



Cardiovascular Aspect in CXR

From Practical hint series
by Cardiology fellowships



Cardiac silhouette

What chamber and Where is it

Anatomy review



Left Heart

Right Heart

Entire Heart

Active View

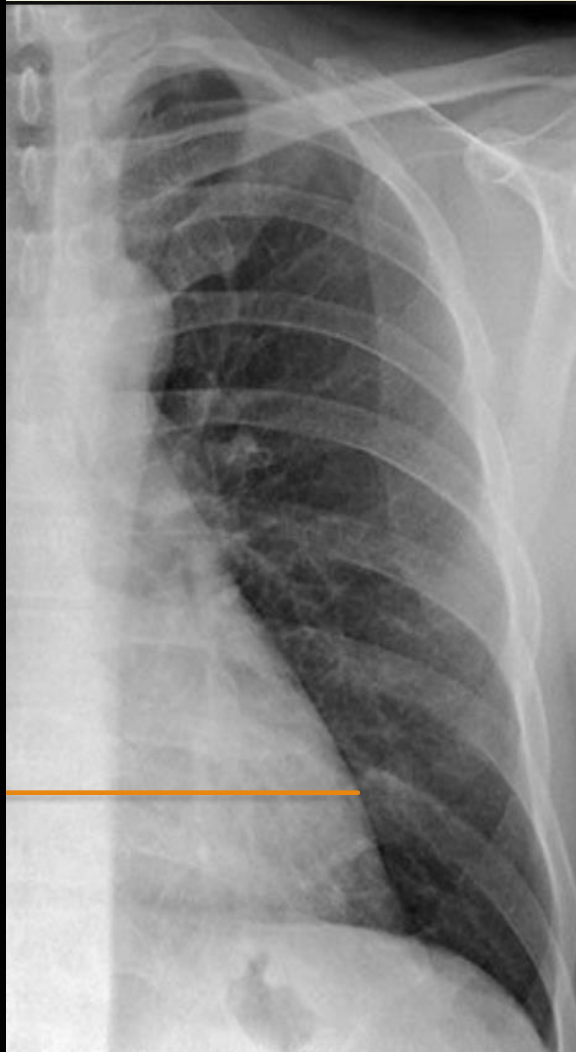
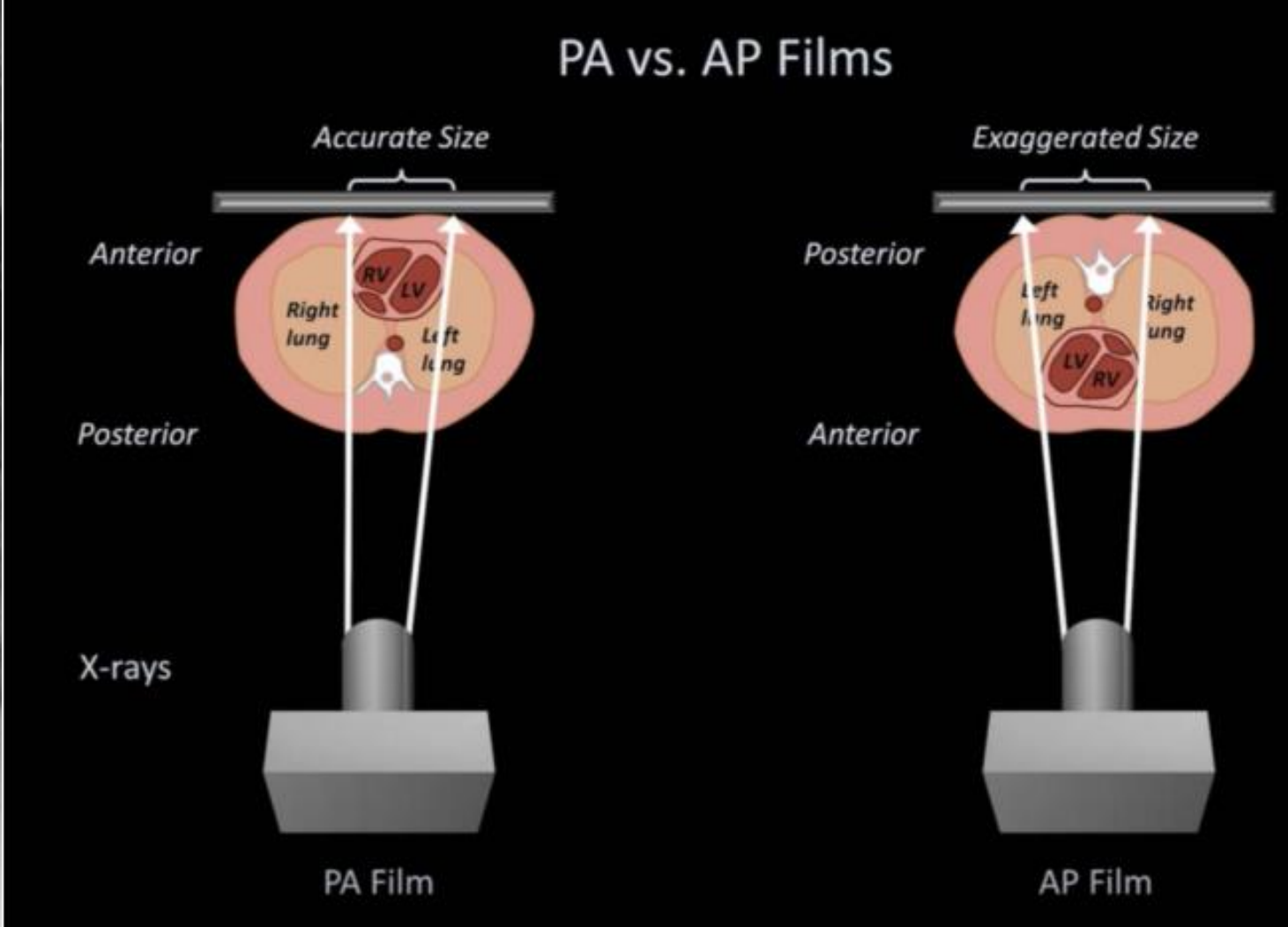


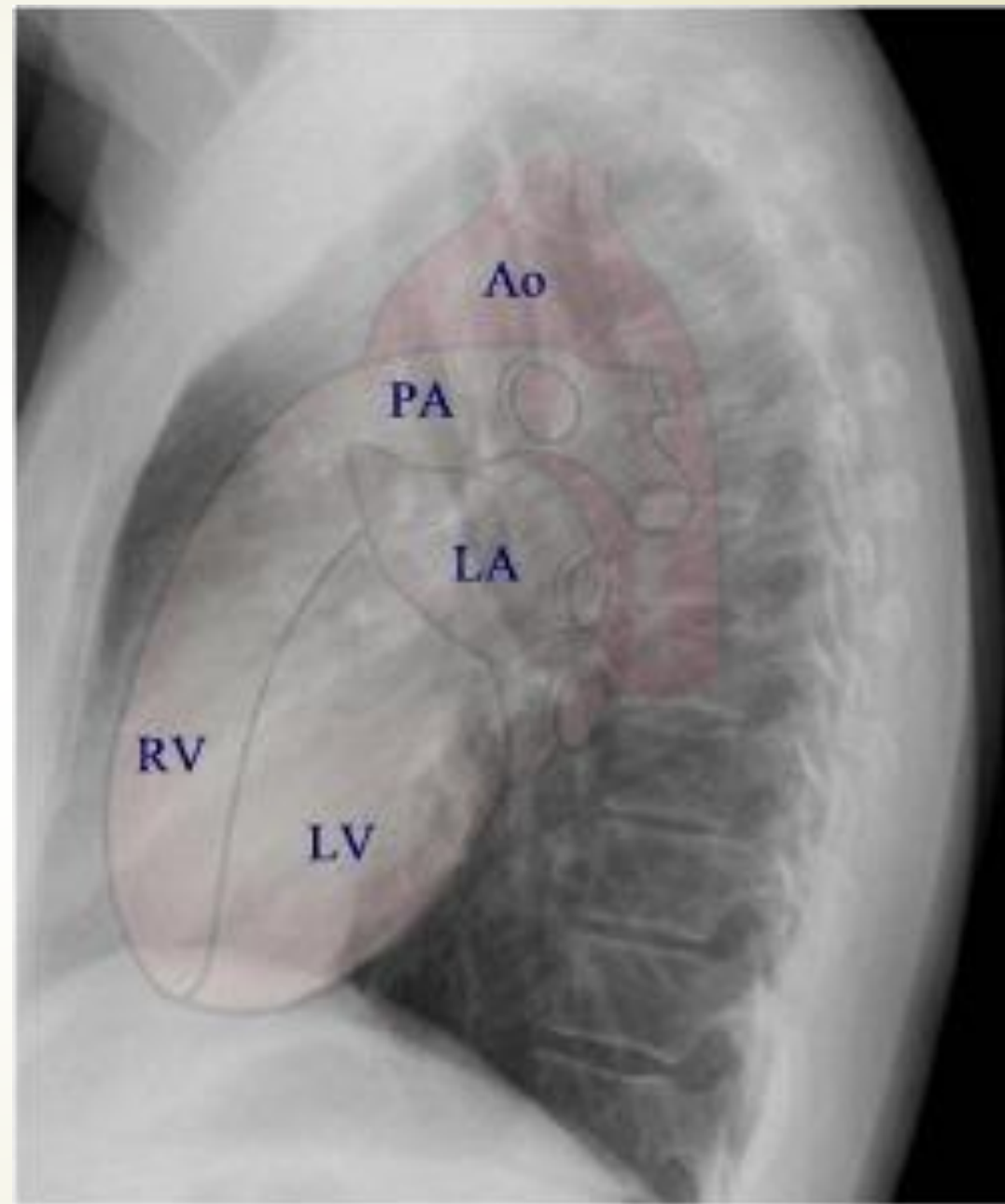
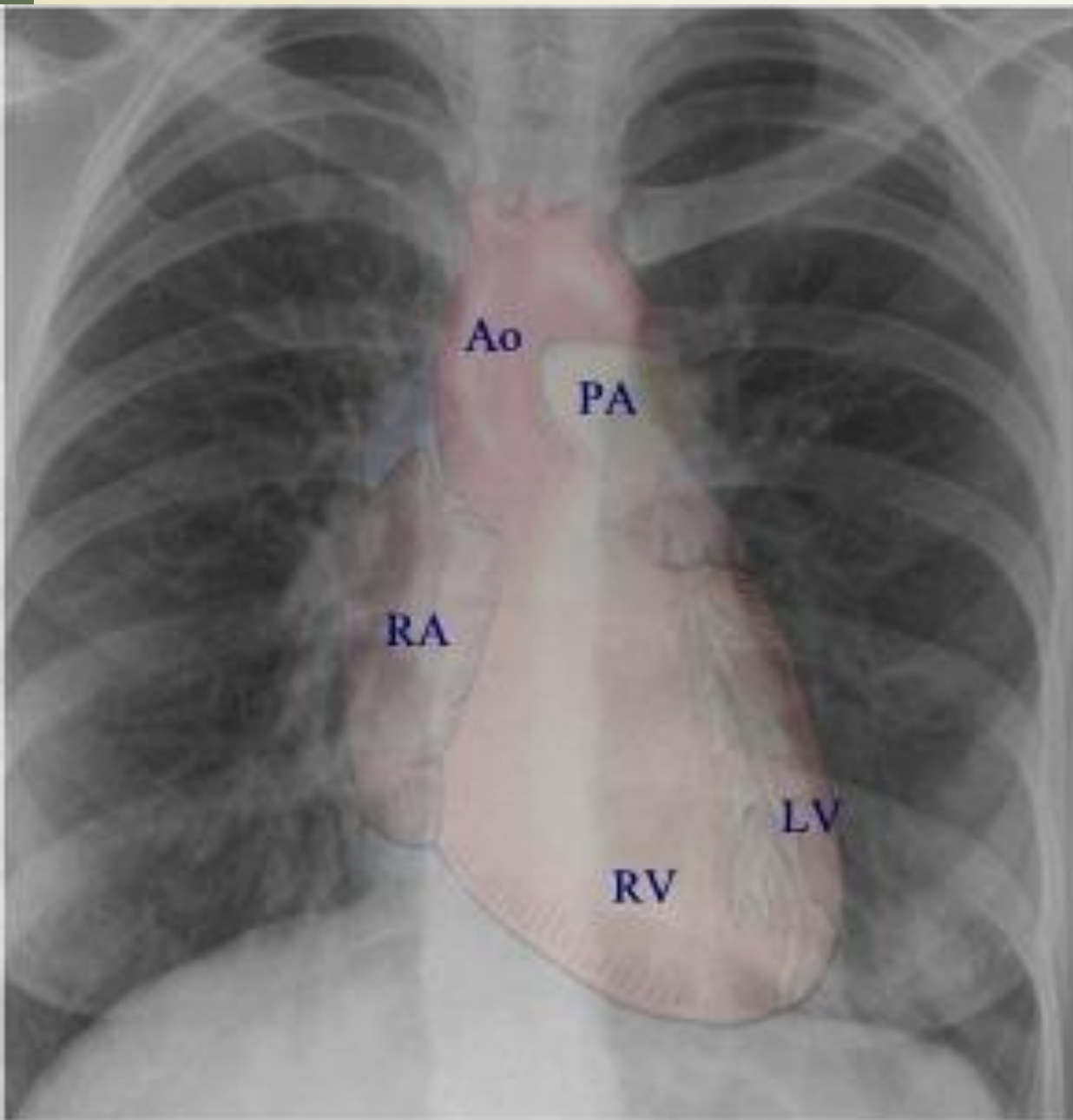
Cartoon

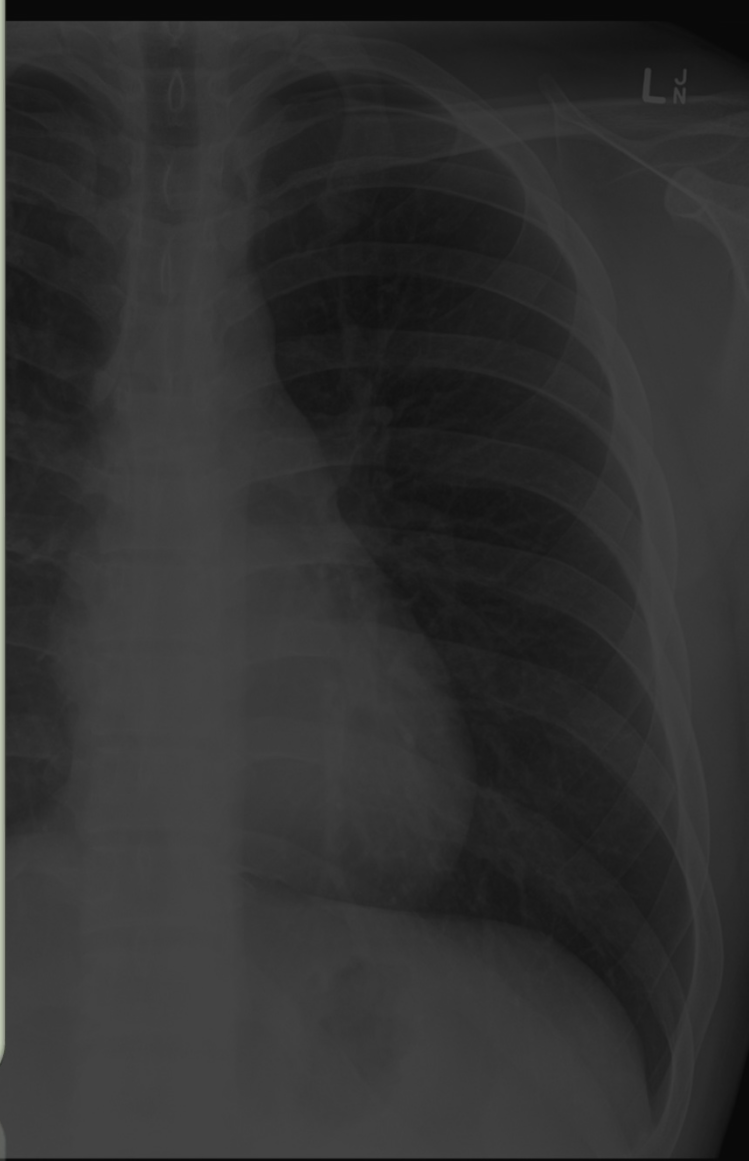
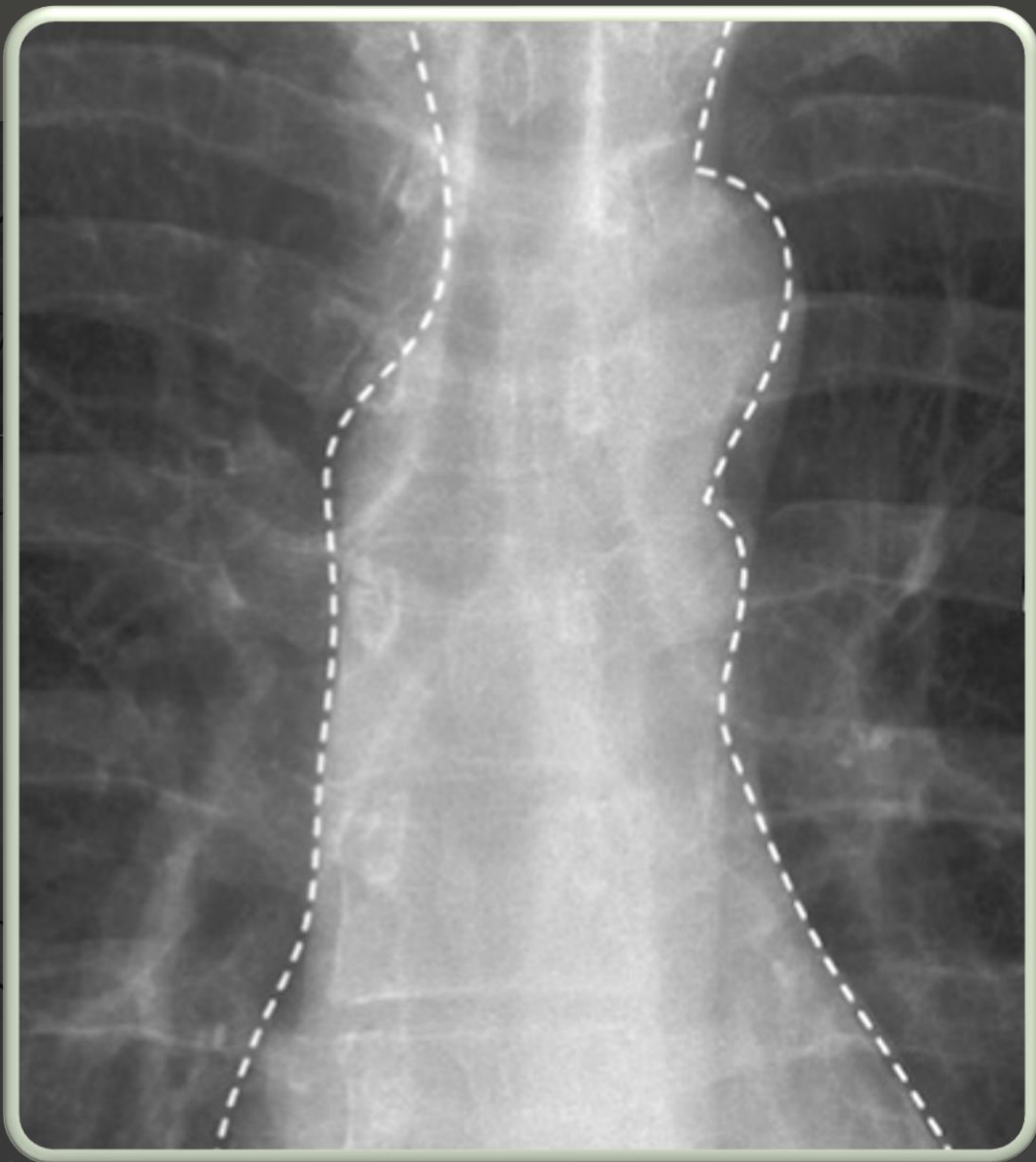
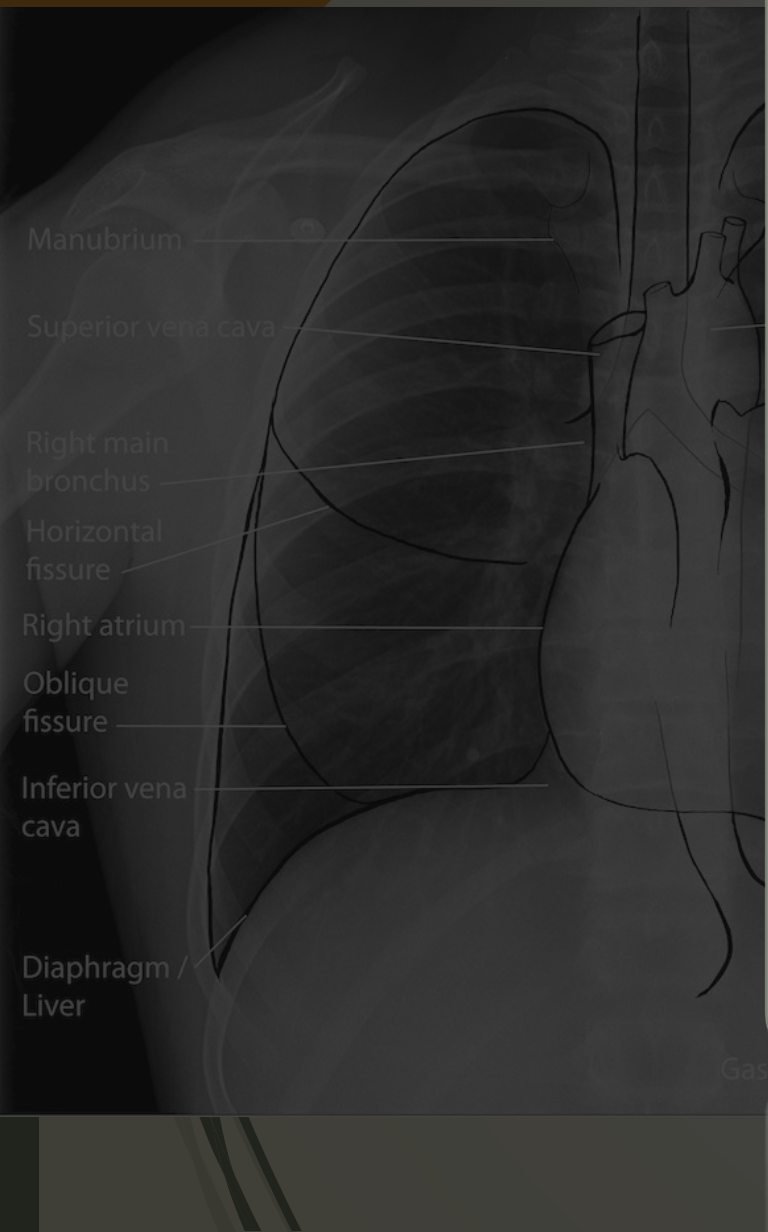


X-Ray

AP vs PA in one patient

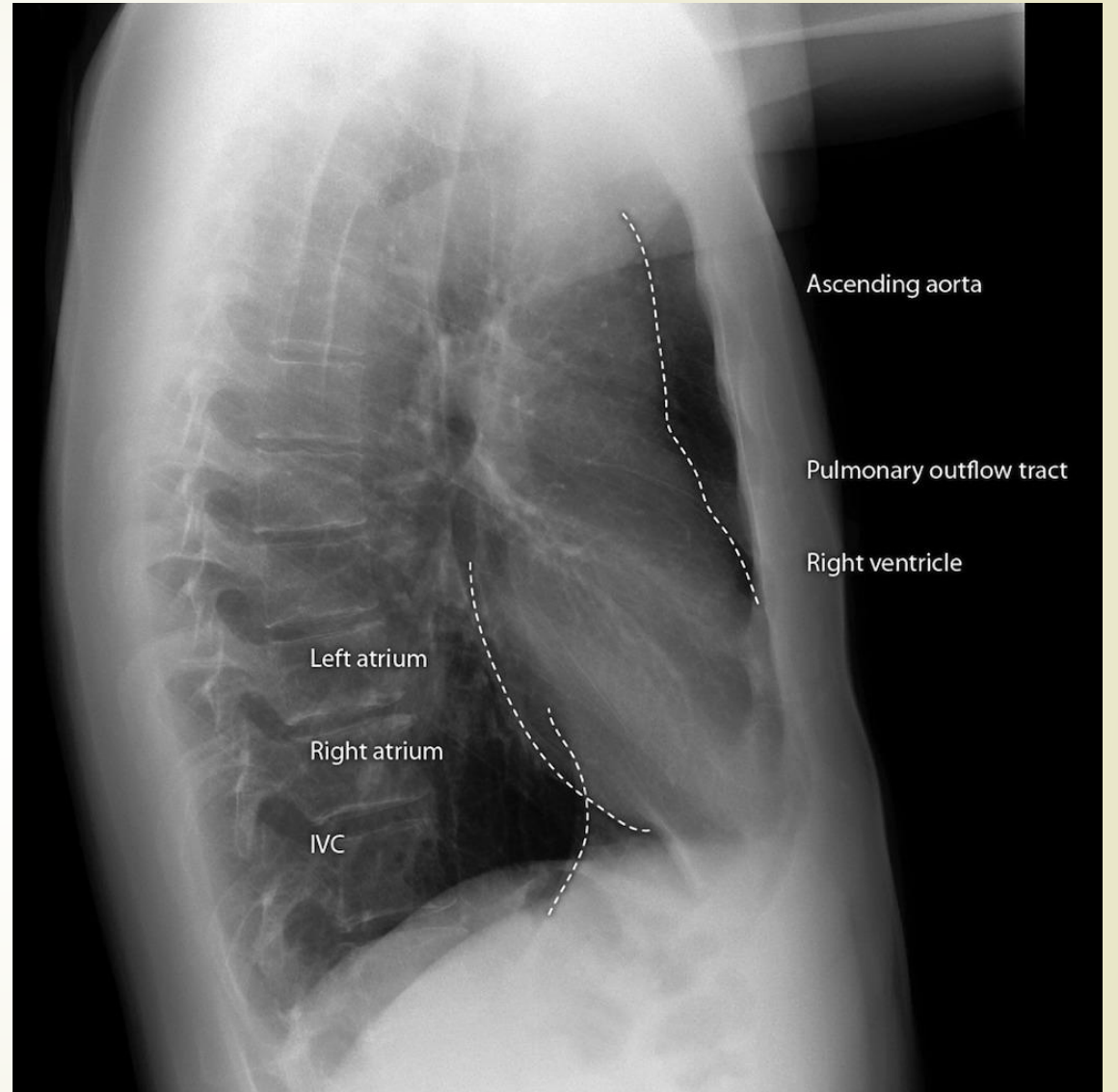
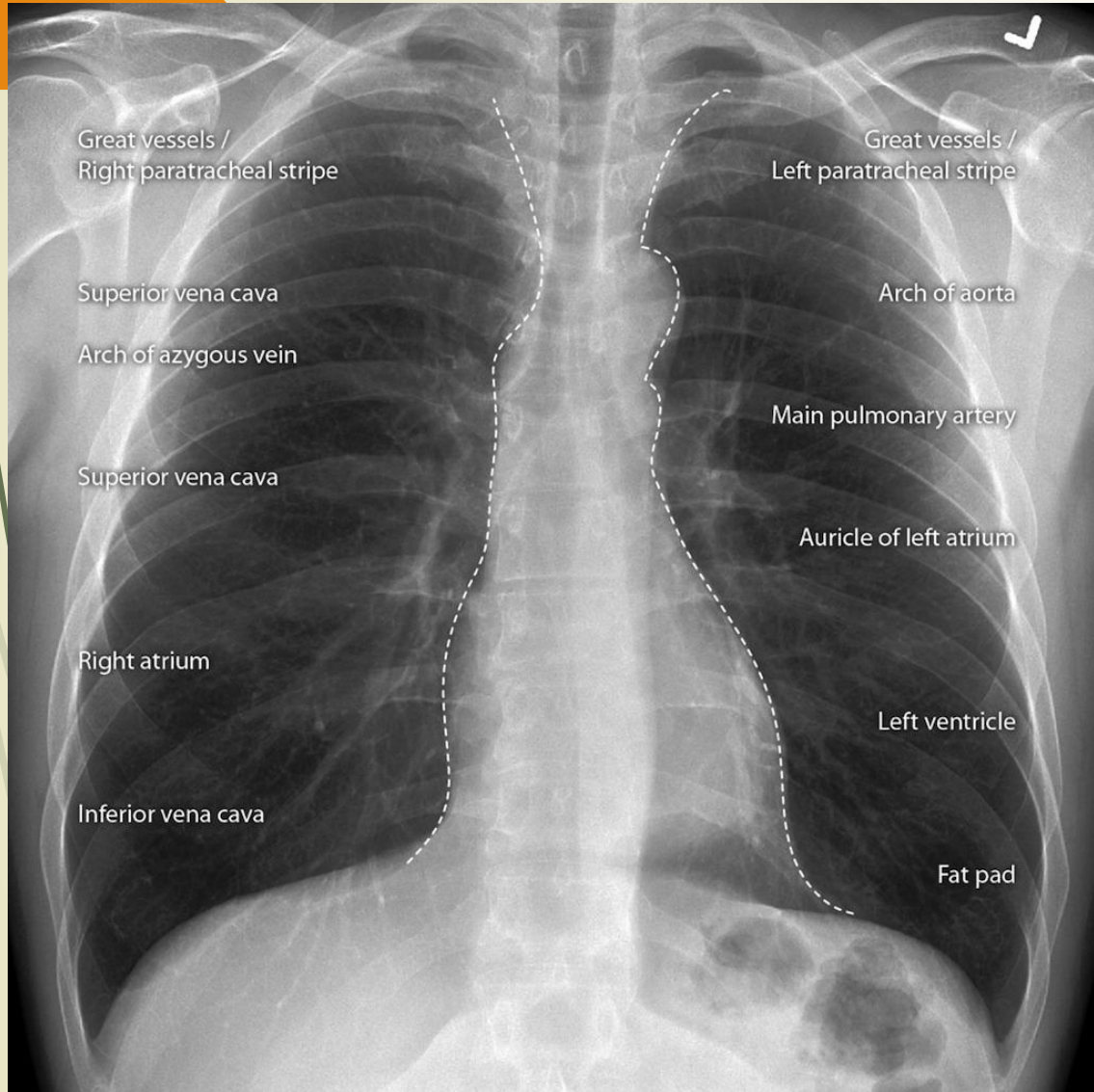




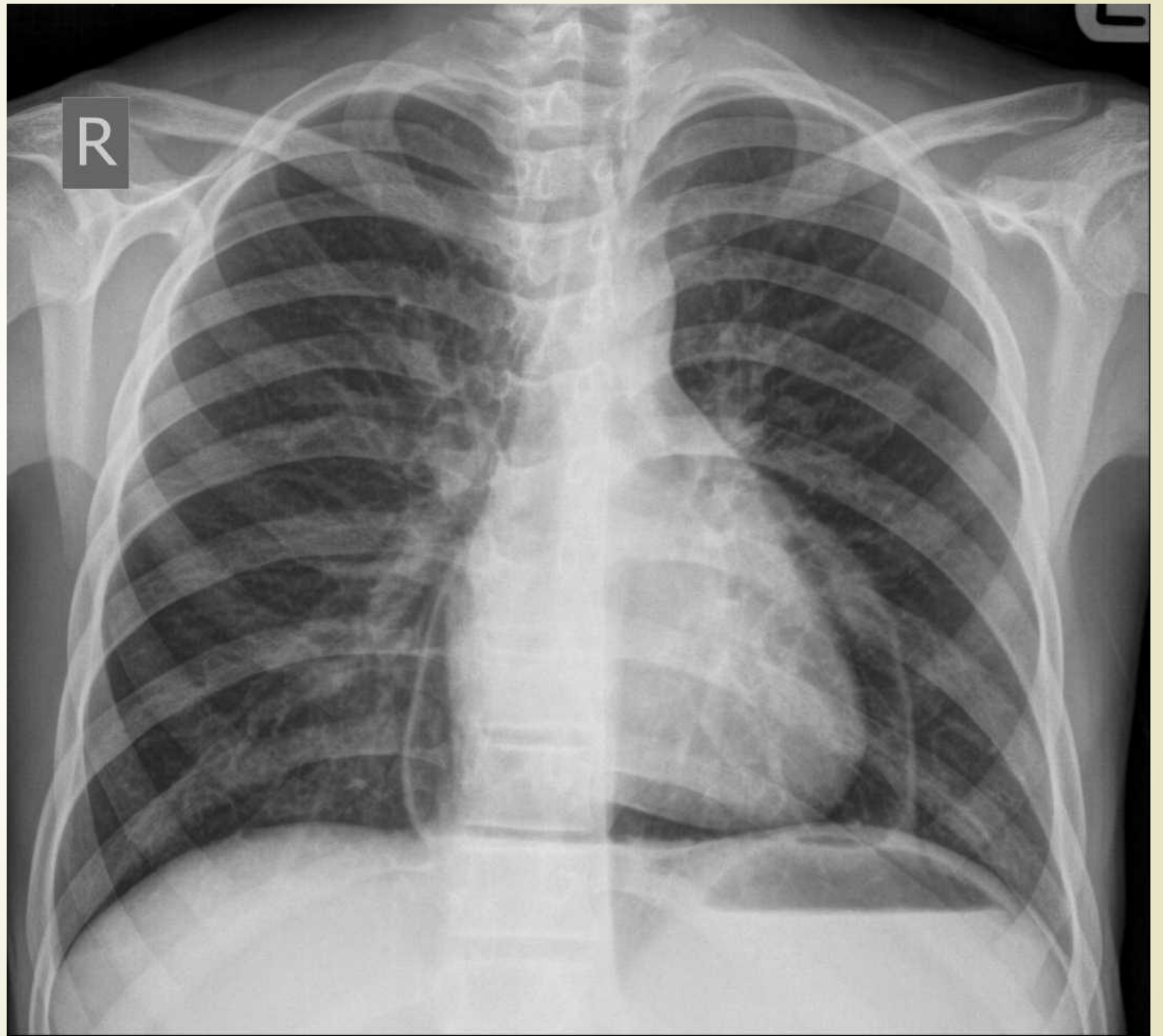


Gastri...

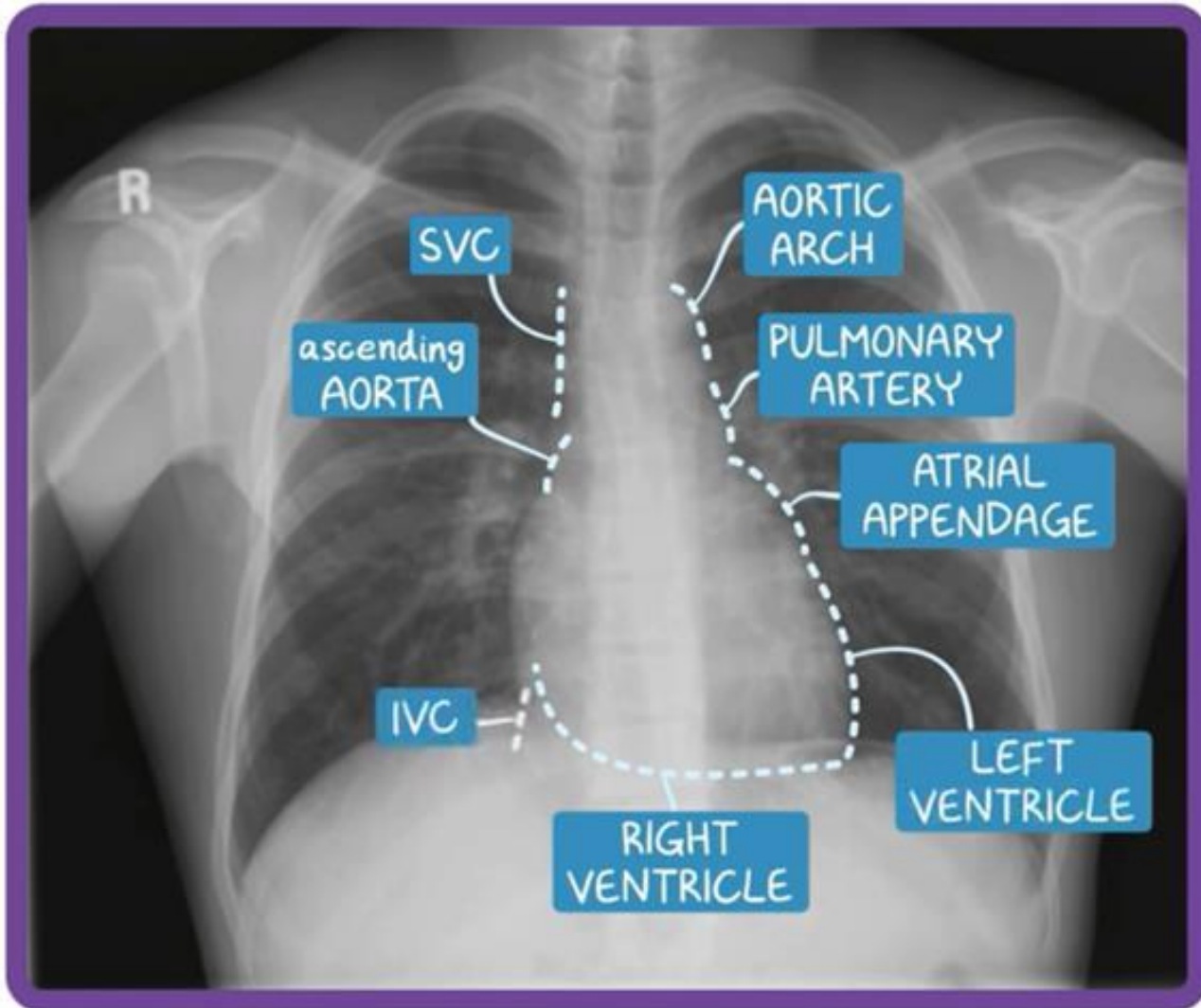
TOR EXC...



Where is the
Heart !?



NI shadow

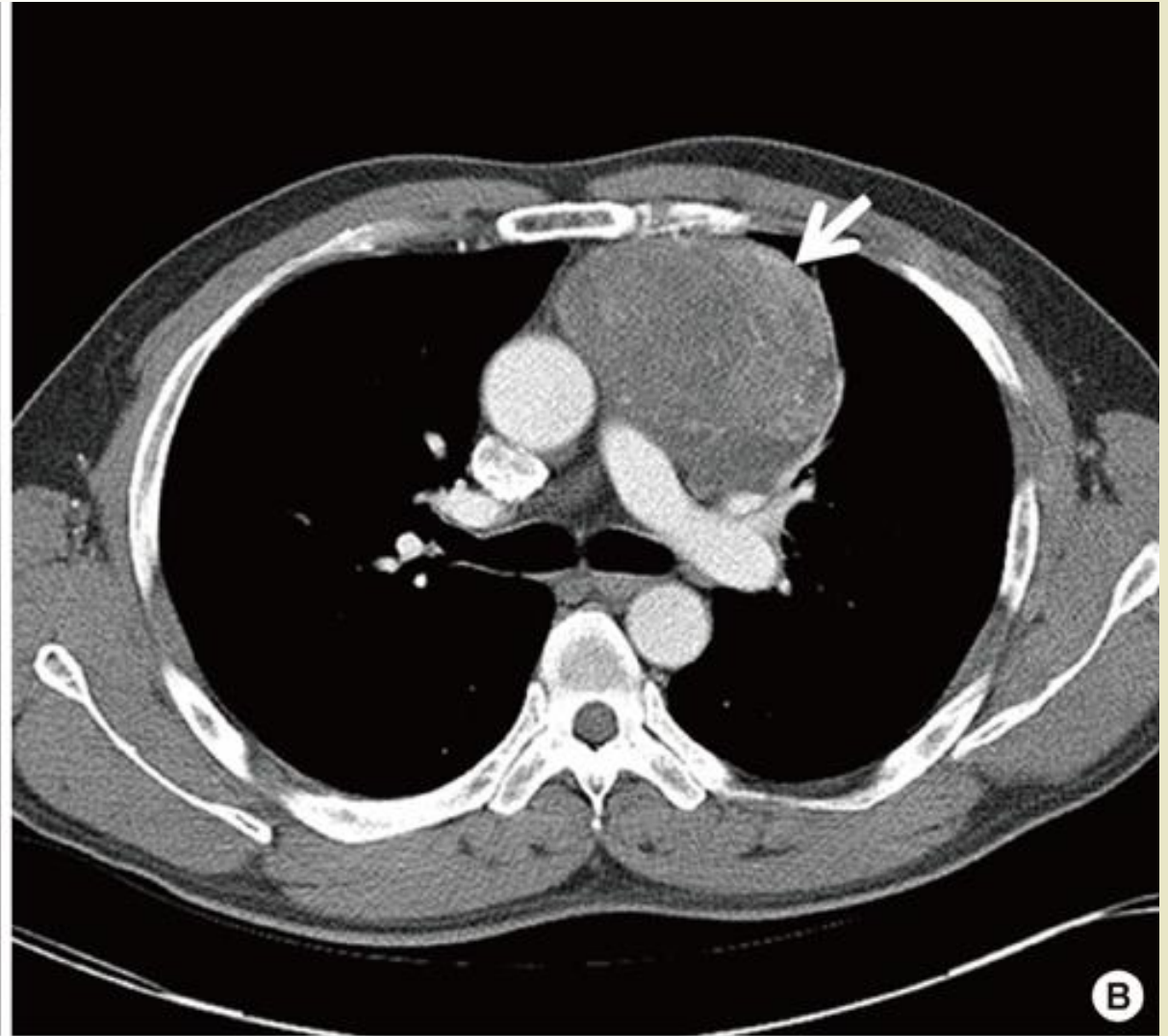
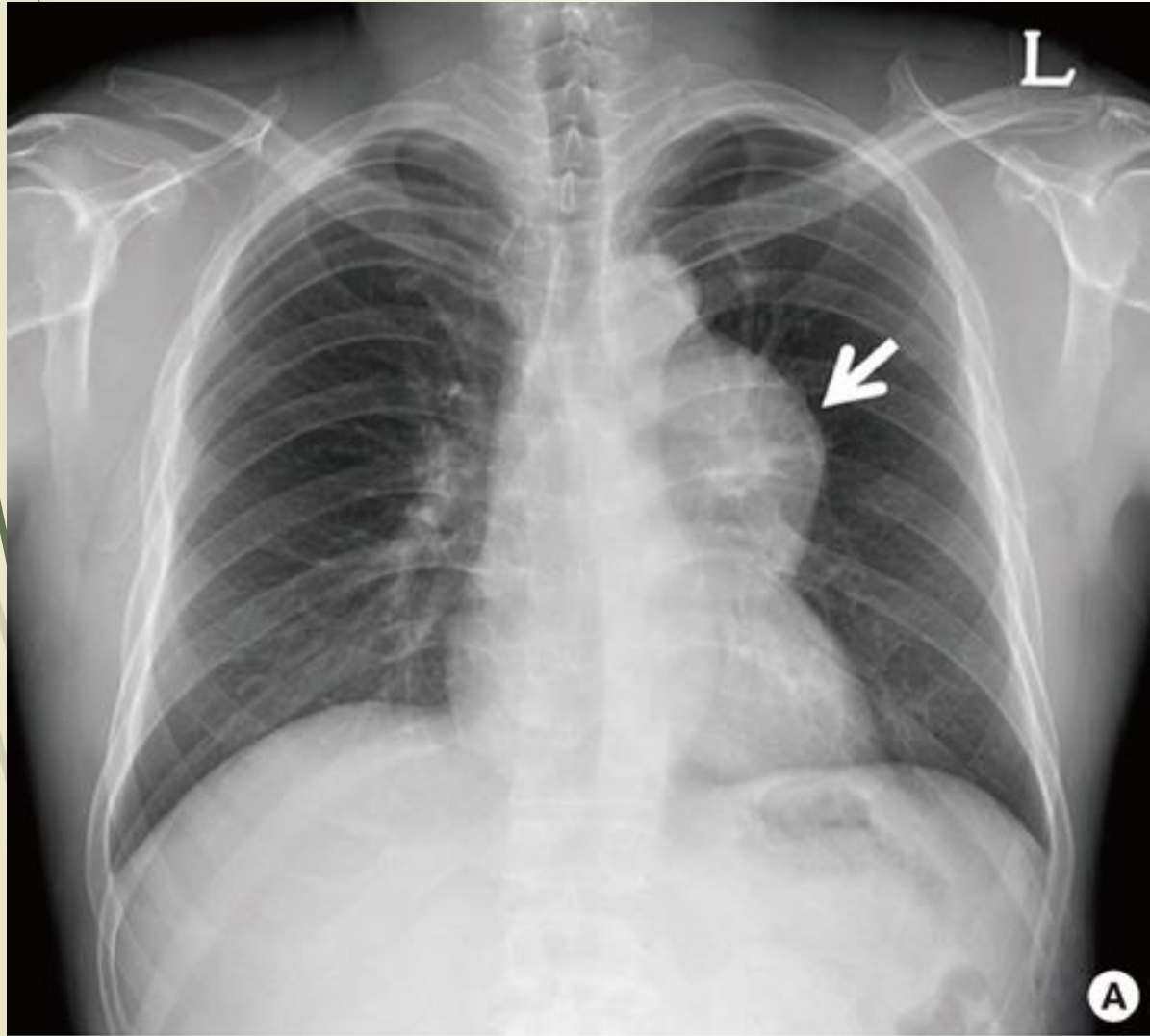


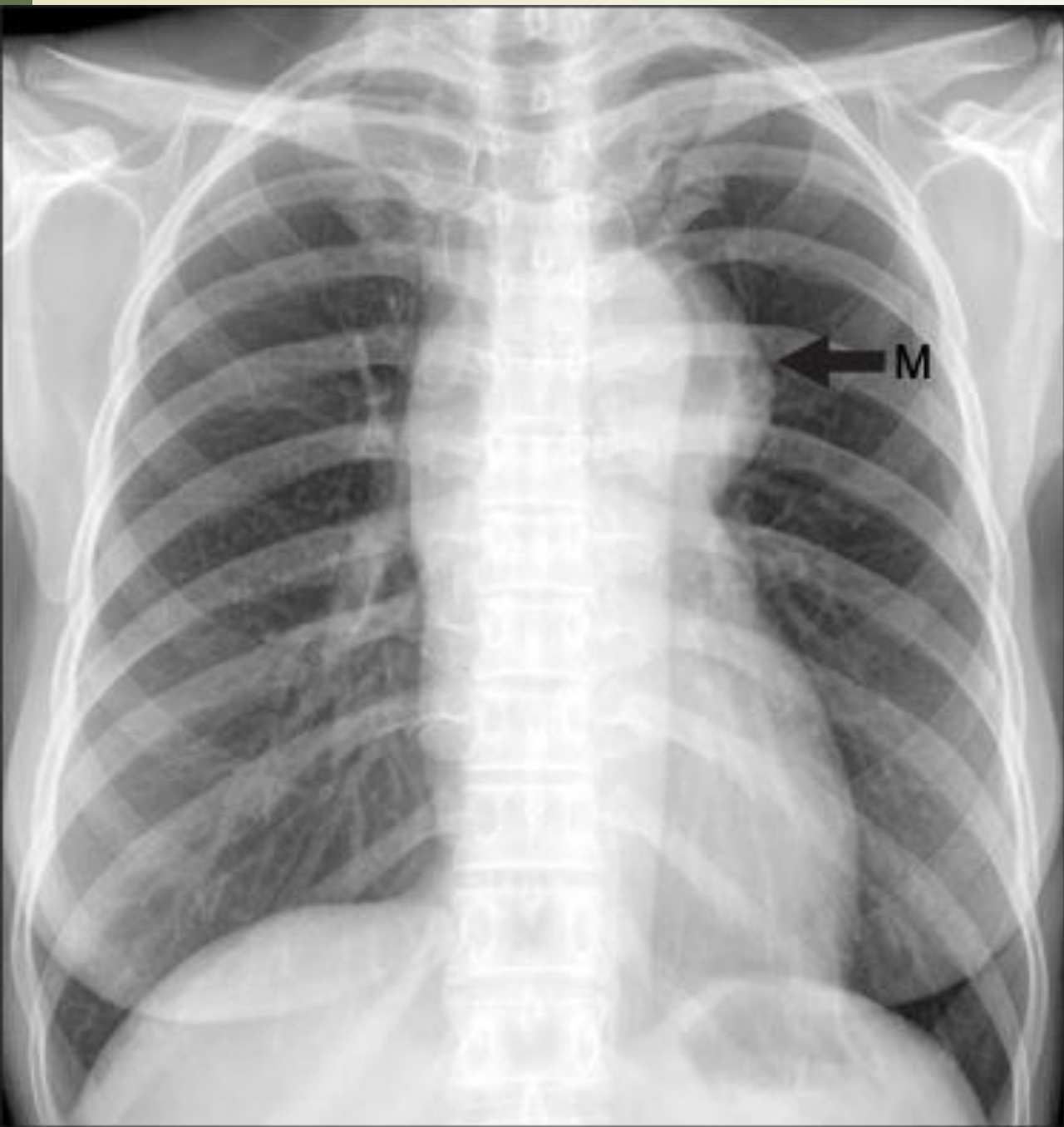
SILHOUETTE	LUNG
SVC/Asc Aorta	Anterior Segment RUL
Right Atrium	Medial Segment RML
Aortic Arch	Apical-posterior Segment LUL
Left Ventricle	Inferior Segment Lingula
Right Emidiaphragm	RLL
Left Diaphragm and Descending Aorta	LLL
<i>Relationship</i>	

Case 1 – which lung segment involved

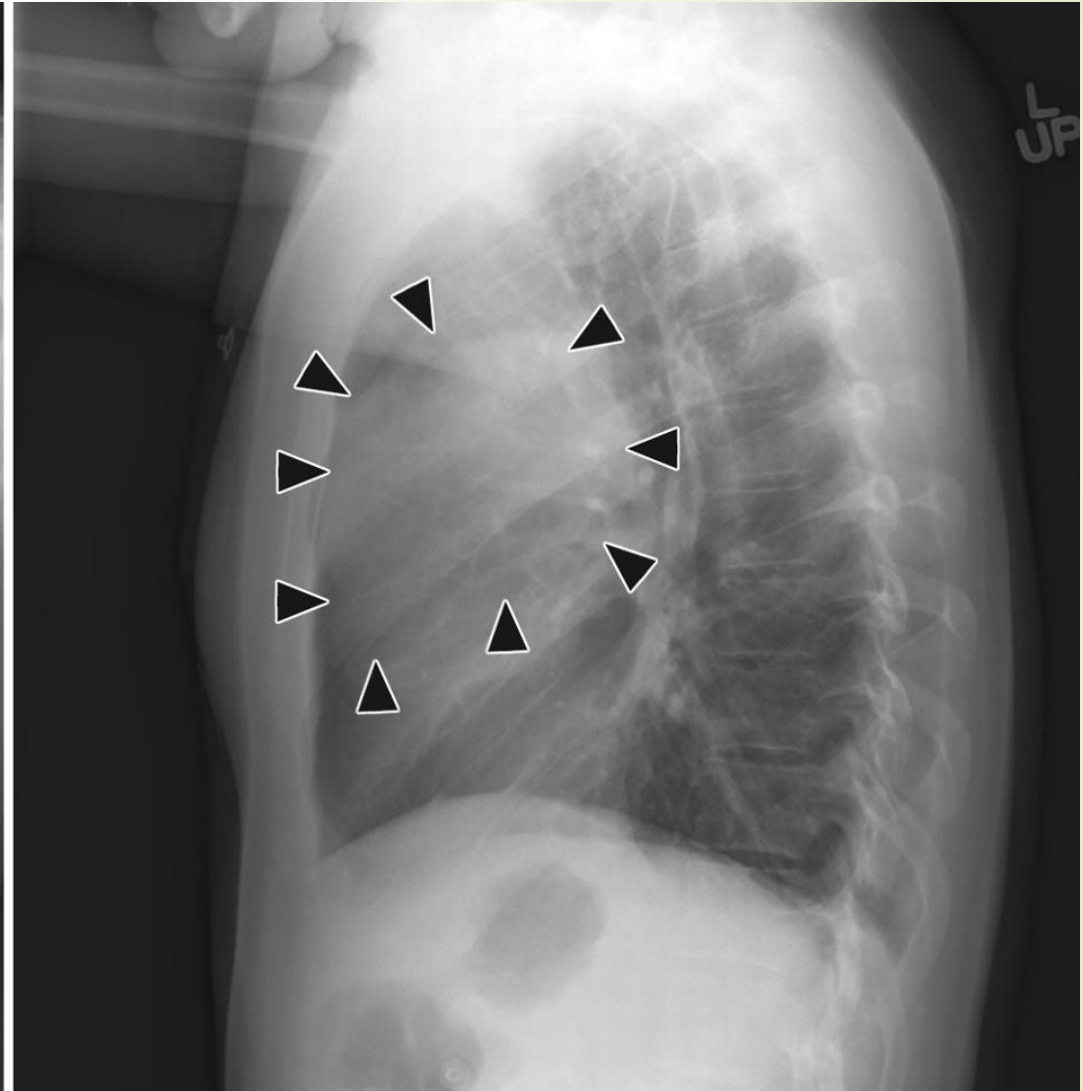
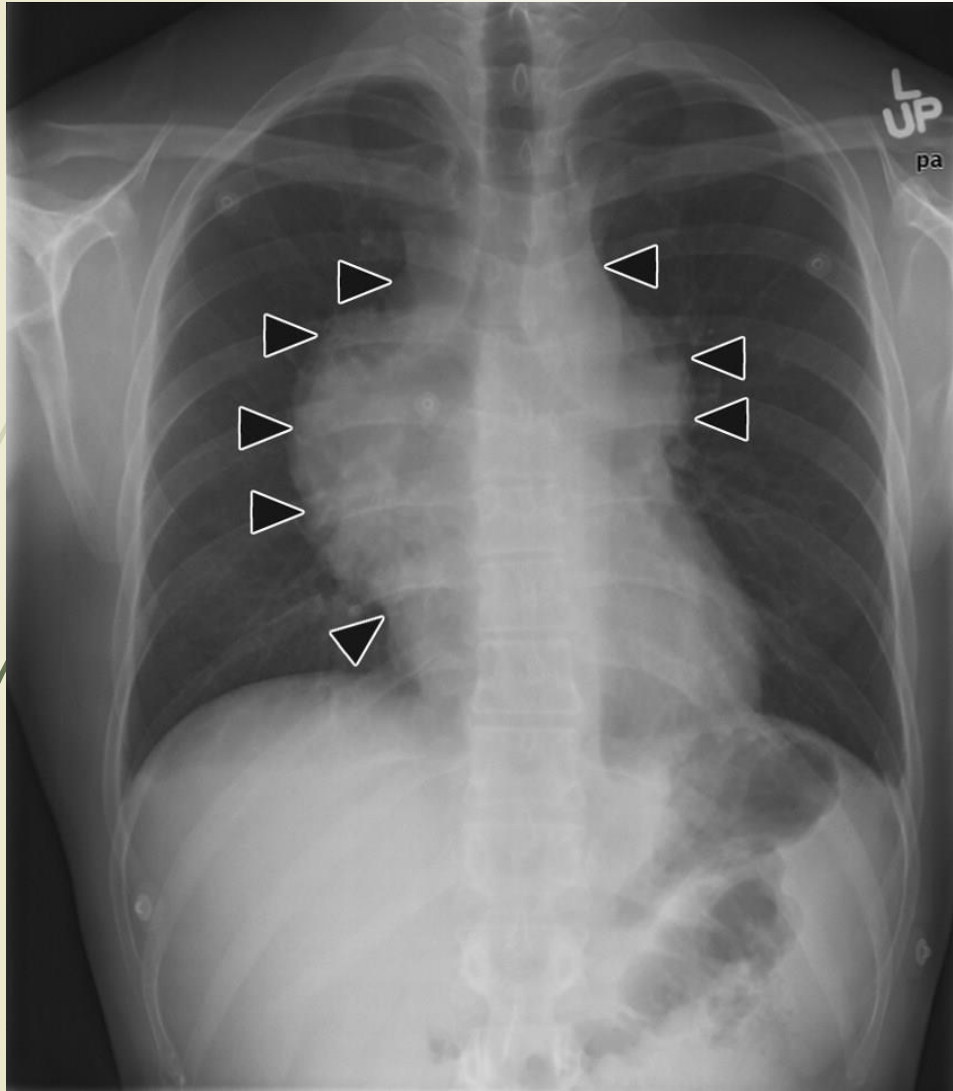


Case 2 – Where is the mediastinal mass located?

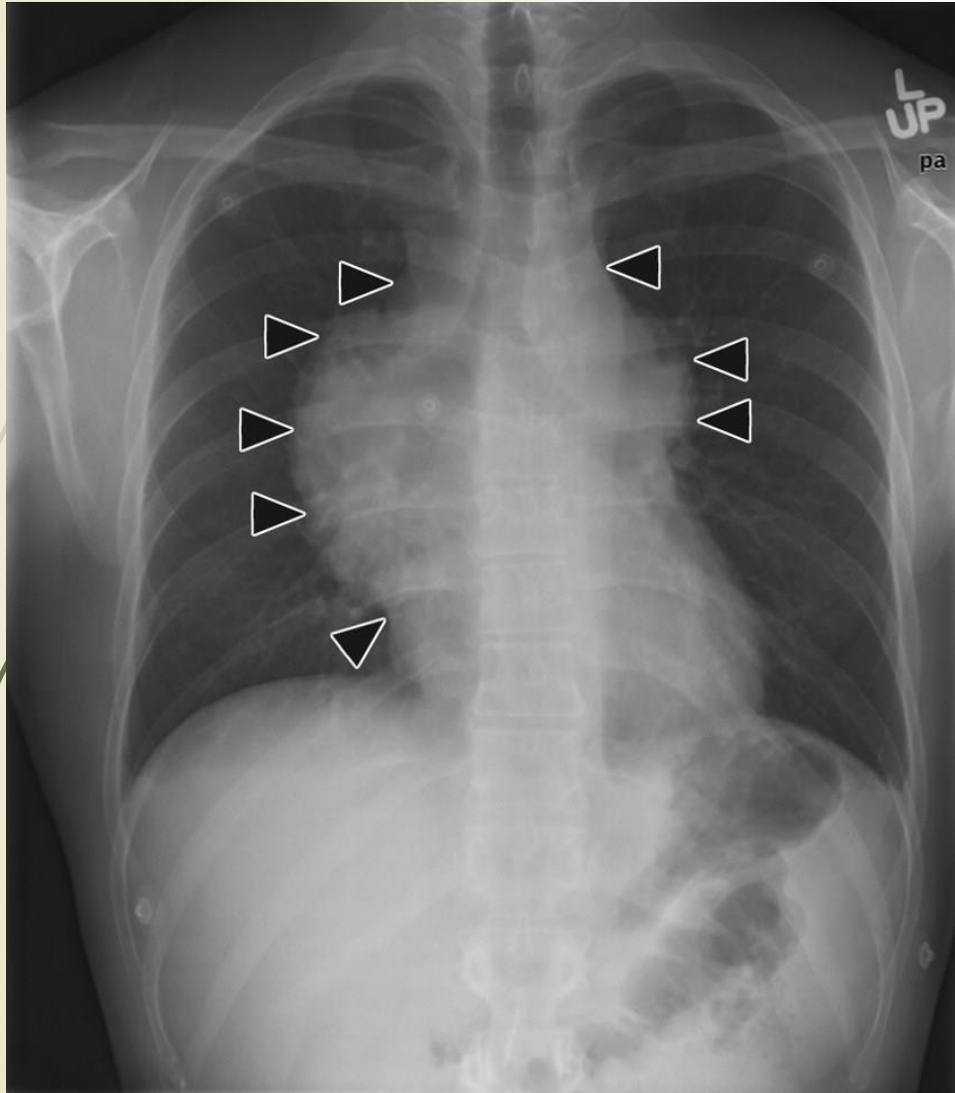


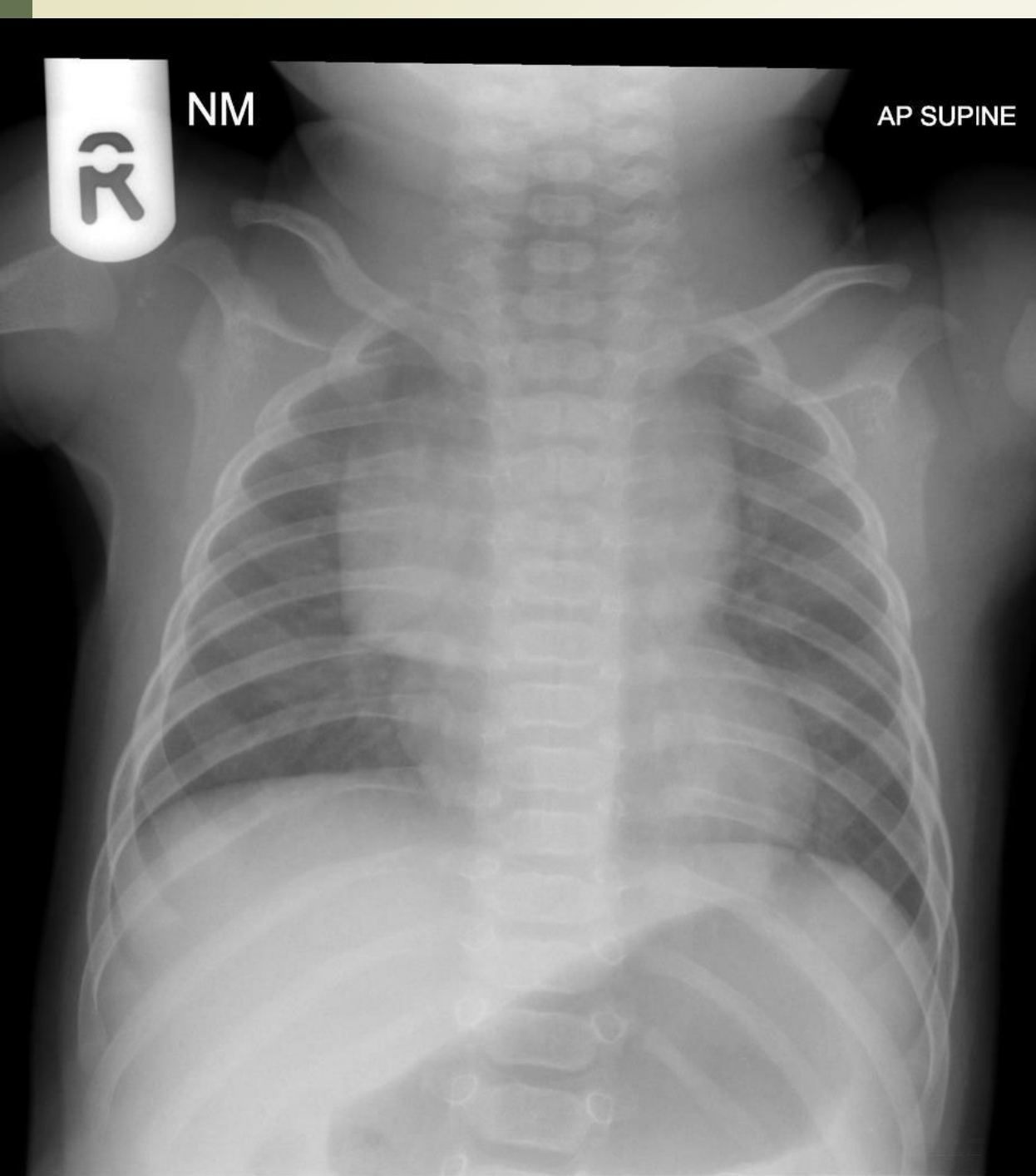


Case 4 – Where is the mediastinal mass located?

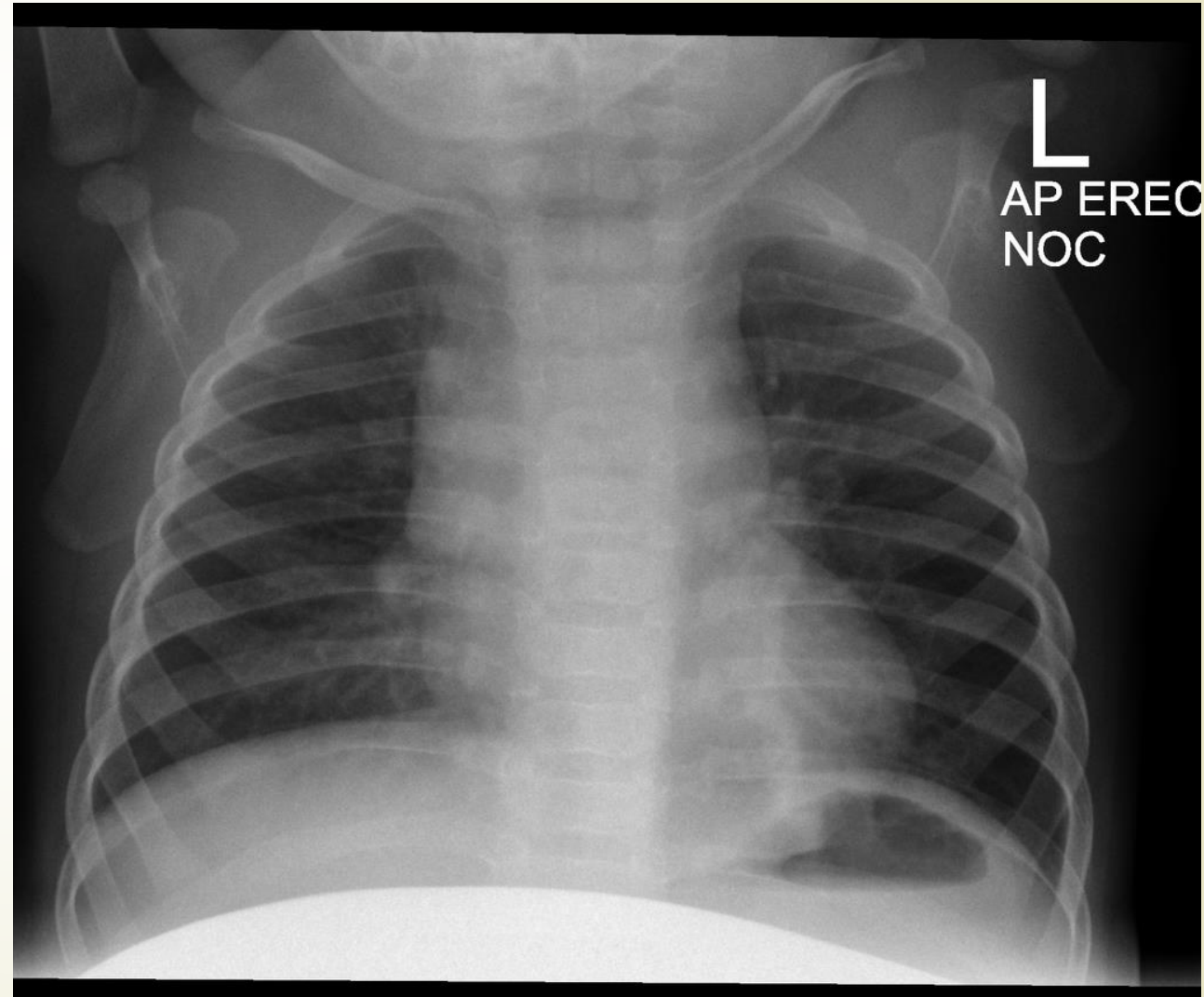


Case 5 – Compare Ant – Posterior mass





The normal **thymus** is a great mimicker of lung pathology. A normal thymus, no matter how big, does not displace the trachea or mediastinal structures.

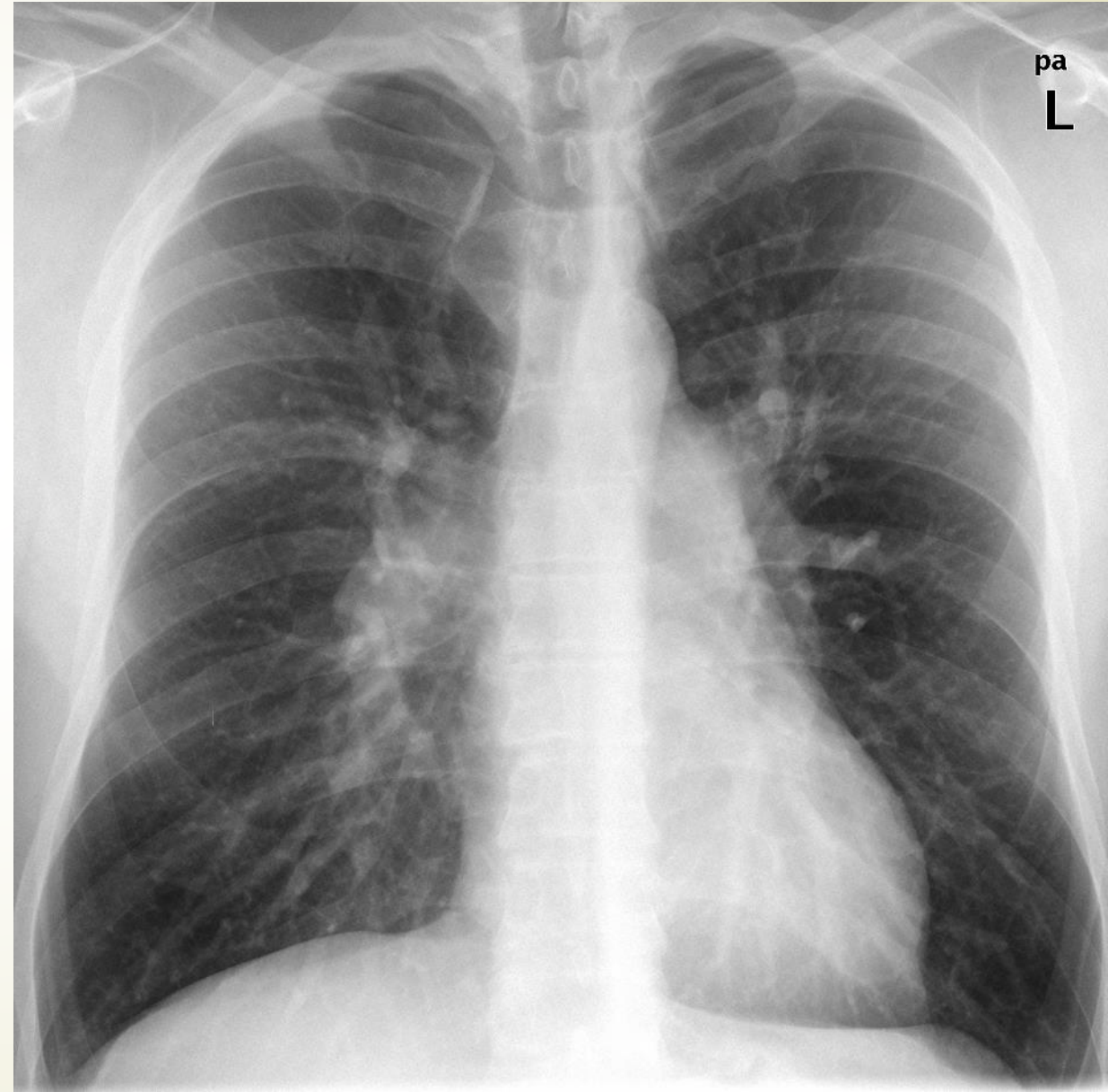
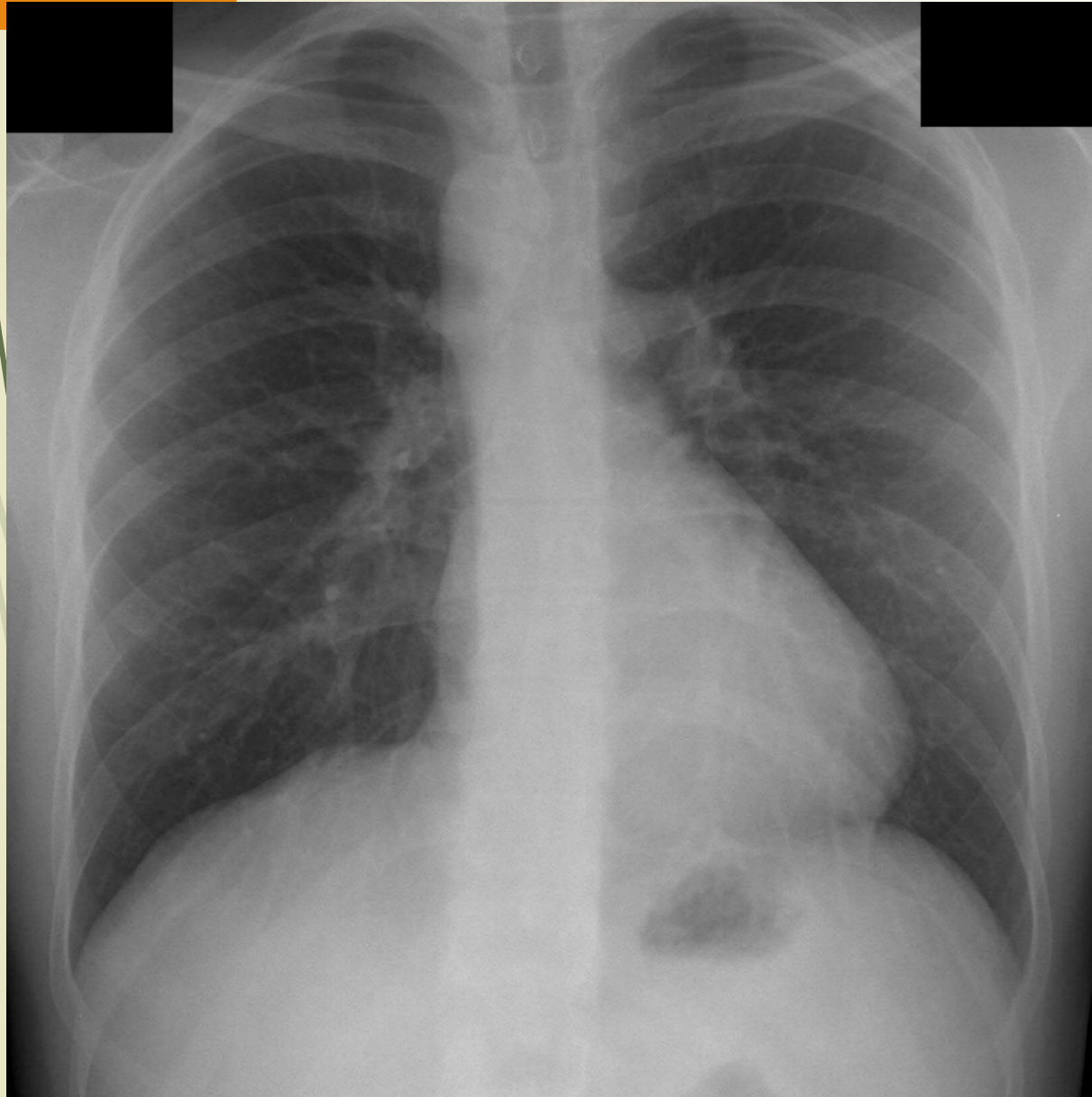




Back to Anatomy

Anatomical Variation

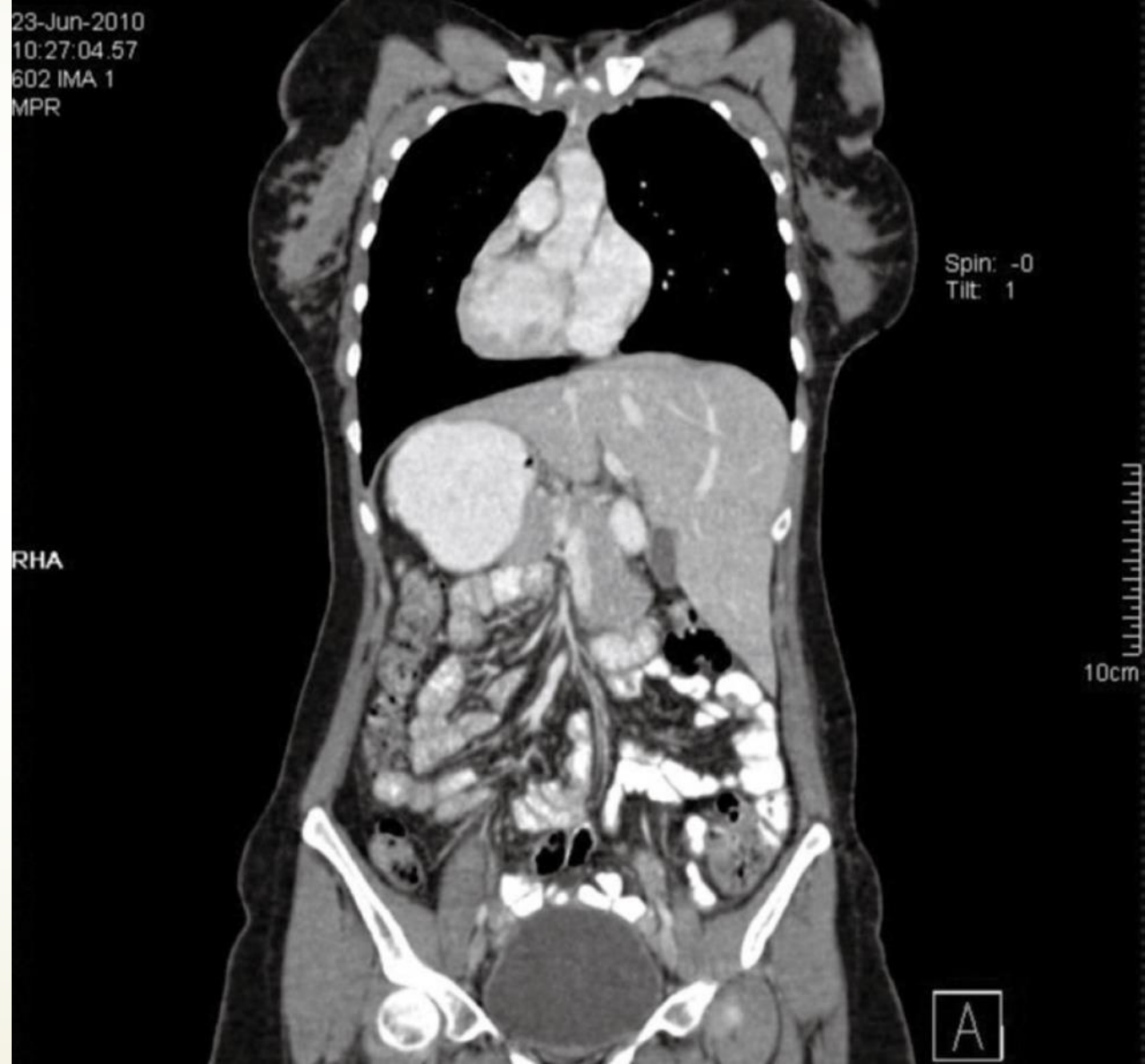
What is the problem ?!



What is the problem ?!



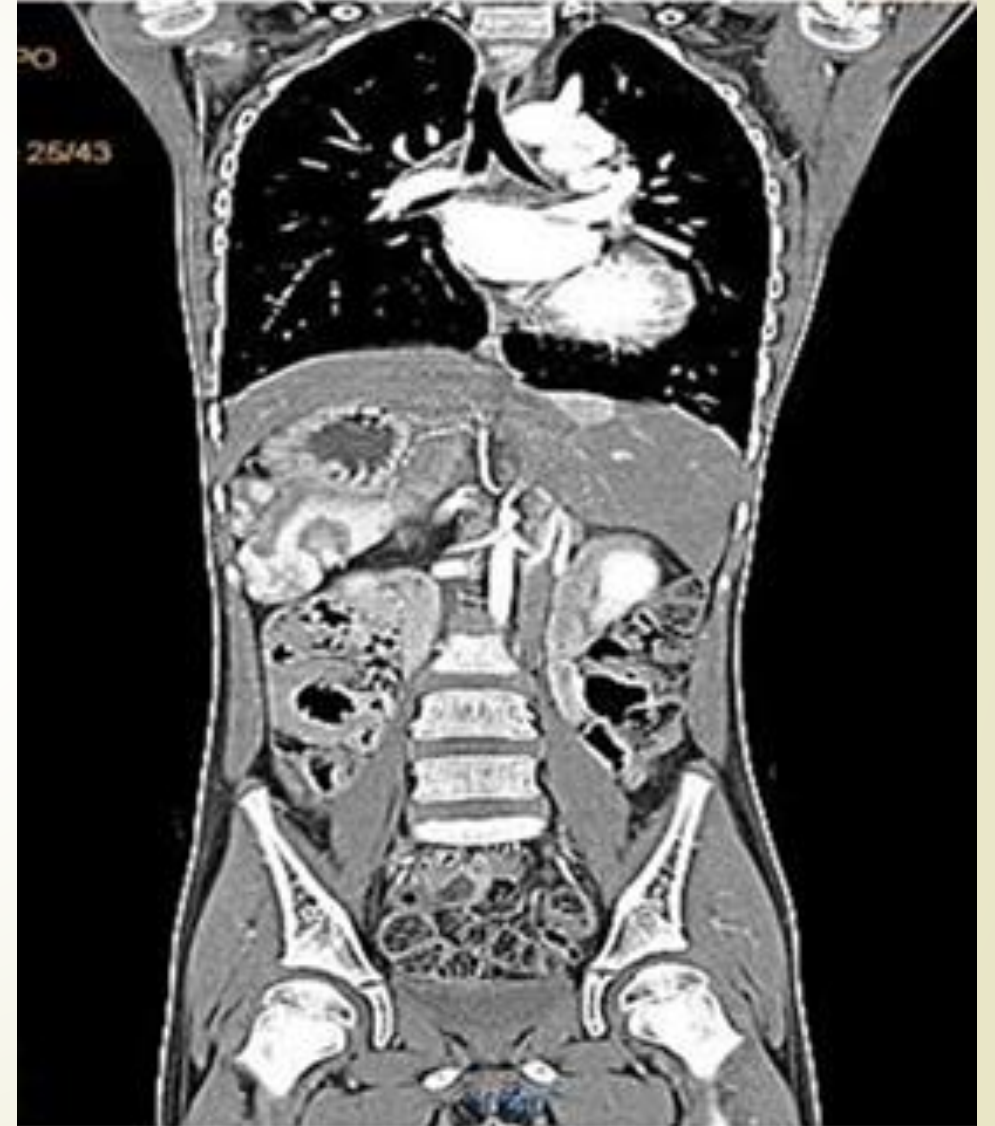
Situs inversus totalis



What is the problem ?!

**Abdominal situs inversus with
levocardia**

LEFT
MOBILE
SUPINE
AP





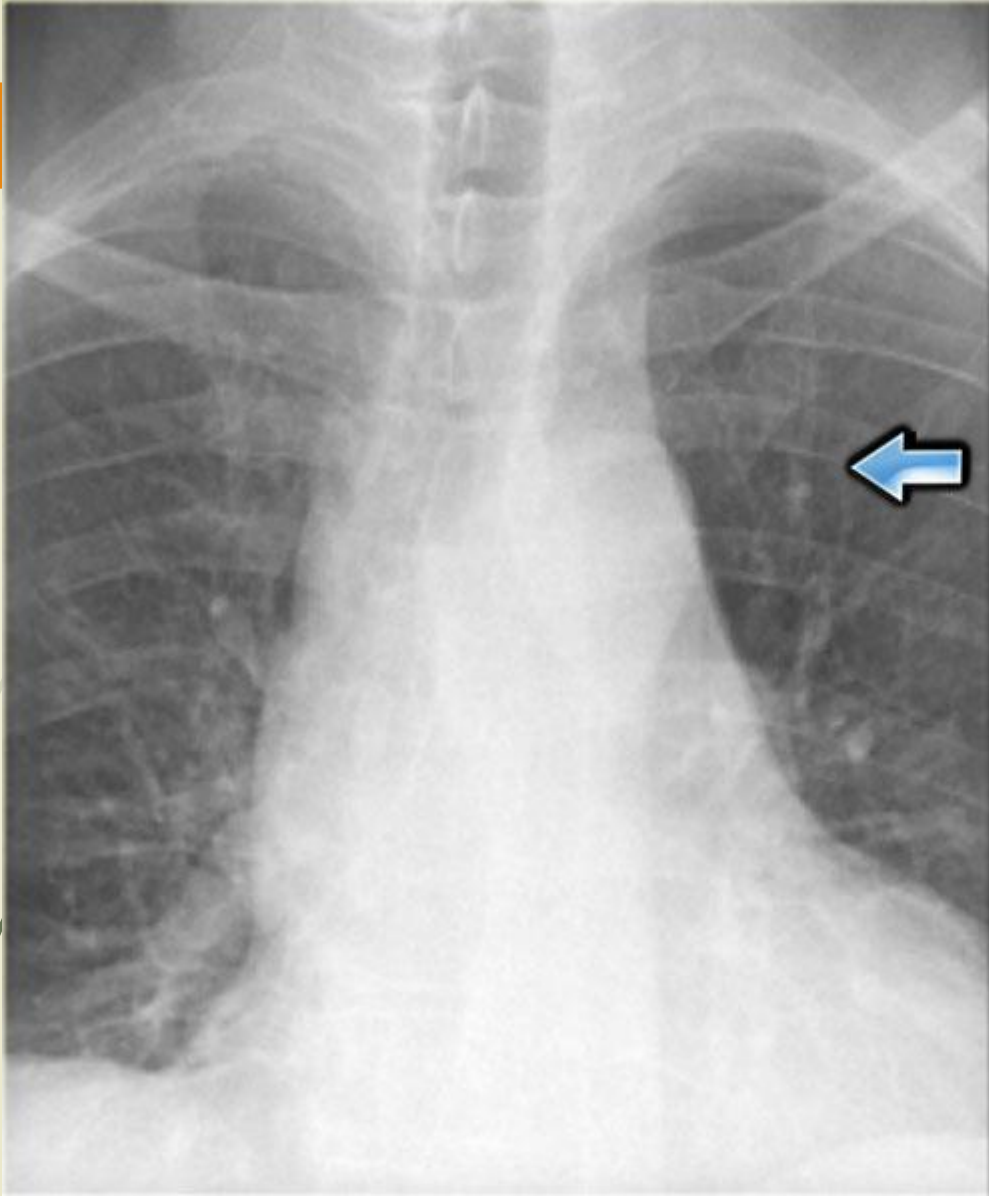
Lung flow



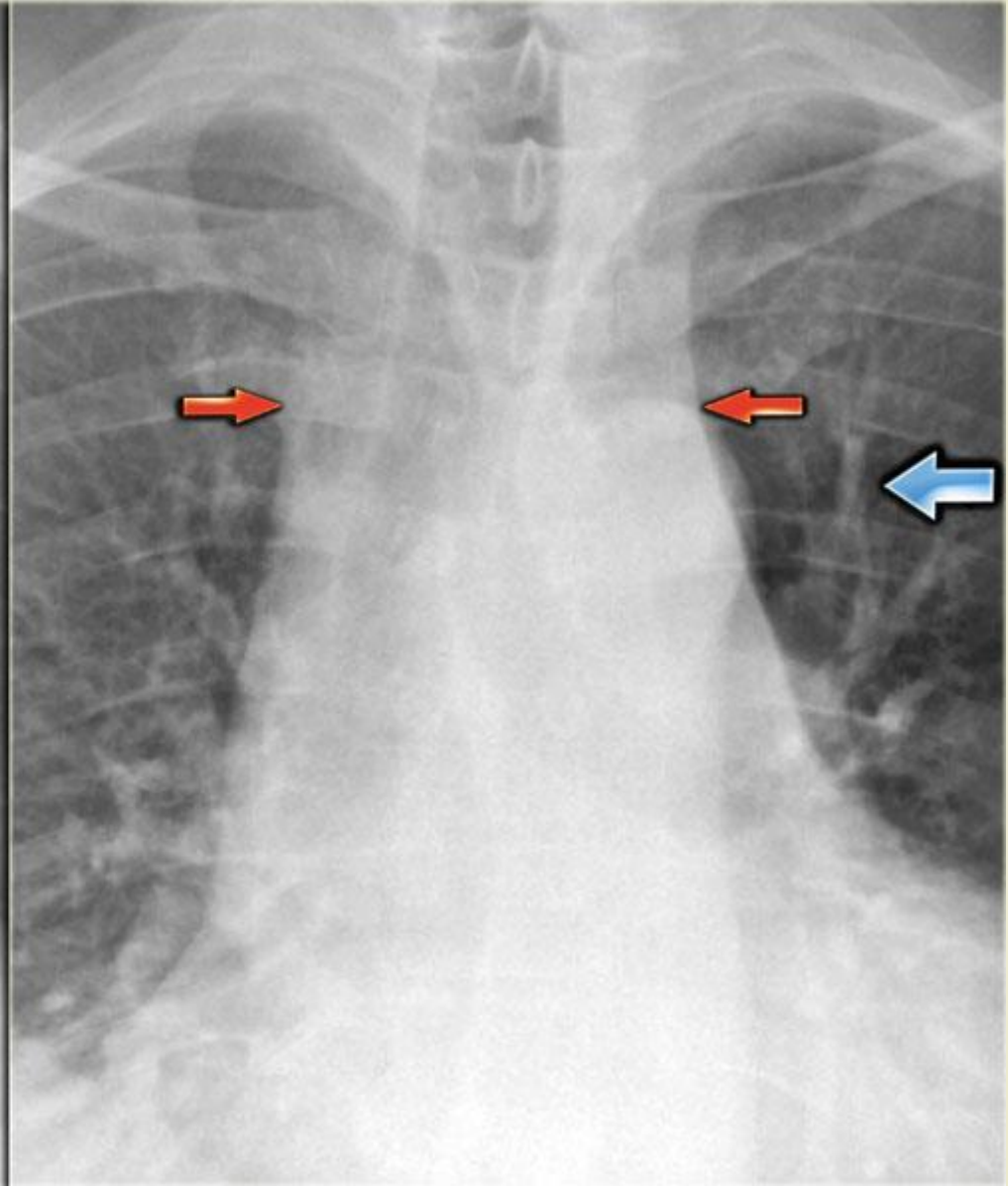
NORMAL



DECREASED

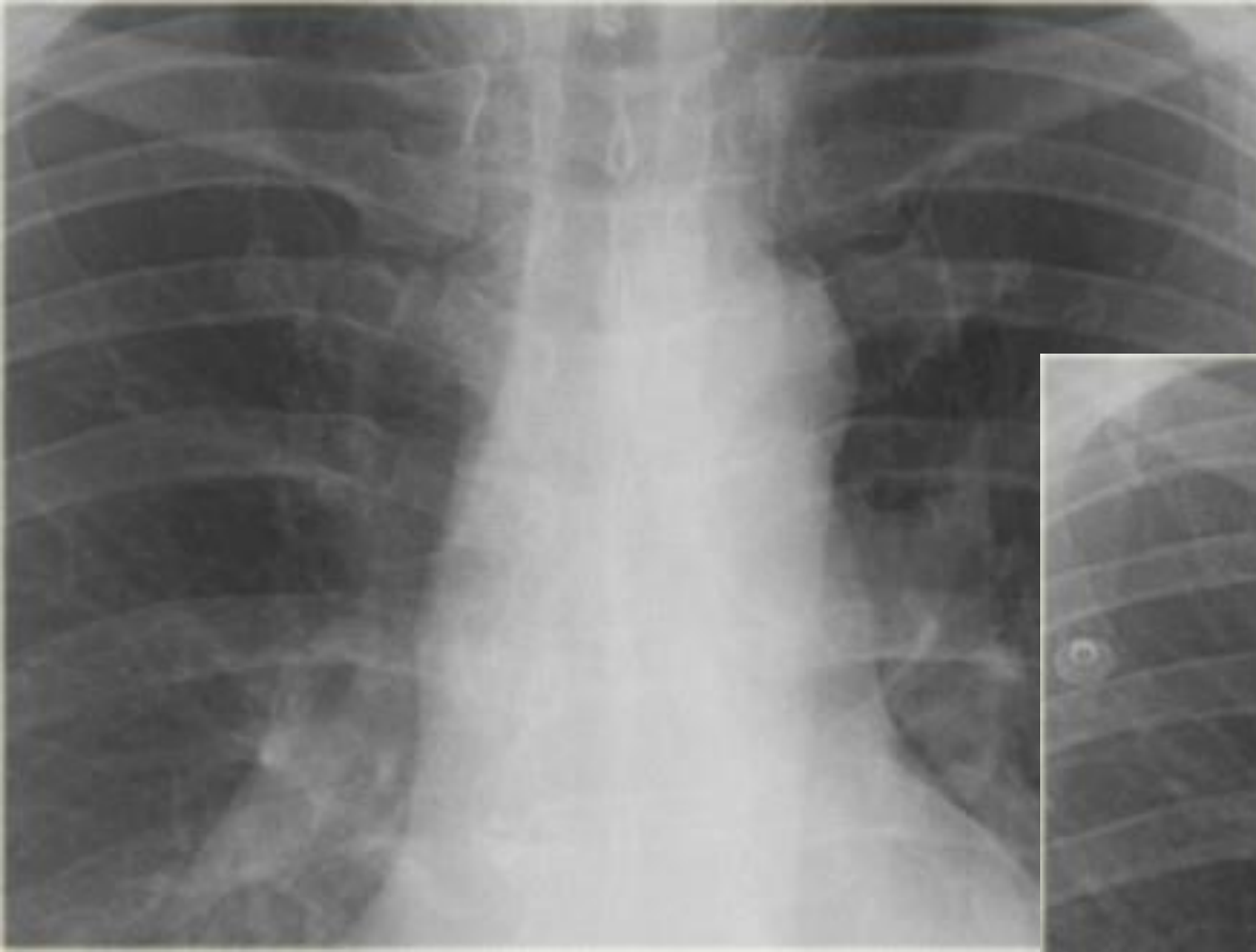


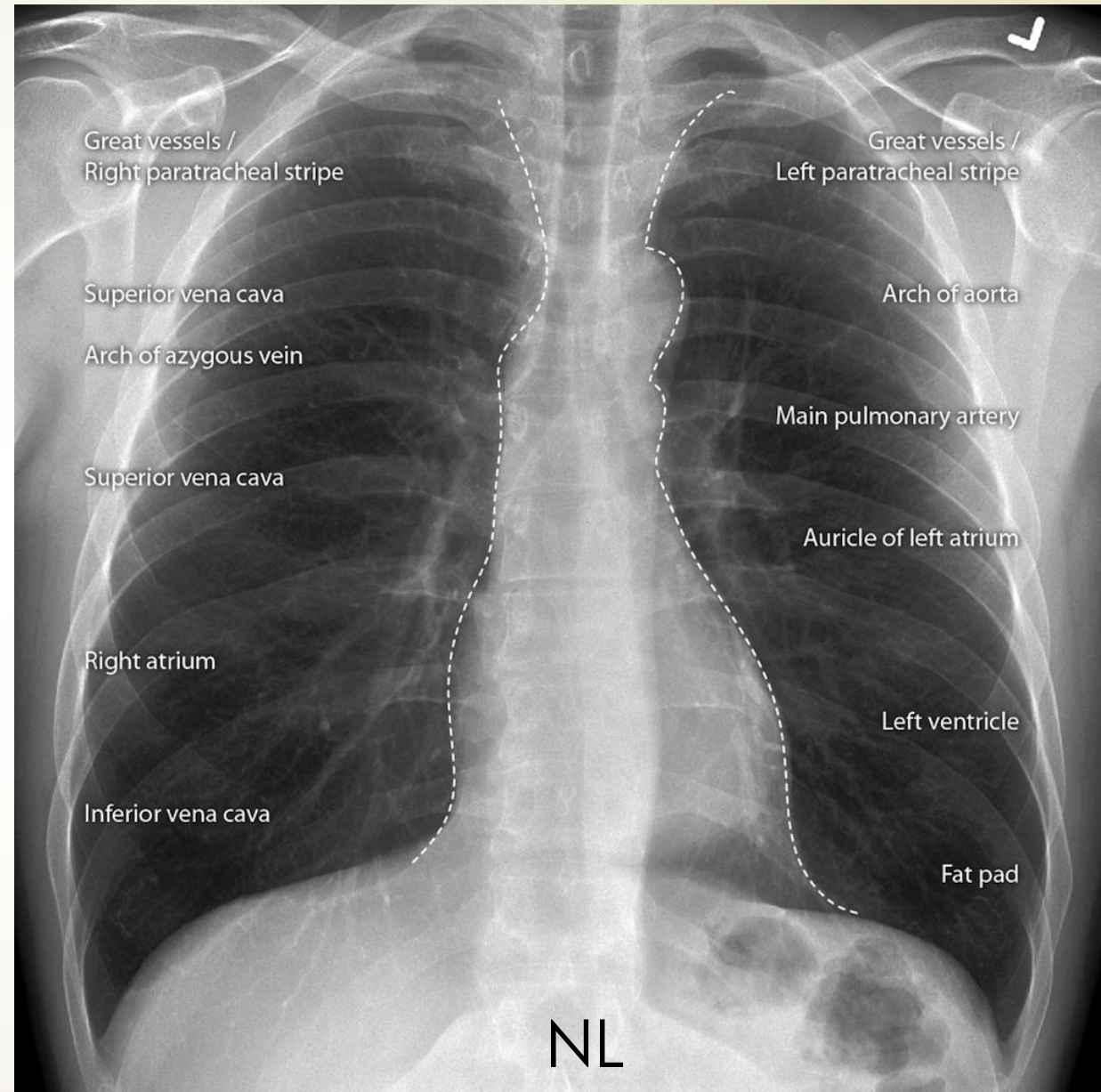
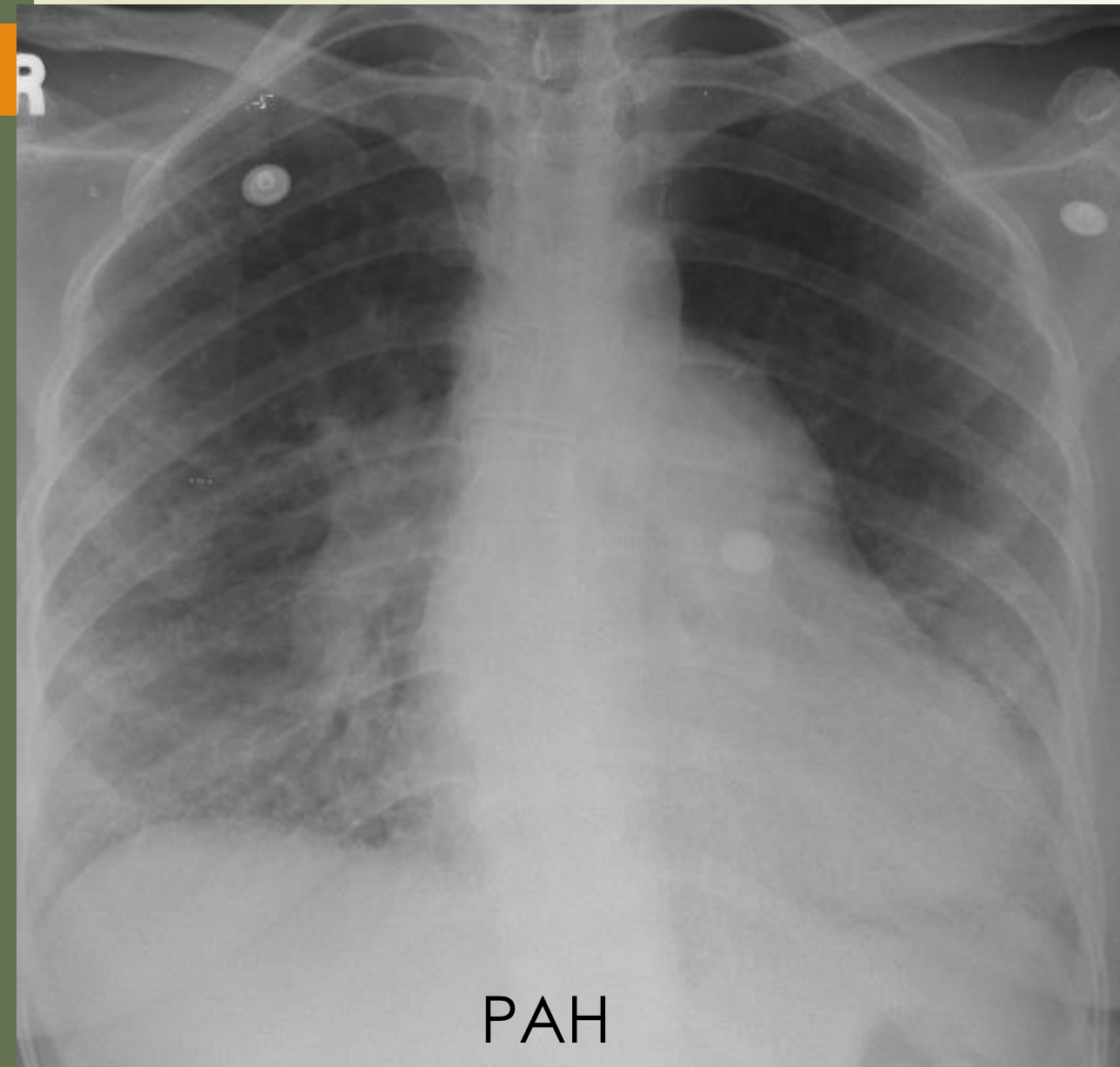
With treatment

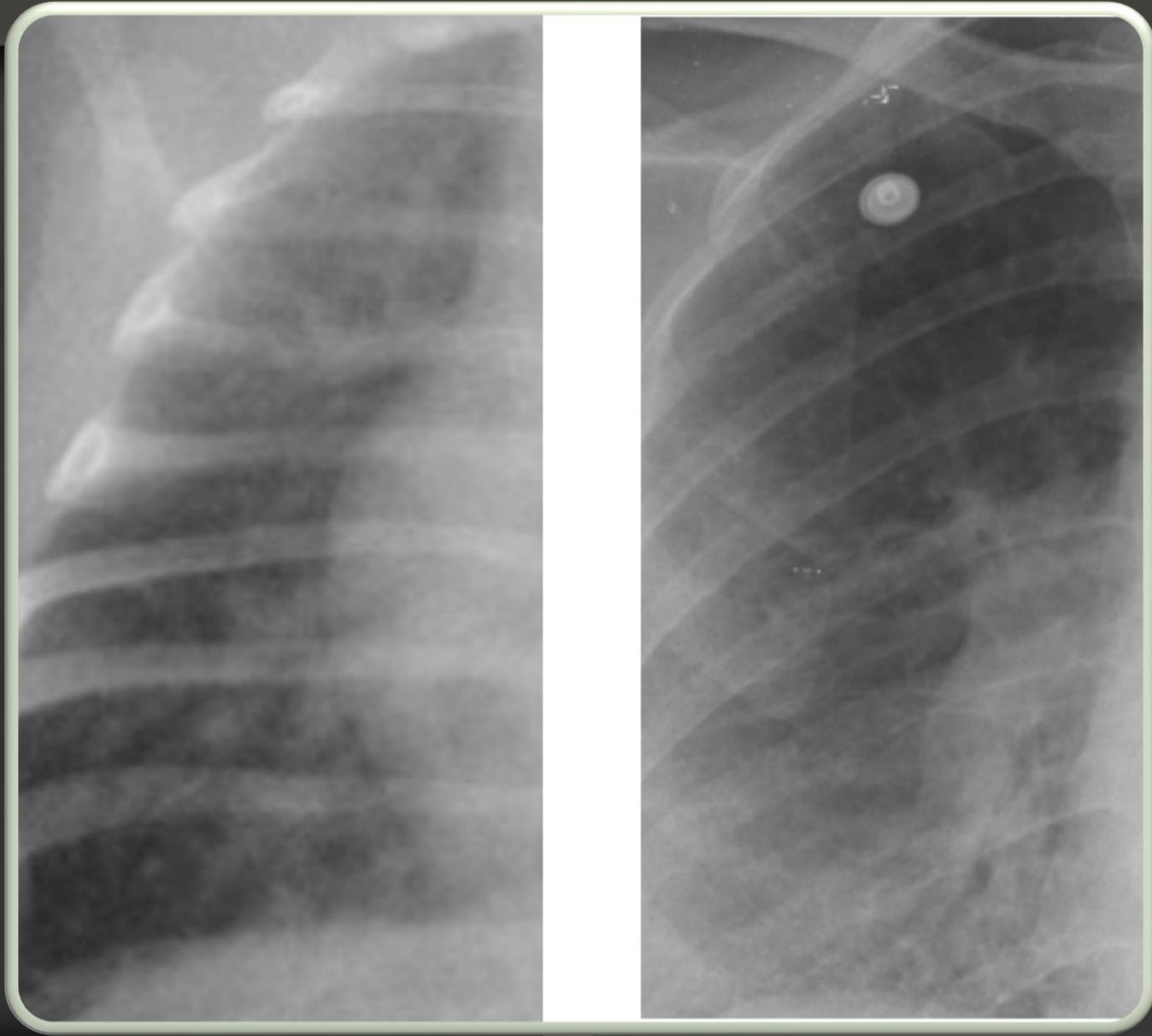


Cephalization + Widening of mediastinal vasculature

One patient in
two condition

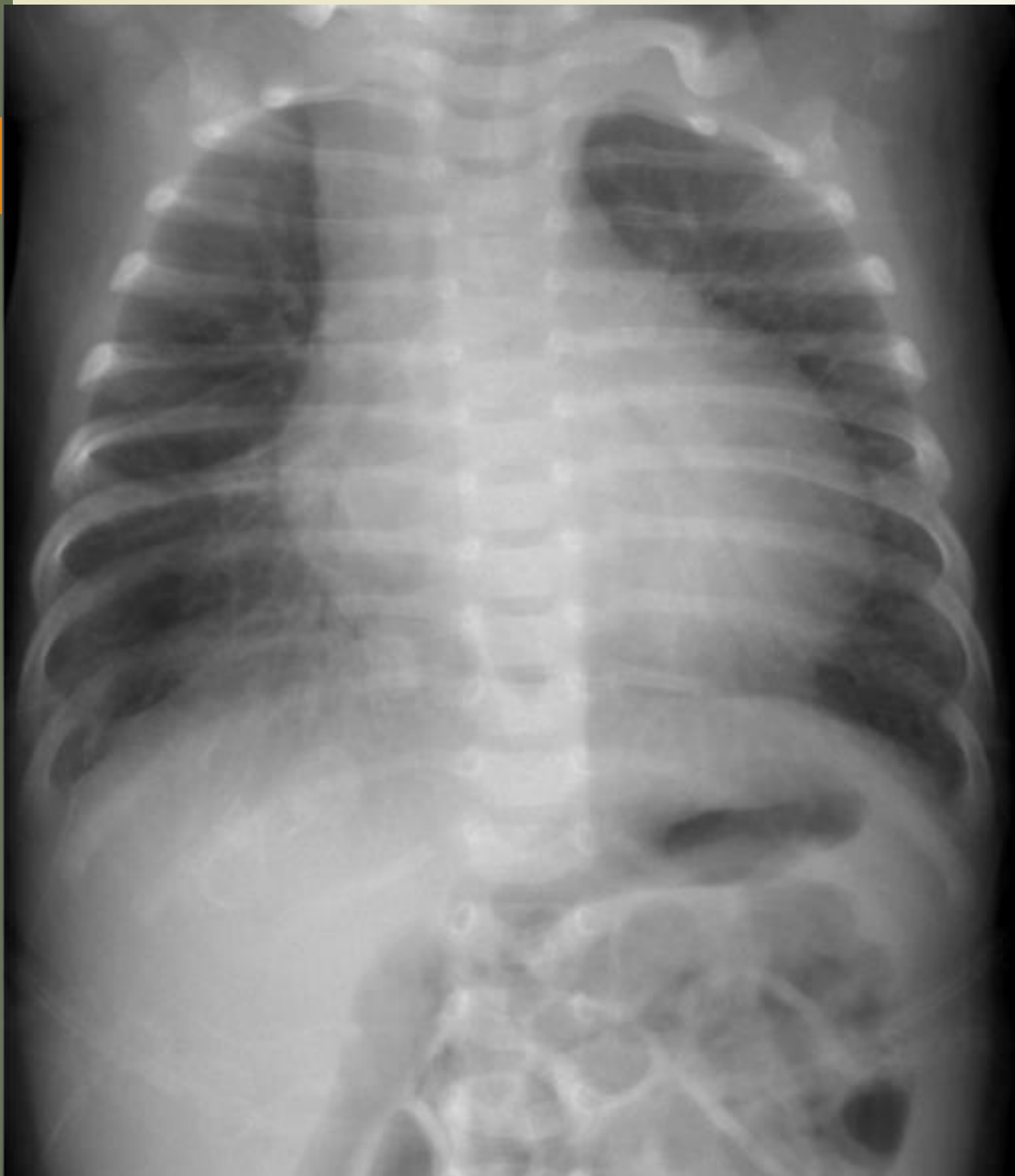






Venous
congestion

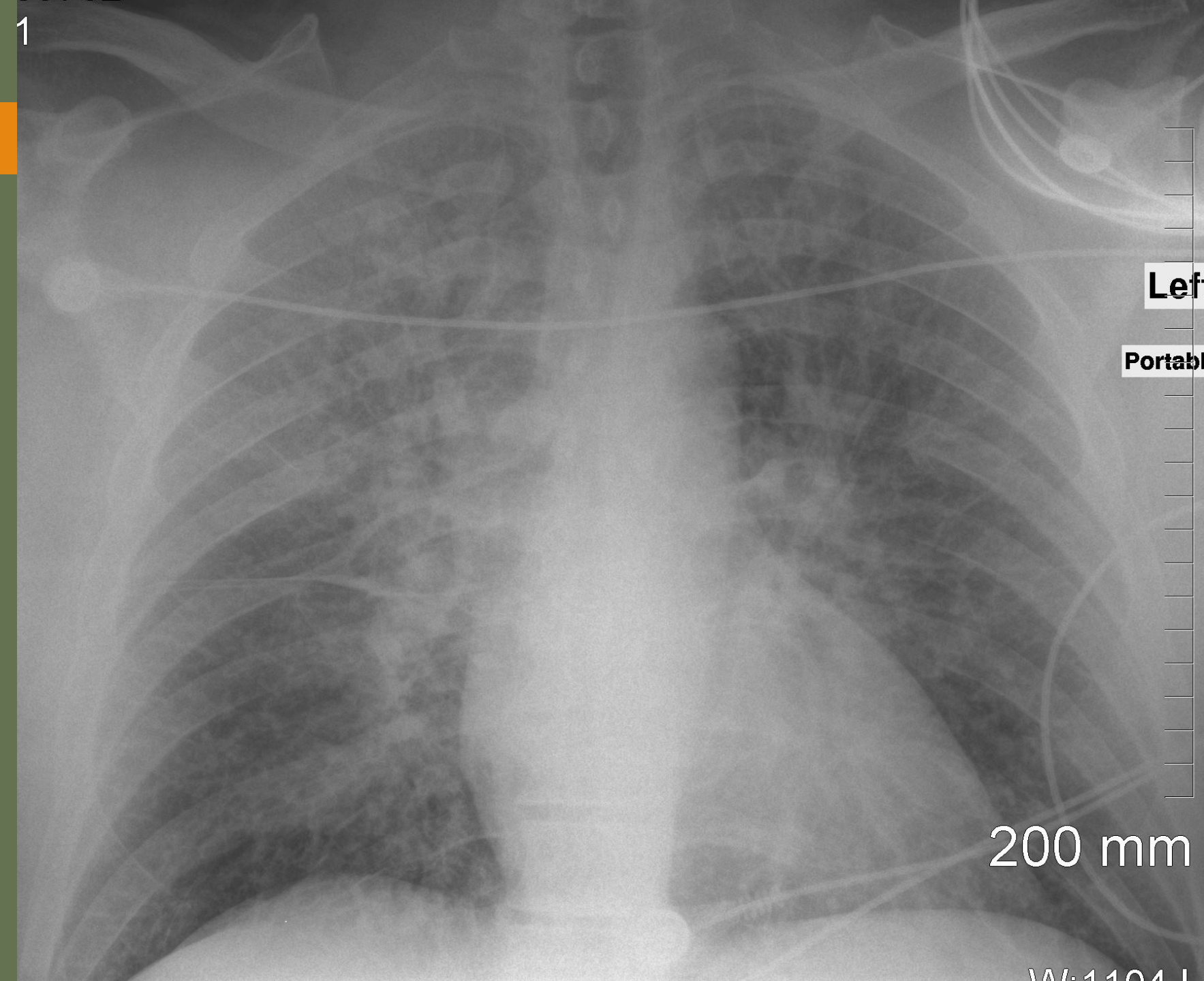
VSD



Congested lung



After Treatment



Interstitial edema

No Vascular pattern

Left

Portabl

200 mm

W: 1104 L:



Increase flow (VSD)



Eisenmenger (rapid tapering)

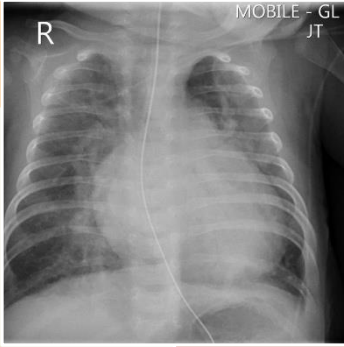


Eisenmenger's syndrome



Congenital heart disease CXR

Usually divided in two large category



High flow (Unrestricted lung flow)

- ASD
- VSD
- PDA
- IAA
- Truncus arteriosus
- PAPVC - TAPVC
- AVSD
- HLHS
- COA (Normal or high)

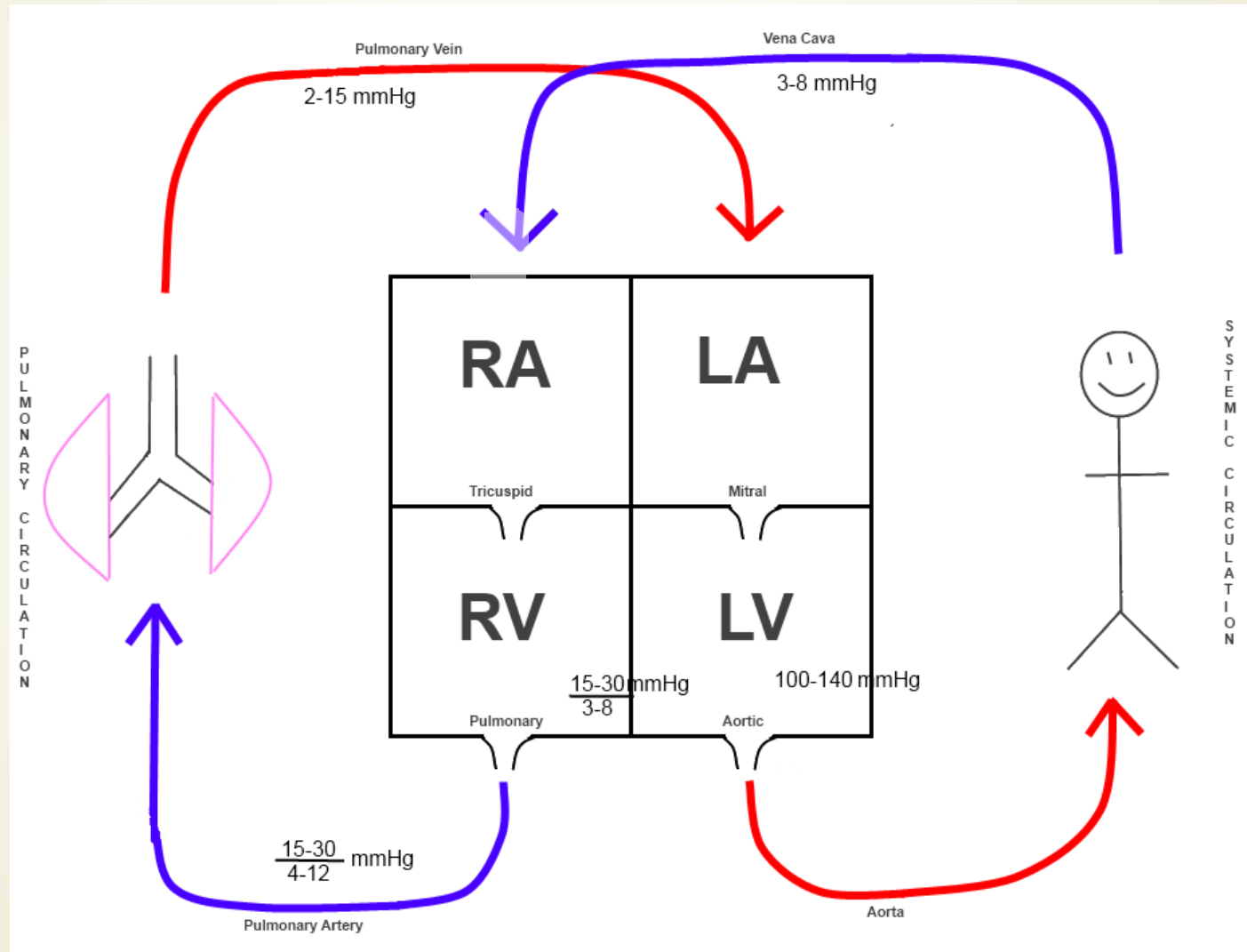


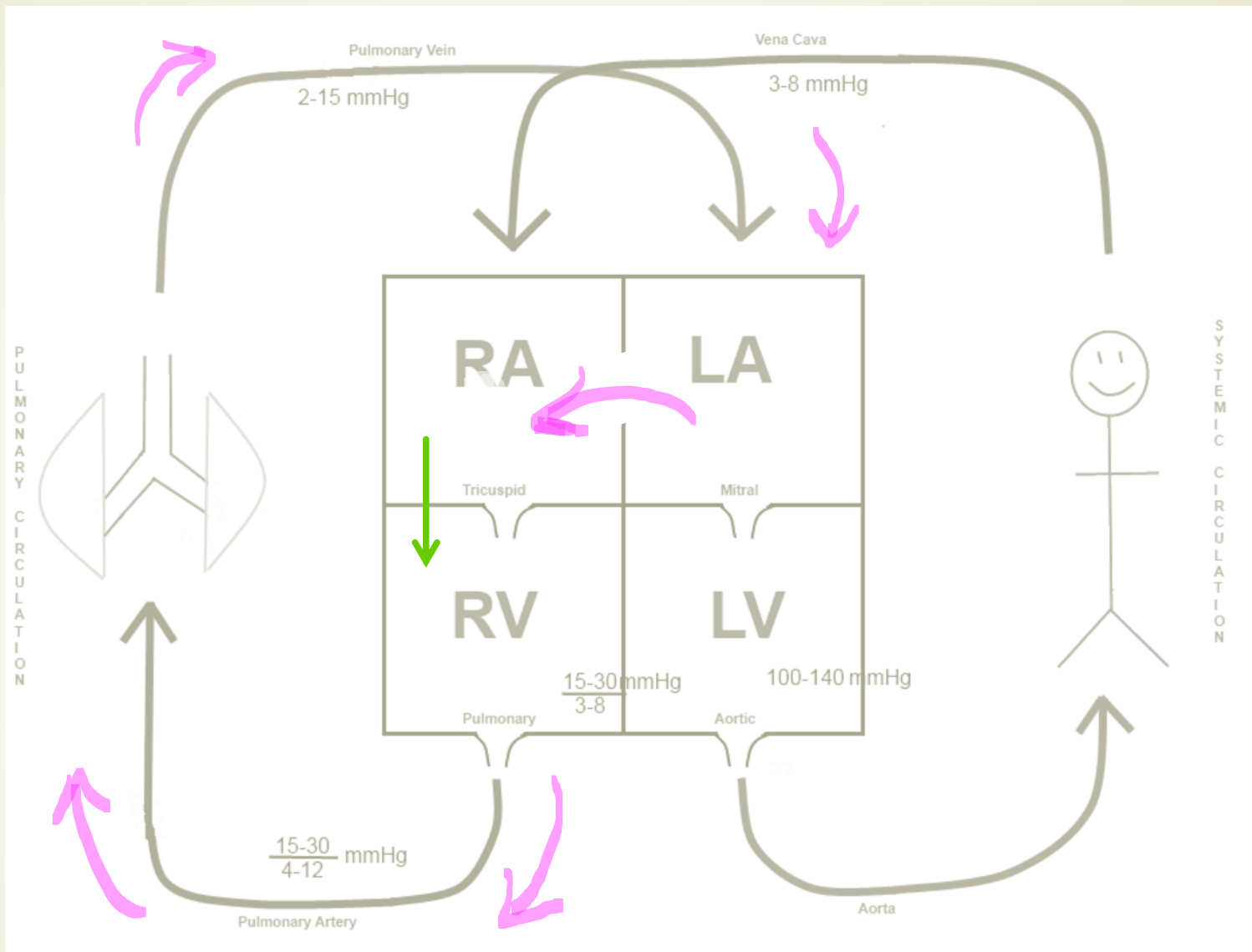
Low Flow (restricted Lung flow)

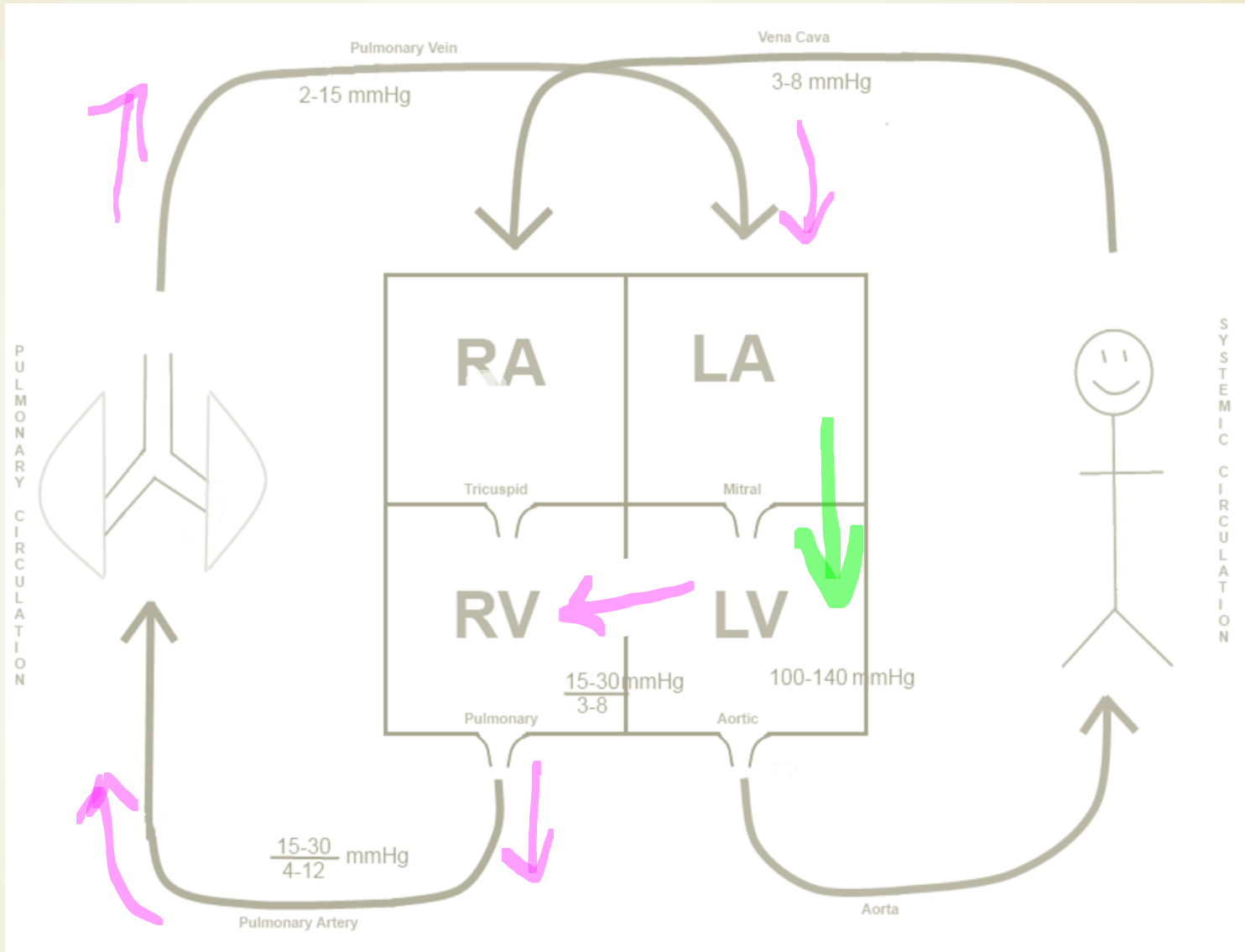
- PS -PPS
- TOF
- Pulmonary atresia
- Tricuspid atresia
- Ebstein anomaly

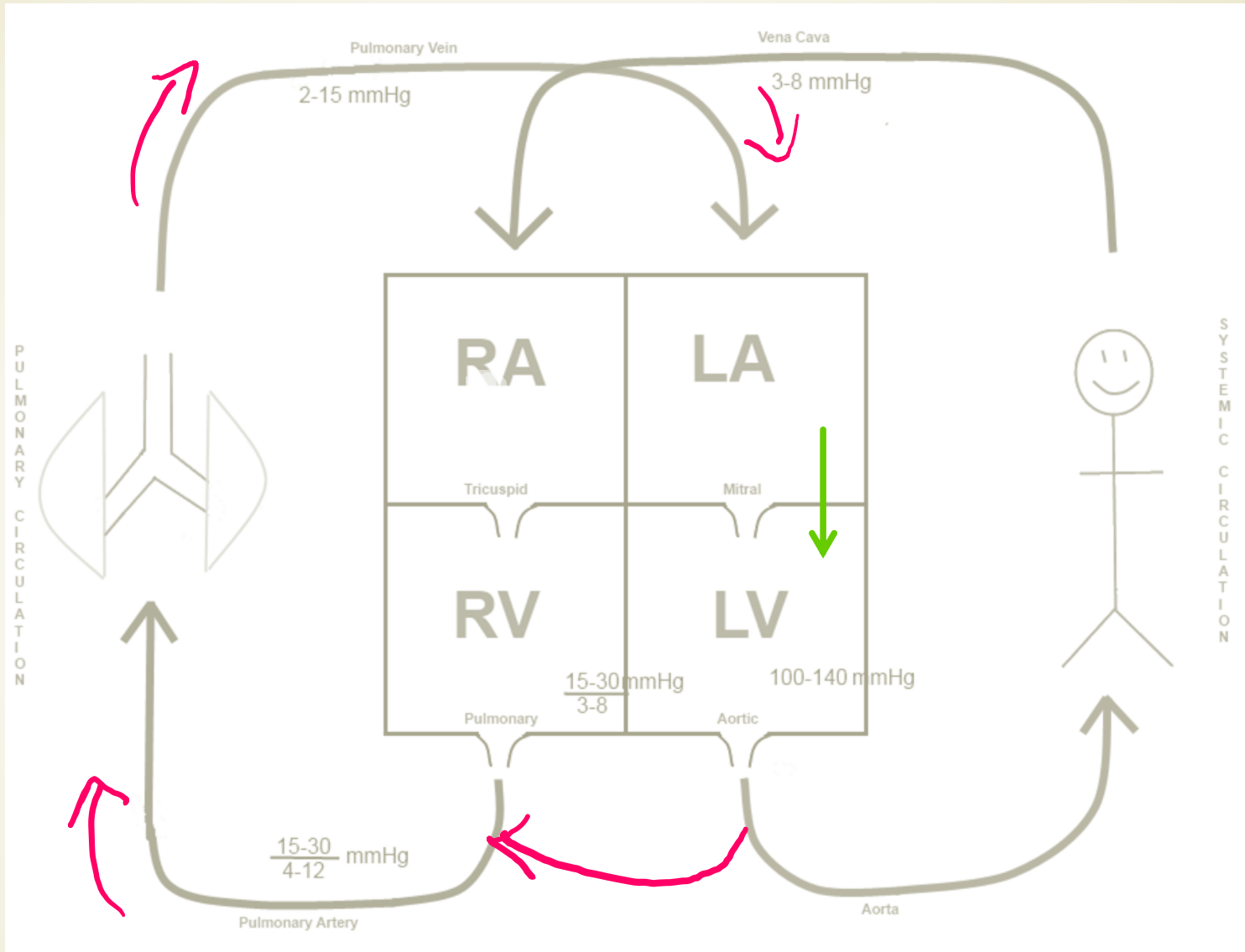
TGA - TAPVC with obstruction may be seen in each of these category

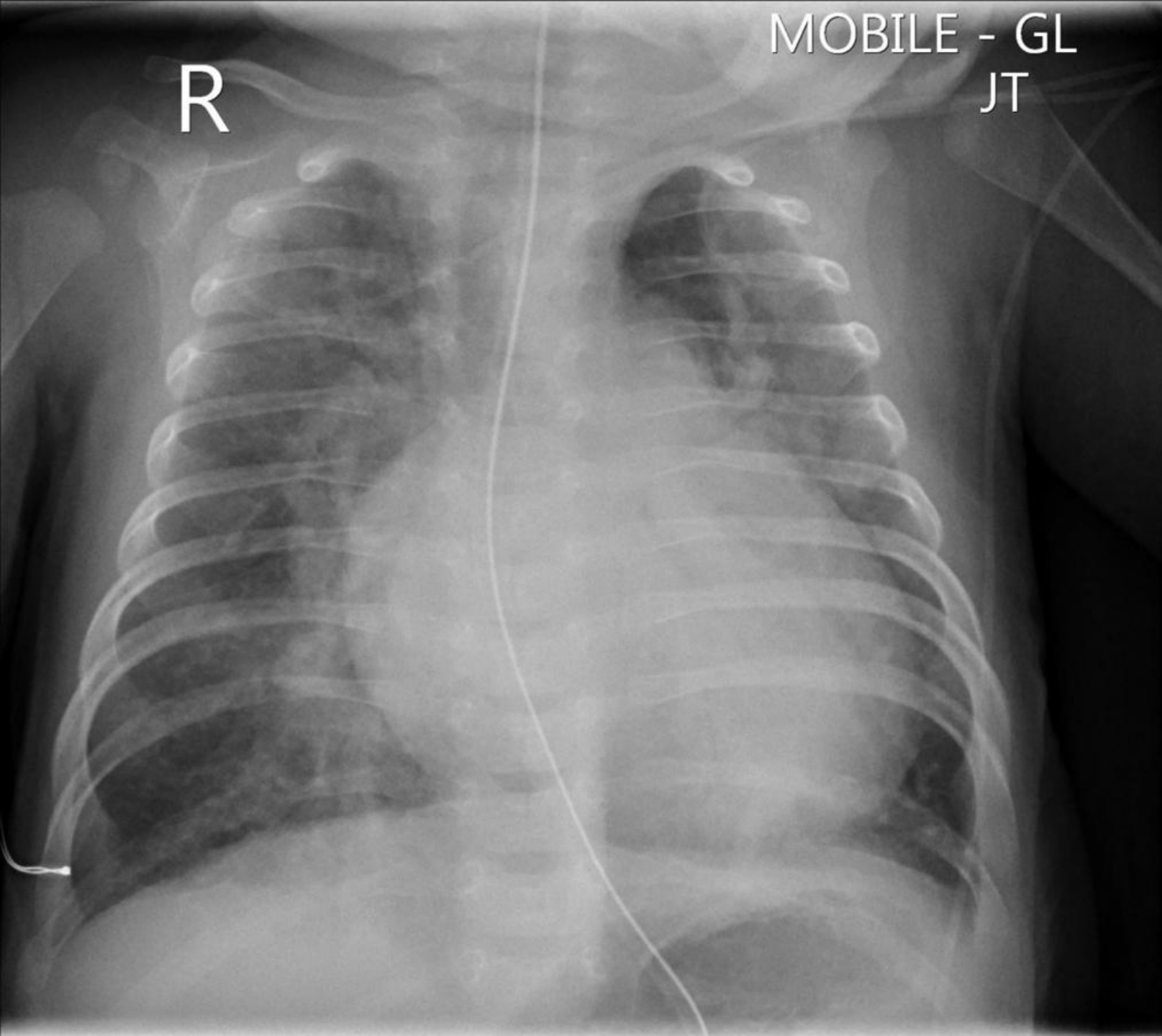
Which chamber is more affected











Finding :

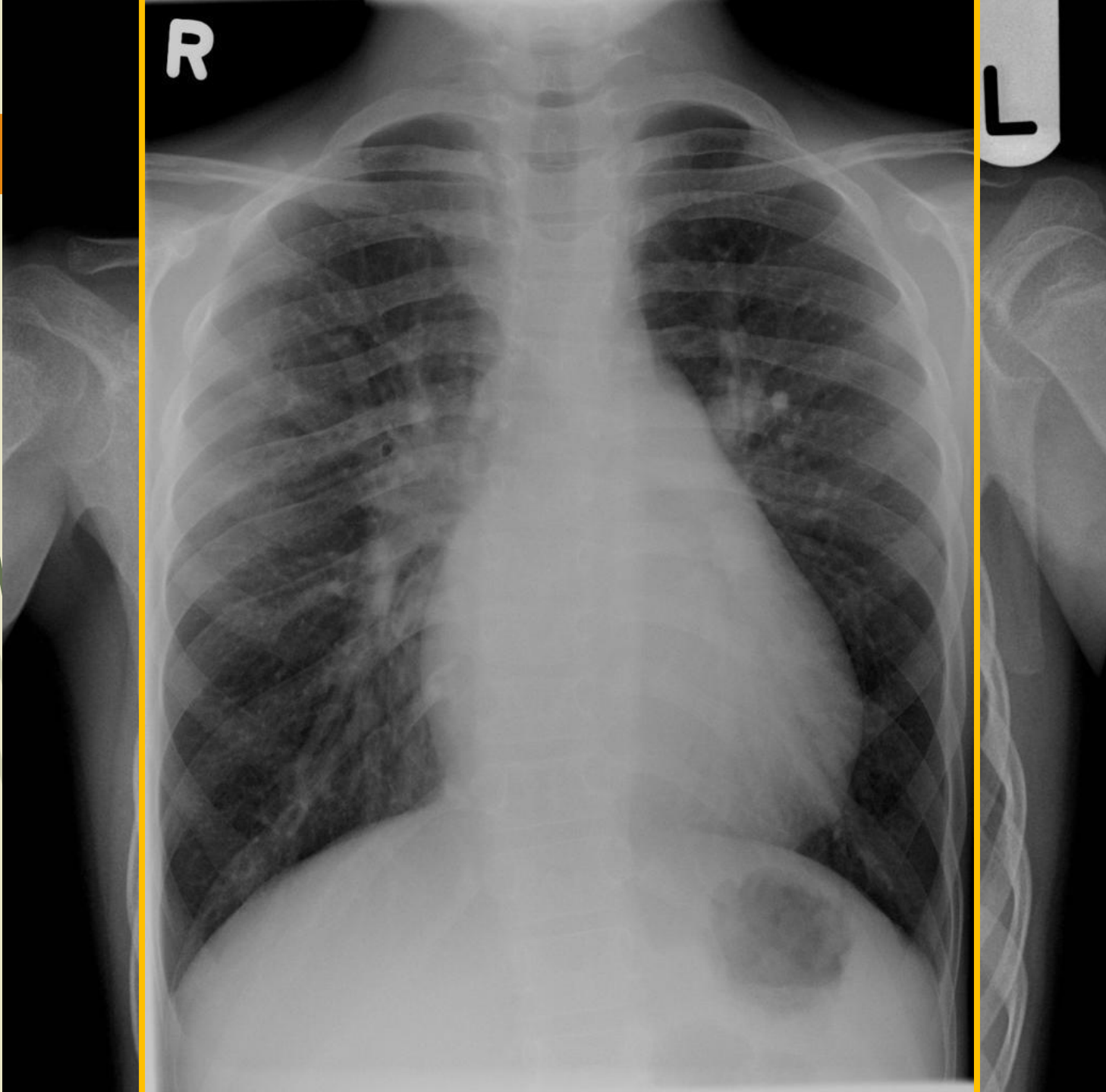
Heart

- Global cardiomegaly
 - RA dilated
 - LA dilated
 - LV dilated
 - RV dilated
 - Prominent PA nub

Lung :

Congested Lung (high flow)

Diagnosis:
VSD



Finding :

Heart

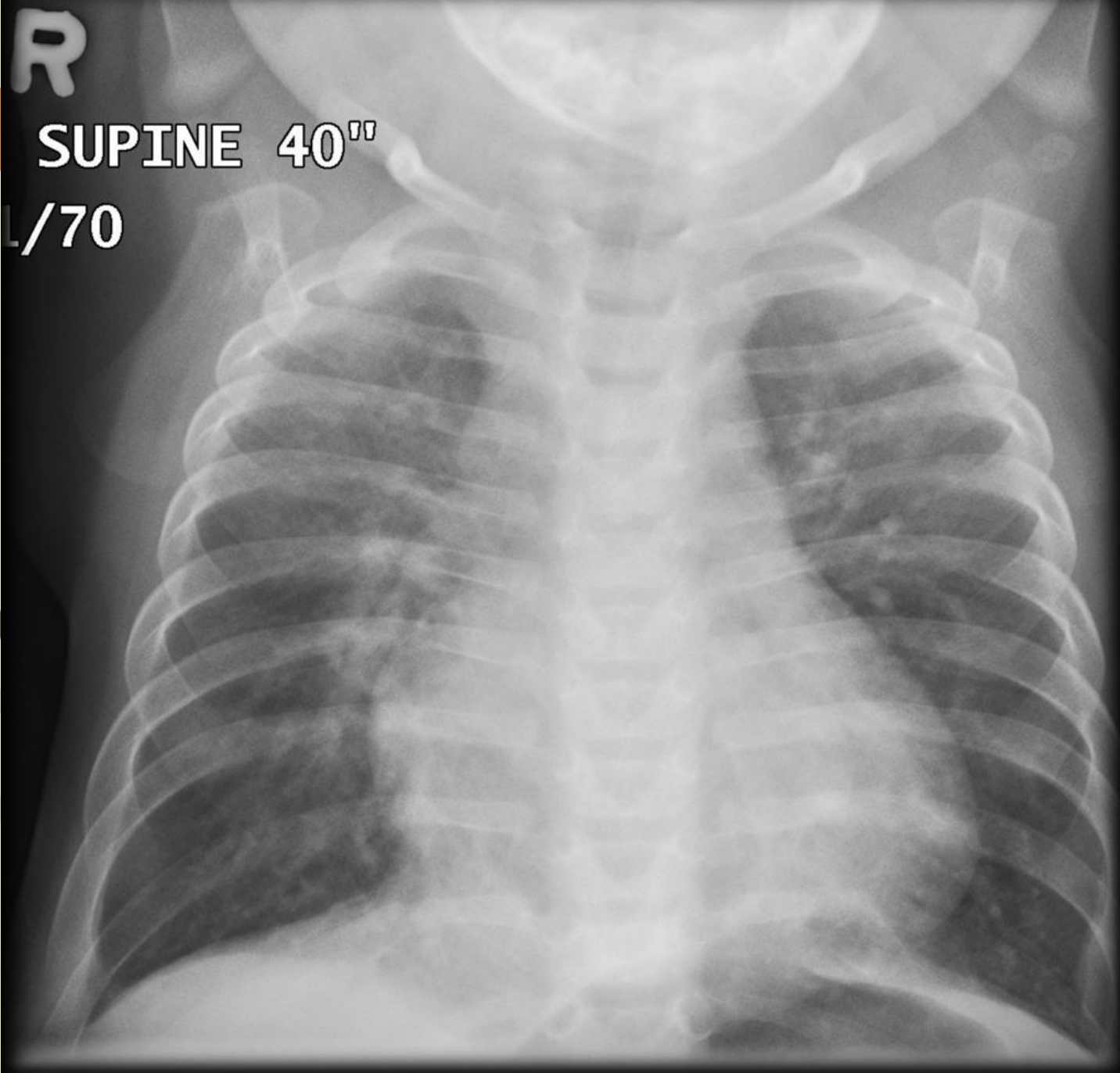
- cardiomegaly
 - RA dilated
 - Prominent PA nub

Lung :

Congested Lung (high flow)

Diagnosis:

ASD



Finding :

Heart

- cardiomegaly
 - RA dilated
 - Prominent PA nub
 - Mild biventricular hypertrophy
 - Mediastinum is wide

Lung :

Congested Lung (high flow)

Diagnosis:

AVSD



Finding :

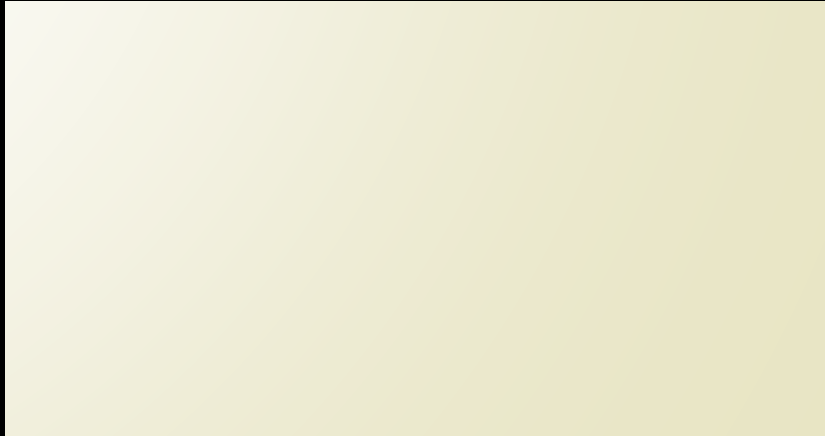
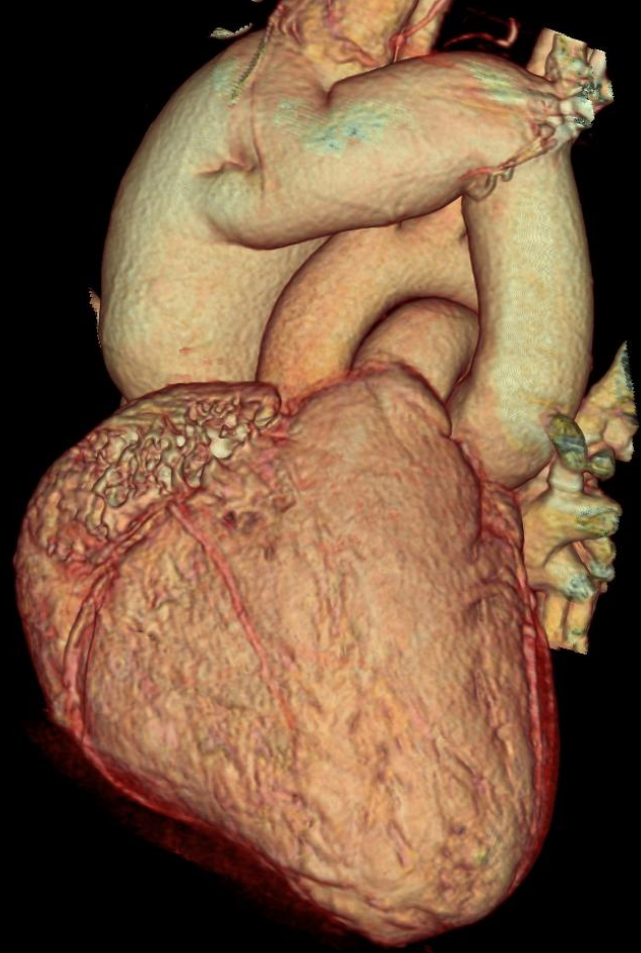
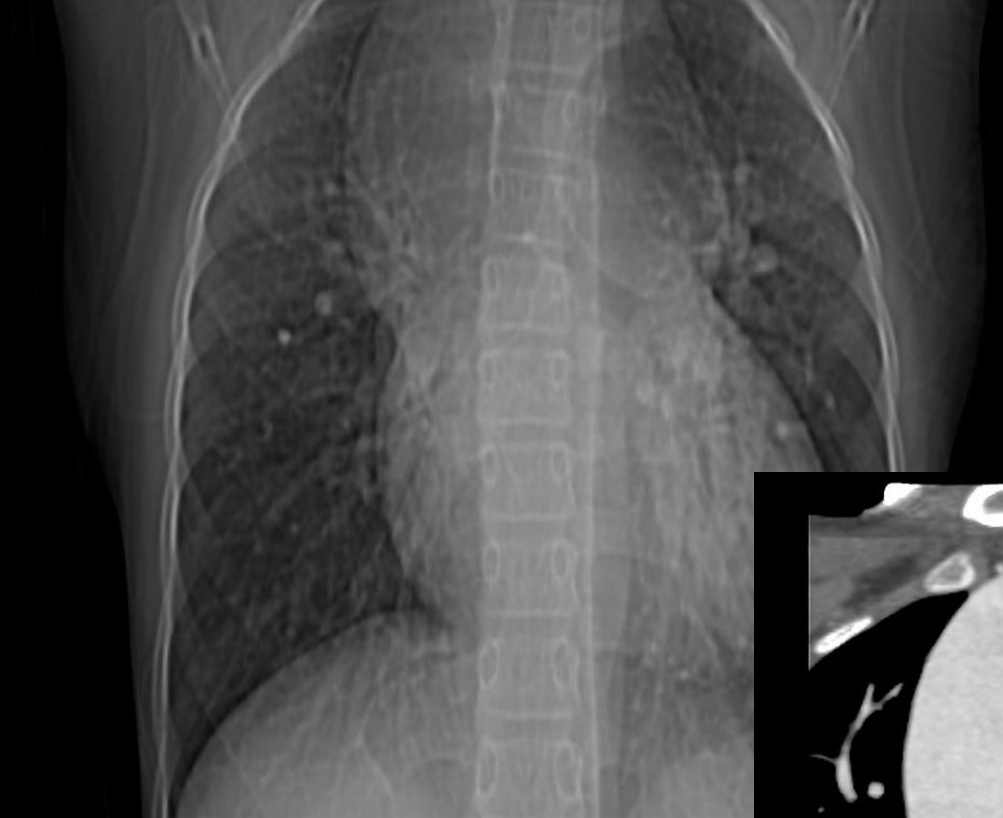
Heart

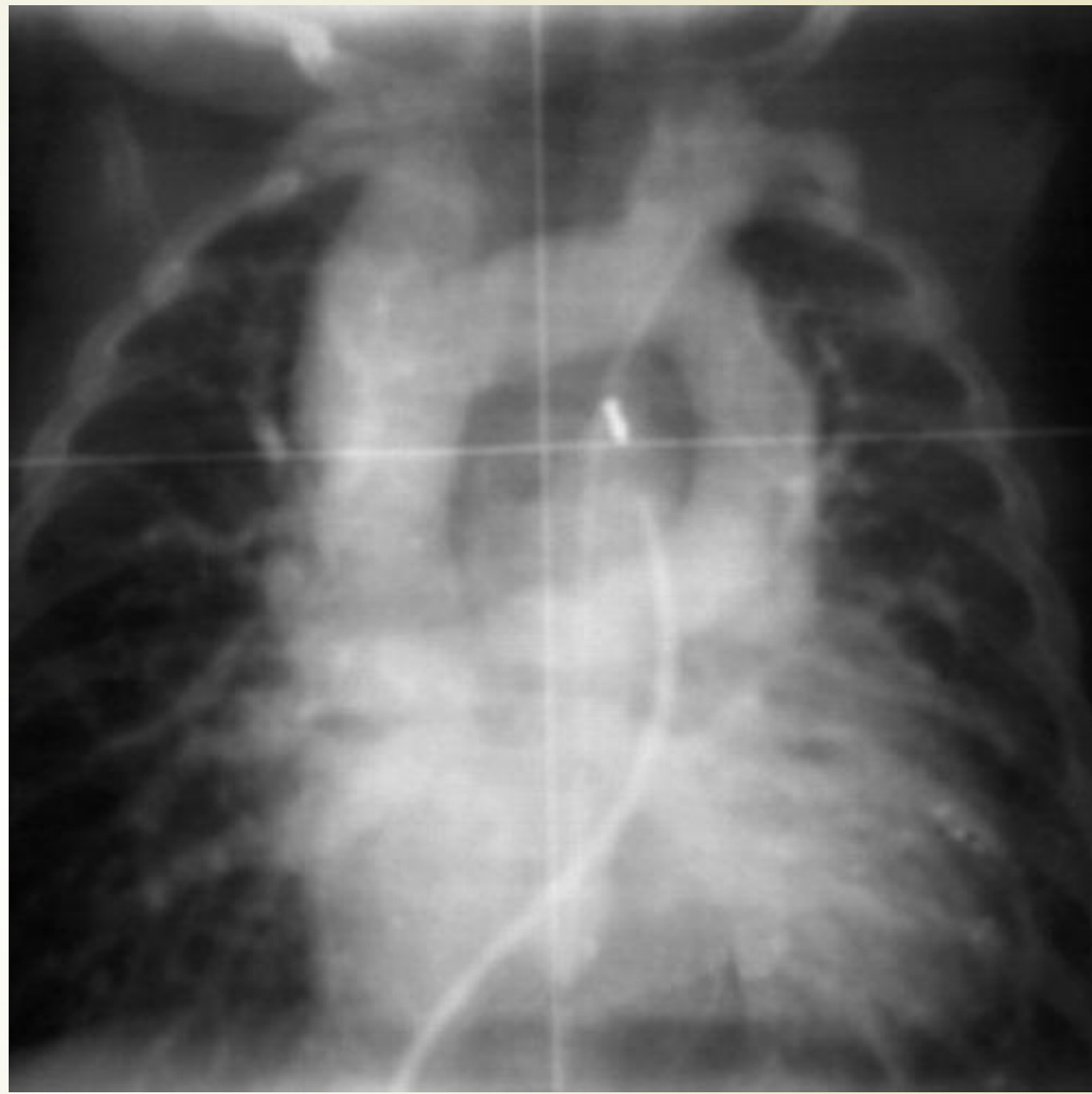
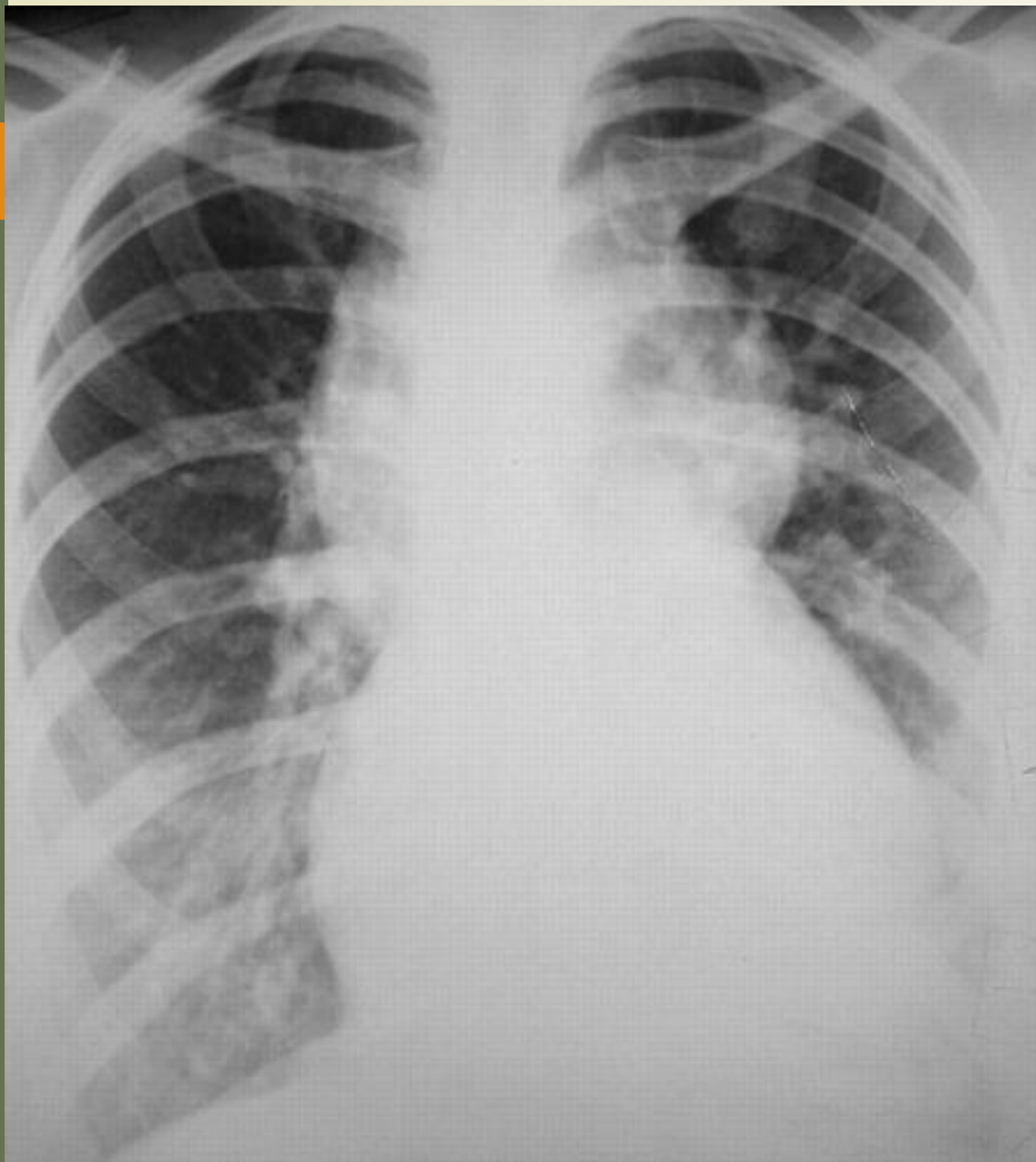
- cardiomegaly
 - RV dilated
 - Mediastinum is wide
 - Supracardiac shadow

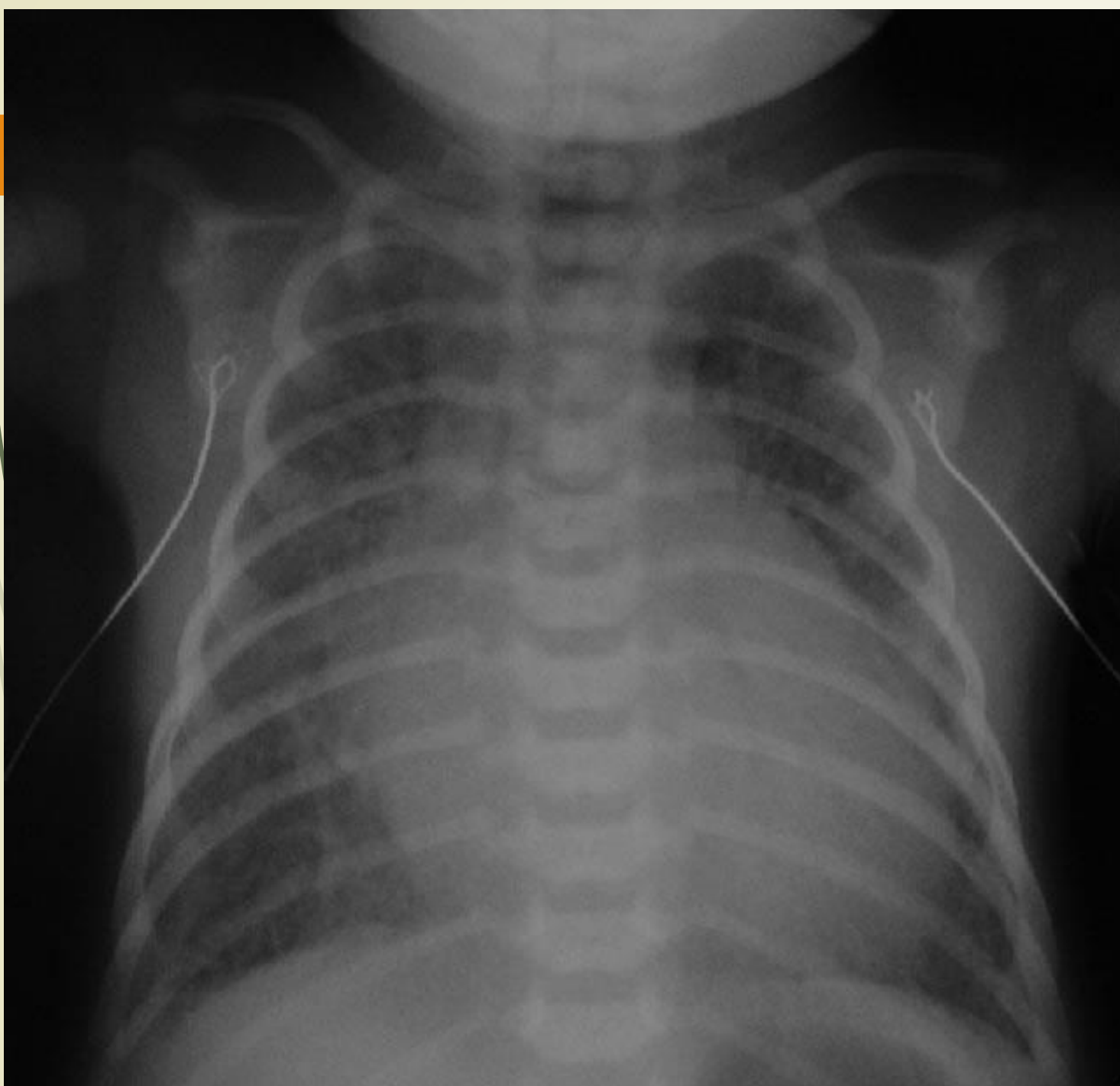
Lung :

Congested Lung (high flow)

Diagnosis:
TAPVC







Finding :

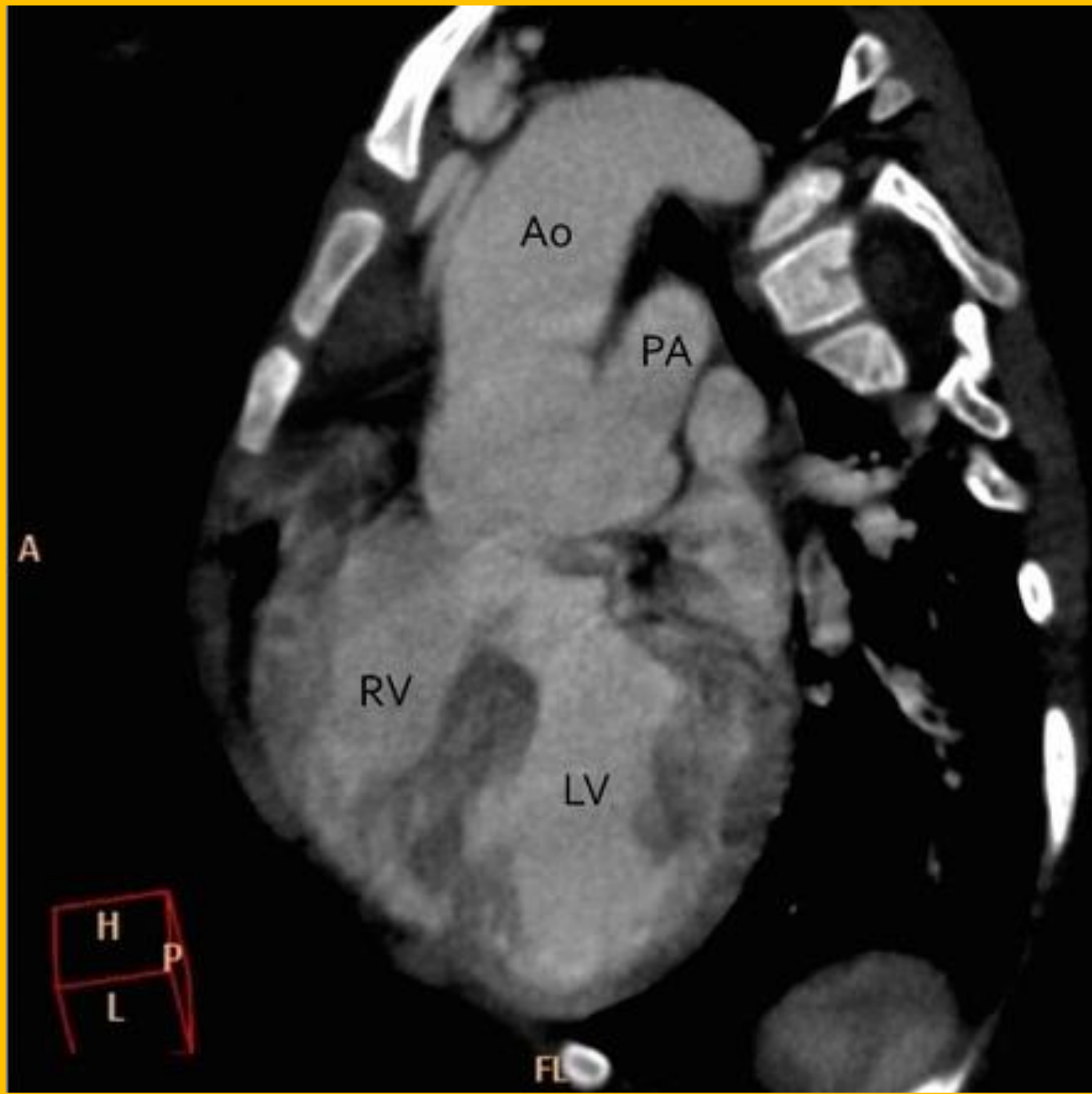
Heart

- Cardiomegaly(Golobal)
- Prominent pulmonary nub

Lung :

Congested Lung (high flow)

Diagnosis:
HLHS



Finding :

Heart

- Cardiomegaly
 - LV dilated
 - RA dilated
 - Rt arch

Lung :

Congested Lung (high flow)

Diagnosis:

Truncus Arteriosus



Finding :

Heart

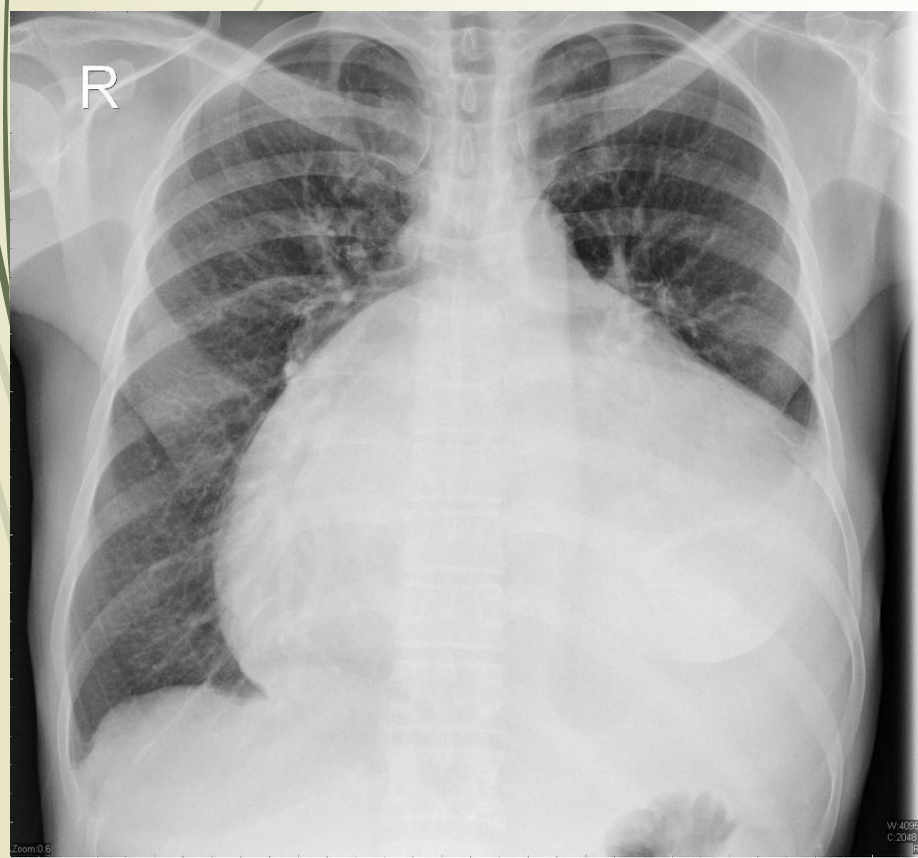
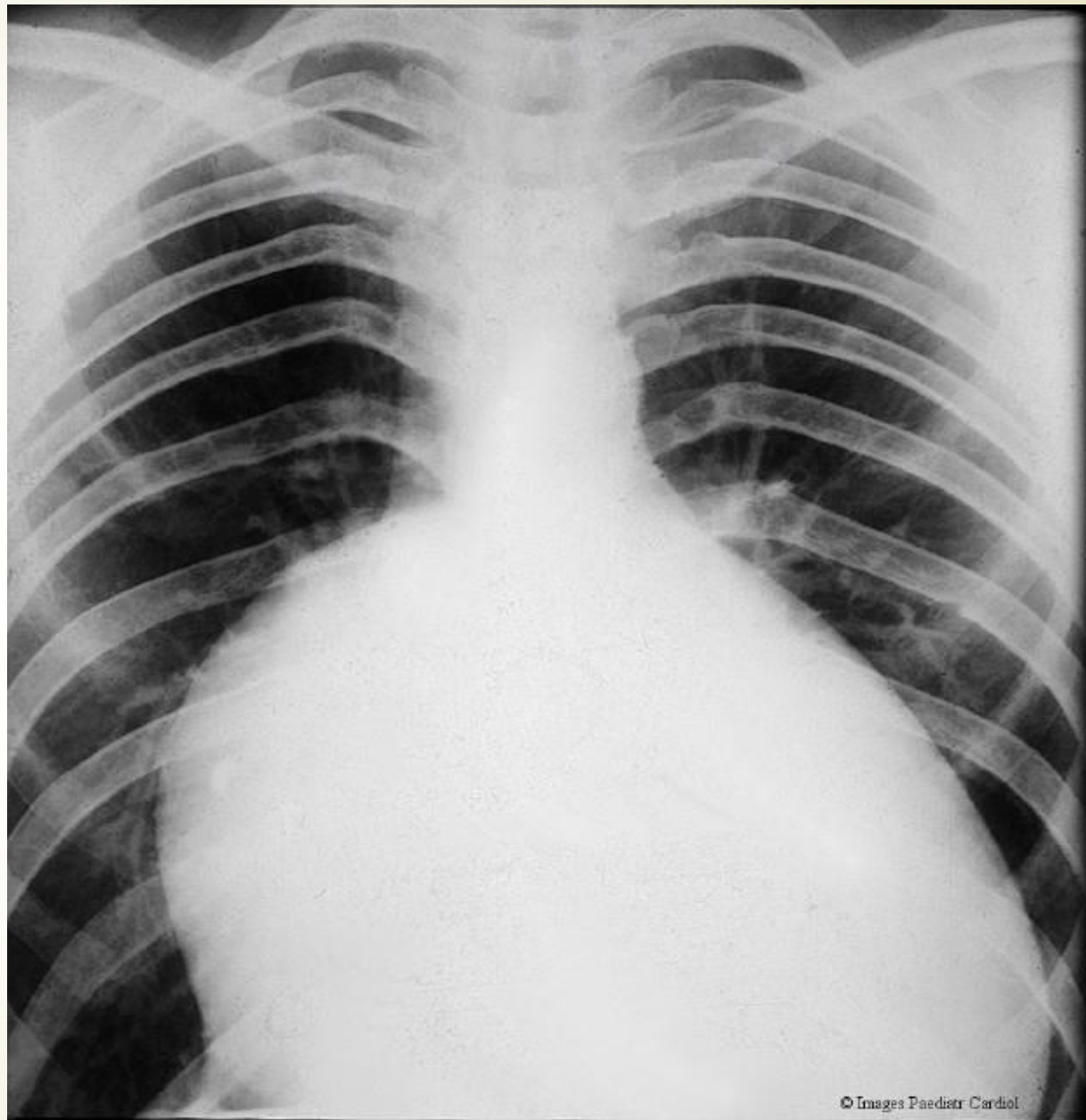
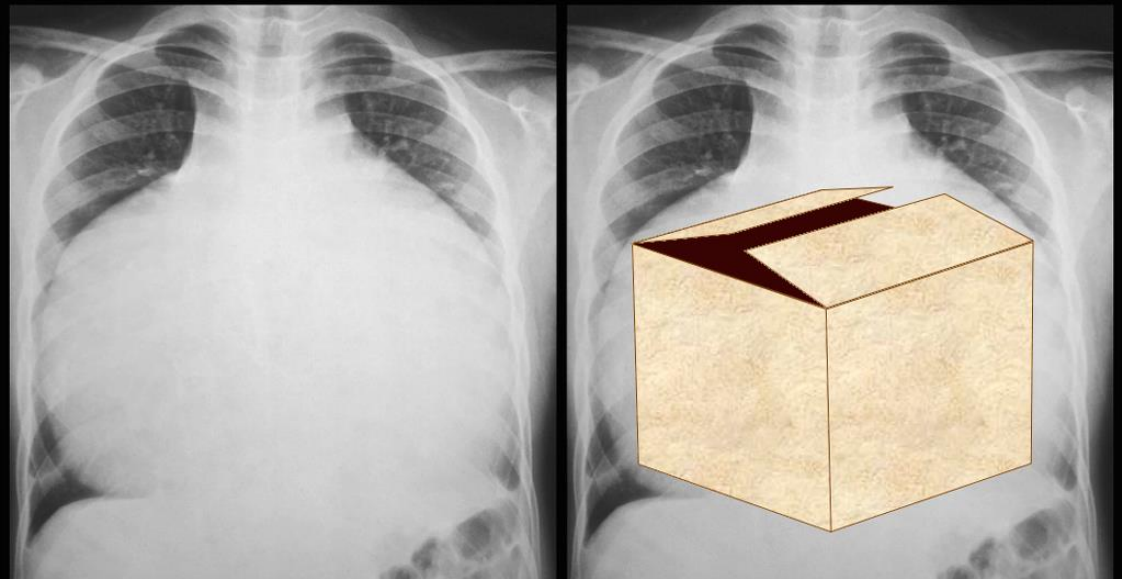
- Cardiomegaly (Hug)
 - RV dilated
 - RA dilated
 - Box heart

Lung :

Oligemic Lung (low flow)

Diagnosis:

Ebstein anomaly





Finding :

Heart

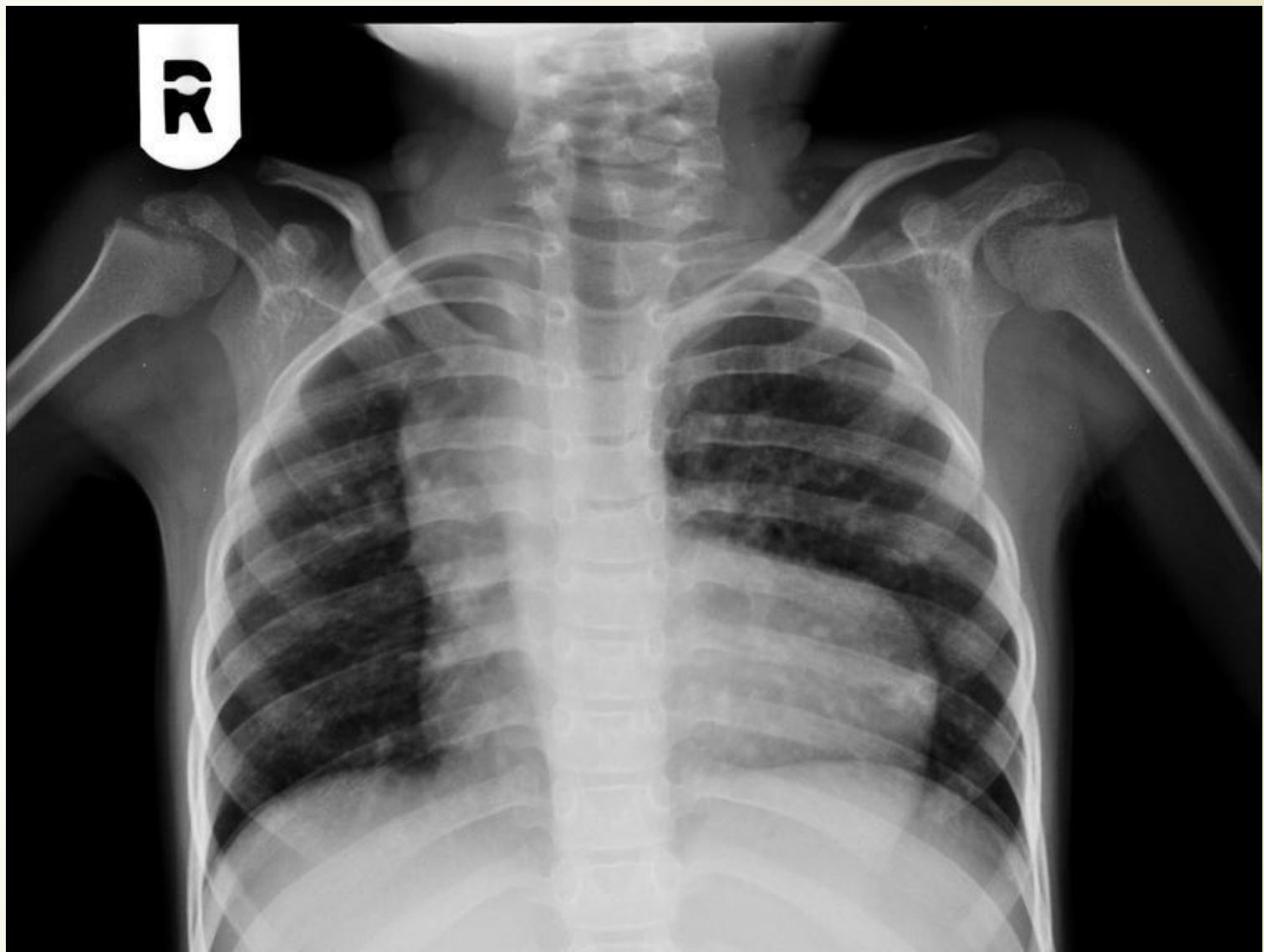
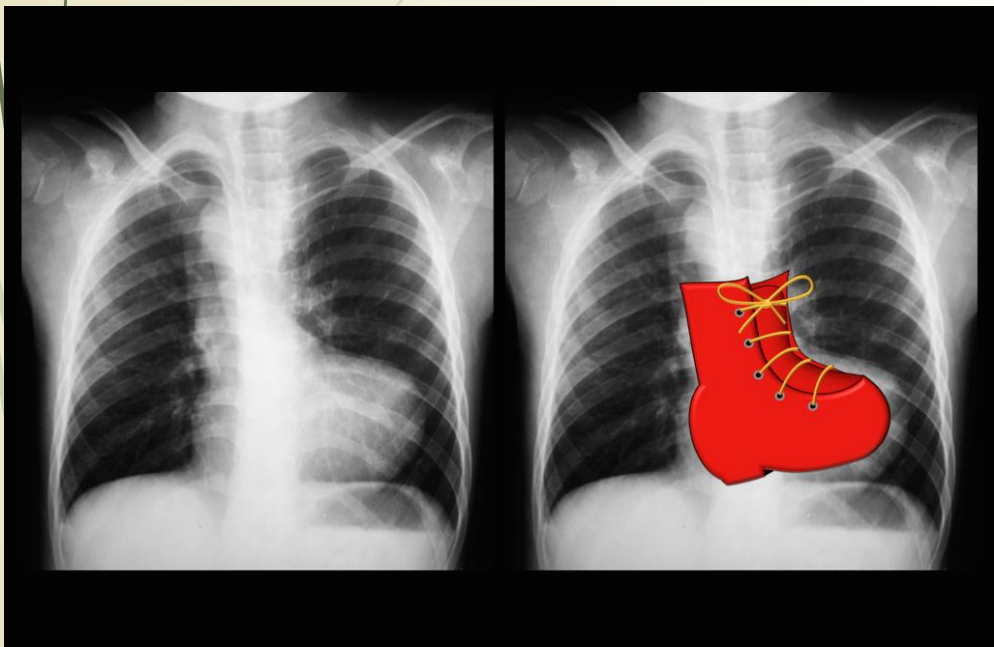
- Nl size
- RV hypertrophy
- Rt arch
- Diminished pulmonary nub

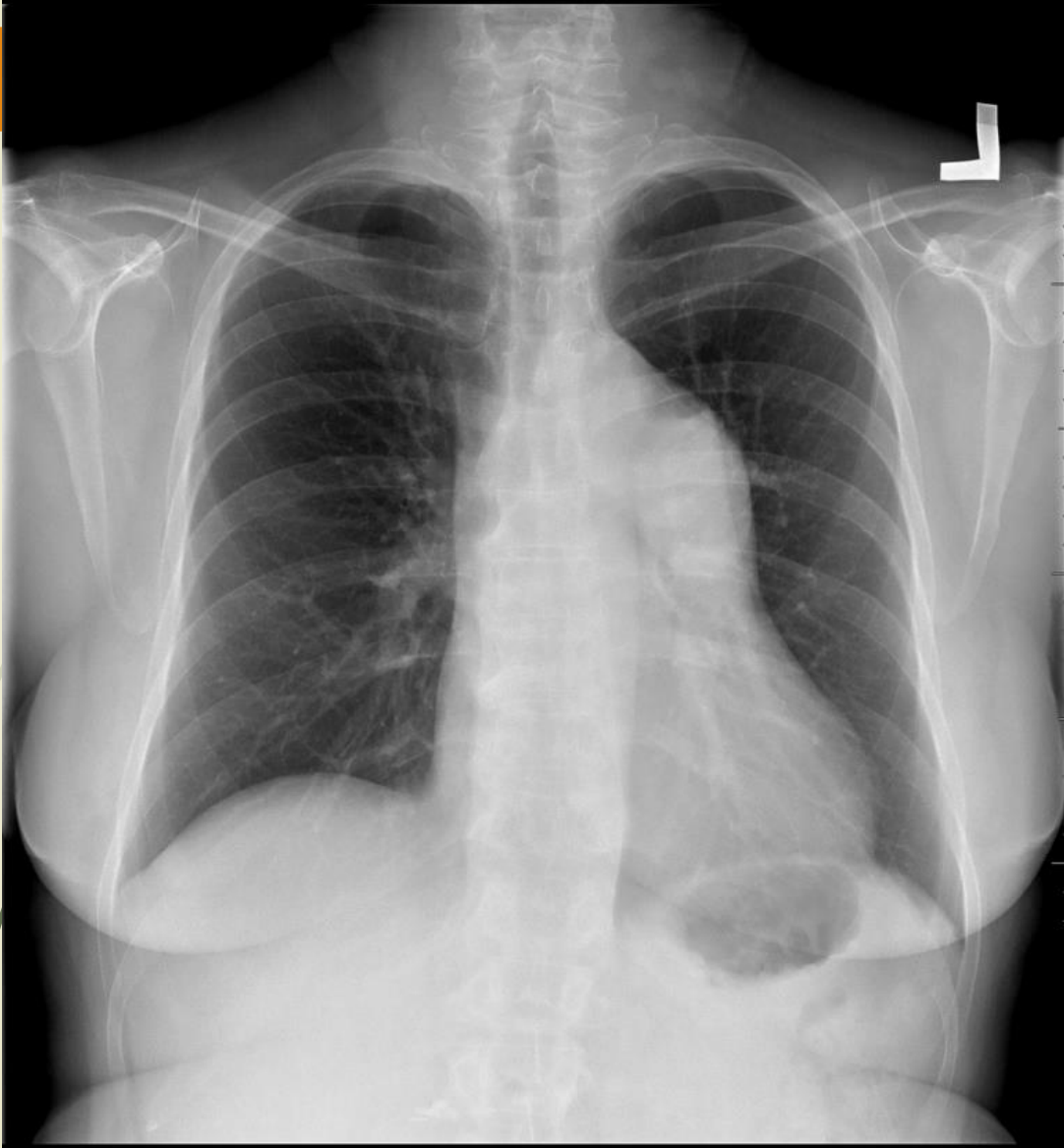
Lung :

Oligemic Lung (low flow)

Diagnosis:

TOF





Finding :

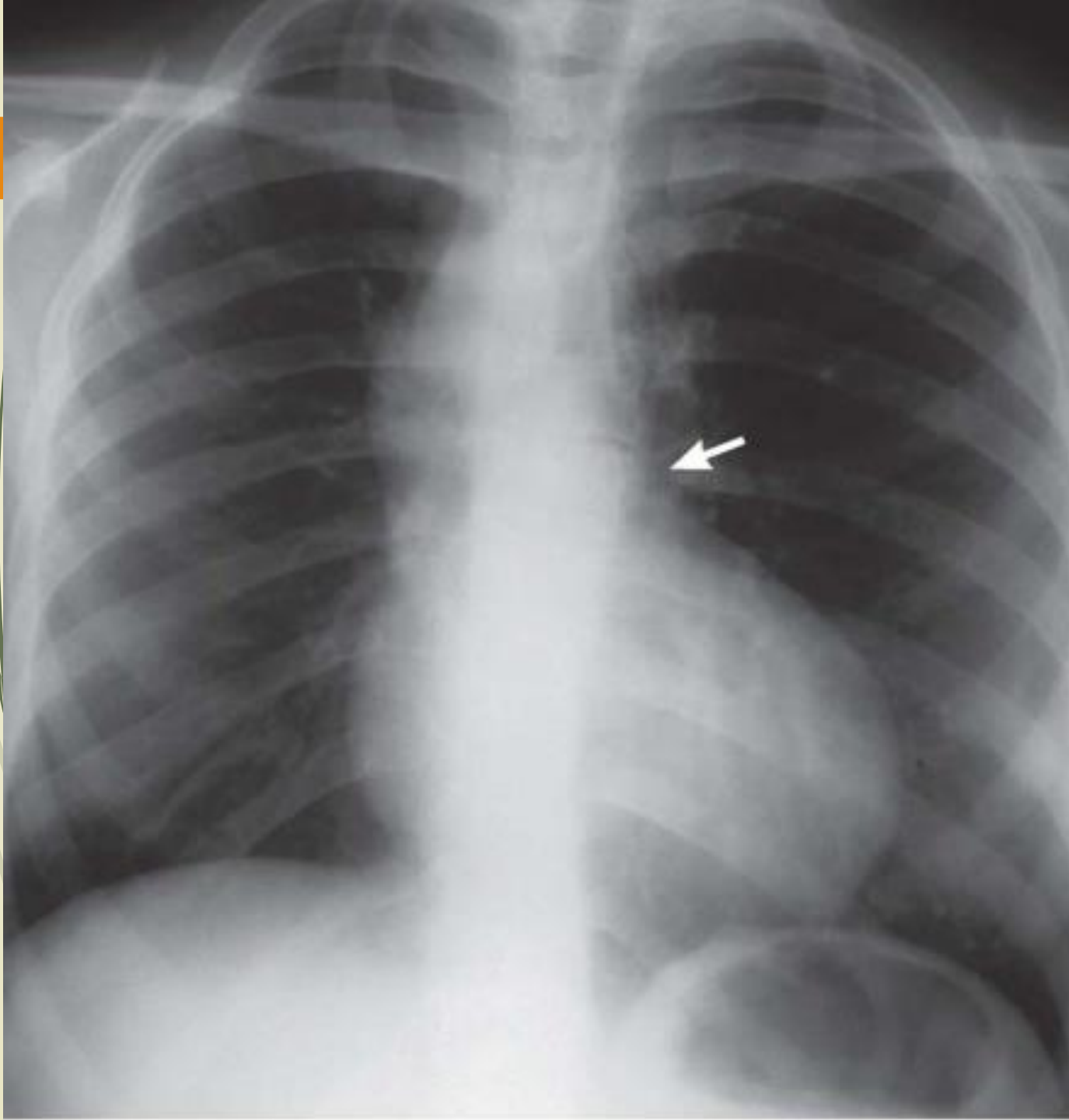
Heart

- N1 size
- Mild RV hypertrophy
- Prominent pulmonary nub

Lung :

Oligemic Lung (low flow)

Diagnosis:
Congenital PS



Finding :

Heart

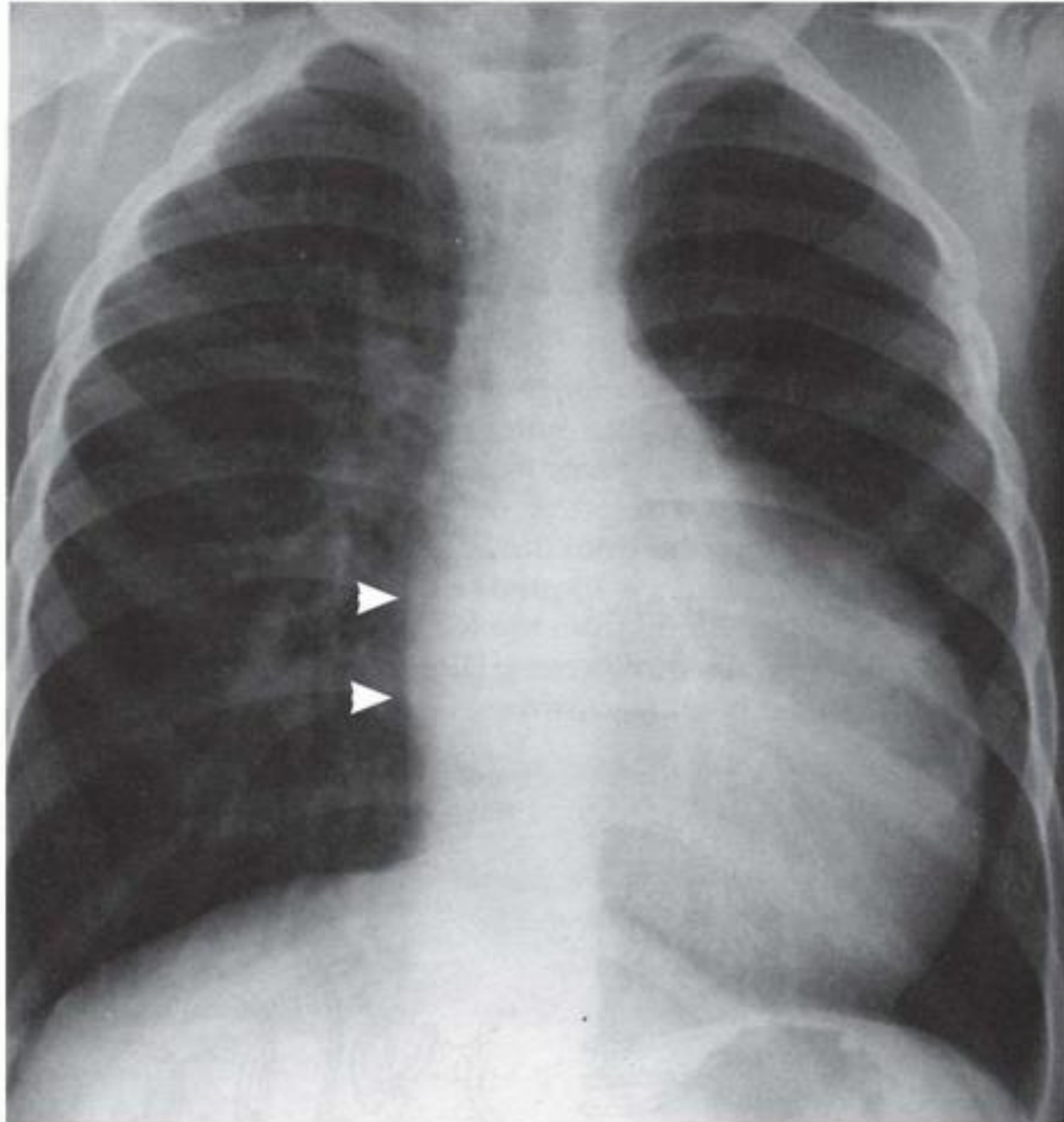
- Nl size
- Mild RV hypertrophy
- No pulmonary nub

Lung :

Oligemic Lung (low flow)

Diagnosis:

Pulmonary atresia



Finding :

Heart

- Mild cardiomegaly
- Apex upward (?)
- Flatten RA

Lung :

Oligemic Lung (low flow)

Diagnosis:

Tricuspid atresia



Finding :

Heart

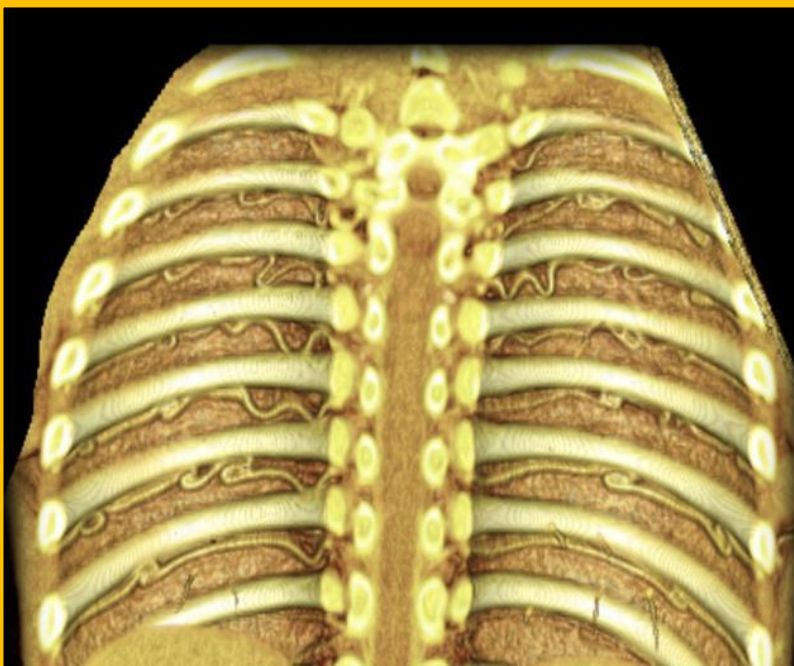
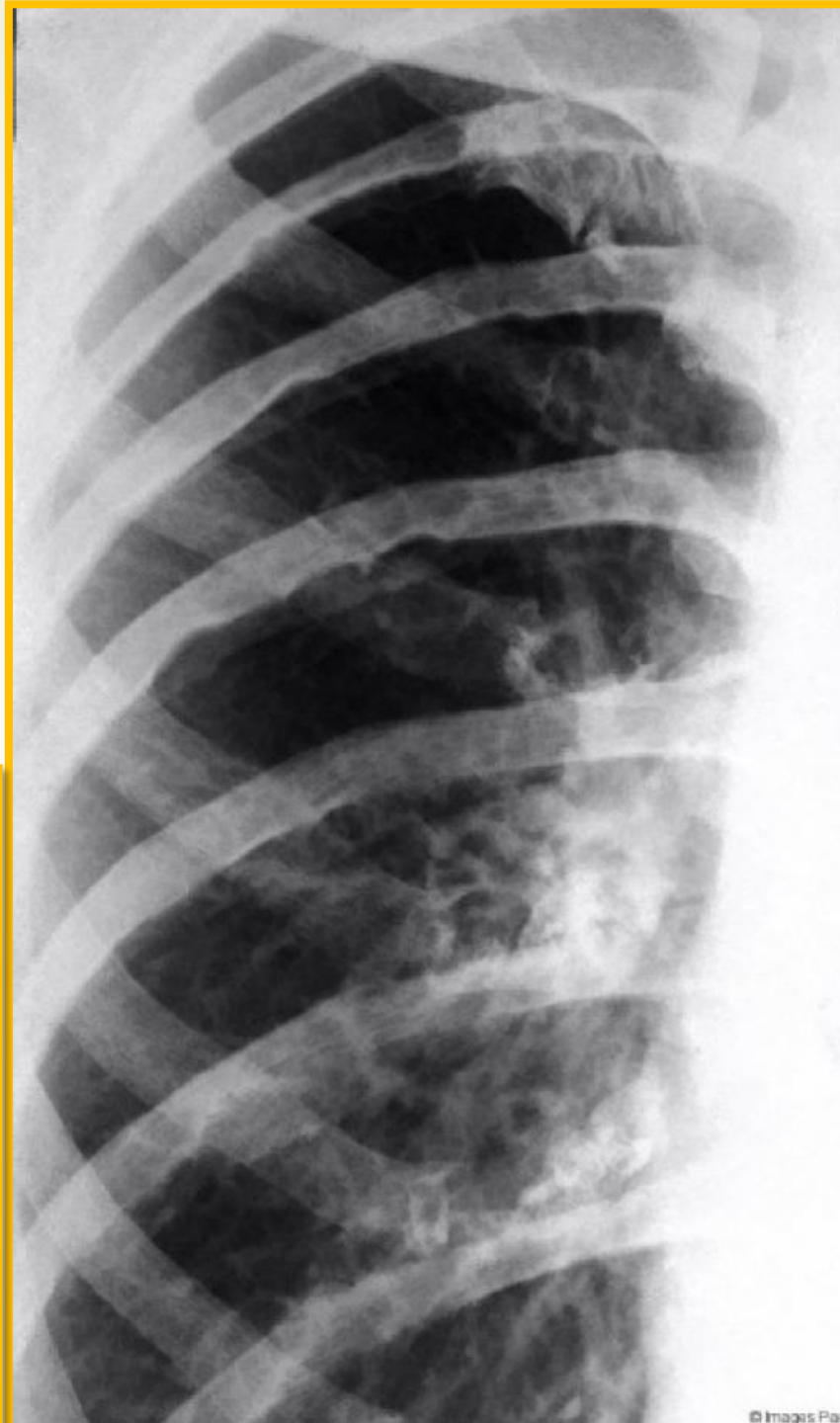
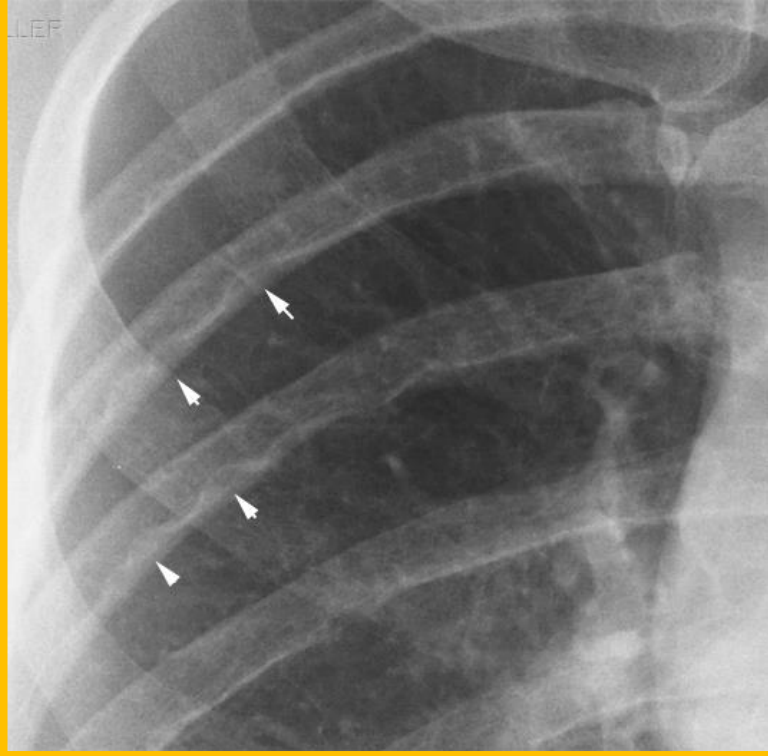
- No cardiomegaly
- 3 sign
- Rib notching

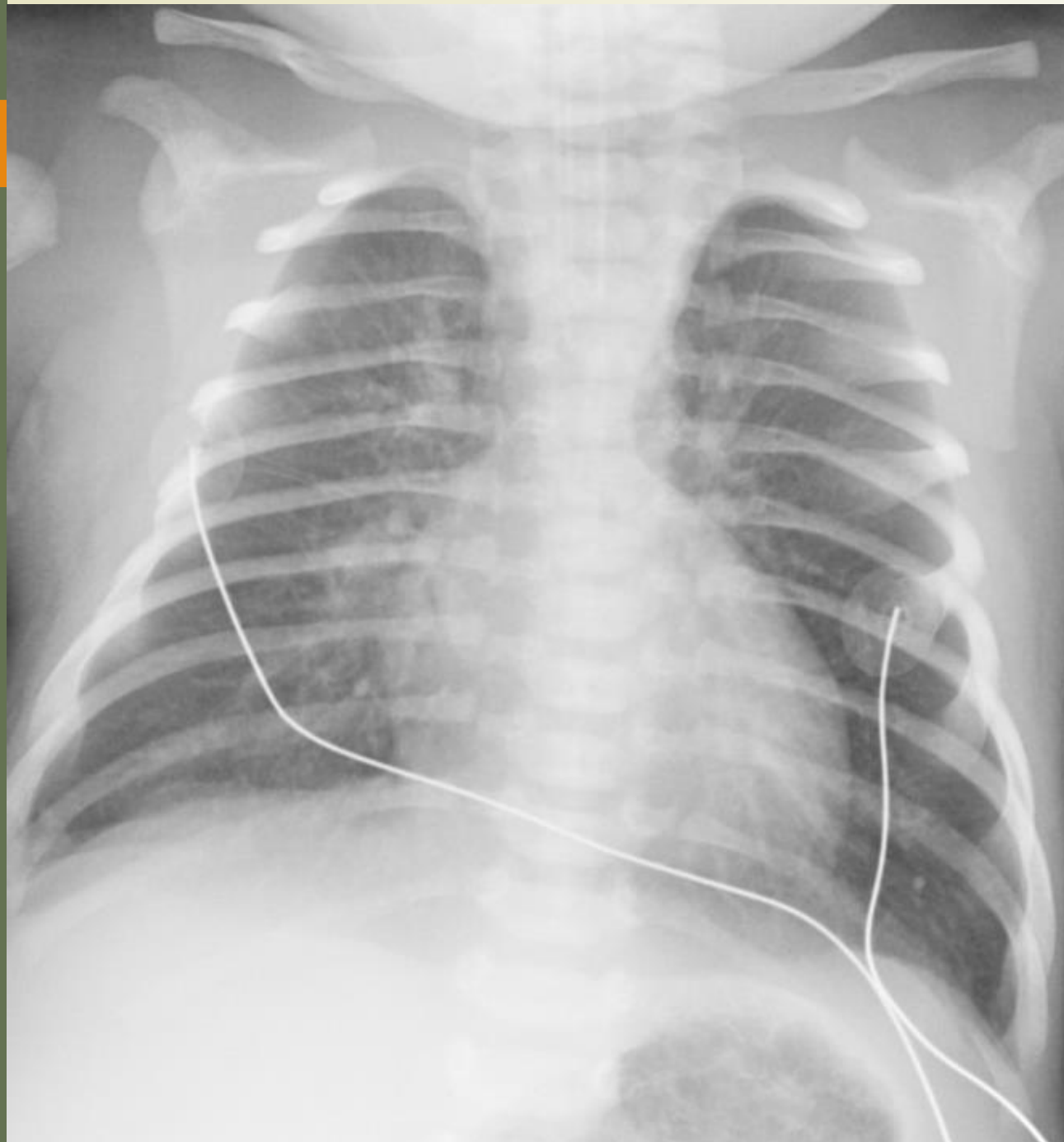
Lung :

Nl to high flow Lung

Diagnosis:

COA





Finding :

Heart

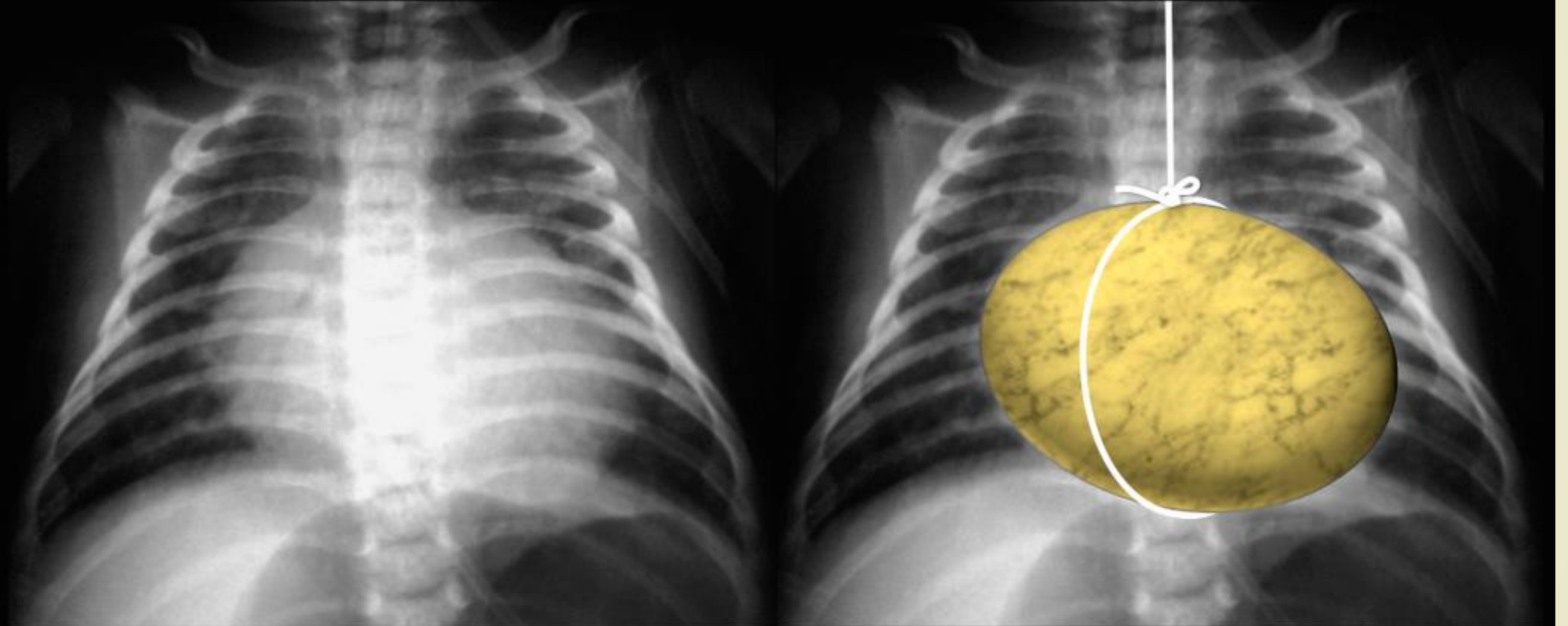
- No cardiomegaly
- Narrow mediastinum
- Egg on string

Lung :

high flow Lung

Diagnosis:

TGA



Thanks for your attention

- ▶ I'm Available for further discussion or any cooperation
- Pediatric Ward officer
pediatric cardiologist
Nemazee hospital
- Email:
Mohammadi219@gmail.com
- Telegram on my phone number

