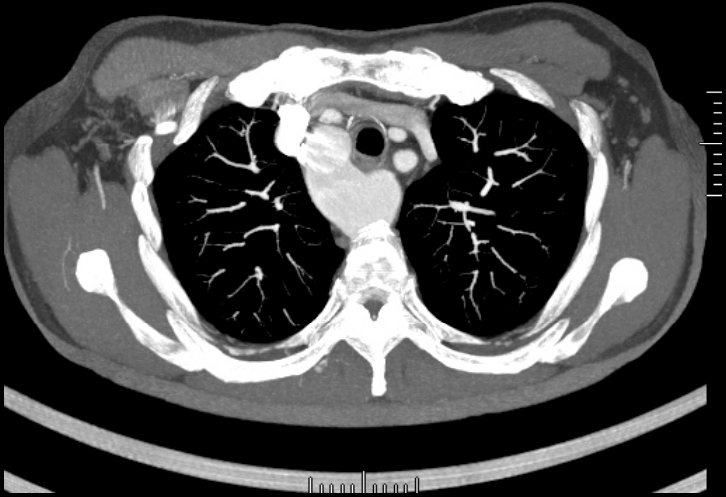


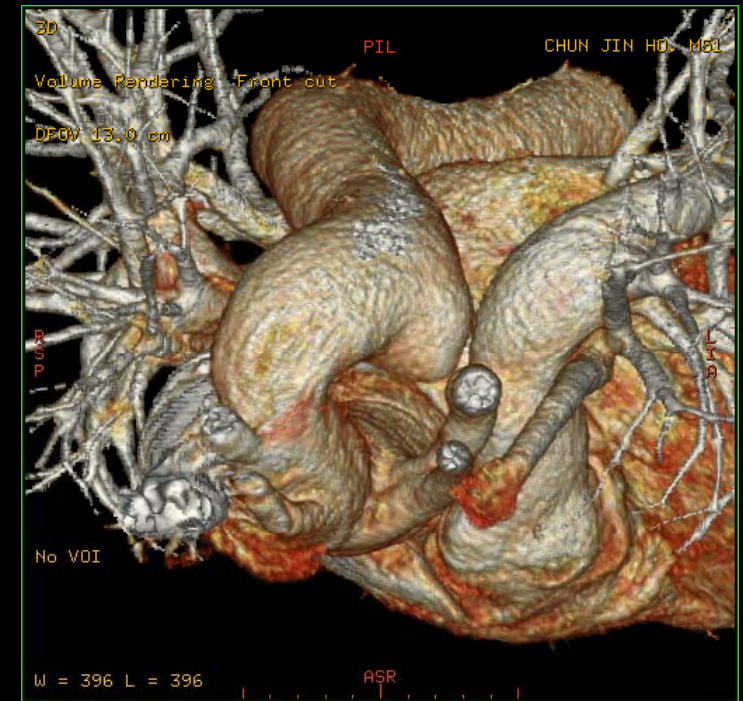
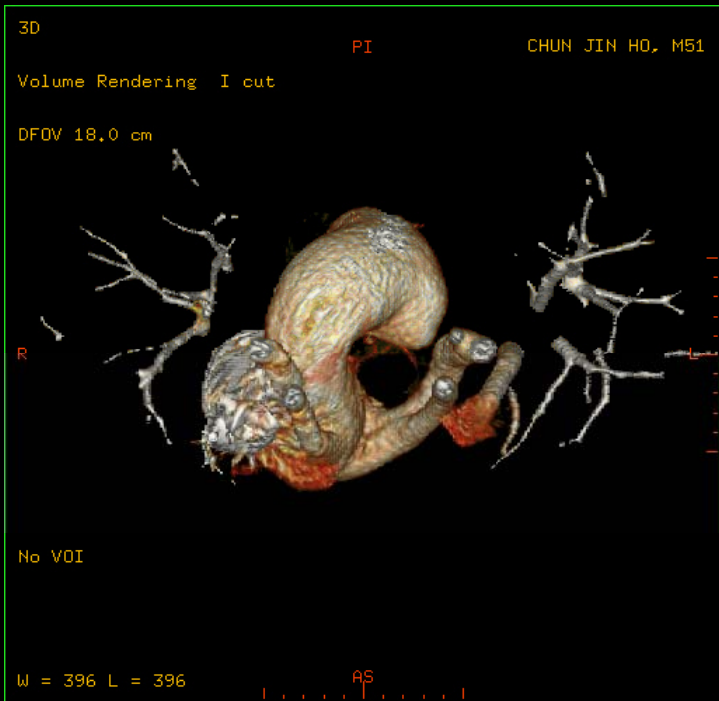
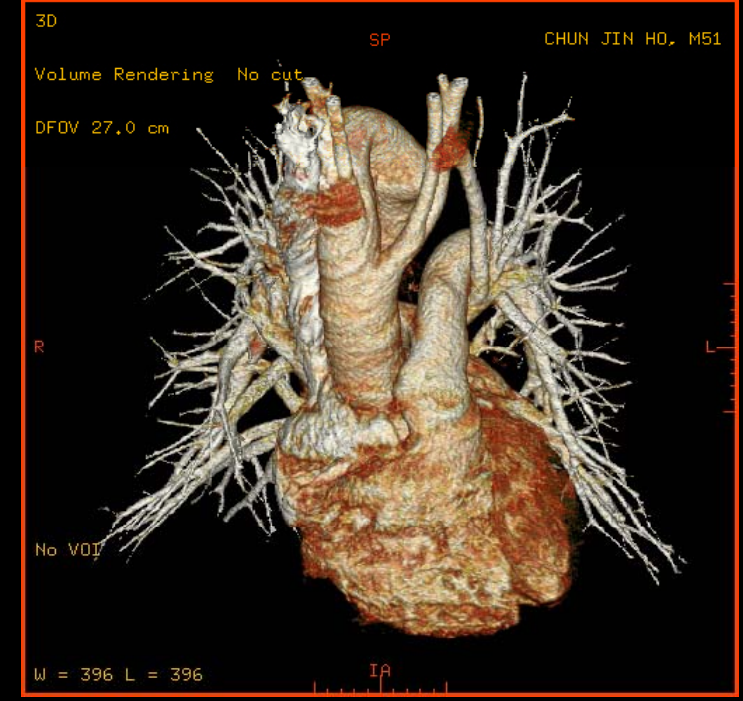
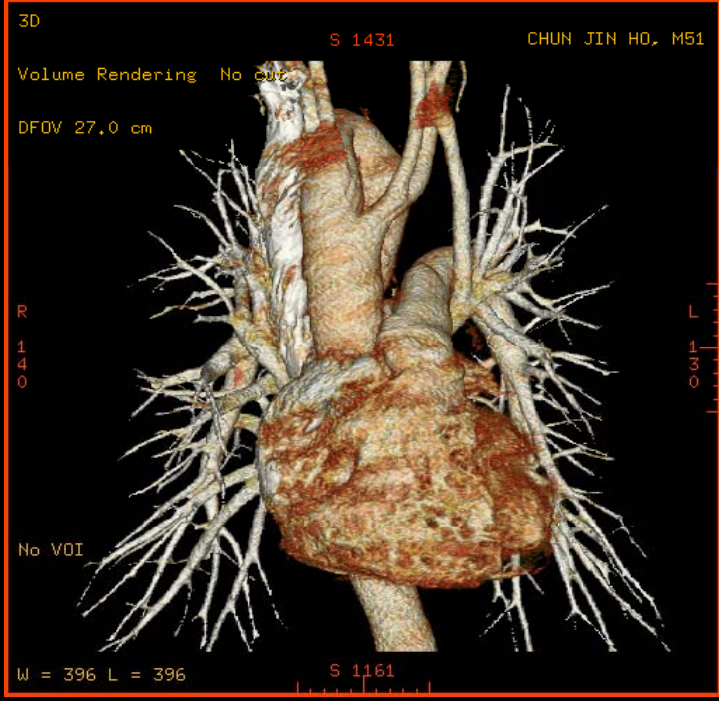
# Case from Asan Medical Center

## Joon-Won Kang, MD

- M/52
- C.C.: Chest discomfort
  - 5YA: R/O aortic arch aneurysm
  - Dysphagia







# Findings

## ■ Scanogram

- Bulging contour of the right paratracheal stripe and lack of the left aortic knob.
- Descending thoracic aorta contour is overlaid at thoracic spine contour.

## ■ CT

- Right sided aortic arch: the aortic arch is right side of the trachea.
- The left common carotid artery and the left subclavian artery are originated from the left innominate artery.
- Kommerell's diverticulum is visible at the descending thoracic aorta.
- Anomalous venous drainage is seen between left subclavian vein and the left pulmonary vein (in the volume rendered images).

# Answer

- Incomplete double aortic arch with distal atresia AND Levoatrial cardinal vein

# Incomplete double aortic arch with distal atresia

- Potential of producing stridor, wheezing, or dysphagia.
- Nonpatent remnant of the left arch
  - Fibrous cord tethering the anterior left arch to the descending aorta
  - Transition between a typical double aortic arch and a right aortic arch with mirror-image branching

# Incomplete double aortic arch with distal atresia

- Differentiation from mirror imaging
  - Symmetric appearance of the subclavian and common carotid arteries originating from the right arch and incomplete left aortic arch, more posterior positioning of the incomplete left arch (compared with the left innominate artery, its embryologic counterpart in right arch with mirror-image branching)
  - Presence of a descending aortic diverticulum (although a diverticulum will also be present in the very rare right aortic arch with mirror-image branching).



# Levoatrial cardinal vein

- First described by McIntosh (1926)
  - Anomalous venous connection between the left atrium and a vein whose embryologic origin is in the cardinal system
  - Associated disease
    - Obstructive lesions of left ventricular inflow
      - Hypoplastic left heart syndrome with intact atrial septum
    - Coarctation of the aorta and interrupted aortic arch: more often accompanied by the presence of a LACV
- More detected with MDCT

# References

- Schlesinger AE, et al. Incomplete Double Aortic Arch with Atresia of the Distal Left Arch: Distinctive Imaging Appearance. *Am J Roentgenol* 2005;184:1634–1639
- Amoretti F, et al. The Levoatriocardinal Vein. *Pediatr Cardiol* 2005; 26: 494–495