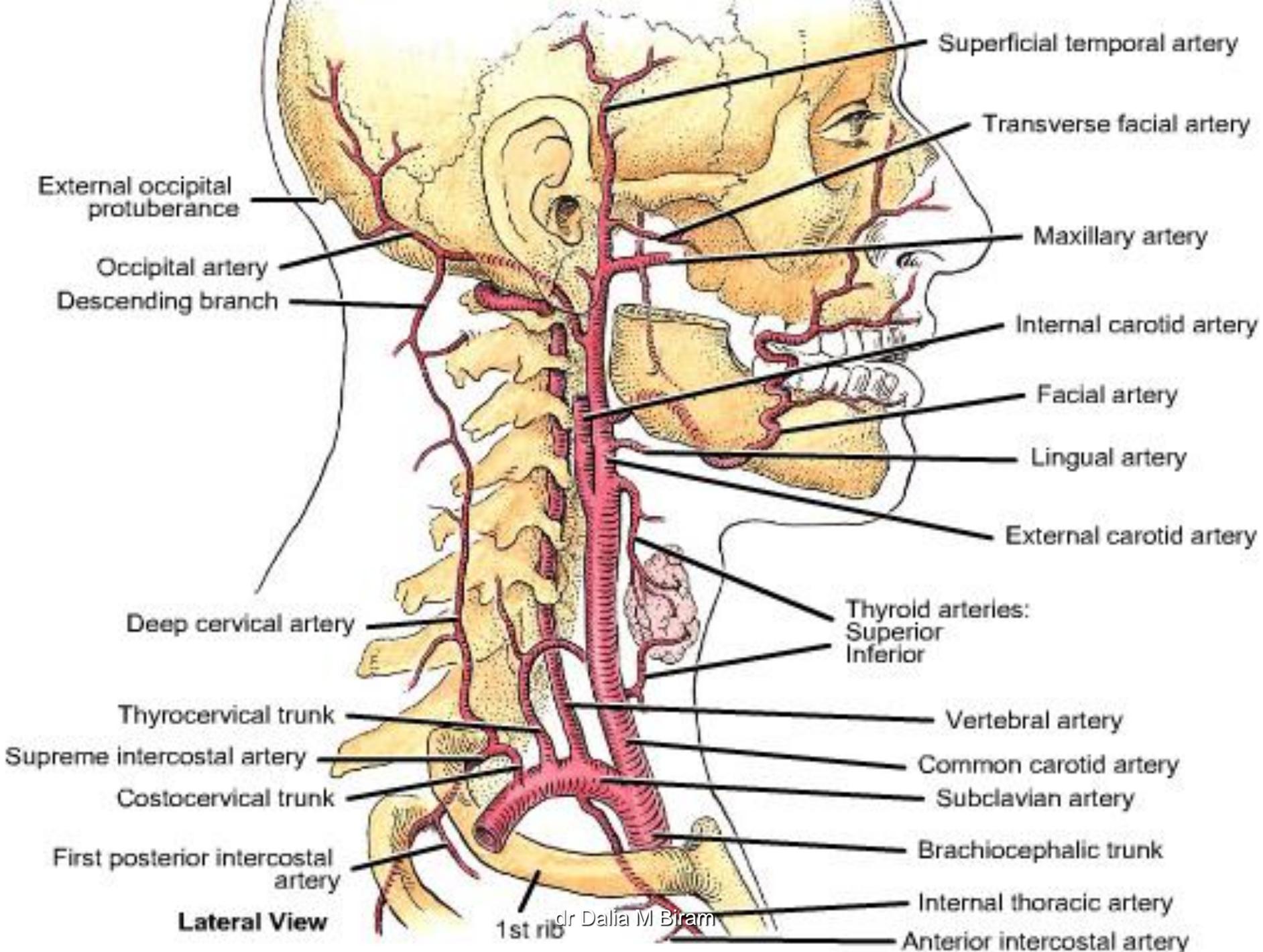


Blood vessels of the head& neck II

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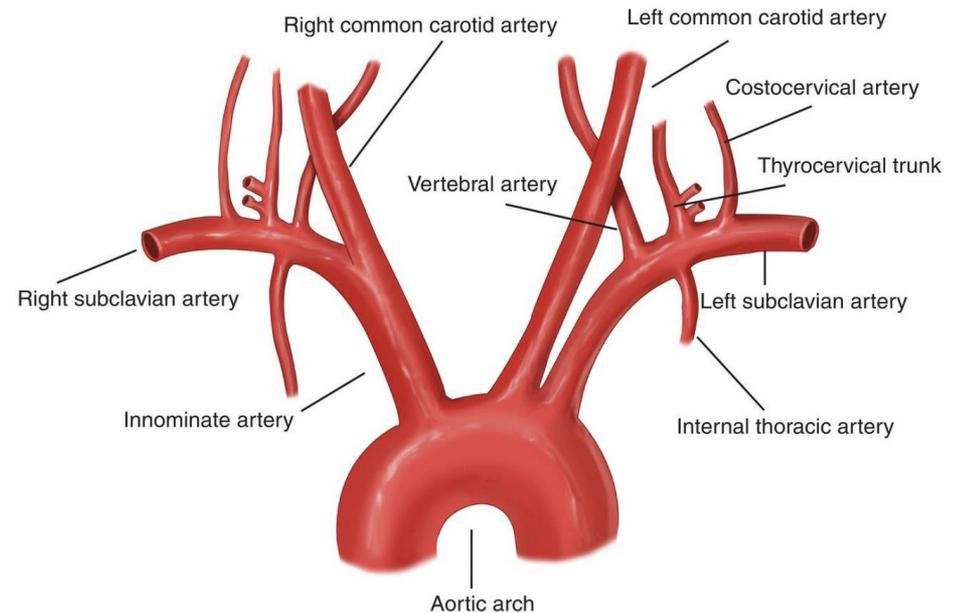
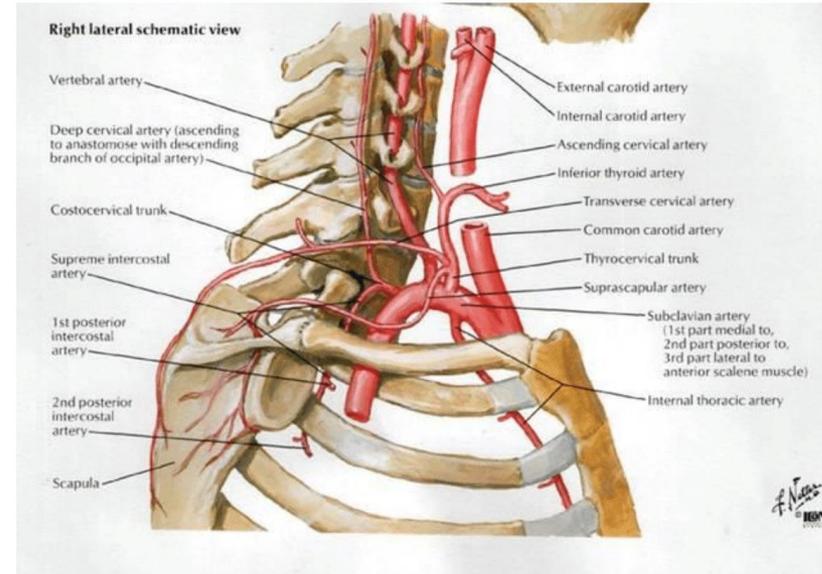
Subclavian Artery

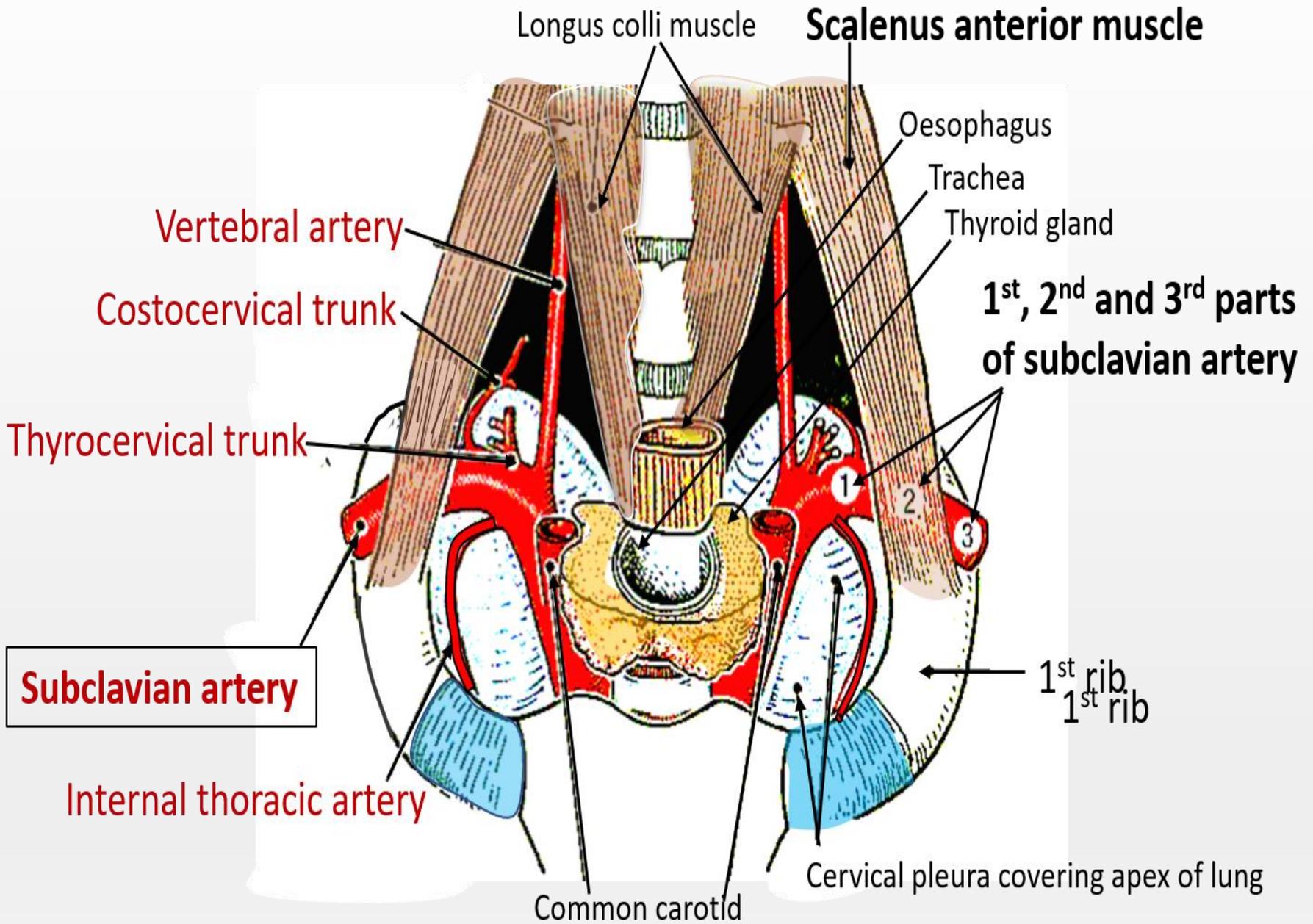
□ **Origin:** The right subclavian artery arises from the brachiocephalic artery behind the right sternoclavicular joint; while the left artery arises from the arch of aorta behind the manubrium sterni. Both arteries enter the neck behind the sternoclavicular joints.

□ **Course:** Each artery has an arched course in the root of the neck. It runs behind scalenus anterior muscle and in front of the apex of lung and cervical pleura.

□ **Parts:** The scalenus anterior muscle divides the artery into 3 parts; 1st part (medial), 2nd part (deep), and 3rd part (lateral) to the muscle.

□ **Both end** at the outer border of 1st rib to become the axillary artery





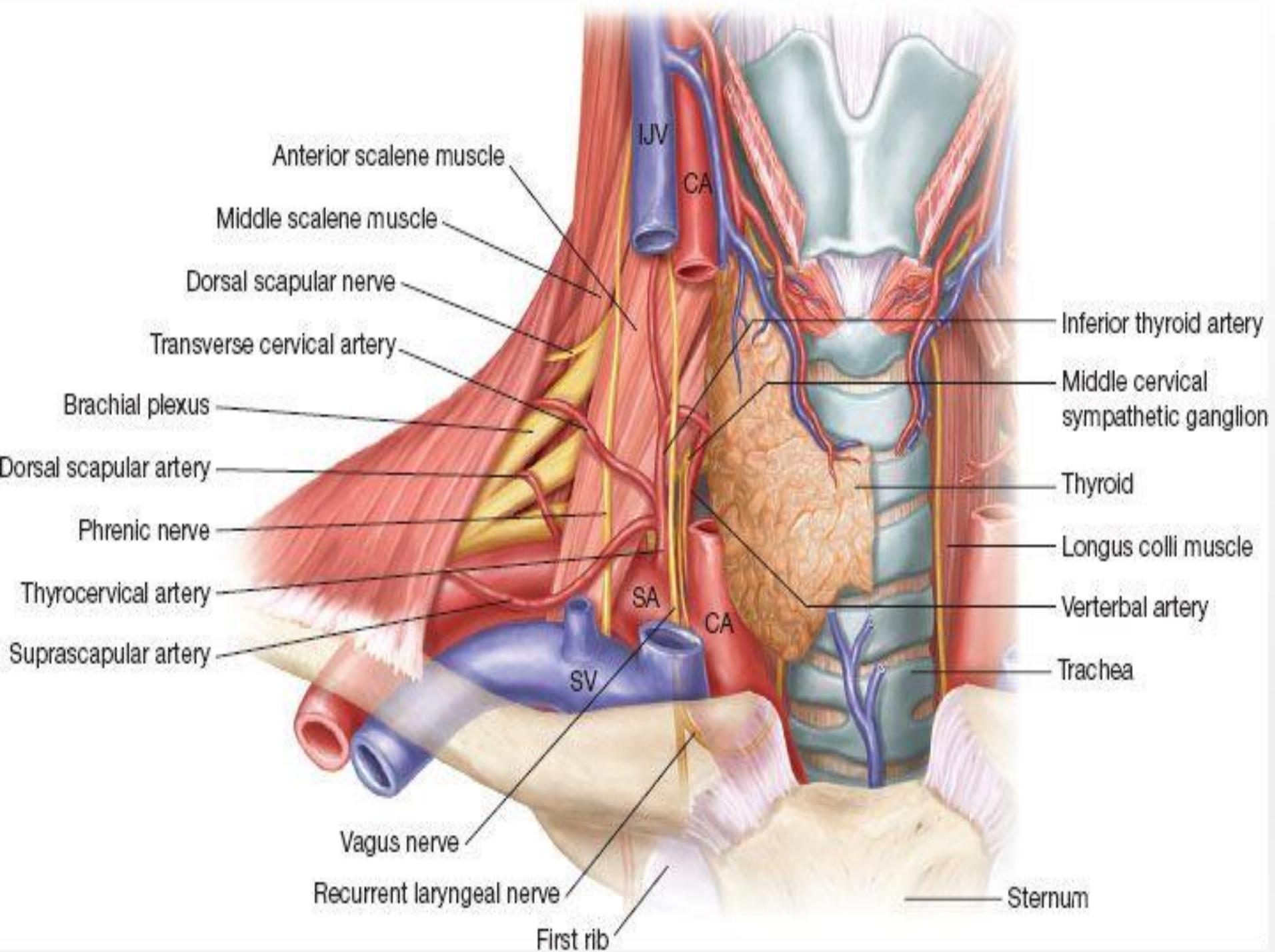
Relations of Subclavian Artery

First part of Subclavian artery

- **Anterior:** vagus nerve and internal jugular vein, common carotid artery on the left side
- **Posterior:** Dome of pleura, apex of the lung and on right the right recurrent laryngeal n.

Second part of Subclavian artery

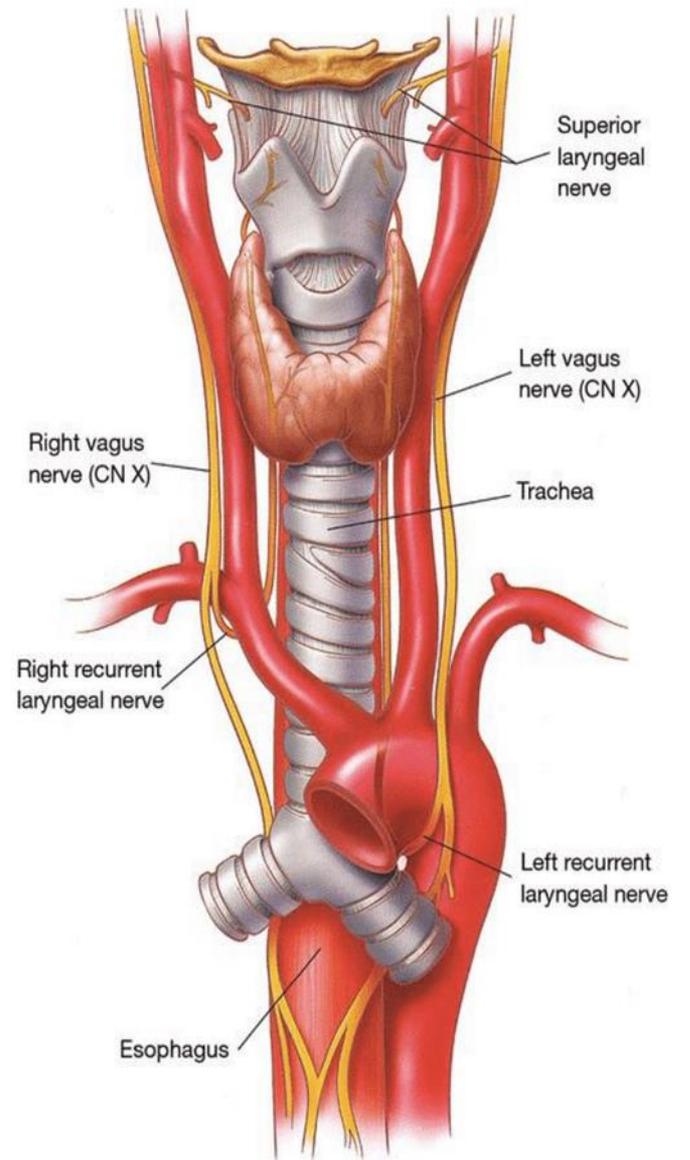
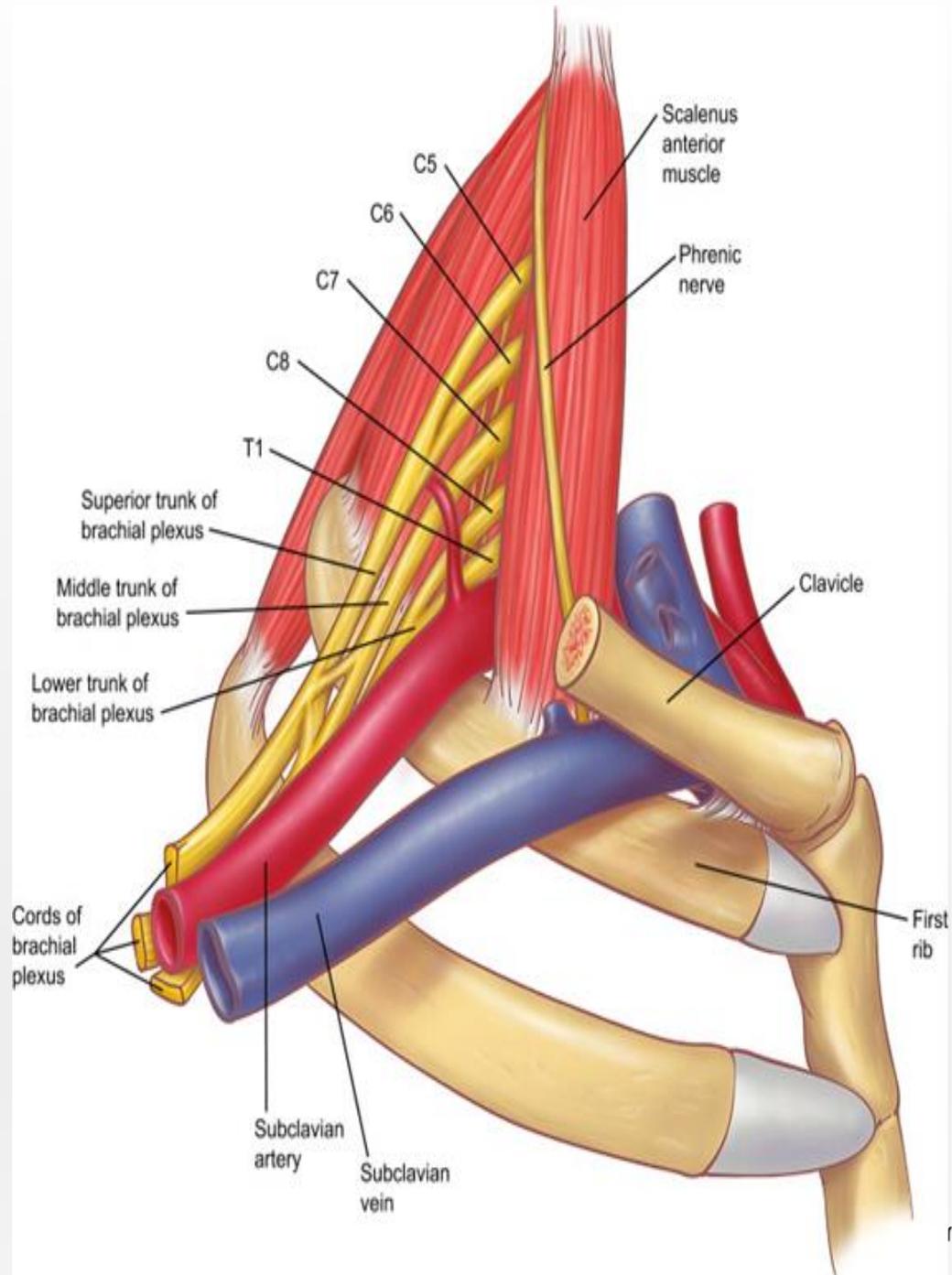
- **Anterior:** scalenus anterior muscle.
- **Posterior:** Dome of pleura, apex of the lung.



Relations:

Third Part of Subclavian Artery

- Anteriorly: subclavian vein
- Posteriorly: Lower trunk of brachial plexus and scalenus medius.
- Superiorly: Upper and middle trunks of brachial plexus.
- Inferiorly: Upper surface of the first rib.



Branches of subclavian artery

1- 1st part: gives 3 branches

- (1) Vertebral artery.
- (2) Internal thoracic (mammary) artery.
- (3) Thyrocervical trunk that give

A- Inferior thyroid artery

B-Suprascapular artery

C-transverse cervical artery

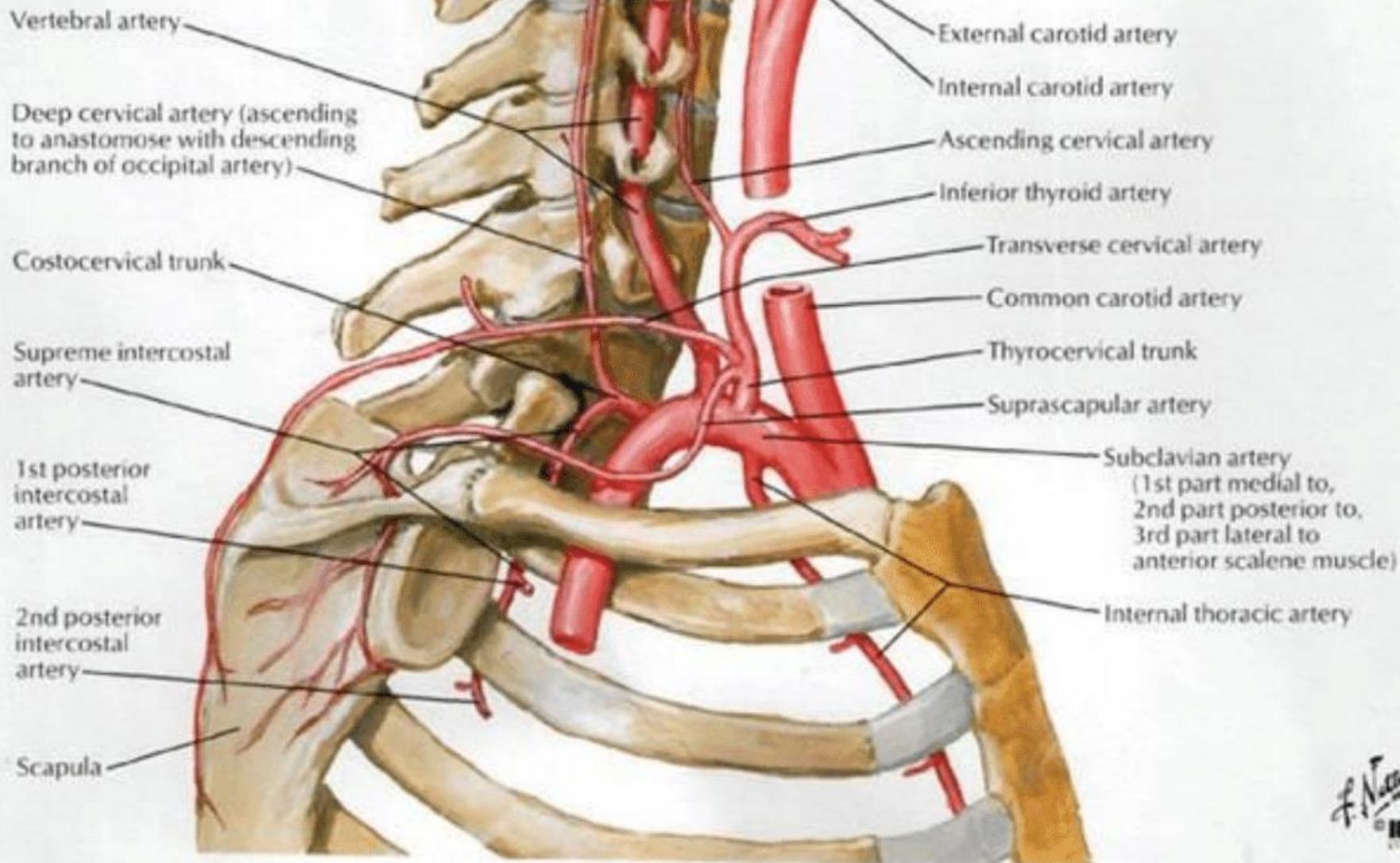
2-2nd part: costocervical trunk divided into

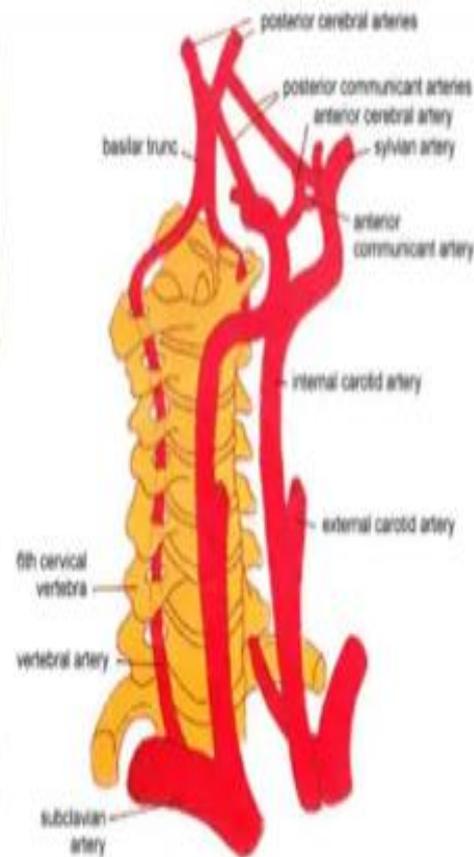
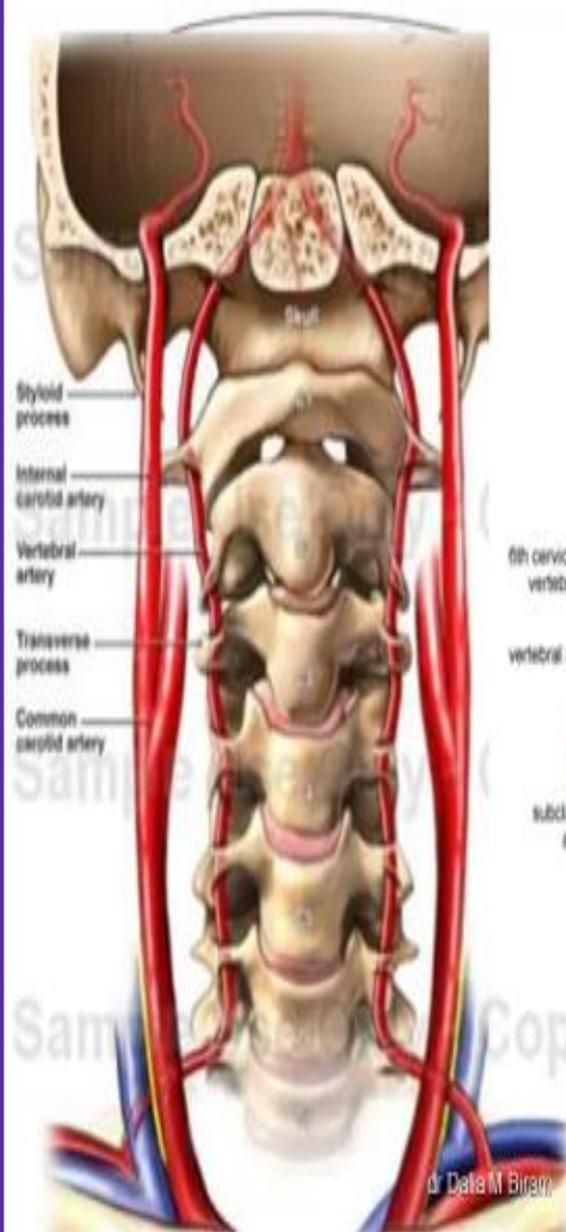
a) **Superior intercostal artery**; give the 1st and 2nd posterior Intercostal arteries.

b) **Deep cervical artery** ascends to back of neck to anastomose with the descending cervical Branch of occipital artery (site of anastomosis between carotid and subclavian system).

3- 3rd part: no branches, but occasionally gives dorsal scapular artery if deep branch of transverse cervical artery absent

Right lateral schematic view

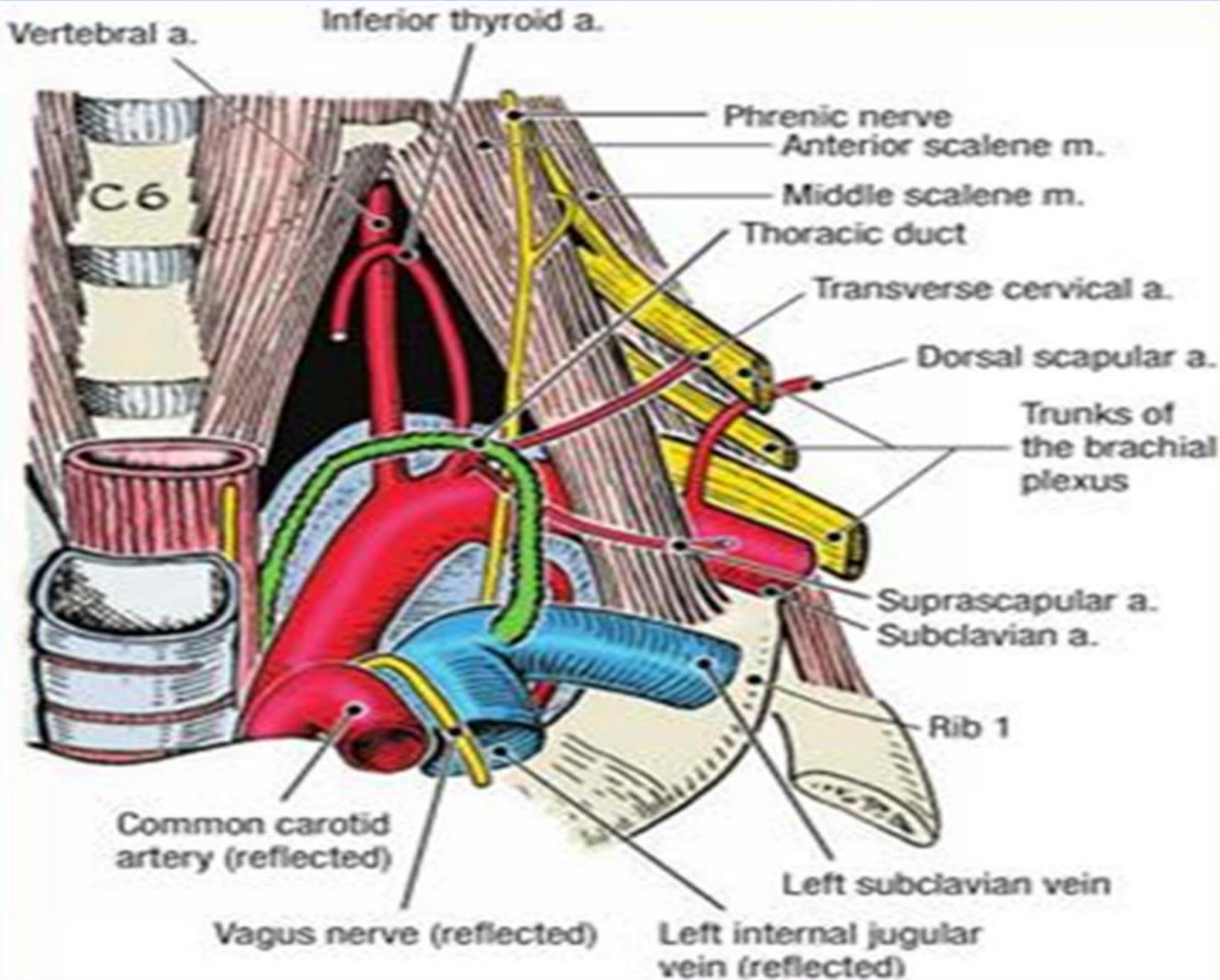




VERTEBRAL ARTERY

- It ascends in the neck through the foramina in the transverse processes of the upper six cervical vertebrae. It passes medially above the posterior arch of the atlas and then ascends through the foramen magnum into the skull, at the level of the lower border of the pons. It joins the vessel of the opposite side to form the basilar artery.

right subclavian artery



Vertebral artery

- **Course and relations: divided into 4 parts**
- **1st part ascends along the medial border of scalenus anterior to the foramen transversarium of C6.**
- **2nd part ascends in the foramina transversaria of the upper 6 cervical vertebrae.**
- **3rd part: in the suboccipital triangle grooving the upper surface of the posterior arch of atlas vertebra.**
- **4th part: enter the cranial cavity through foramen magnum then united to form basilar artery in the basilar sulcus on the anterior surface of the pons.**
- **Branches**
 - 1.From first part: no branches.
 - 2.From 2nd part: Spinal branches to the spinal cord and its meninges.
 - 3.From 3rd part: Muscular branches to muscles of the suboccipital triangle.
 - 4.From 4th part: Anterior and posterior spinal & Posterior inferior cerebellar artery and Medullary branches to the medulla oblongata.

Veins of neck

Superficial veins

Deep veins

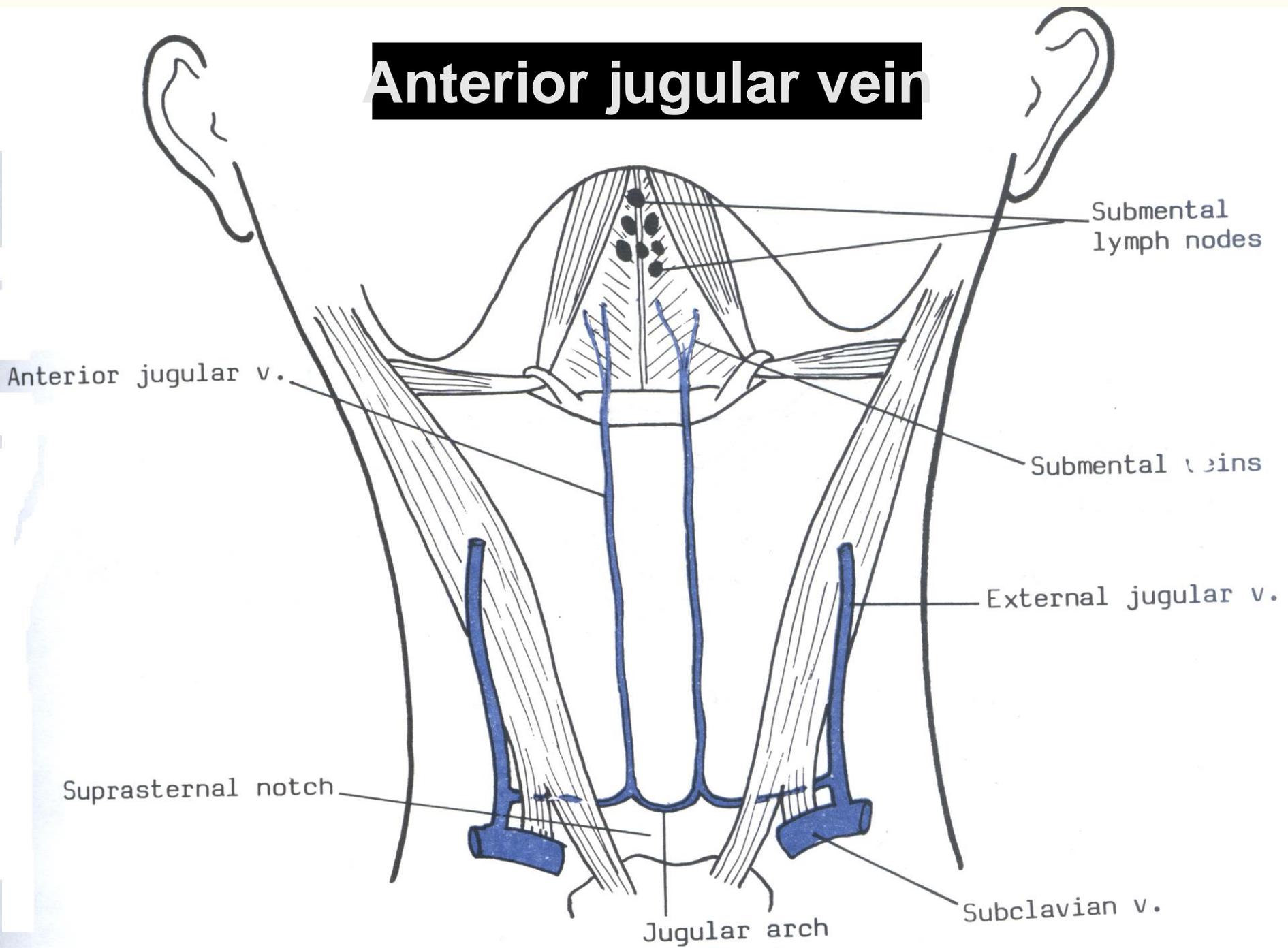
Anterior jugular vein

External jugular vein

Subclavian vein

Internal jugular vein

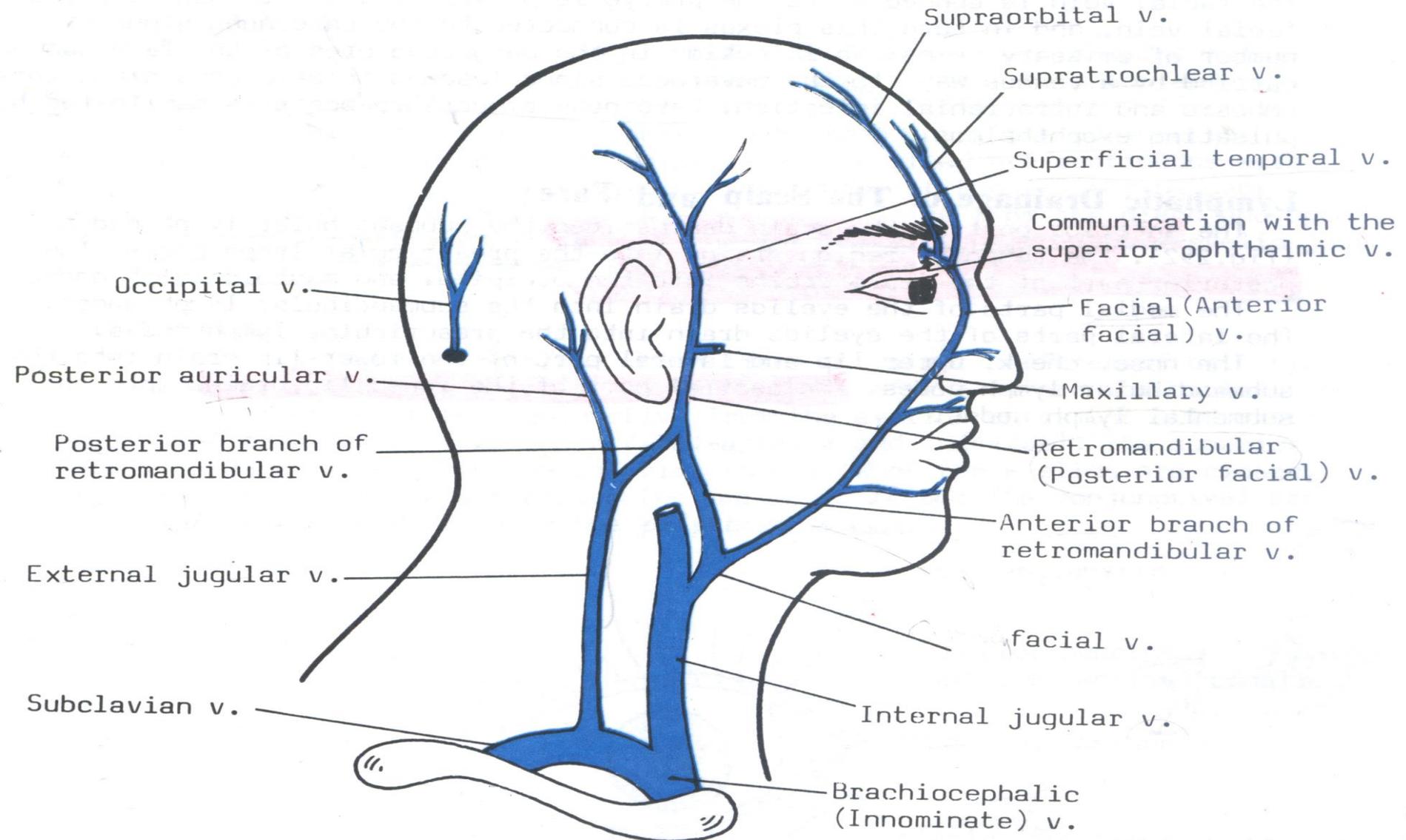
Anterior jugular vein



Anterior jugular vein

- It is formed by union of small submental veins.
- It descends in the superficial fascia close to the midline of neck.
- It pierces the deep fascia just above sternum and turns laterally deep to sternocleidomastoid muscle to reach the posterior triangle of neck where it opens into the external jugular vein.
- At the point of turning, the 2 anterior jugular veins are connected by “jugular arch” which is present in the suprasternal fossa.

External jugular vein

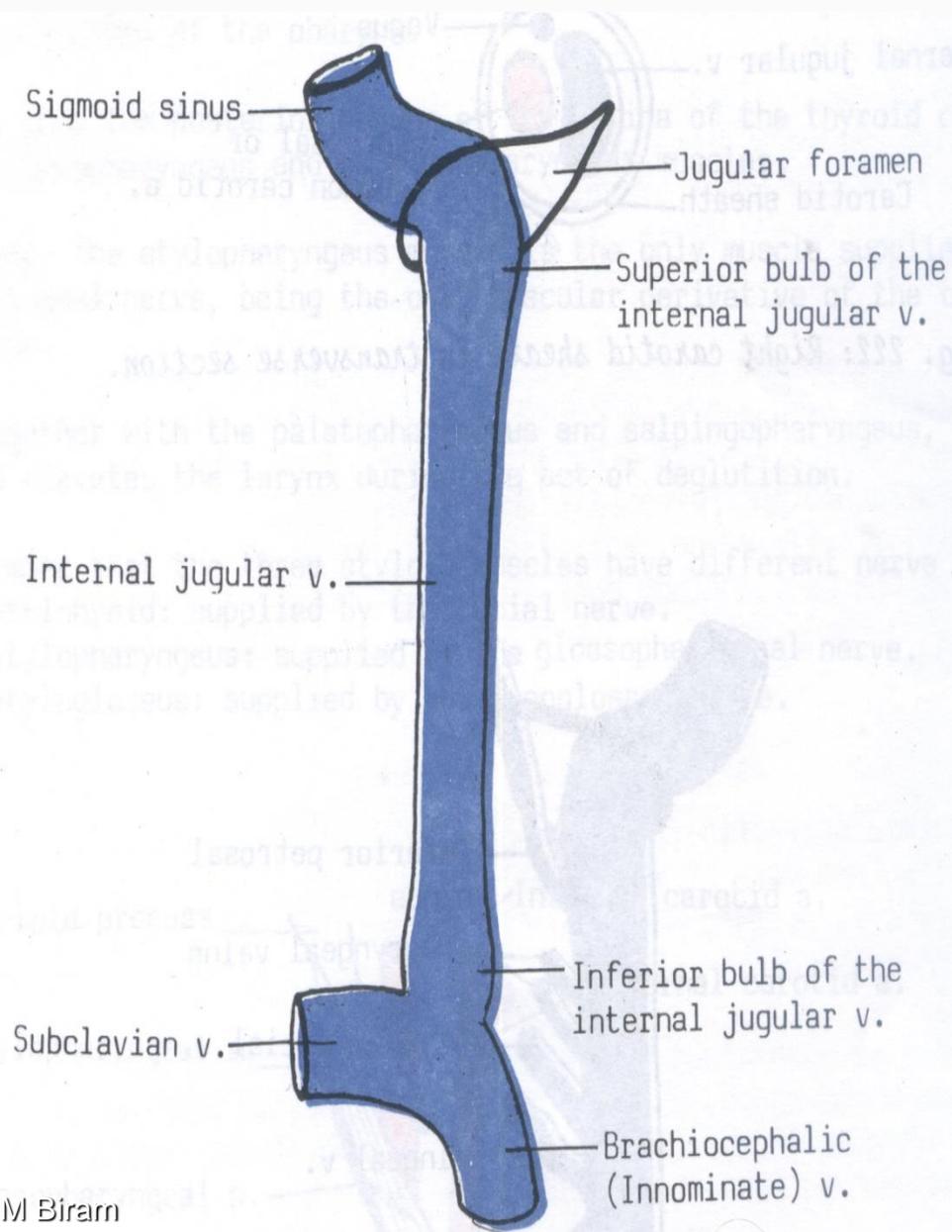


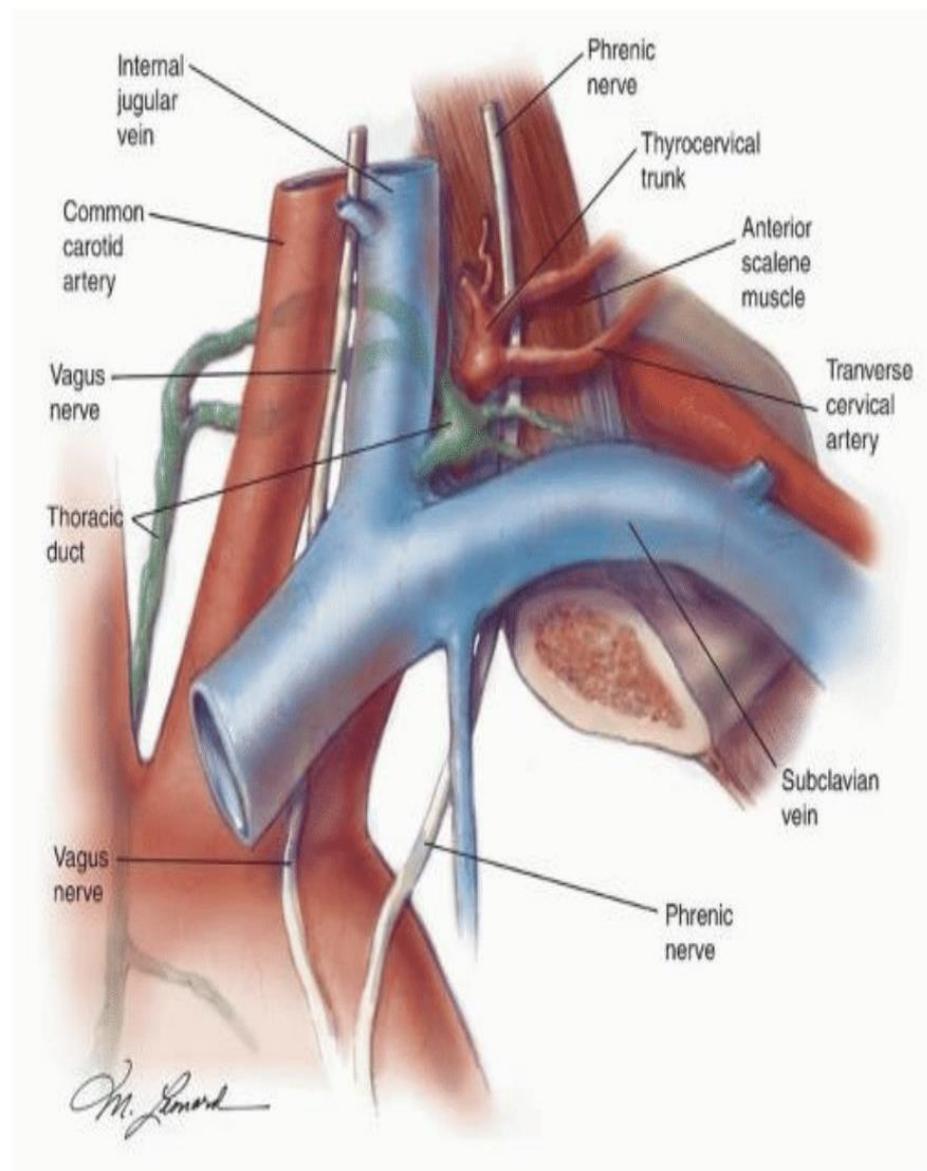
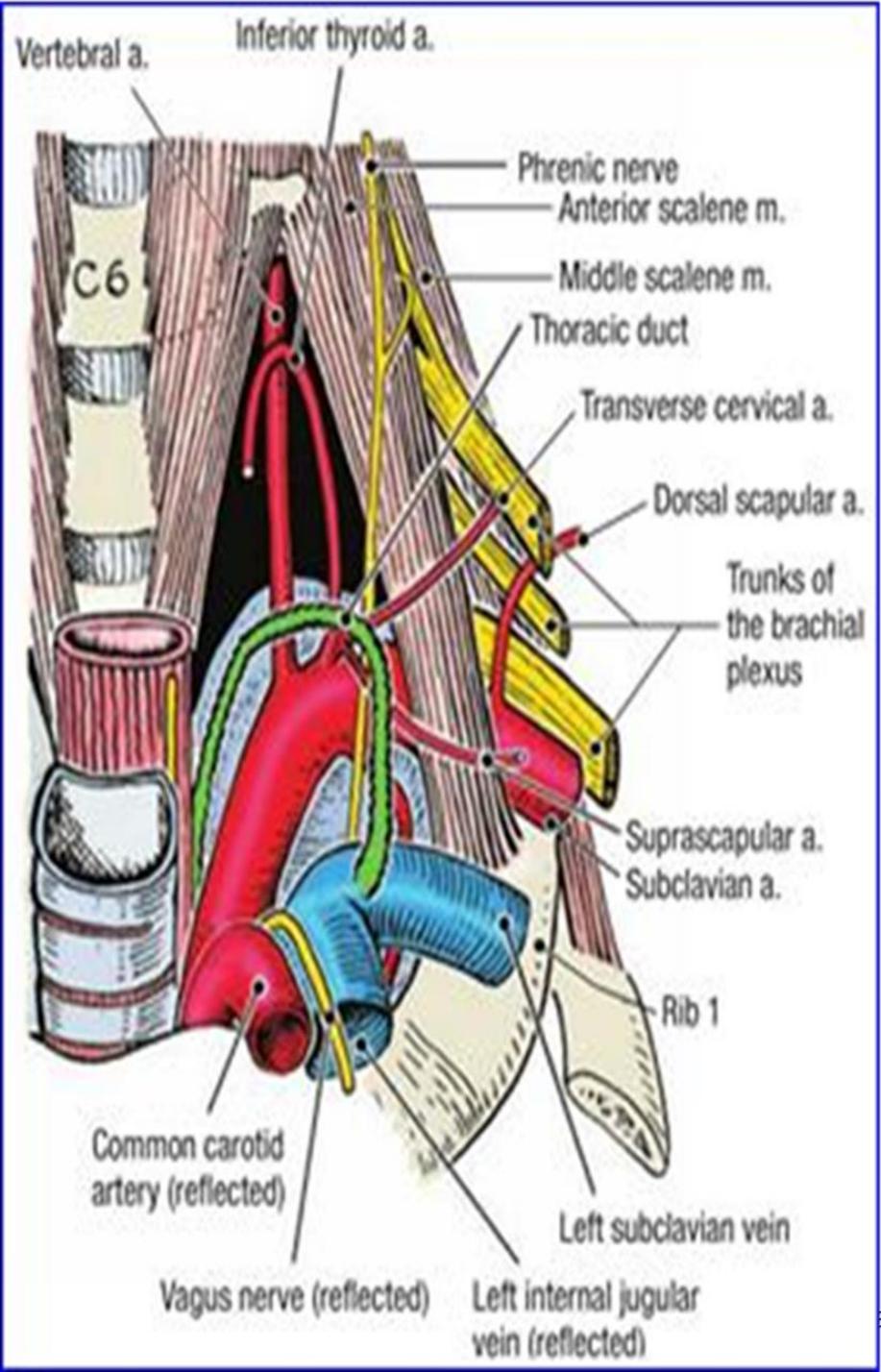
External jugular vein EJV

- **Beginning:** It is formed by union of posterior branch of the retromandibular vein and the posterior auricular vein.
- It descends obliquely downwards and backwards lateral to the sternocleidomastoid where it is covered by the skin, superficial fascia and platysma.
- Then, it descends in the roof of the posterior triangle and pierces its deep fascia to end in the subclavian vein.
- **It has the following tributaries:**
 - Anterior jugular vein
 - Suprascapular vein.
 - transverse cervical vein.

Internal jugular vein IJV

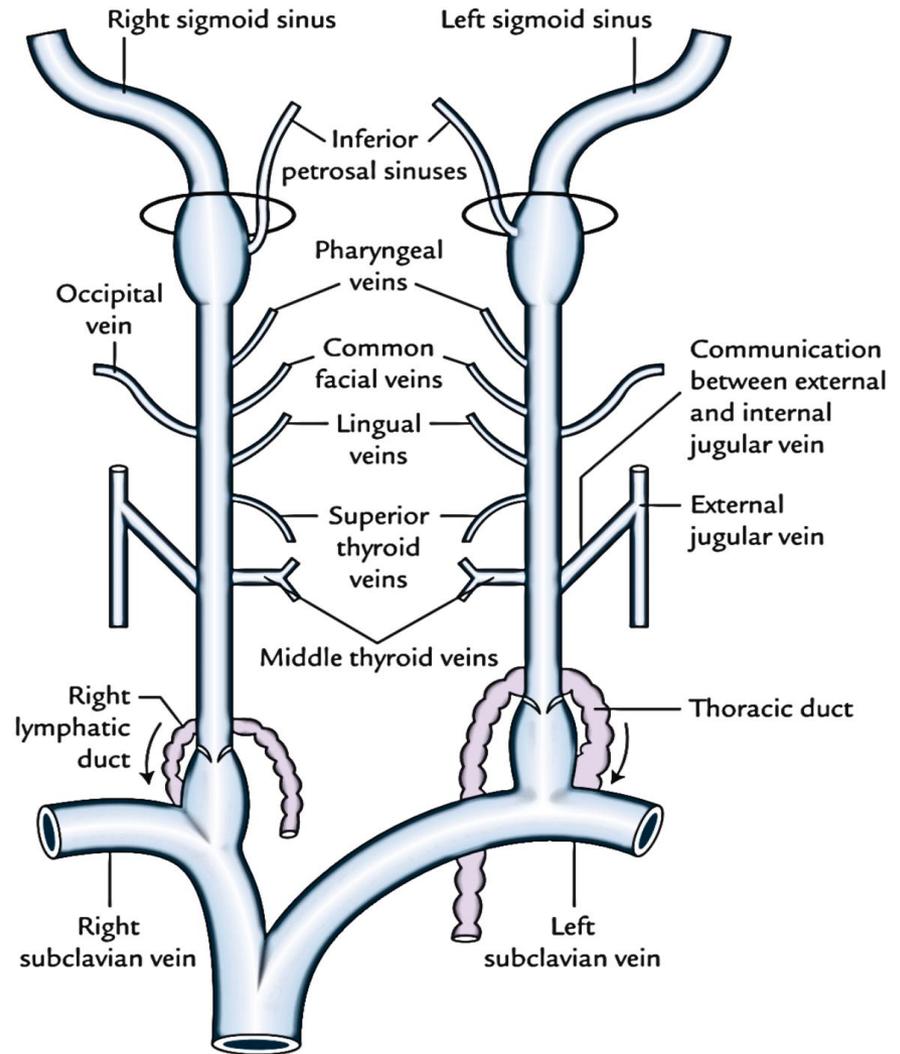
- It **begins** at the jugular foramen as a continuation of the sigmoid sinus
- . The right vein is usually larger than the left one. .
- It descends inside the carotid sheath lateral to the internal and common carotid arteries and vagus nerve
- . It **ends** by joining the subclavian vein to form the brachiocephalic vein behind the medial end of clavicle.
- At its upper and lower ends, it forms the superior and inferior bulbs.
- **Surface anatomy:** A line is drawn from sternoclavicular joint to a point between mastoid process and angle of mandible





■ Tributaries OF IVC:

1. Inferior petrosal sinus.
2. Two or more pharyngeal veins.
3. Common facial vein.
4. Lingual vein.
5. Superior thyroid vein.
6. Middle thyroid vein.
7. Occipital vein.



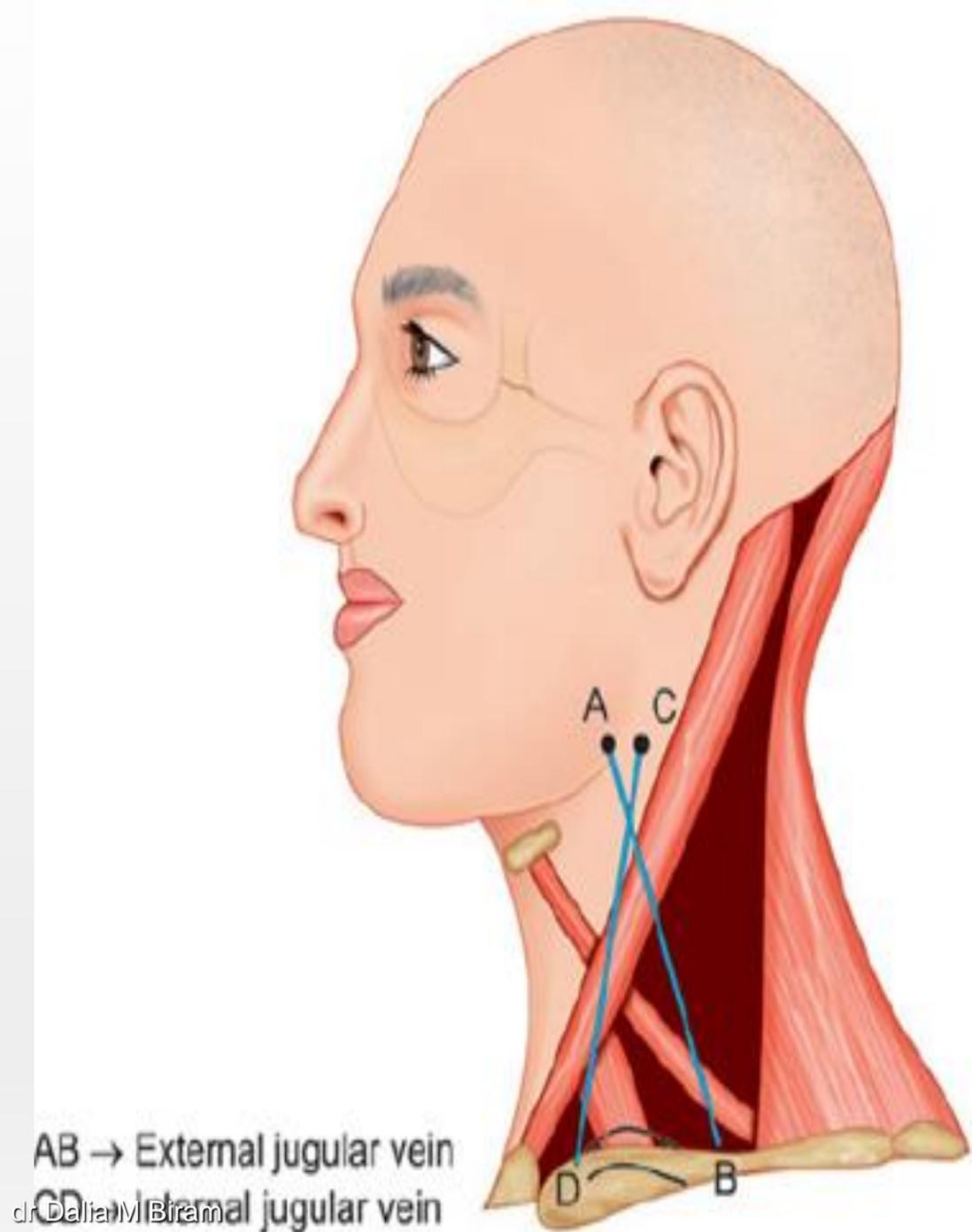
□ **Surface anatomy of IJV:**

- A line is drawn from sternoclavicular joint till point between mastoid process and angle of mandible.

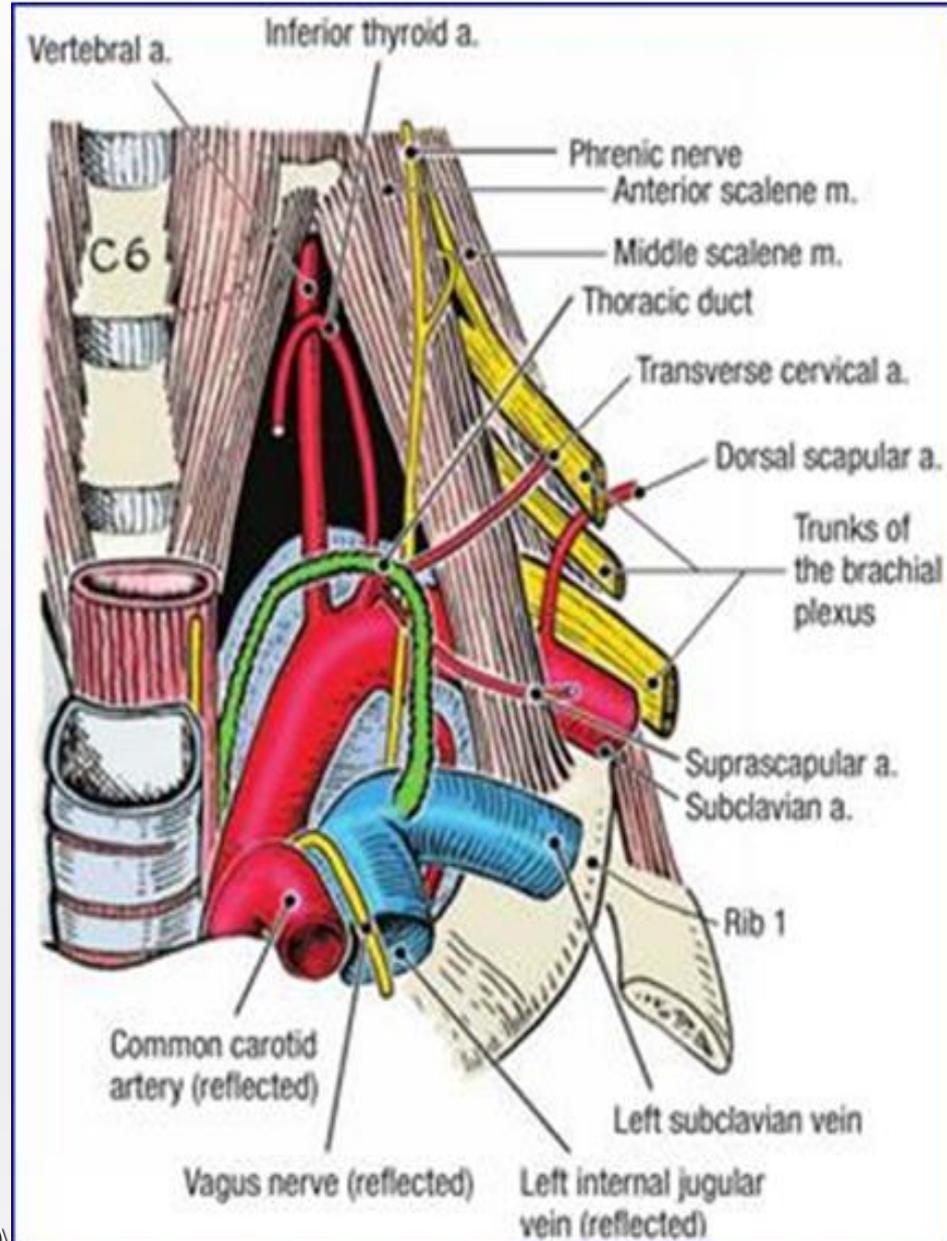
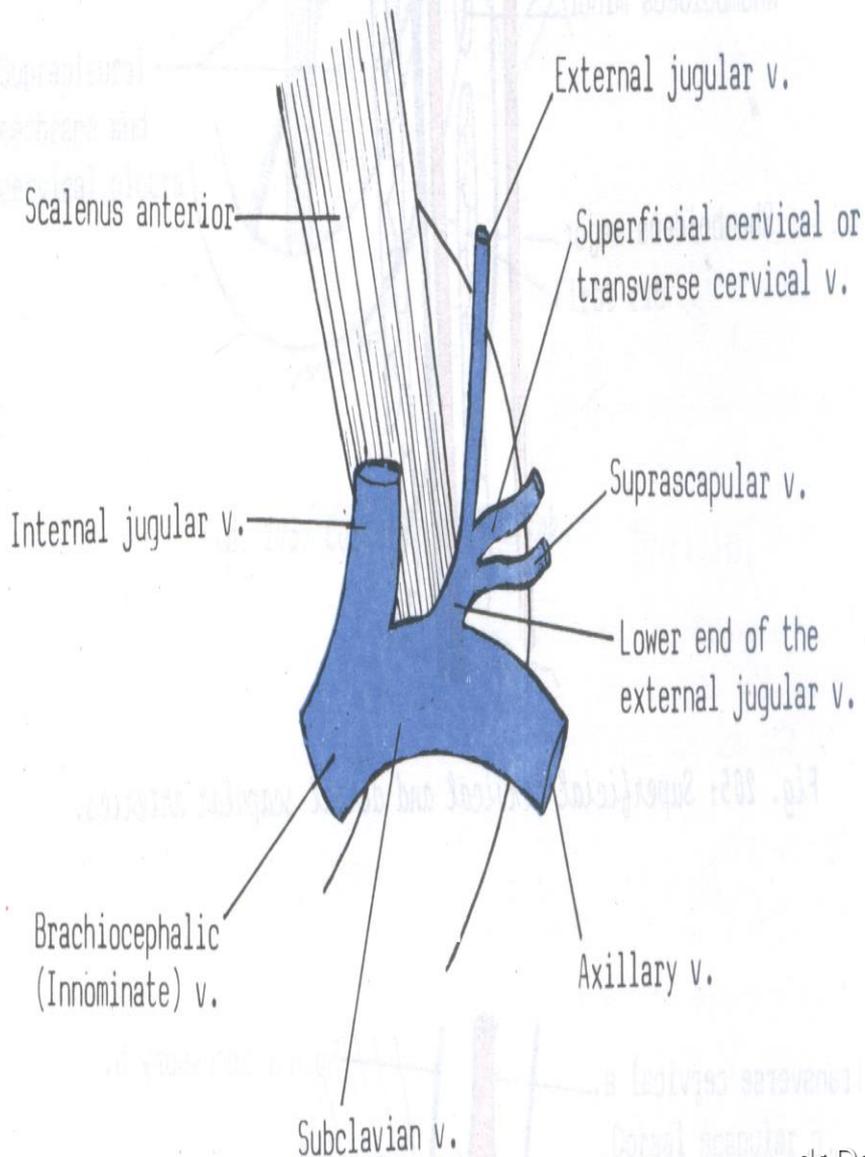
- The inferior bulb is just deep to the interval between sternal and clavicular heads of sternomastoid. This a landmark for insertion of central venous catheter

Surface anatomy of EJV

A line is drawn from midclavicular point till point behind the angle of mandible



Subclavian vein



Subclavian vein

- It is **continuation** of axillary vein at the outer border of first rib.
- It runs on the upper surface of first rib in front of insertion of scalenus anterior, which intervenes between it and the subclavian artery.
- It corresponds only to the third and second parts of the artery.
- **It ends** behind the medial end of clavicle by joining the IJV vein to form the innominate vein.
- It has only one **tributary**, which is the external jugular vein.

THANK YOU