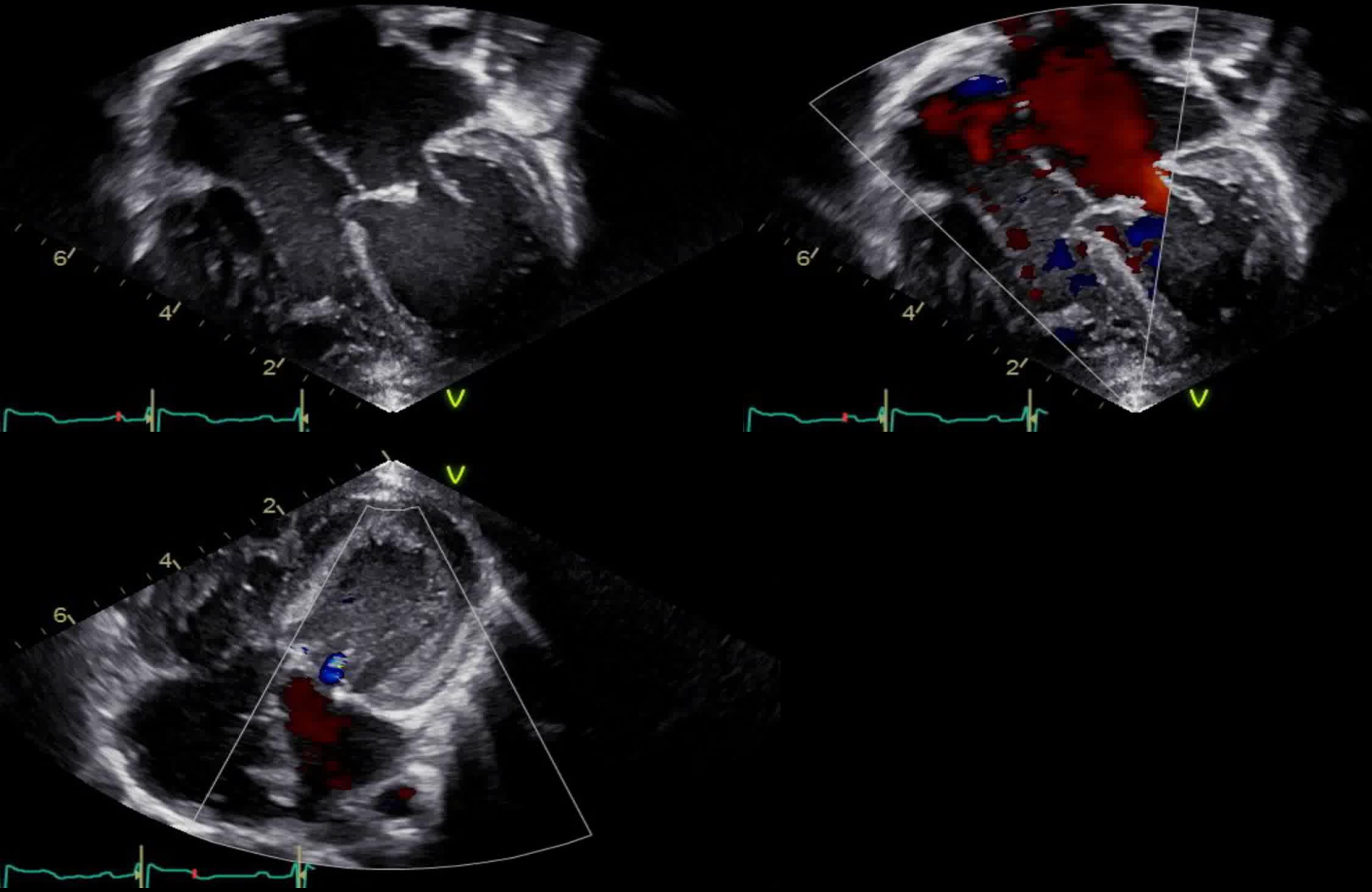
Postop. CXR



Postop. ECG



Postop. EchoCG



Take-home message

- AVSD
 - AVSD / AV canal defect / ECD
 - Common atrioventricular junction
 - Partial / Complete



Reference

- Stark JF. (2007). *Surgery for Congenital Heart Defects* (3rd ed.)
- Mavroudis C, Backer CL. (2013). *Pediatric Cardiac Surgery* (4th ed.)

gninihs@naver.com

