

# Dysphagia Lusoria

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## Citation

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## Abstract

We report an interesting case of Dysphagia lusoria due to aberrant left subclavian artery with discussion of aortic arch anomalies.

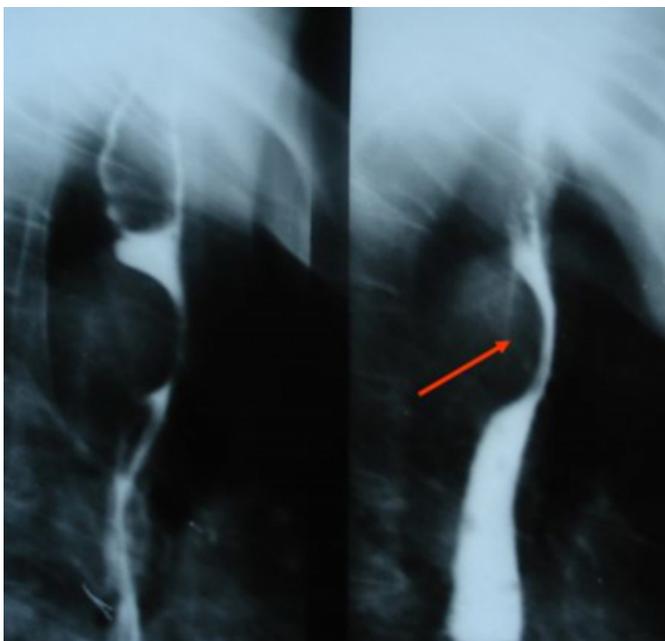
## CASE HISTORY

A 45 yr old woman presented with dysphagia for solids for 1 year. There was no history of oynophagia, heartburn, epigastric discomfort, retrosternal pain or vomiting.

Barium Swallow was done. On AP view, Right extrinsic impression was noted and on lateral view posterior impression was seen.

## Figure 1

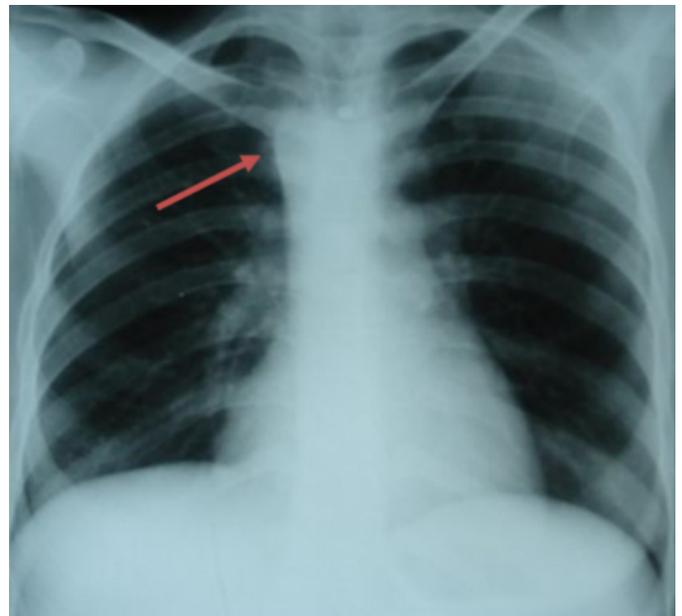
Figure 1: Bilateral oblique view showing extrinsic impression on posterior esophageal wall.



Chest X Ray was done after that and Right sided aortic arch was found.

## Figure 2

Figure 2: Chest X ray showing Right sided aortic arch



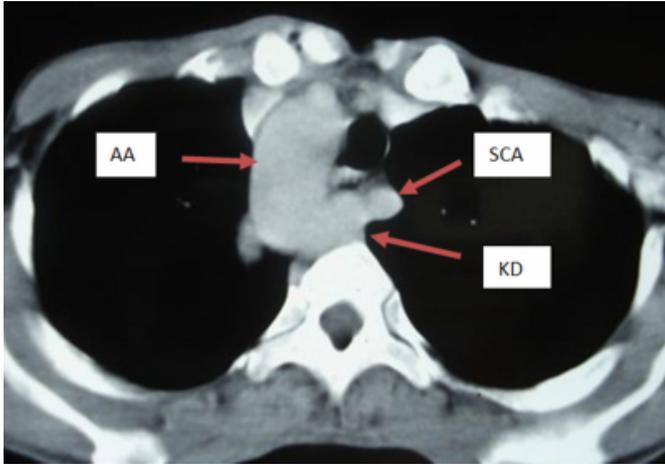
We made a presumptive diagnosis of Right sided aortic arch with extrinsic impression on posterior and right lateral aspect of upper thoracic esophagus due to some aberrant vessel.

No structural abnormality of heart was found on Echocardiography.

Contrast Enhanced CT was done and Right sided aortic arch with aberrant left subclavian artery was noted.

**Figure 3**

Figure 3: CT showing Right aortic arch with aberrant left subclavian artery passing posterior to the esophagus.



AA: Aortic Arch, SCA : Left Subclavian Artery, KD: Kommerell diverticulum.

MRA was done subsequently and the findings were confirmed. No evidence of vascular ring was noted.

**Figure 4**

Figure 4: MRA showing Right Aortic arch with descending aorta on right side



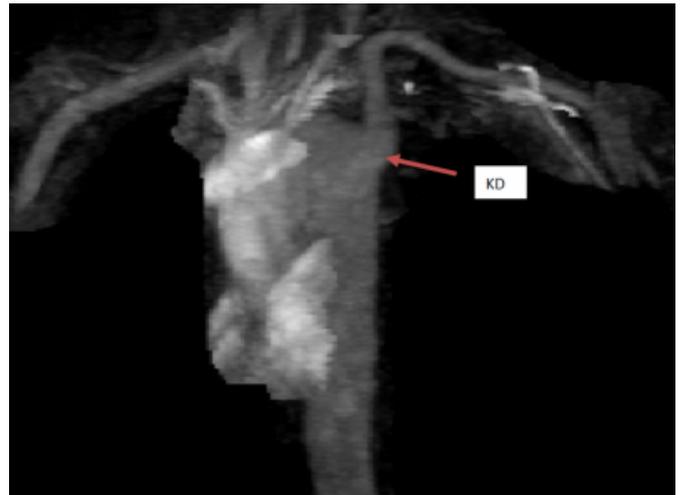
**Figure 5**

Figure 5: MRA showing aberrant left subclavian artery arising from Kommerell Diverticulum.



**Figure 6**

Figure 6: MIP reconstruction confirms the findings of aberrant left subclavian artery.

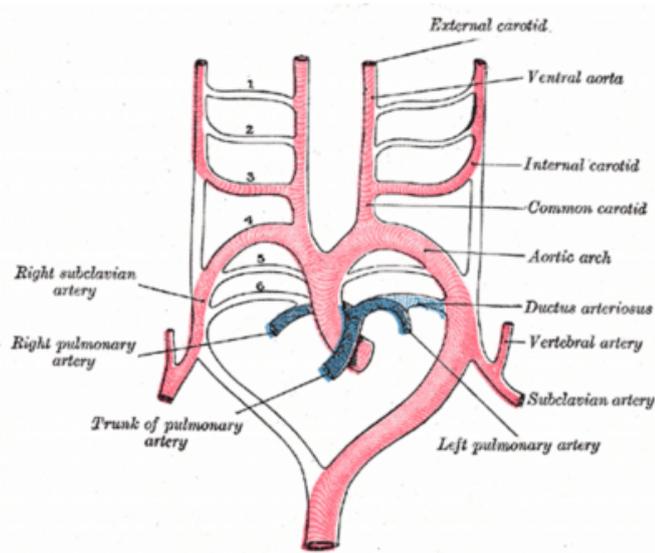


## DISCUSSION

Dysphagia Lusoria is a term given to difficulty in swallowing due to compression of esophagus by aberrant course of subclavian artery.

The Incidence of developmental anomalies of the aortic arch and its major branches is 3% (1), but they are usually asymptomatic. Aortic arch anomalies may become symptomatic when they completely “ring” the trachea and esophagus (2). The trachea is compressible during infancy, and these patients typically present when solid foods are introduced, with respiratory symptoms: stridor, wheezing, cyanosis, or recurrent pneumonia. The esophagus is more likely to be compressed in adults because of rigid trachea.

**Figure 7**



**EMBRYOLOGY**

The aortic arches are a series of six paired embryological vascular structures which give rise to several major arteries. They are ventral to the dorsal aorta.

The first and second arches disappear early

The third aortic arch constitutes the commencement of the internal carotid artery, and is therefore named the carotid arch

The fourth right arch forms the right subclavian as far as the origin of its internal mammary branch; while the fourth left arch constitutes the arch of the aorta between the origin of the left carotid artery the termination of the ductus arteriosus.

The fifth arch disappears on both sides.

The sixth right arch disappears; the sixth left arch gives off the pulmonary arteries and forms the ductus arteriosus; this duct remains pervious during the whole of fetal life, but is obliterated a few days after birth.

Right aortic arch is present when the left fourth arch involutes and the right remains.

**CLASSIFICATION**

Anomalies of aortic arch can be classified as :

**LEFT AORTIC ARCH WITH ABERRANT RIGHT SUBCLAVIAN ARTERY**

Most common major variation in the aortic arch and its

branching pattern.

Ba Swallow: Left lateral and posterior impression

Right Aortic arch (4)

Type I: Descending aorta on right side of spine.

Type II: Descending aorta on left side of spine.

Type I and II are again subdivided acc. to the branching pattern

TYPE Ia/IIa : Left innominate artery, RCA, RSA : MIRROR IMAGE TYPE

Most usual form of right aortic arch to be found in association with cyanotic heart disease.

TYPE Ib/IIb: LCA, RCA, RSA with aberrant left subclavian artery

Incidence is 0.05 % (3). Proximal dilated portion of aberrant vessel is known as Kommerell diverticulum.

Ba Swallow: Right lateral and posterior except in Ia in which compression is usually not seen.

**DOUBLE AORTIC ARCH**

Most common cause of a symptomatic vascular ring in children

Ba Swallow: Bilateral impression. Right arch is larger and higher and left arch is smaller and lower

Berdon and Baker classified vascular induced esophageal indentation into four patterns (2):

(a) Anterior tracheal, posterior esophageal indentation: vascular ring

(b) Normal trachea, posterior esophageal indentation: aberrant subclavian artery;

(c) Posterior tracheal, anterior esophageal indentation: pulmonary sling; and

(d) Anterior tracheal indentation, normal esophagram: innominate arterial compression.

**DIAGNOSIS**

Chest x-ray a) Position of aortic arch

b) Indentation of trachea

BA Swallow : Screening method and frequently the diagnosis of vascular ring is initially made with ba swallow

ECHO: It is important in ruling out any structural heart disease

CECT: It is a sensitive modality for vascular rings but the disadvantage is its radiation hazard especially in children in whom vascular ring is frequently suspected.

MRI: Cardiovascular MRA is the modality of choice. It has become a new gold standard at some institutions as it is noninvasive and uses no radiation (5).

Angiography: It was the gold standard but MRI has replaced it.

Bronchoscopy: Bronchoscopy allows a more precise

evaluation of degree and nature of compression, depending on the type of vascular ring or sling.

### **References**

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