Superior vena cava, arch of aorta, Thoracic duct

- Superior vena cava: drains blood from upper part of body into right atrium.
  - devoid of valves.

Situation & parts.

- Extra pericardial part -- in superior mediastinum.
- Intra pericardial part -- in middle mediastinum.

Measurements.

length - 7cm

width - 2cm

Course

formed behind lower border of right first costal cartilage close to sternum.

- Formation - by union of right & left brachio cephalic veins.

- venacava passes vertically downwards behind the 1st and 2nd right Intercostal spaces - ends in the upper & posterior part of sinus venarum of the right atrium behind 3rd right costal cartilage.

Relations of Extra pericardial part:

- Anteriorly - right pleura & lung.
- posteriorly - R. vagus nerve & brachia.
- medially - Brachiocephalic trunk.
- Right side - R. phrenic nerve, right pleura & lung.

Relations of Intrapericardial part:

- Anteriorly: pericardium.
- posteriorly: right pulmonary artery.
- medially: ascending aorta.
- Right side - pericardium.

Tributaries. → right and left brachiocephalic veins
- Azygous vein
- mediastinal and pericardial veins.

Applied Anatomy: superior vena cava may be obstructed above or below opening of azygous vein.

- obstruction above the opening of azygous vein - venous blood from the upper half of body is shunted to right atrium through azygous vein.

obstruction below the opening of azygous vein - venous blood from the upper half of body is returned to right atrium through inferior vena cava through collateral (caval - caval shunt)

Arch of Aorta.

- It connects the ascending and descending aorta.
- situated in superior mediastinum behind the manubrium sterni.
- Arches over root of left lung.
- Begins and ends at same level (at sternal angle)
- Begins anteriorly & moves posteriorly.

Course.

- Continuation of ascending aorta behind right 2nd chondrosternal joint At the commencement - dilation of right side bulbs of aorta.

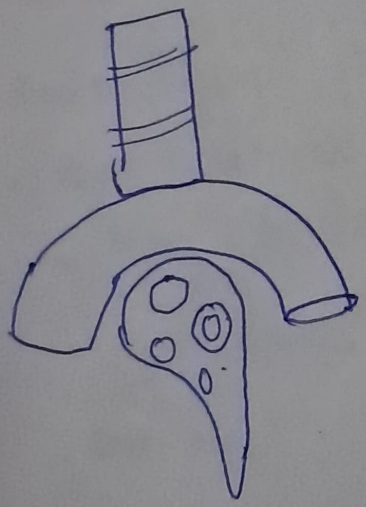
Arch pass upward - backwards to left in front of bifurcation of trachea.

Then pass backward on left side of trachea - finally turns down words and is continuous with descending aorta at lower border of T4

Curvature: 2 in one: one is convex above, convex in front and to left
Summit of the curve is at the middle of manubrium sterni.

relations.

- posterior & to right:
  - Trachea
  - oesophagus.
  - left recurrent laryngeal nerve.
  - thoracic duct
  - vertebral column.



Anterior & to left.

- left lung & pleura
- left phrenic nerve.
- left vagus nerve
- left cardiac nerves.
- left superior intercostal vein.

Inferior: left bronchus
bifurcation of pulmonary trunk.
Ligamentum arteriosum.
Lft recurrent laryngeal nerve.
Superficial cardiac plexus.

Superior: . brachiocephalic trunk.
. left common carotid artery
. left Subclavian artery
. left brachiocephalic vein.
. Thymus.

Branches

from right to left.
. Brachiocephalic trunk.
. left common carotid artery
. left subclavian artery.

Occassional branches.

- Left vertebral artery.
- Arteria thyroidea ima.
- Inferior thyroid artery.
- Internal thoracic artery.
- Left bronchial artery.
- Right Subclavian artery.

Developmental Source. (Impt)

- Aortic sac
  - Left horn of aortic sac
    - Left fourth aortic arch artery.
    - Left dorsal aorta & 7th cervical Intersegmental artery.

SKIAGRAPHY.

v.Impt

- aortic knuckle: found in left side skiagram caught in a straight x-ray film.
  formed by distal part of arch of aorta.

- Aortic window - In left anterior oblique projection s/n between aortic arch above & bifurcation of pulmonary trunk below.

applied anatomy:

- coarctation of aorta
- patent ductus arteriosus
- aneurysm of arch of aorta.