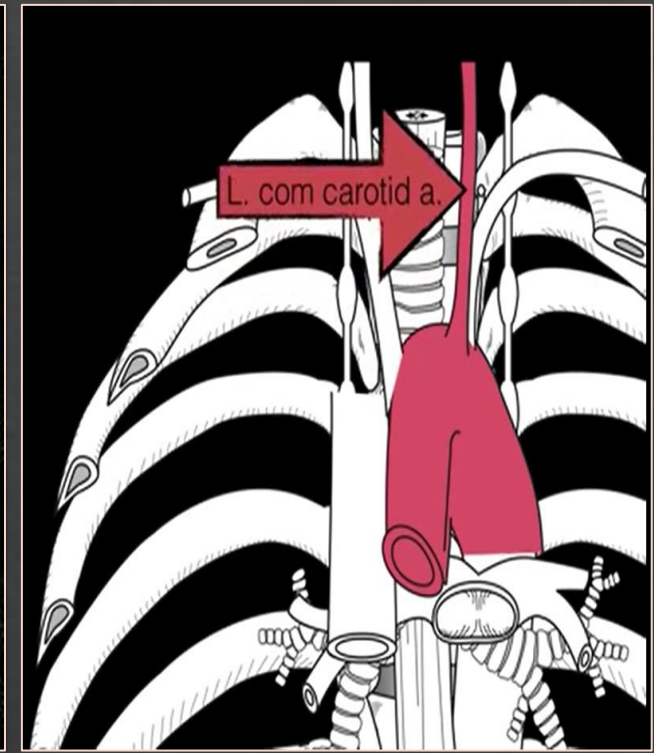
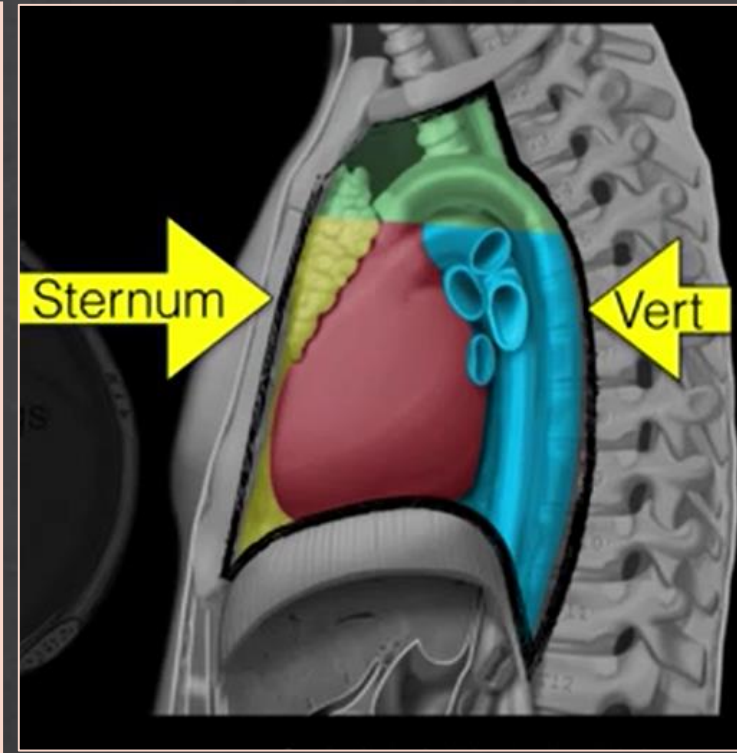
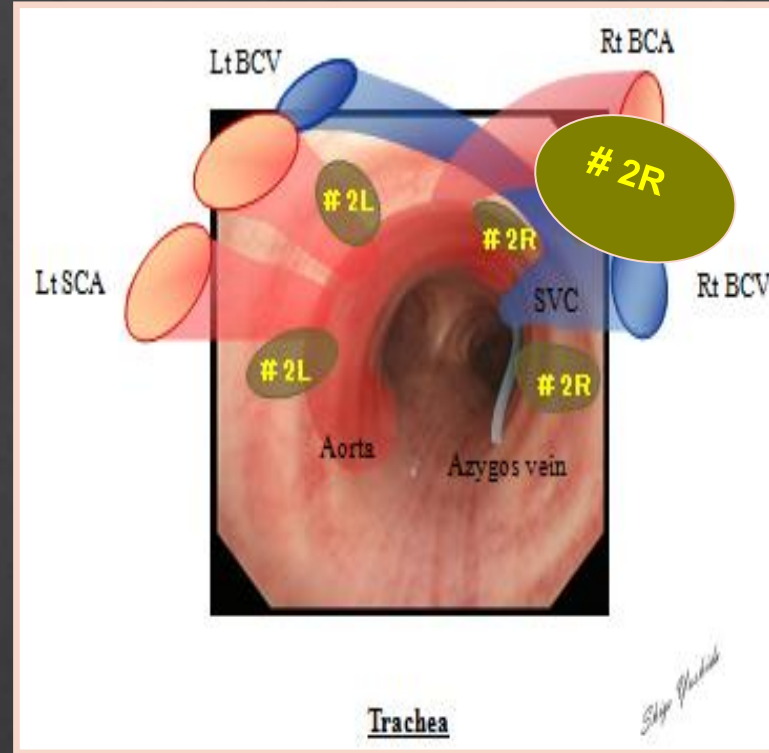
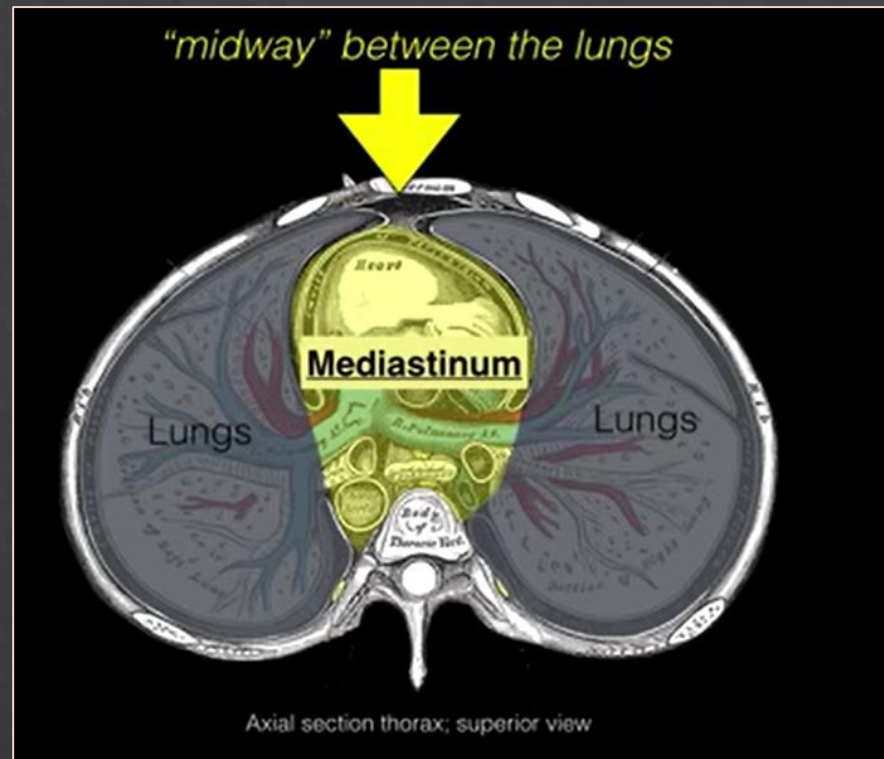


SAĞLIK BİLİMLERİ ÜNİVERSİTESİ
&
AKCİĞER SAĞLIĞI VE YOĞUN BAKIM DERNEĞİ
ASYOD

15-16 Aralık
2023

**GİRİŞİMSEL
PULMONOLOJİ
SEMPOZYUMU**

MEDIASTİNAL ANATOMİ ve LENF BEZİ HARİTASI



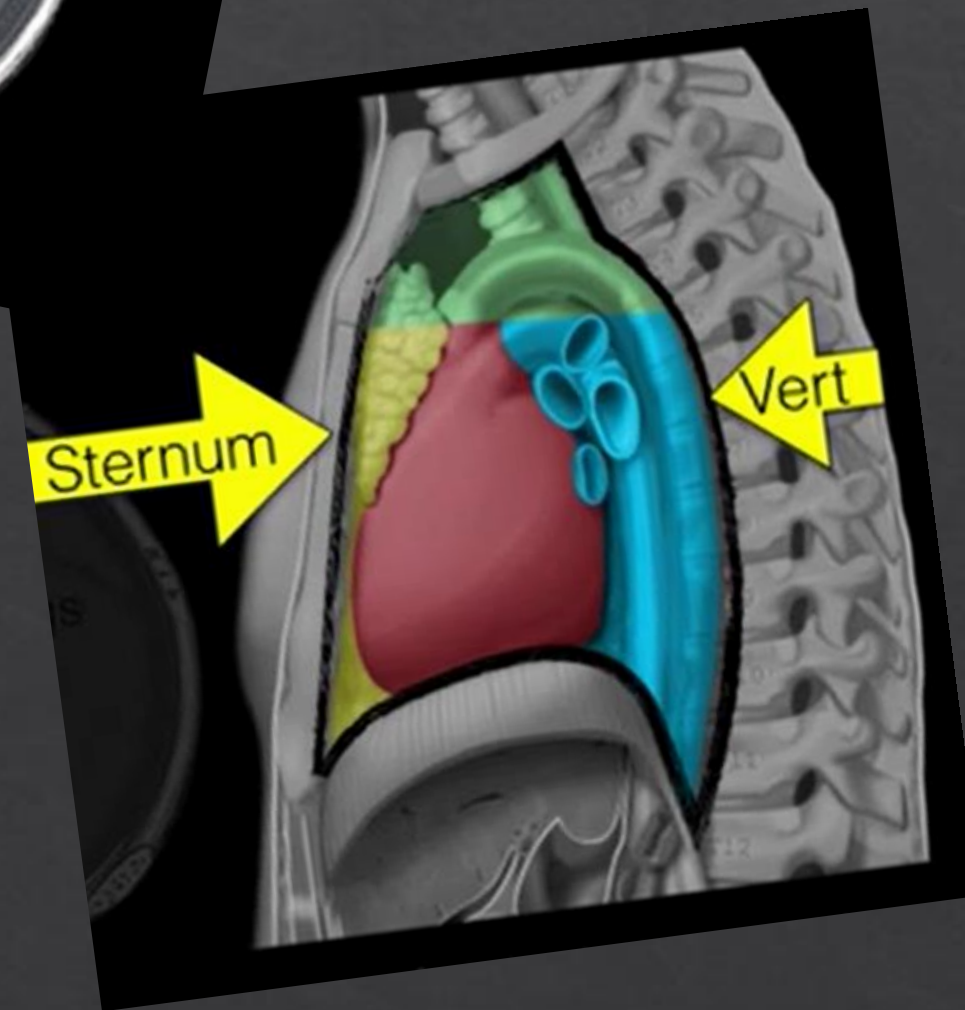
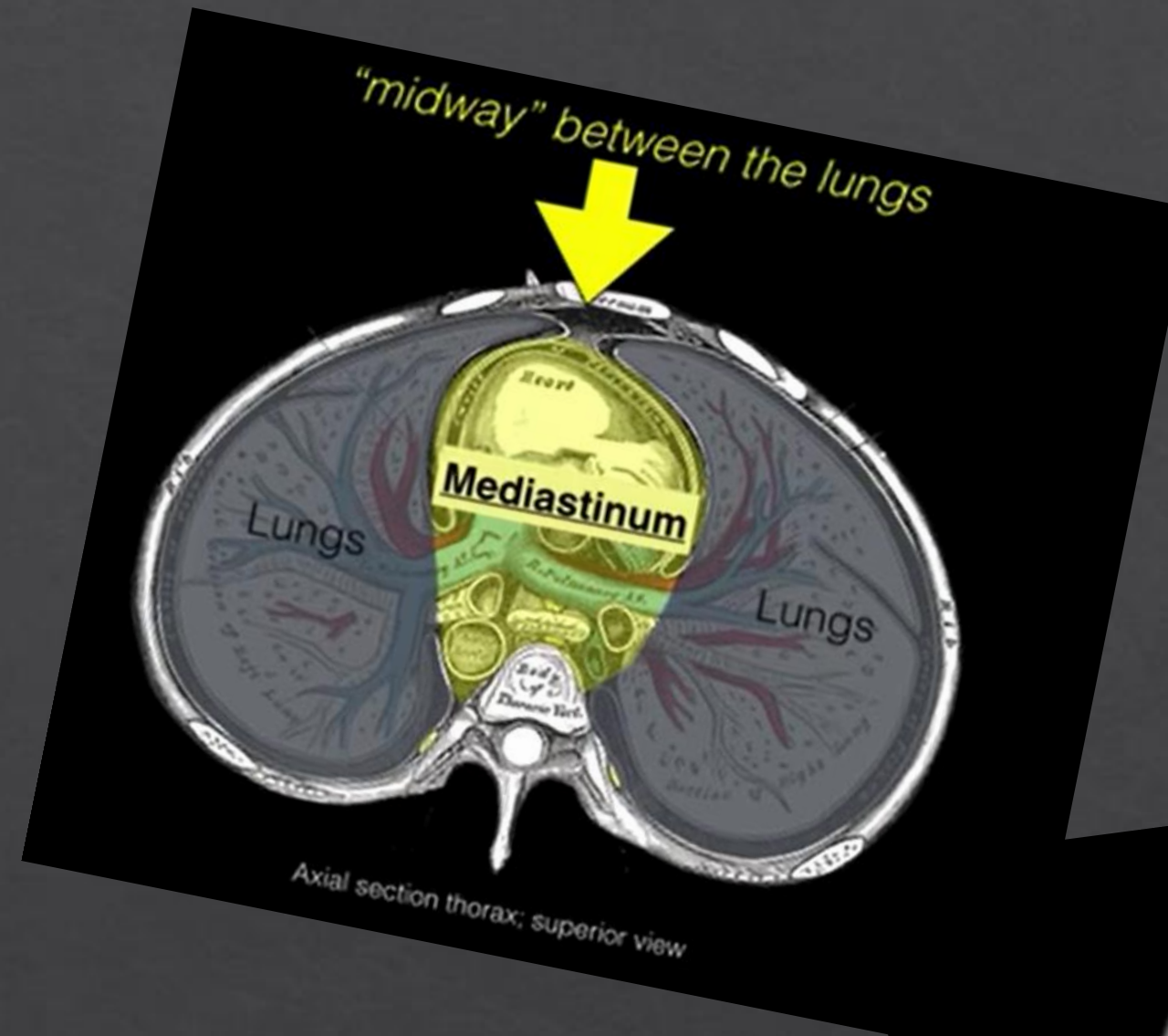
Prof. Dr. Ersin GÜNAY
Ankara Etlik Şehir Hastanesi
Göğüs Hastalıkları Kliniği

Sunum Planı

- Mediastenin Tanımı
- Üst ve Alt Mediastinal Yapılar
- Mediastinal Lenf nodu Haritası

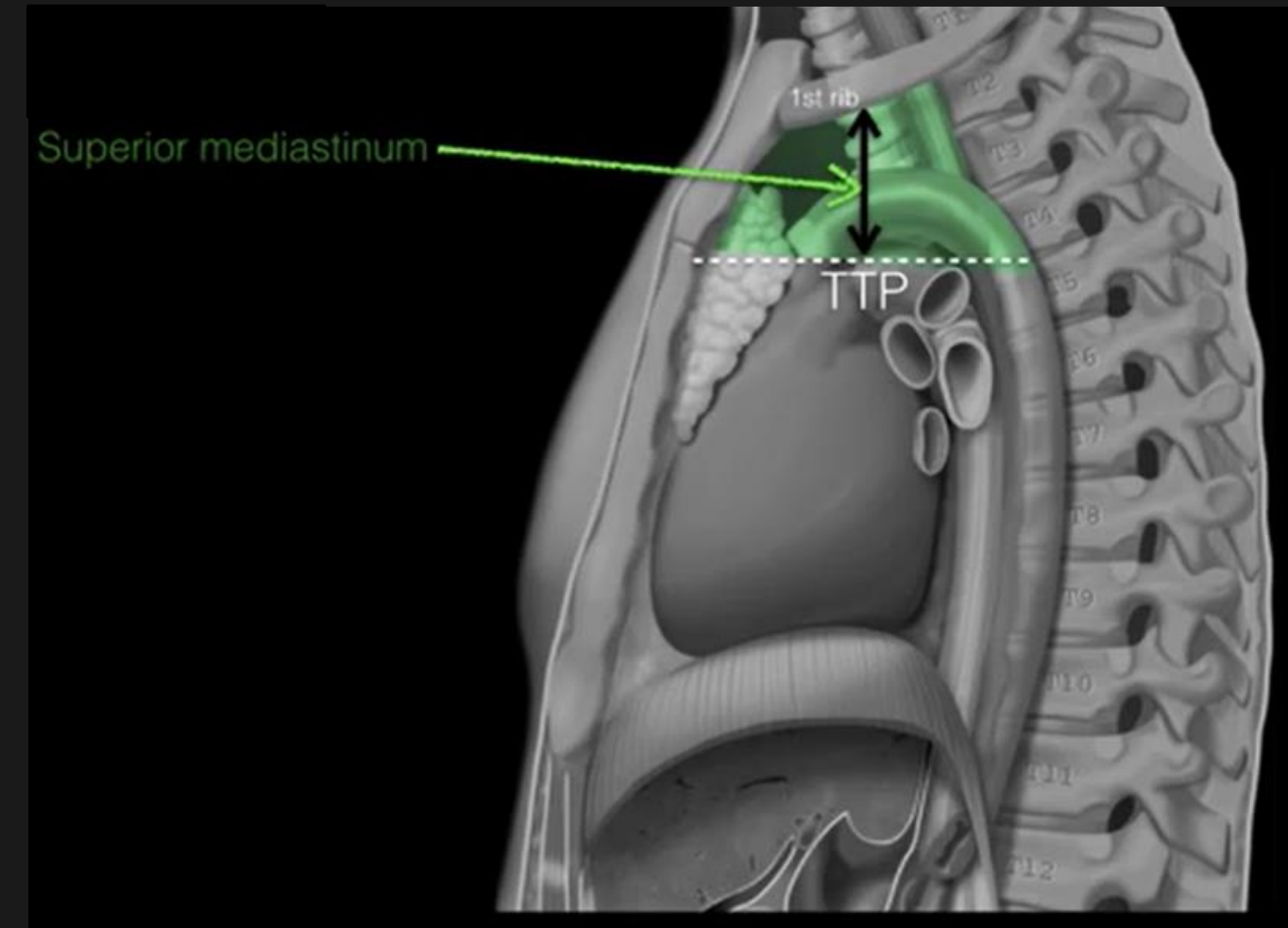
Mediastinum

- ◆ Mediasten iki plevra yaprağı arasındaki boşluk olarak tanımlanır.
- ◆ Üst kenar: Torasik inlet
- ◆ Alt kenar: Diafragma
- ◆ Ön kenar: Sternum
- ◆ Arka kenar: Vertebra korpusu



Mediastinum

- Superior mediastinum;
 - Apertura thoracis superiorından aşağıya doğru horizontal planda uzanır.
 - Önde manibrium,
 - Arkada T1-T4 vertebra
 - Altta angulus sterniden 4-5. torasik intervertebral diske çizilen hayali transvers çizgi

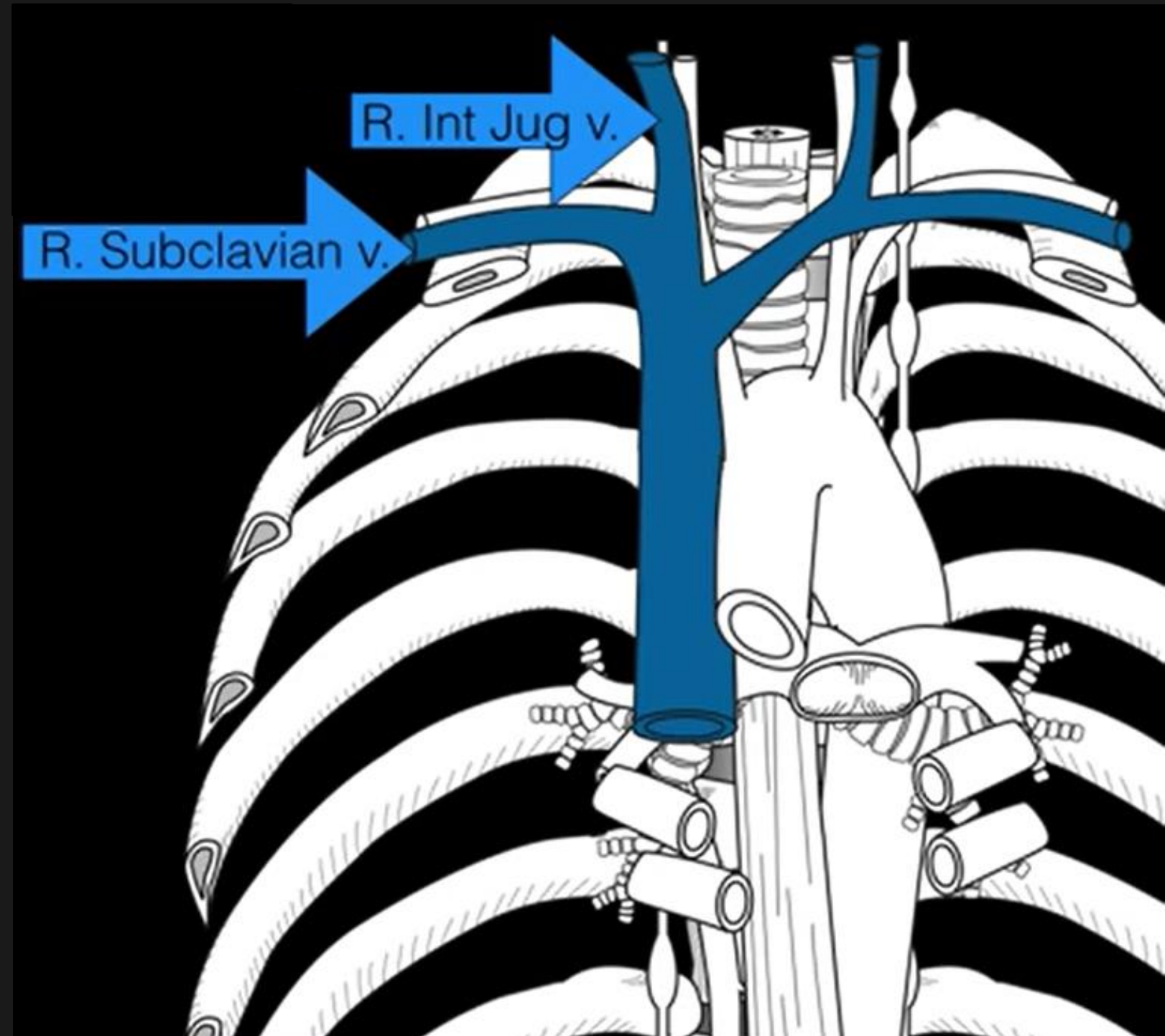


Süperior Mediasten

- Venöz Sistem
- Arterial Sistem
- Viseral Sistem

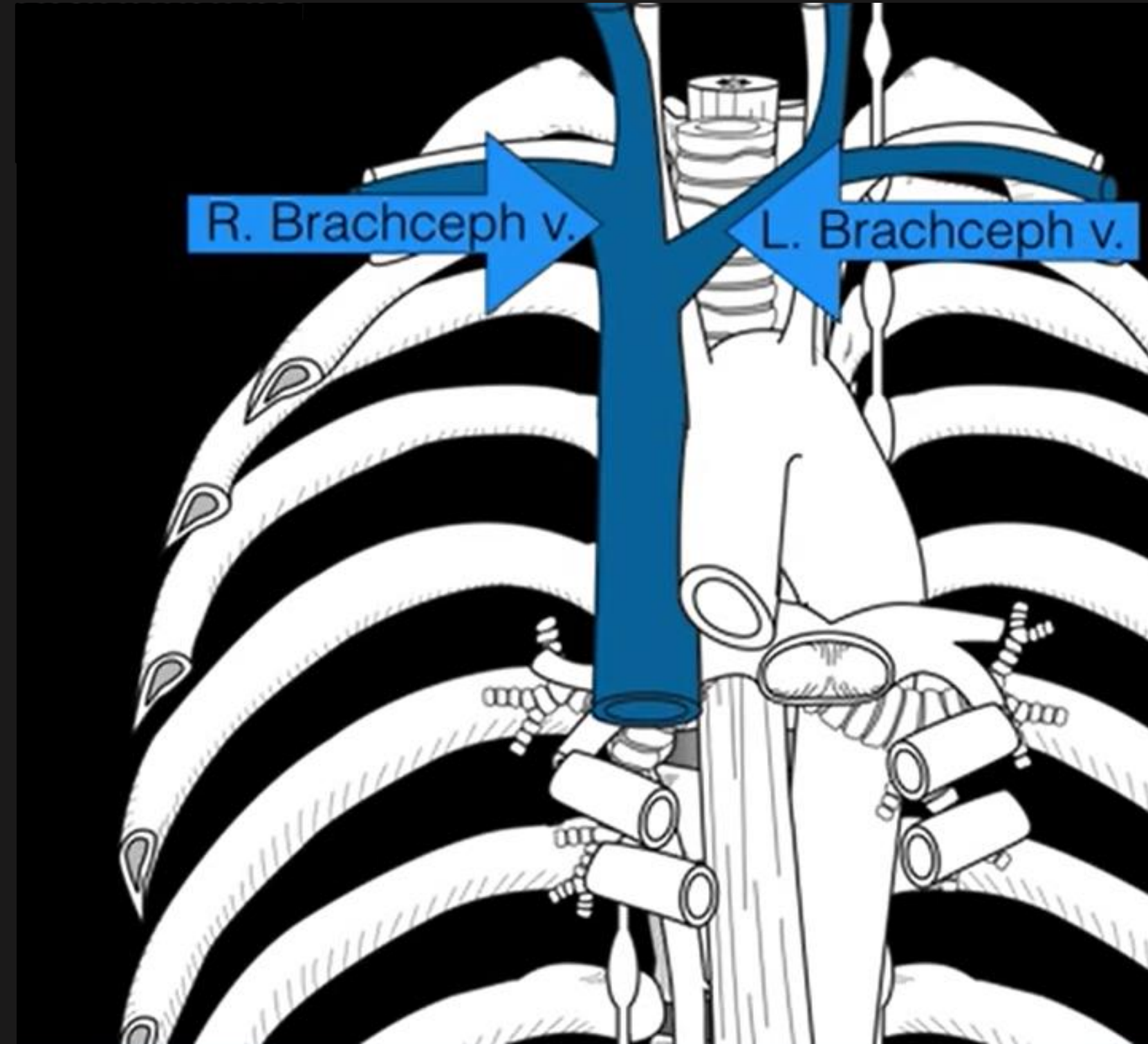
Süperior Mediasten

- Venöz Sistem



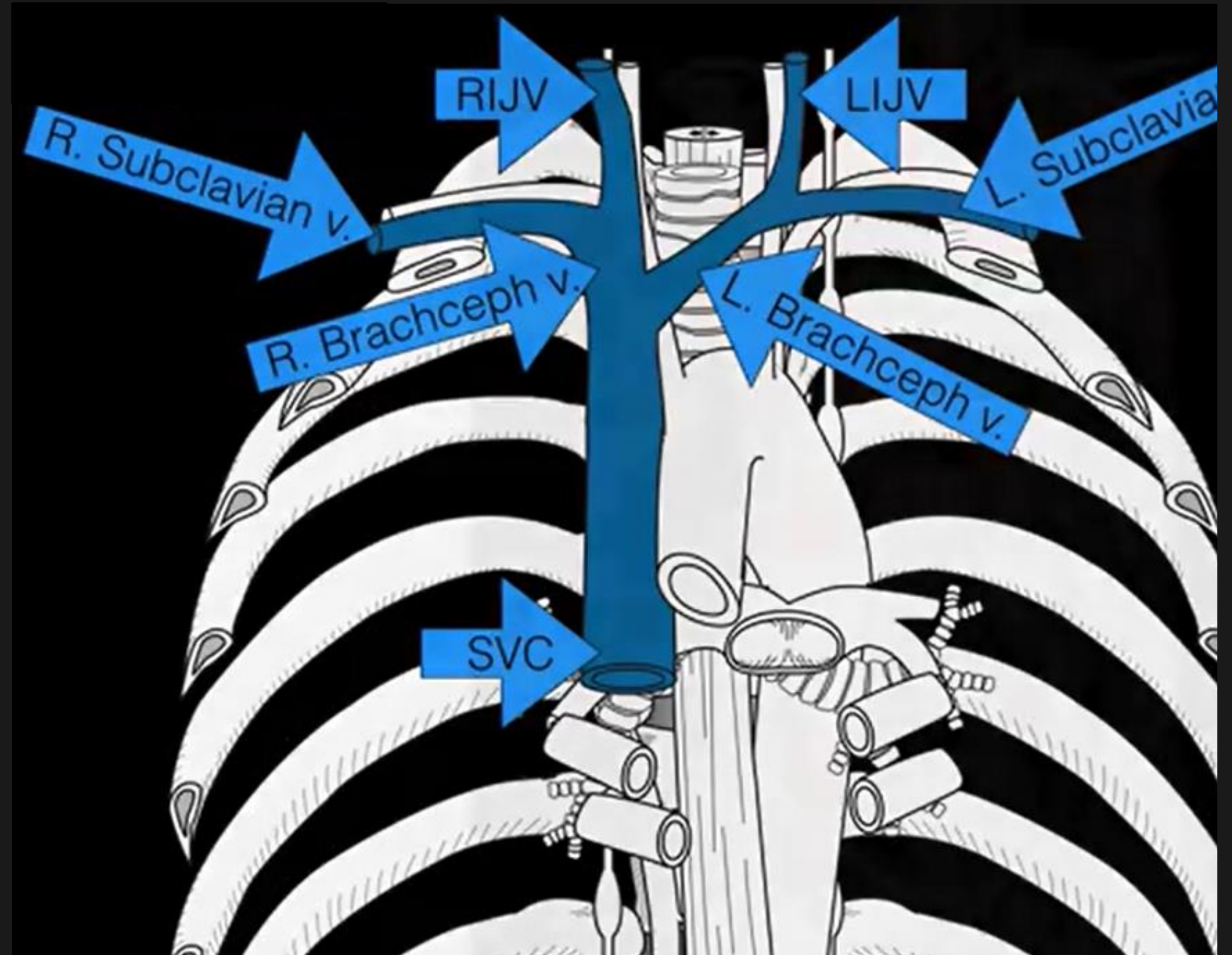
Süperior Mediasten

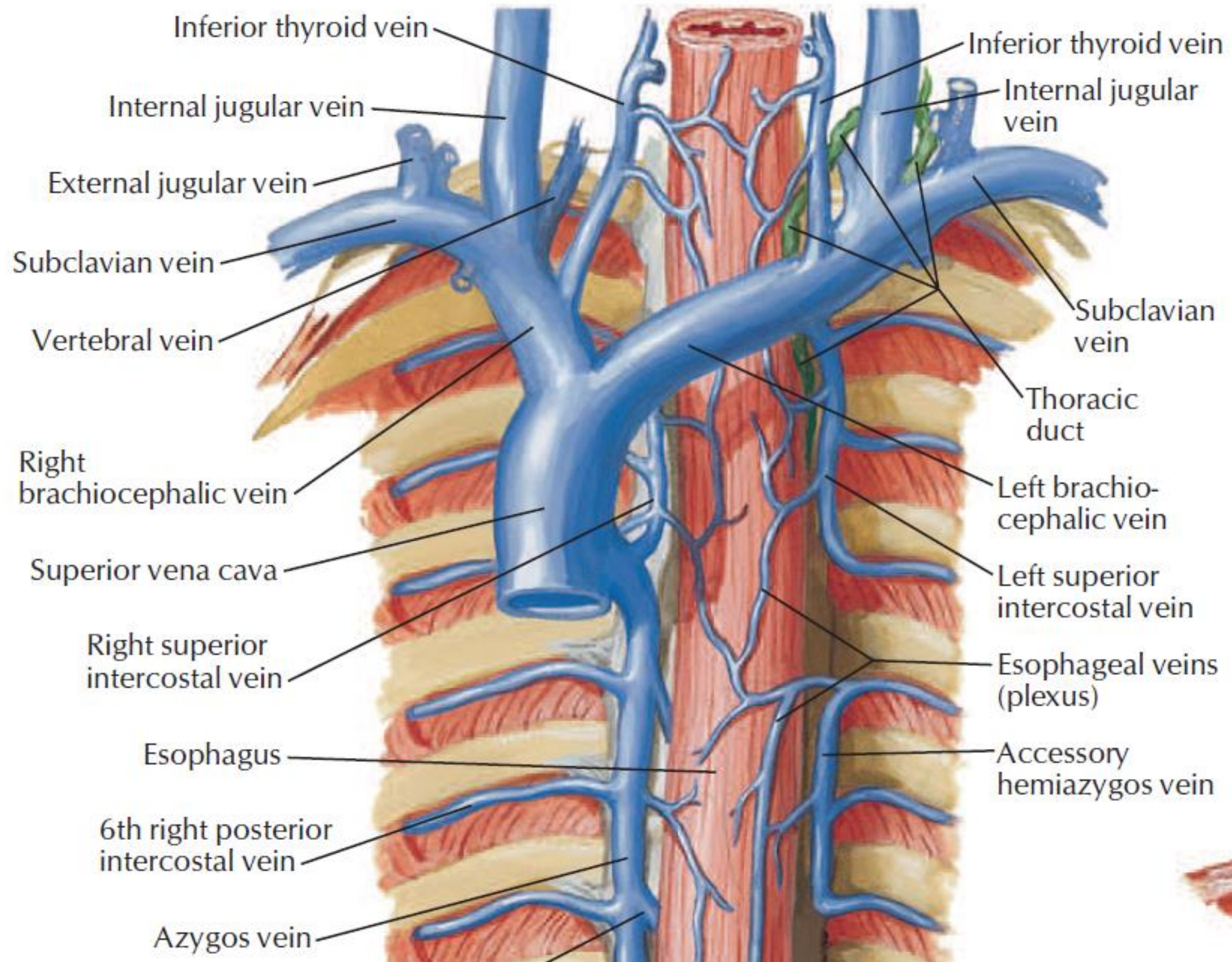
- Venöz Sistem



Süperior Mediasten

- Venöz Sistem





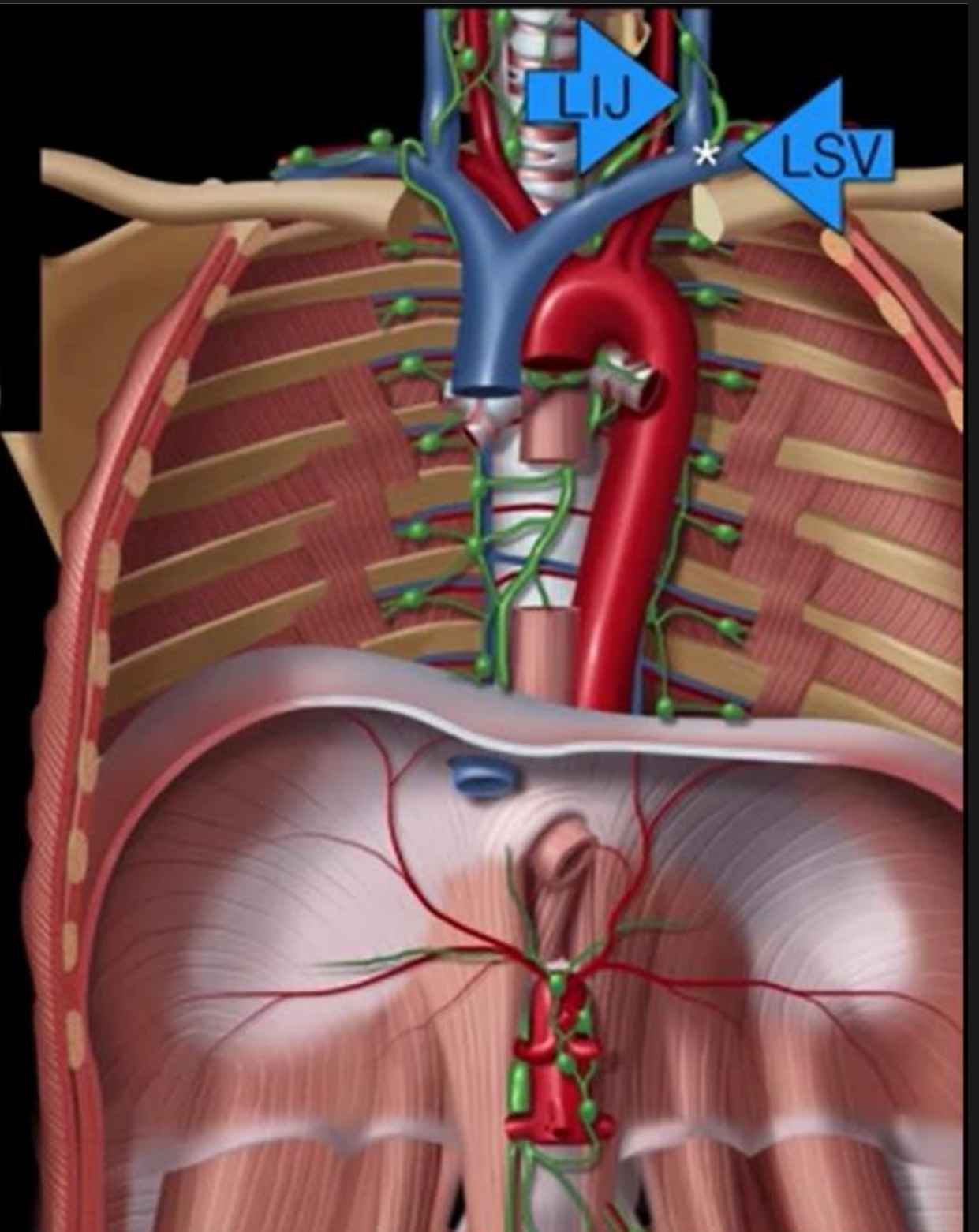
Süperior Mediasten

- Venöz Sistem

Thoracic duct

Drains into the junction of the:

- L. int jug v. (LIJ)
- L. subclav v. (LSV)

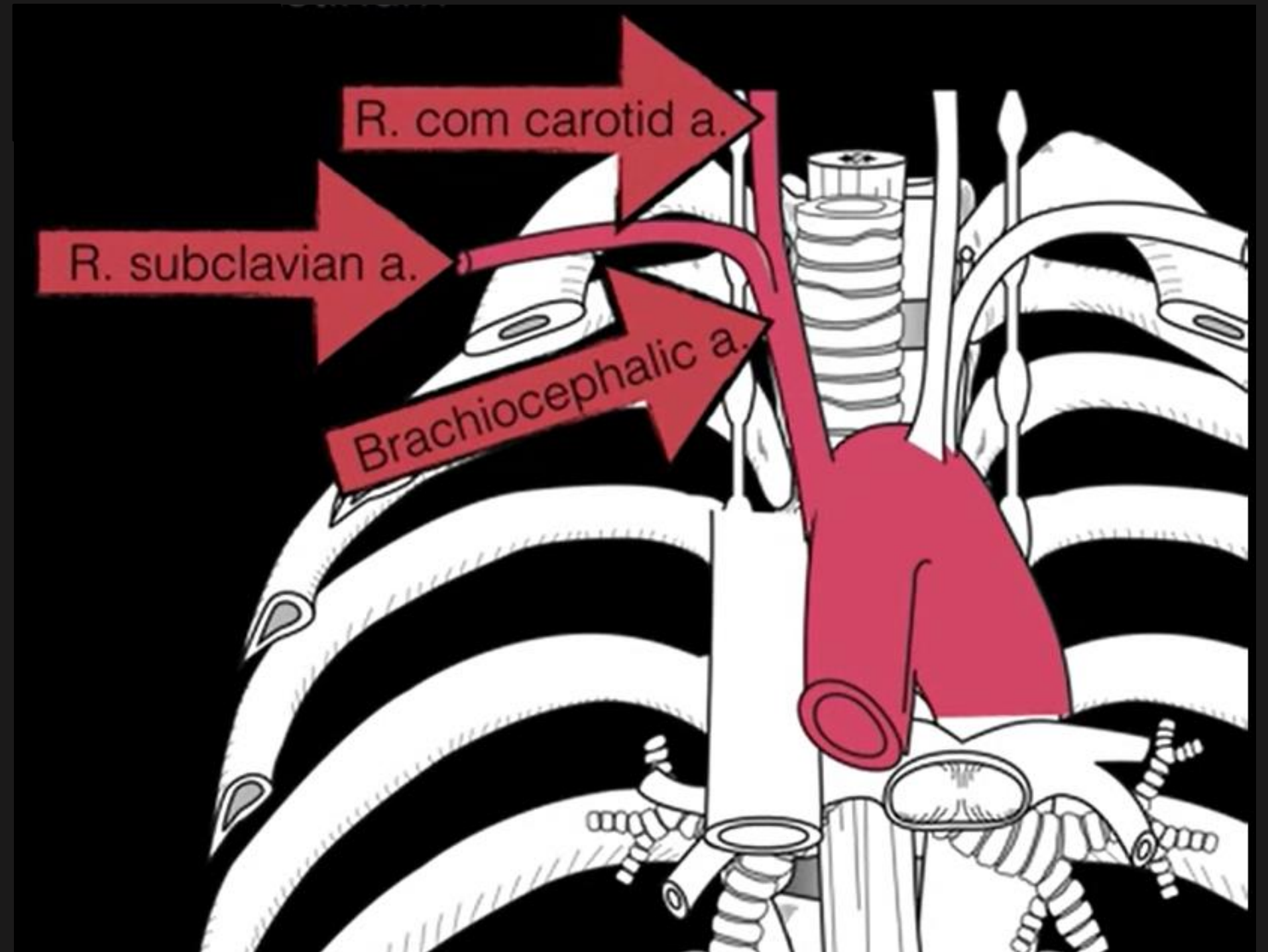


Süperior Mediasten

- Venöz Sistem
- Arterial Sistem

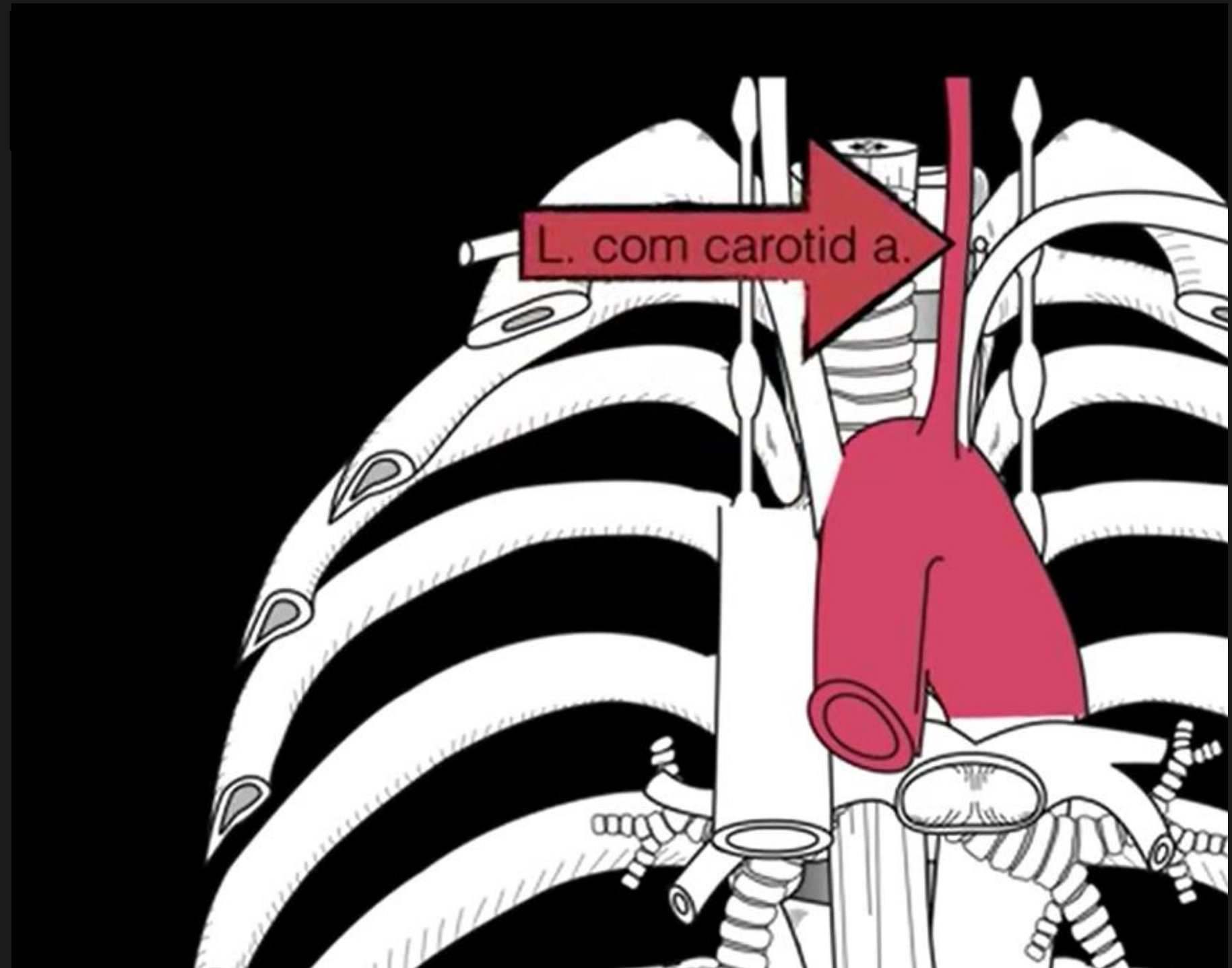
Süperior Mediasten

- Arterial Sistem



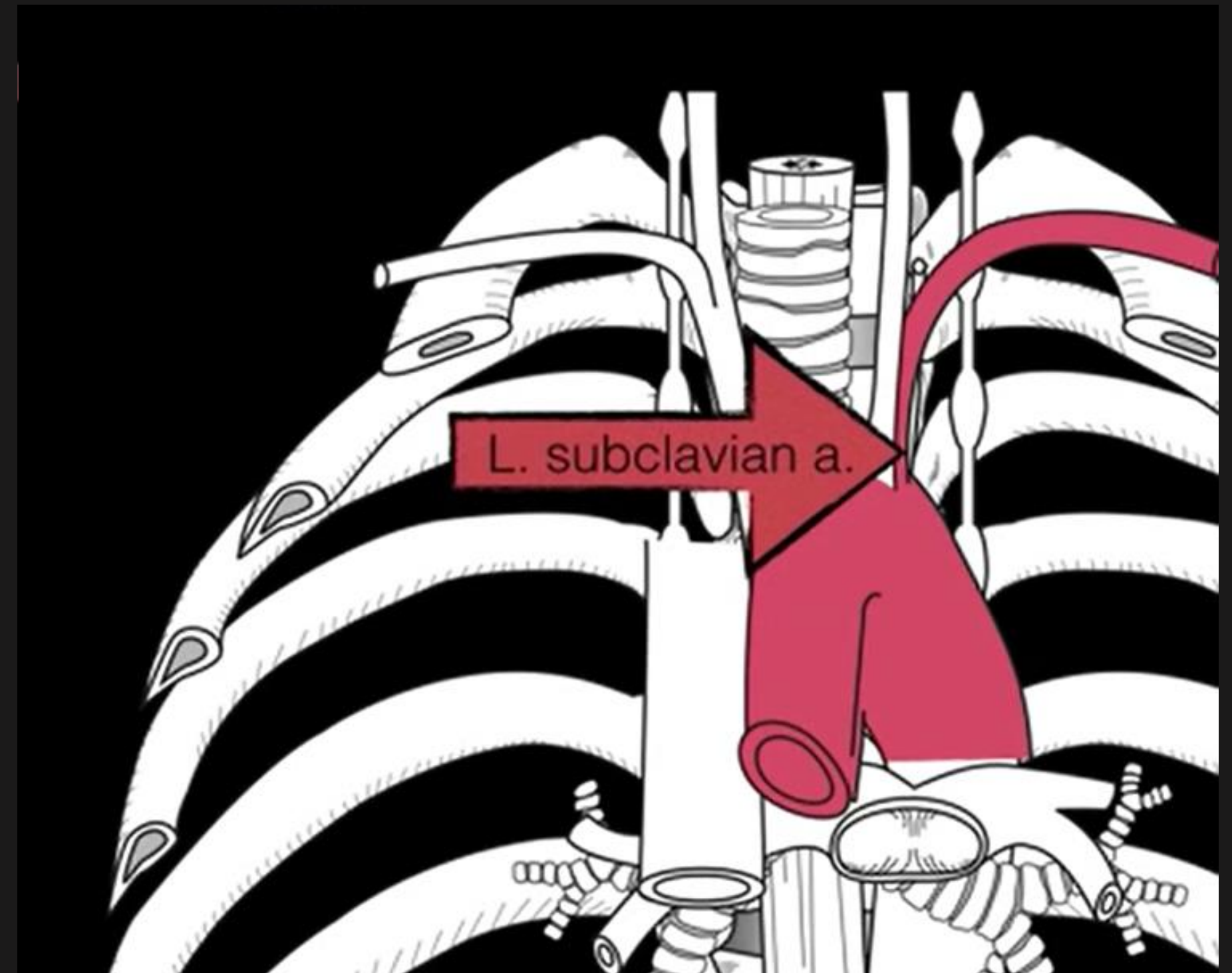
Süperior Mediasten

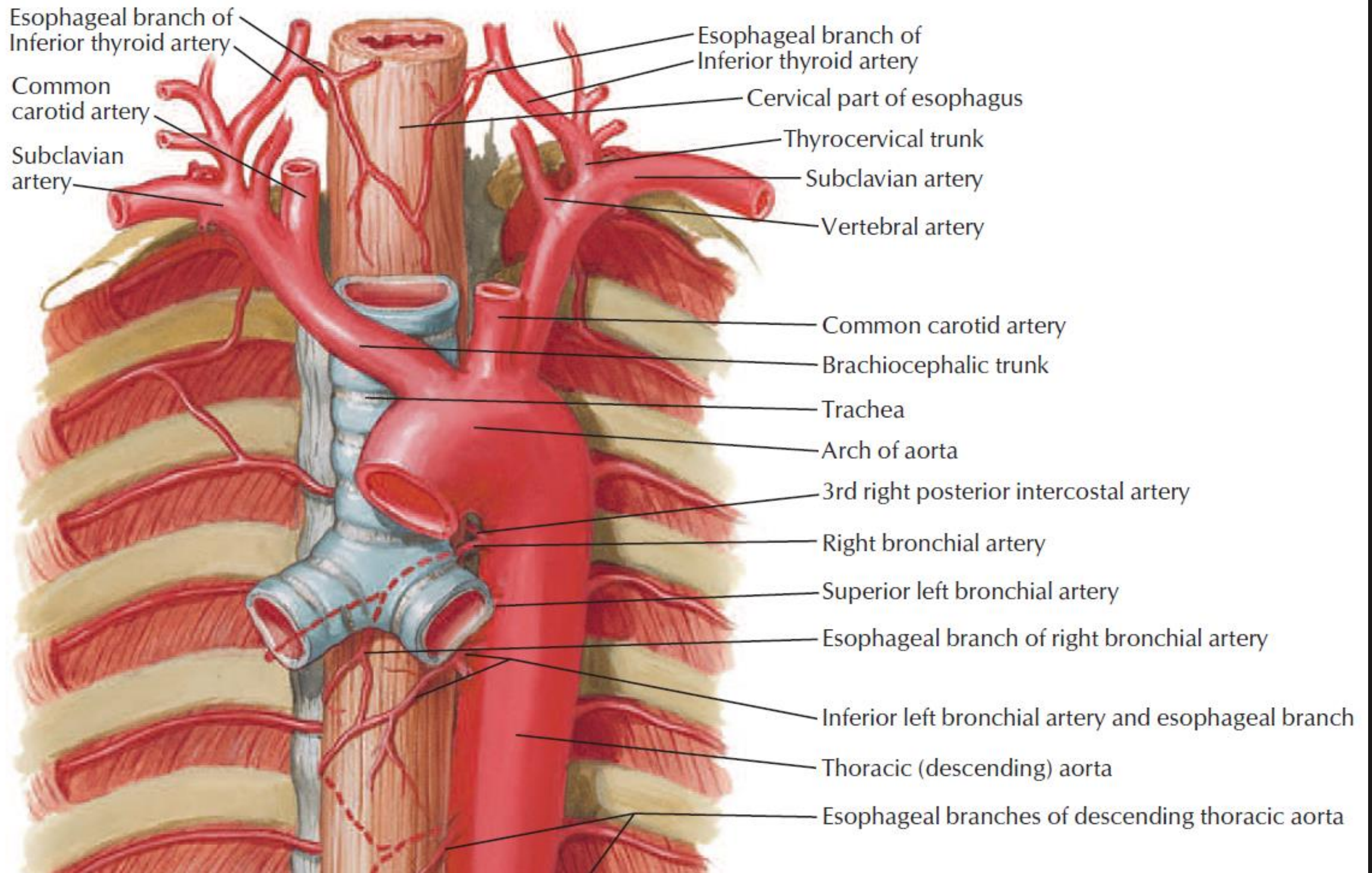
- Arterial Sistem

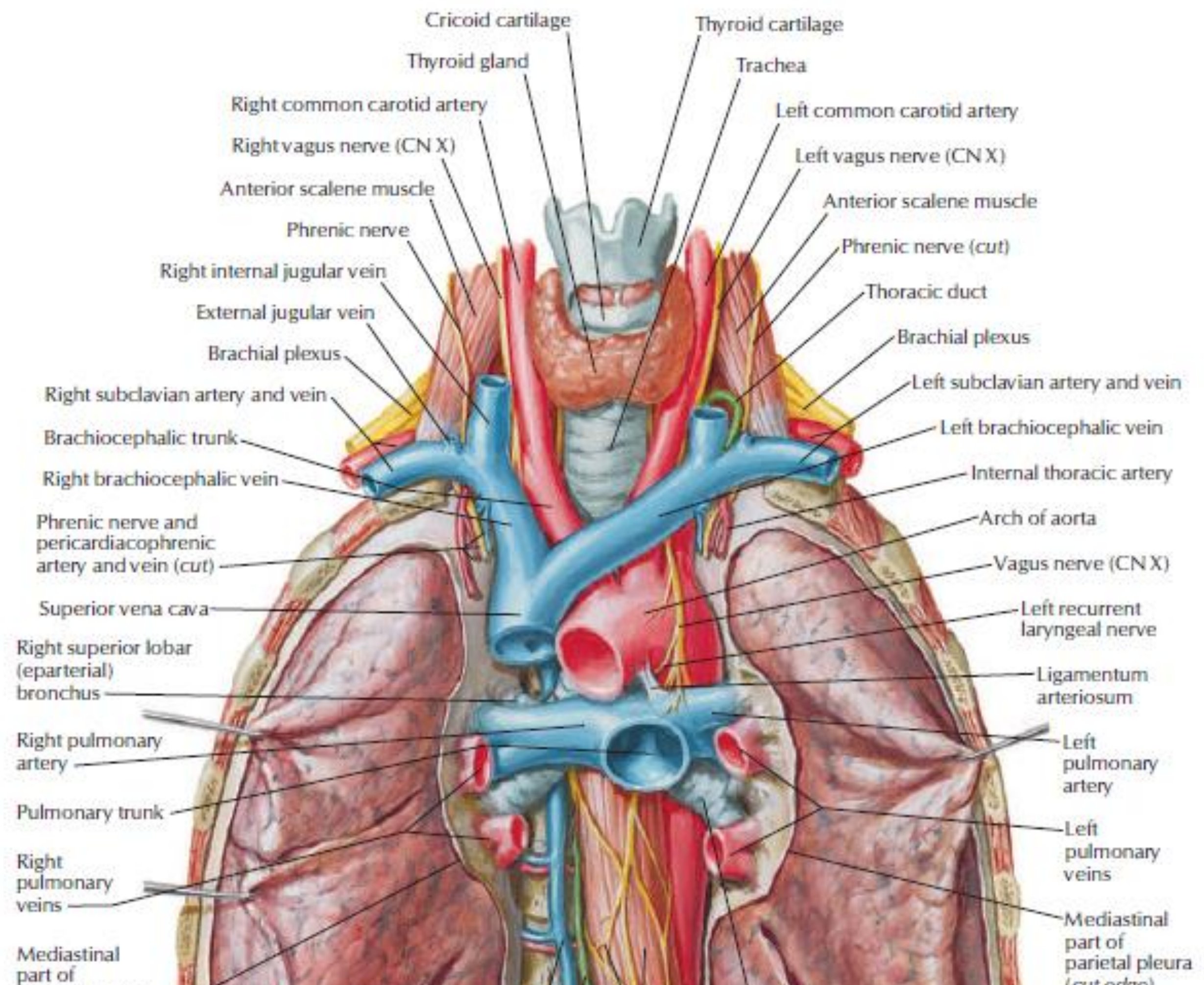


Süperior Mediasten

- Arterial Sistem





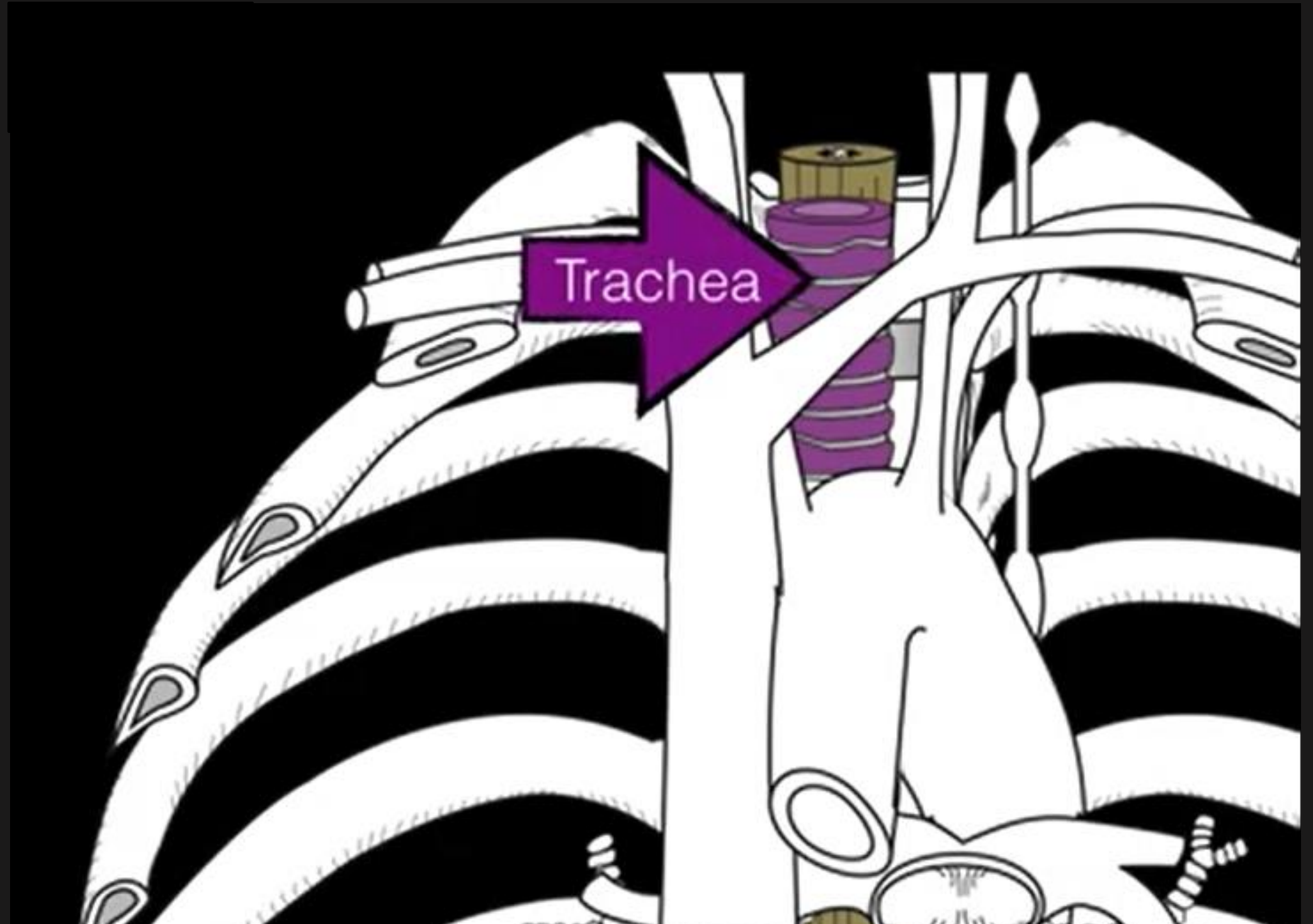


Süperior Mediasten

- Venöz Sistem
- Arterial Sistem
- Viseral Sistem

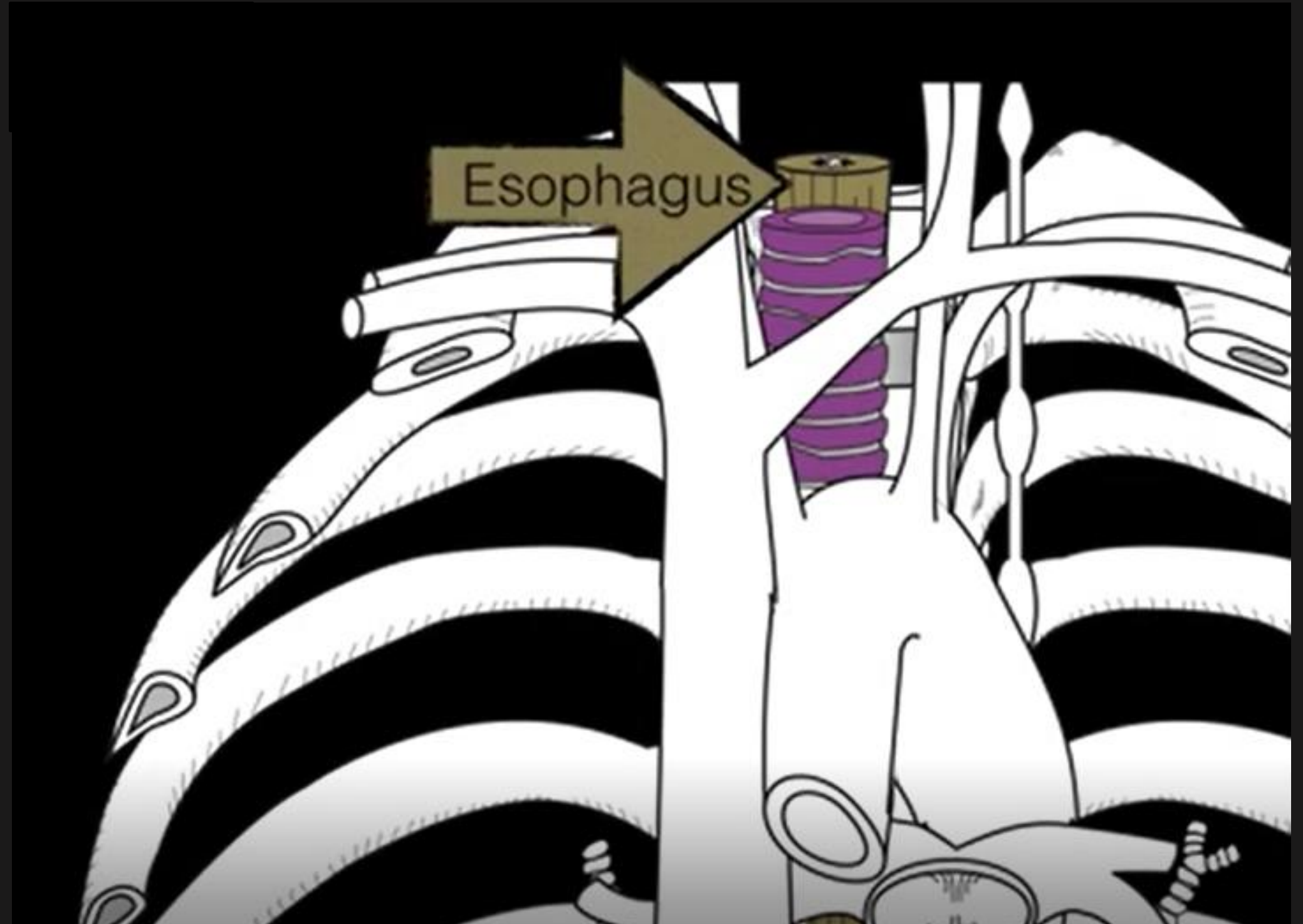
Süperior Mediasten

- Viseral Sistem

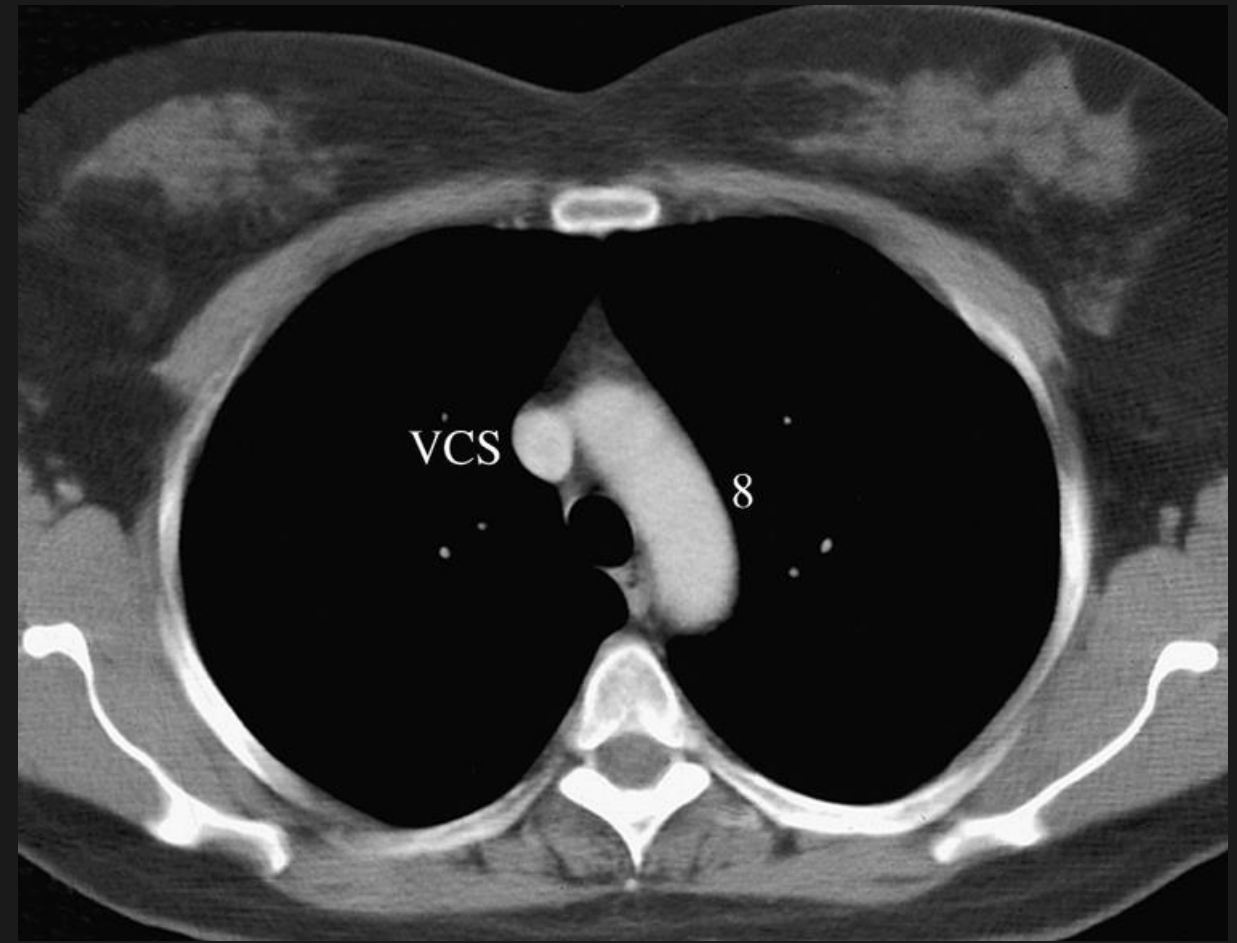
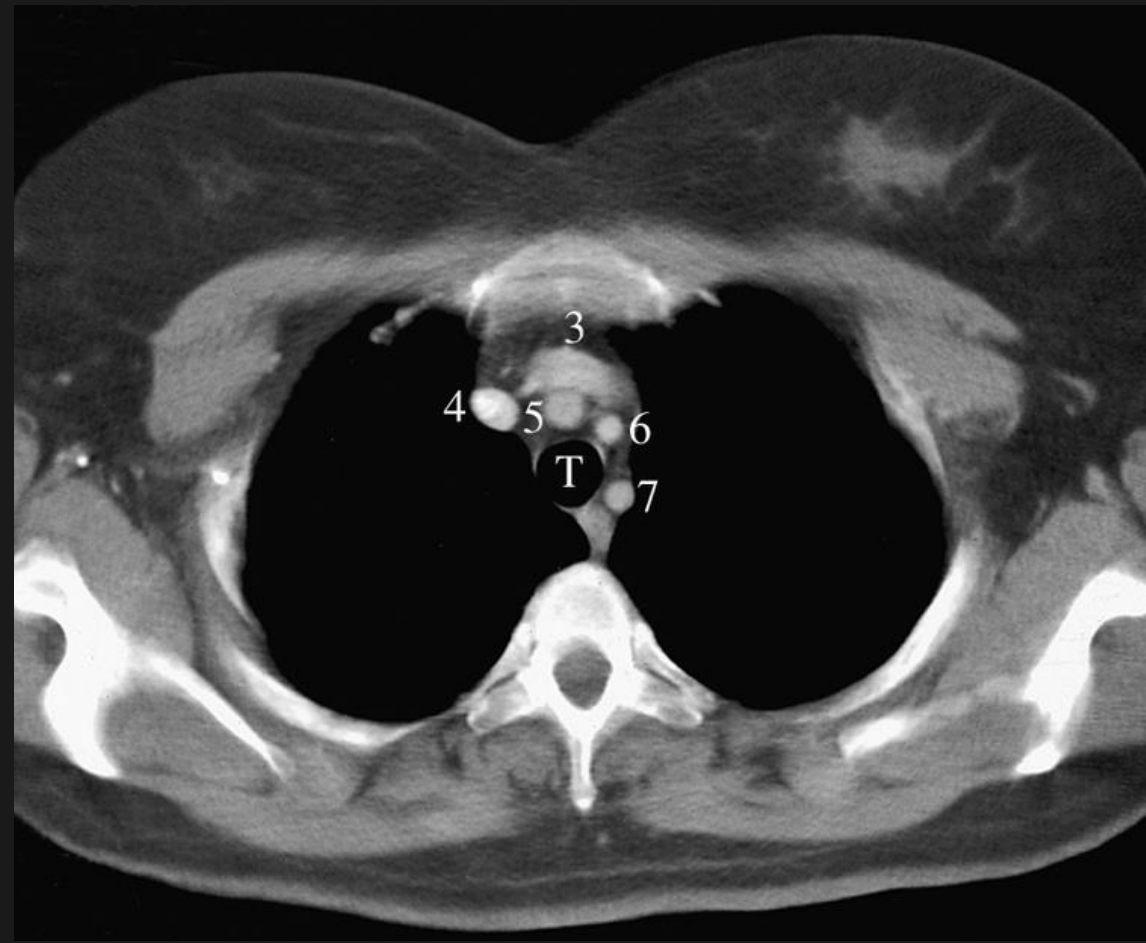


Süperior Mediasten

- Viseral Sistem

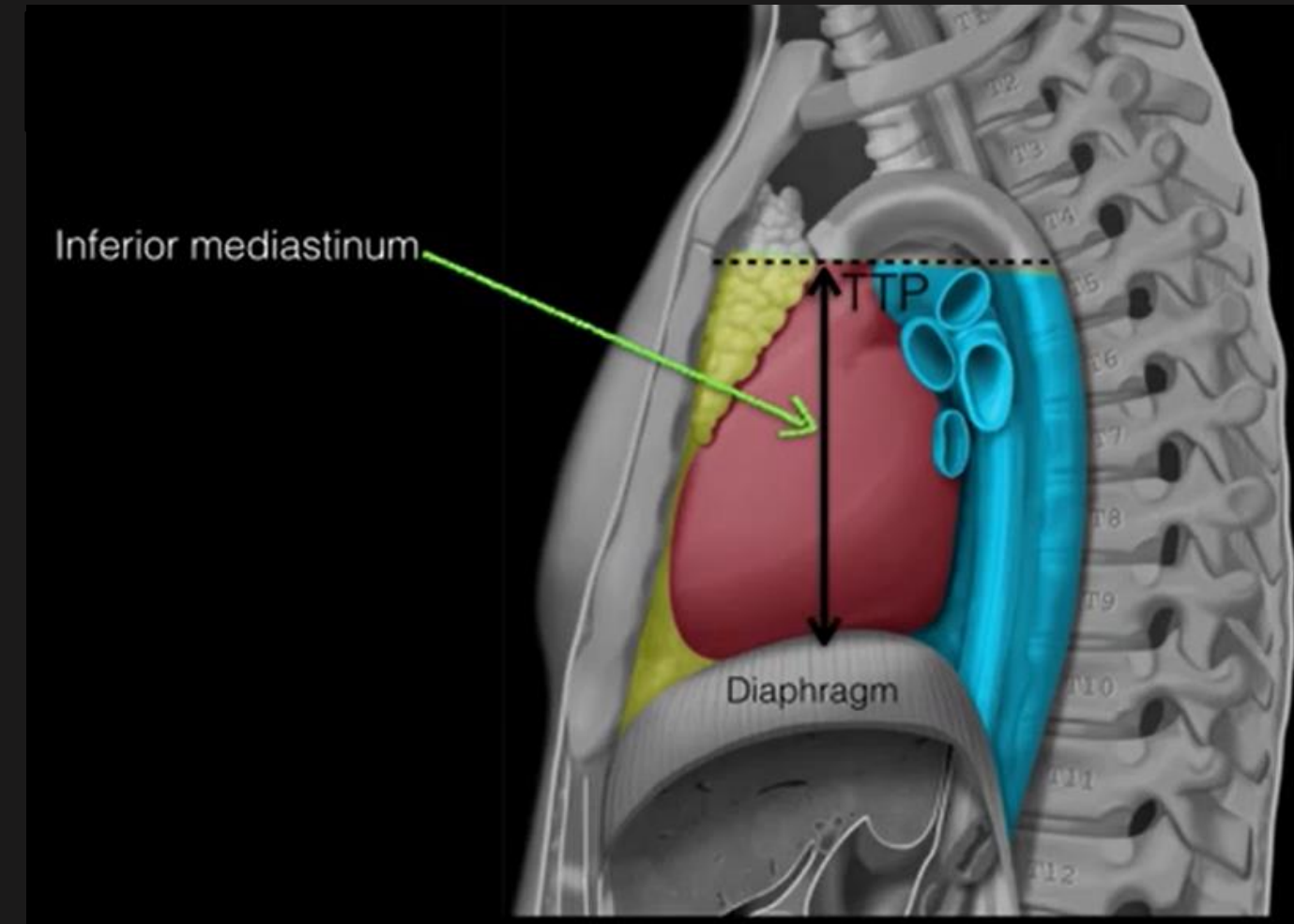


Normal BT anatomi



Mediastinum

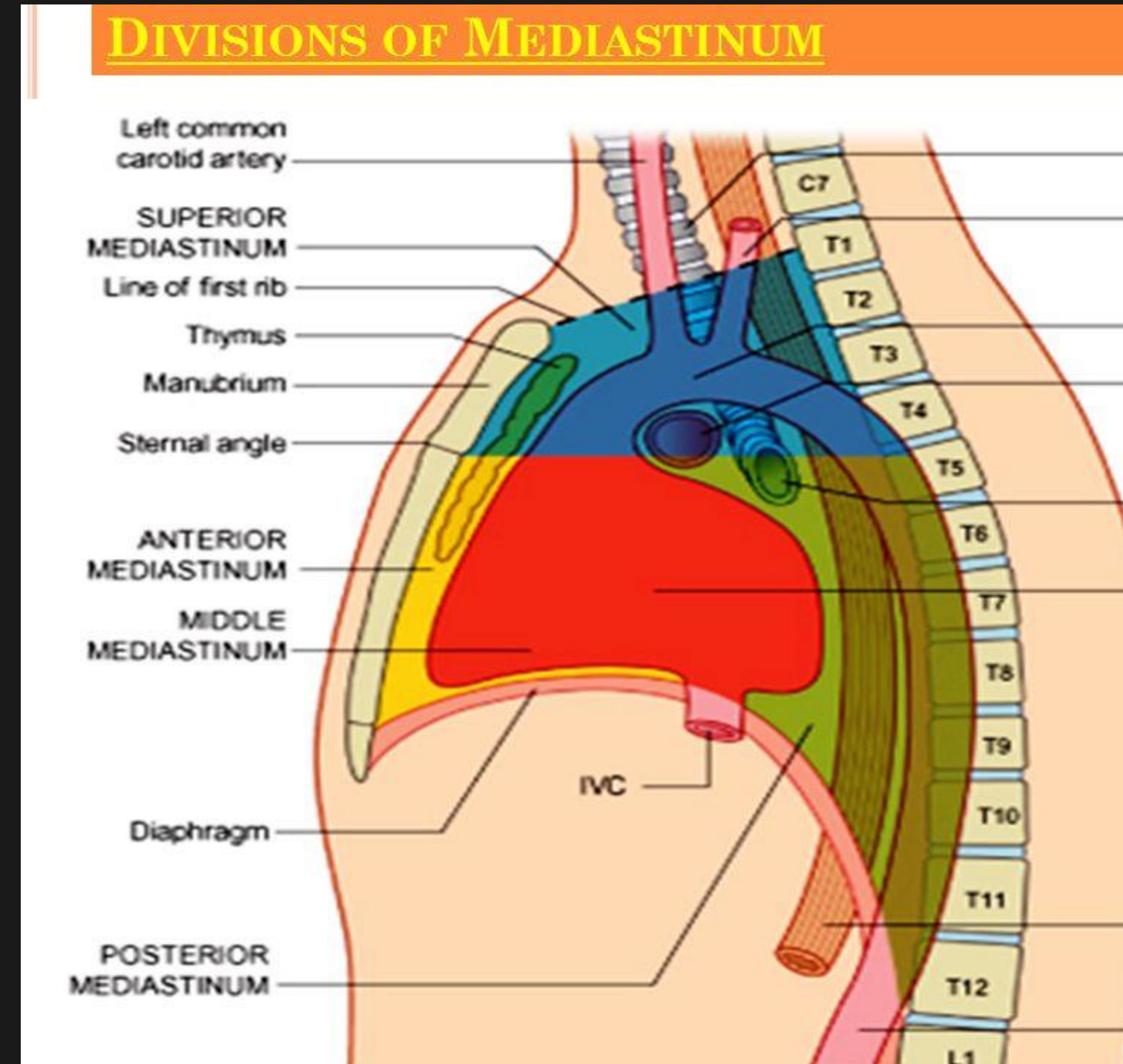
- Transvers çizginin altında diyafragma kadar uzanan kısım **mediastinum inferior**.
- Perikard tarafından ön, orta ve arka olarak ayrılır



Mediastinum

İnferior Mediasten

- Ön mediasten: Perikard ön kısmı
- Orta mediasten: Perikardial kavite, trakea ve hiluslar
- Arka mediasten: Arka perikard ve trakeanın arkası

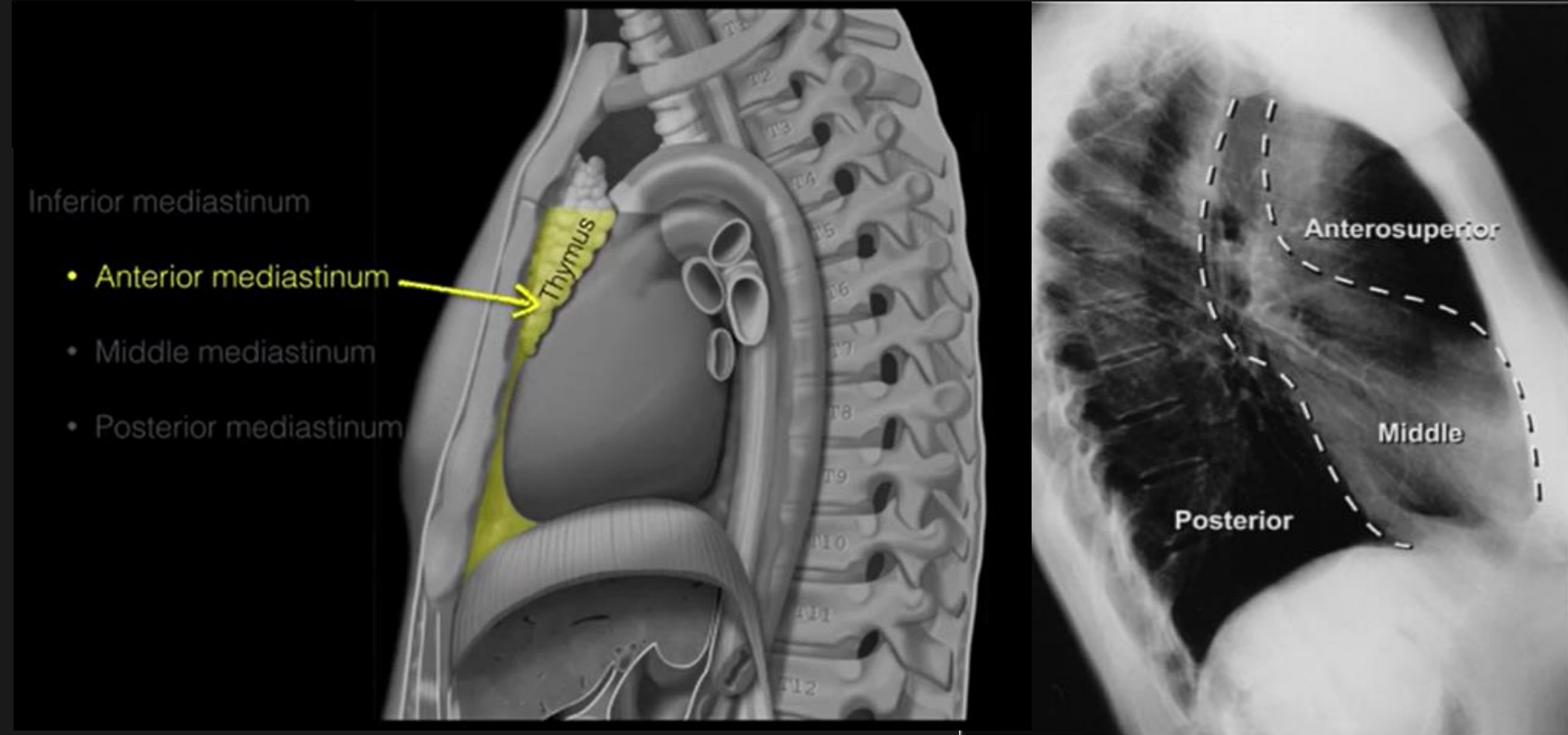


Mediastinum

Anterior (Ön) Mediasten

Önde sternum, arkada perikard ve çıkan aorta ile sınırlı alan

- ✓ Timus
- ✓ internal mammaryan damarlar,
- ✓ Lenf nodları,
- ✓ Bağ ve yağ dokusu,
- ✓ Paratiroid ve tiroid

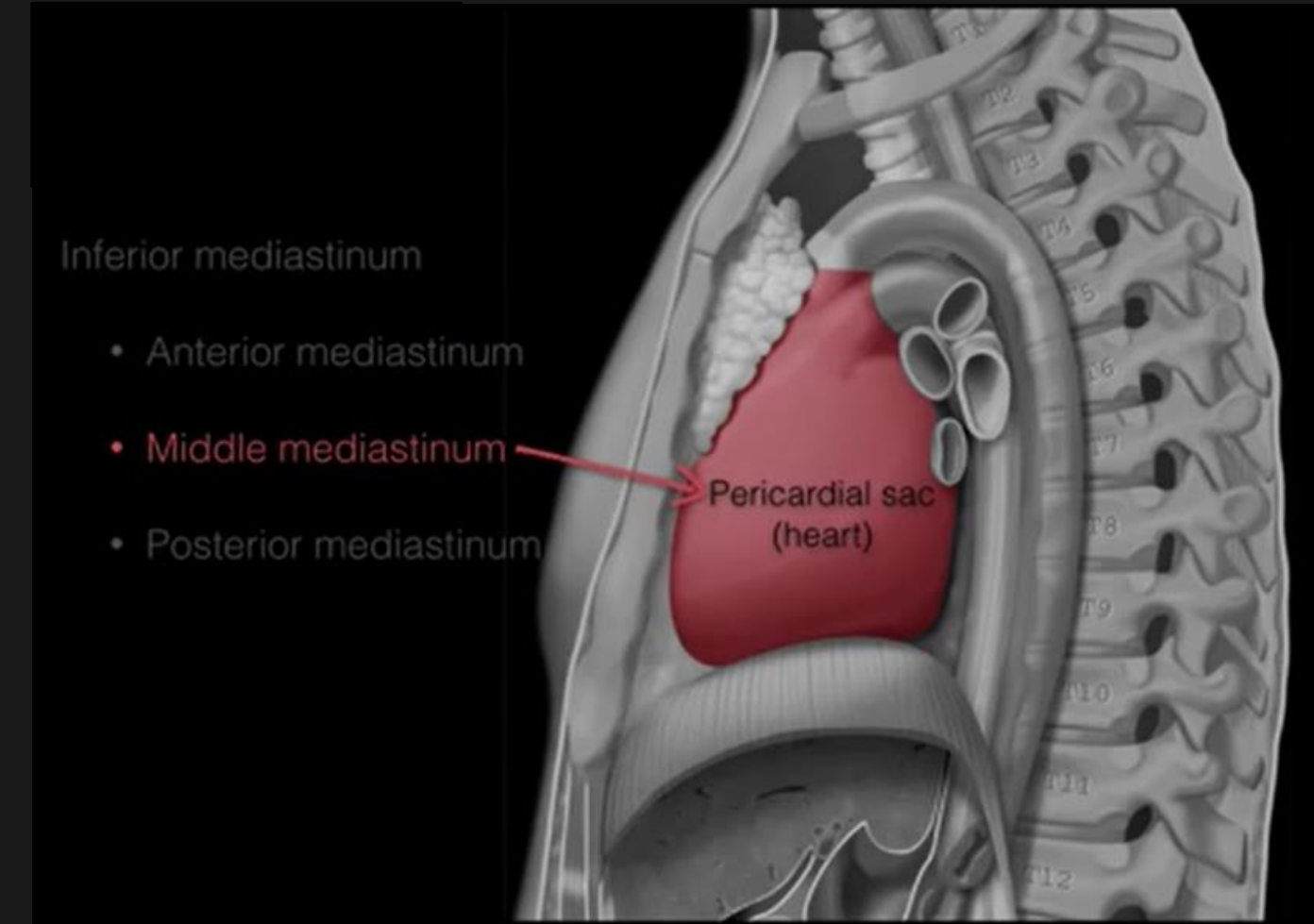


Mediastinum

Visseral (orta) mediasten

Perikard ön yüzünden başlayıp columna vertebralis ön yüzüne kadar uzanır.

- Perikard,
- Kalp ve ana damarlar,
- Trakea,
- Ana bronşların proksimal bölümleri,
- Lenfatik sistem
- Aortik cisimcik,
- Bağ ve yağ dokusu

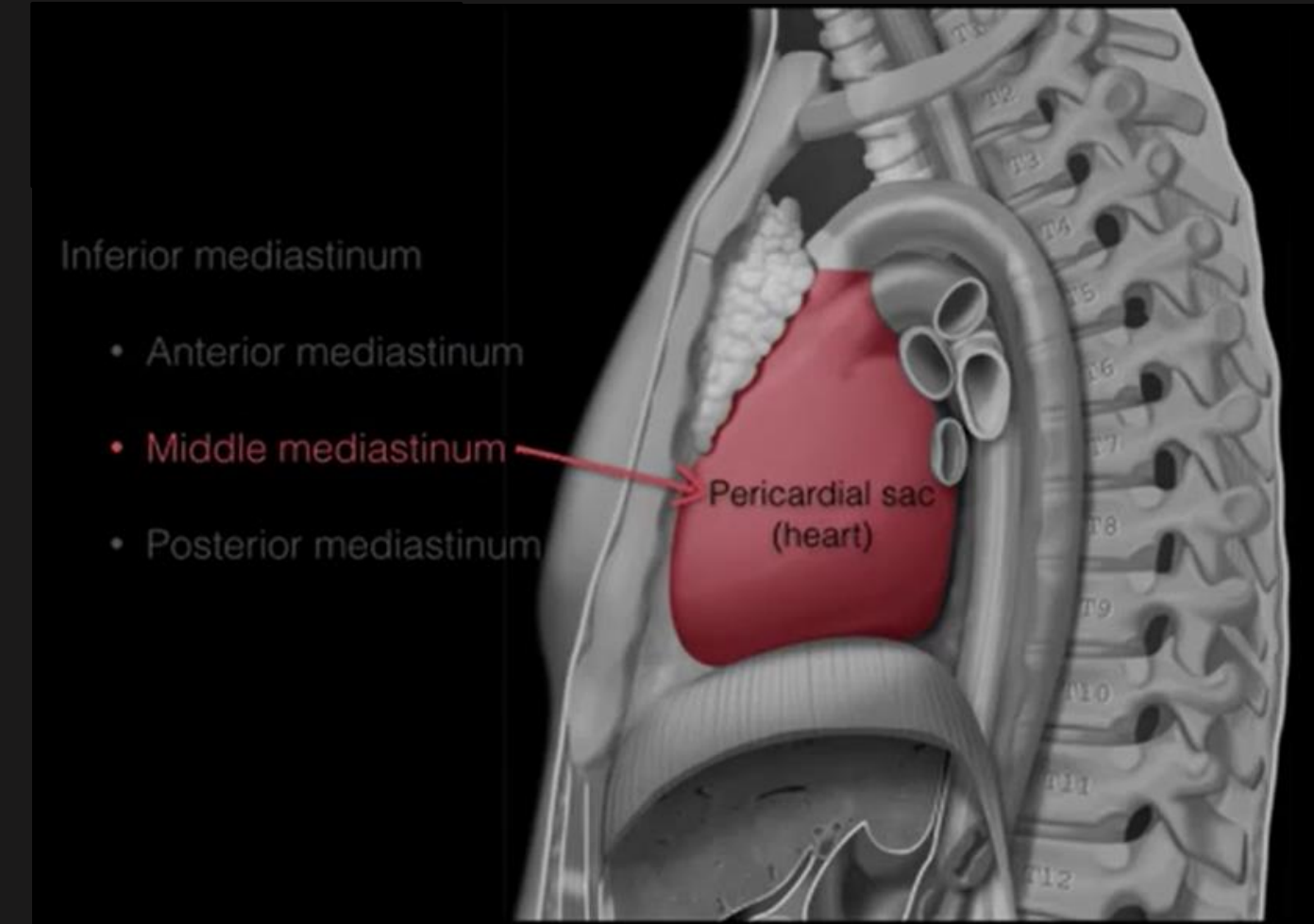


Mediastinum

Visseral (orta) mediasten

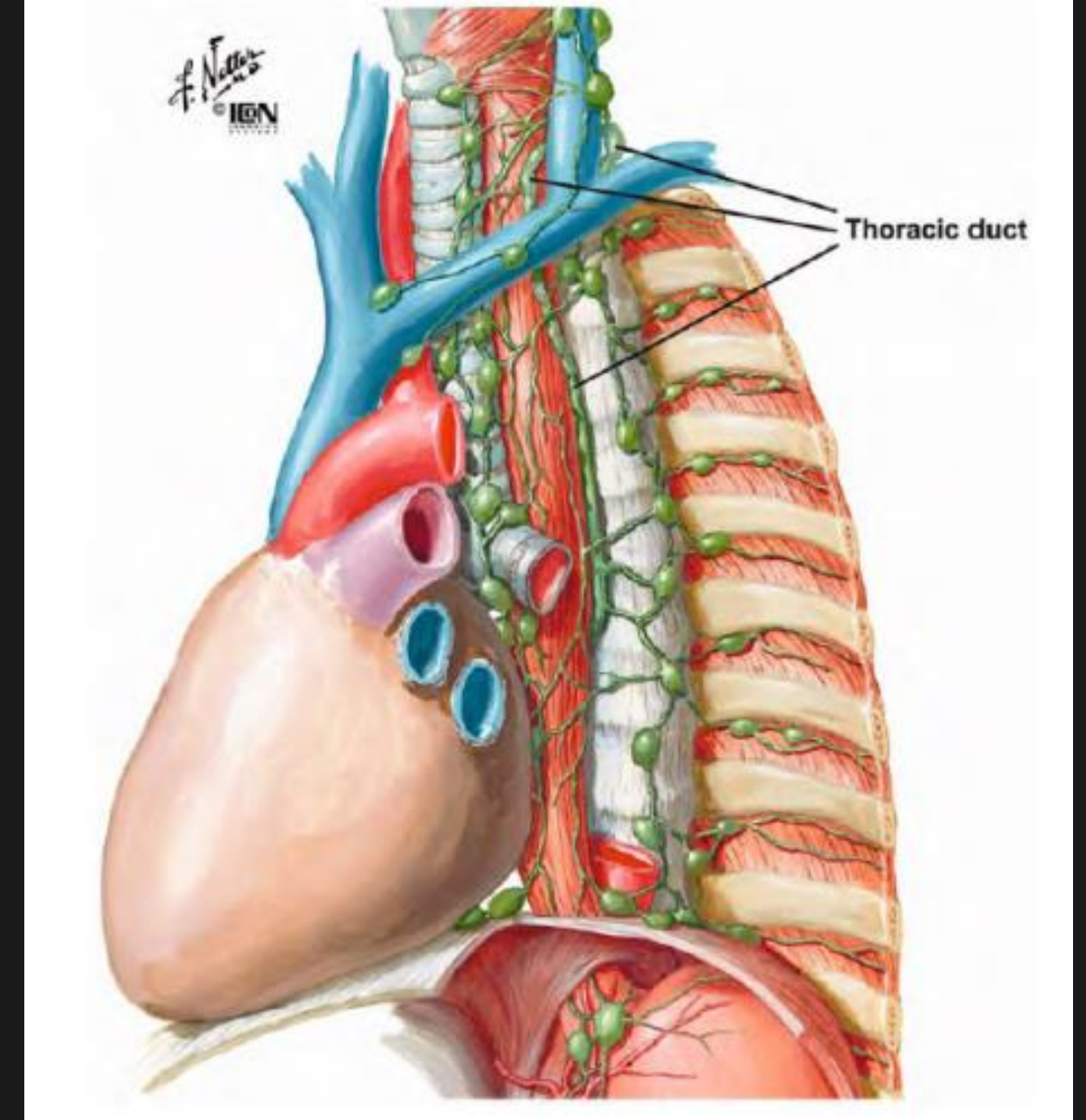
Perikard ön yüzünden başlayıp columna vertebralis ön yüzüne kadar uzanır.

- Perikard,
- Kalp ve ana damarlar,
- Trakea,
- Ana bronşların proksimal bölümleri,
- ***Lenfatik sistem***
- Aortik cisimcik,
- Bağ ve yağ dokusu



Mediastinum

- **Lenfatik sistem**
 - Mediasten tüm lenf nodlarından en zengin bölge.
 - Akciğer ve özefagusun lenfatikleri buraya drene olur.
 - Diafragma ve perikardın lenf nodları da burada yerleşmiştir.



Posterior Mediasten

Oturma odasındaki TV'nin arkasına benzetilebilir



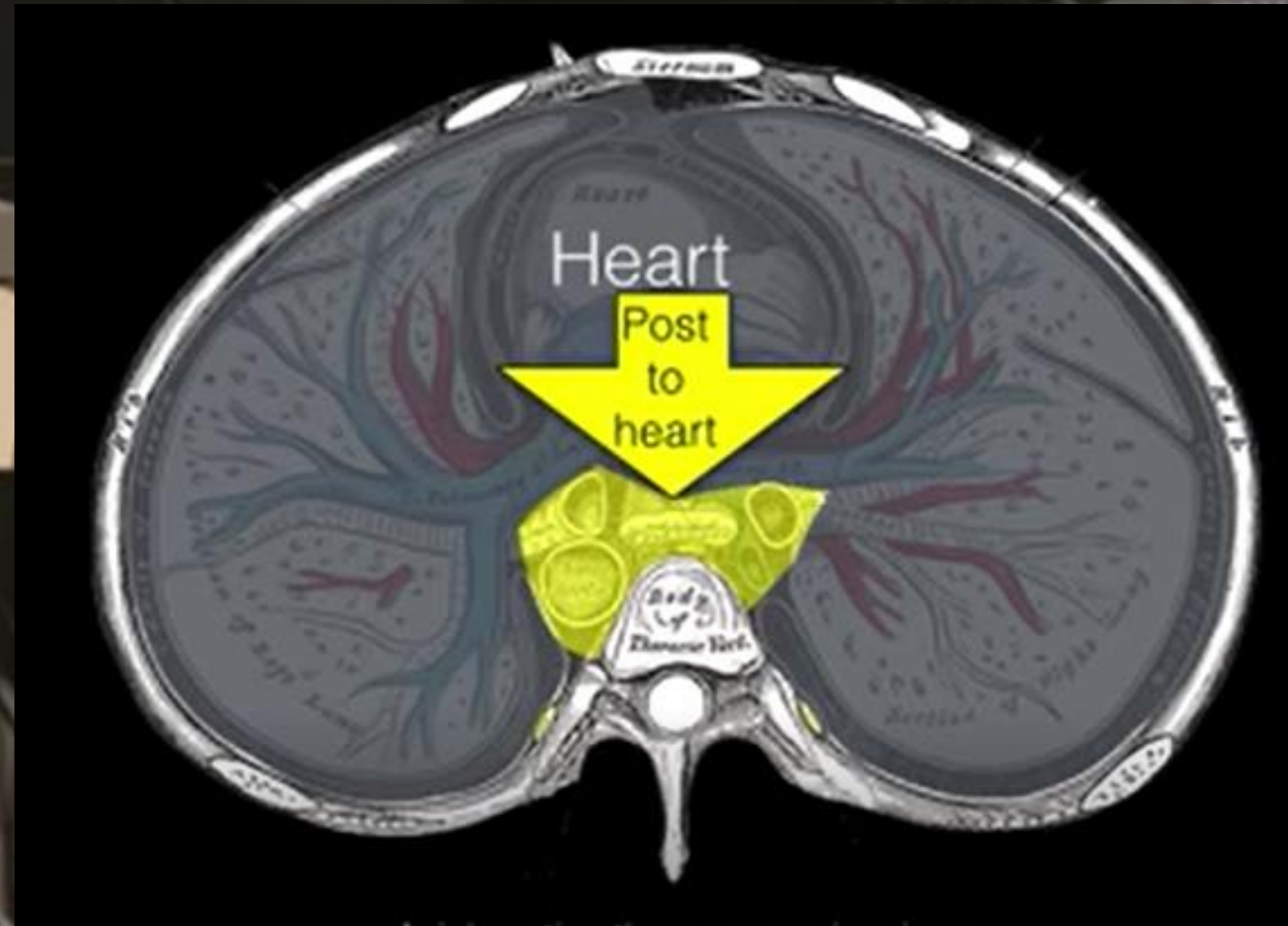
Posterior Mediasten

Otuma odasındaki TV'nin arkasına benzetilebilir



Posterior Mediasten

Otuma odasındaki TV'nin arkasına benzetilebilir

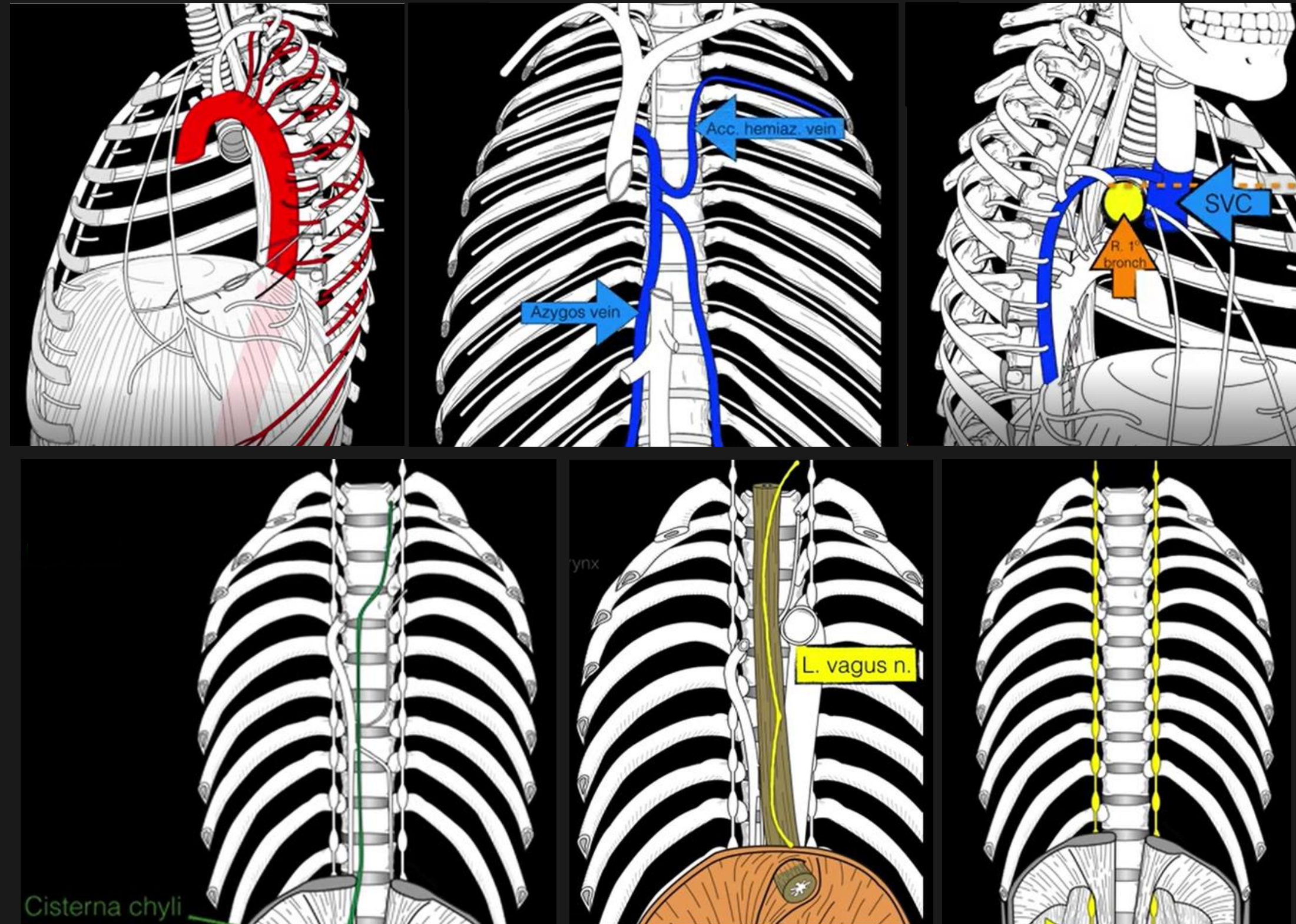


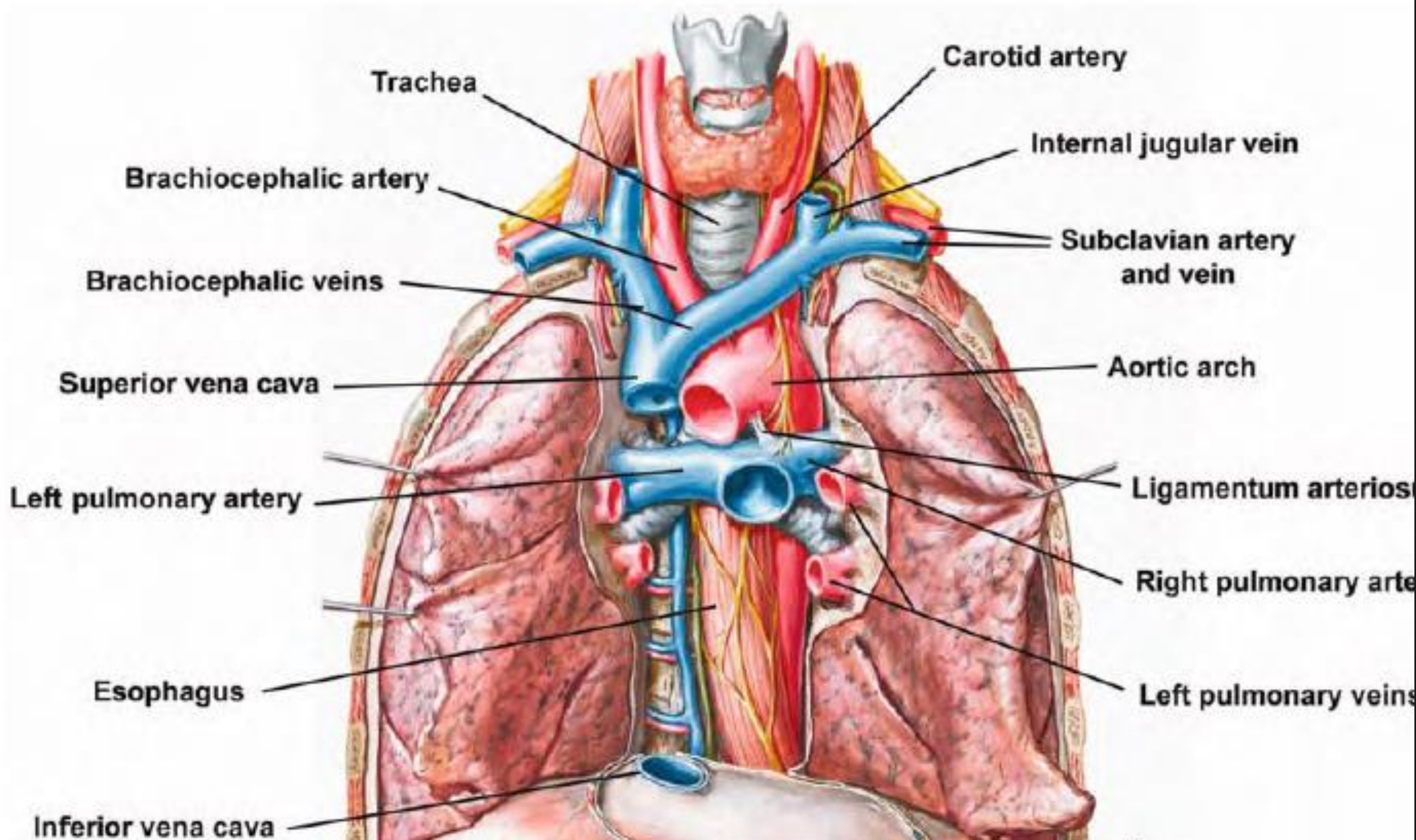
Posterior Mediasten

- D
- A
- T
- E
- S

Posterior Mediasten

- Desendan Aorta
- Azigos ven
- Torasik duktus
- Esofagus
- Sempatik ganglionlar





Trachea

Carotid artery

Internal jugular vein

Brachiocephalic artery

Subclavian artery and vein

Brachiocephalic veins

Superior vena cava

Aortic arch

Left pulmonary artery

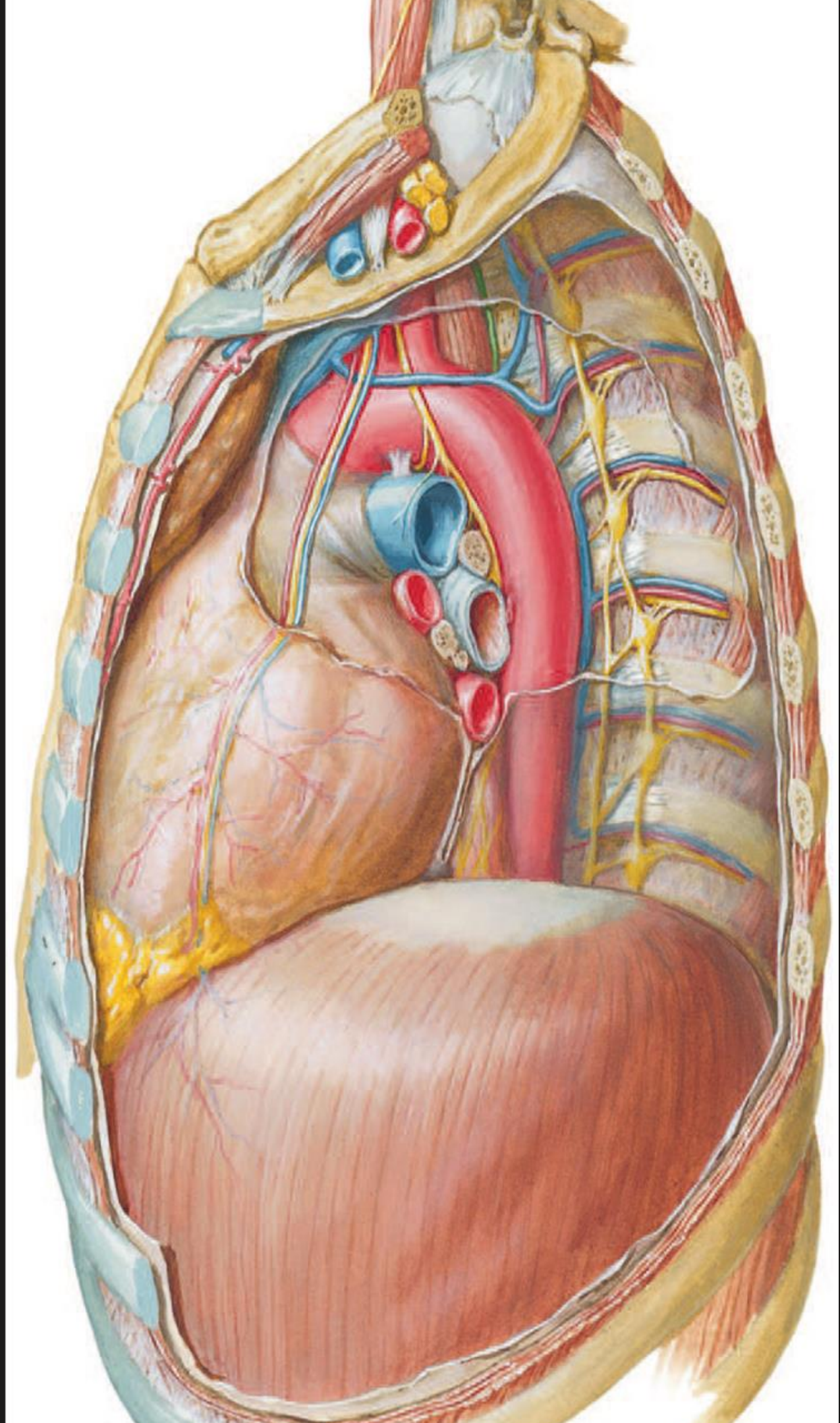
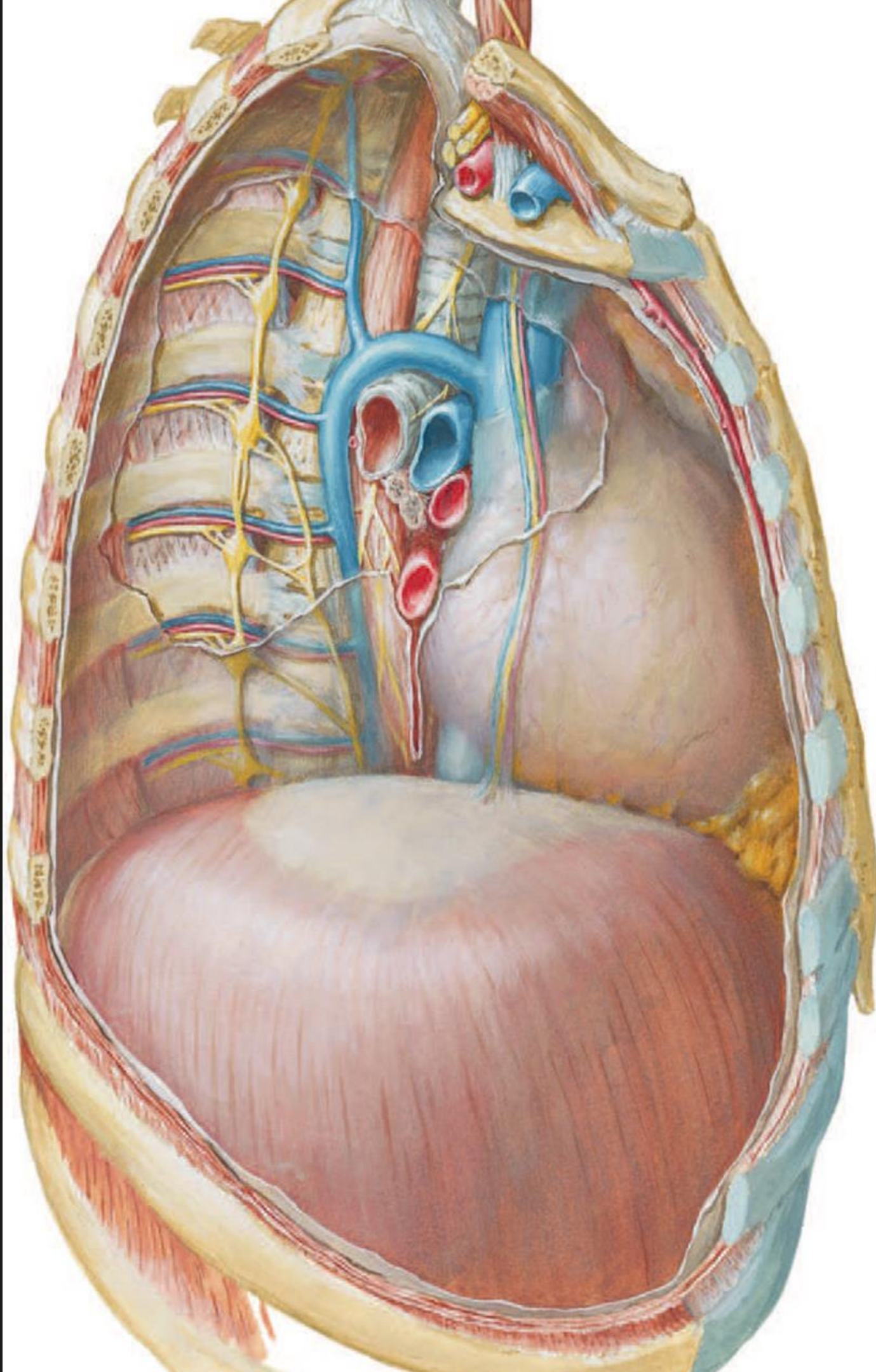
Ligamentum arteriosum

Right pulmonary artery

Esophagus

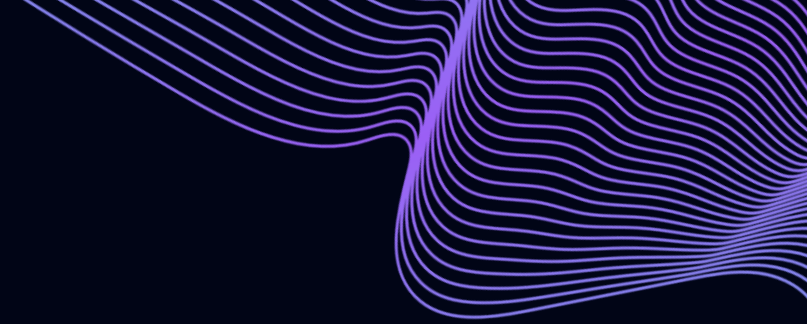
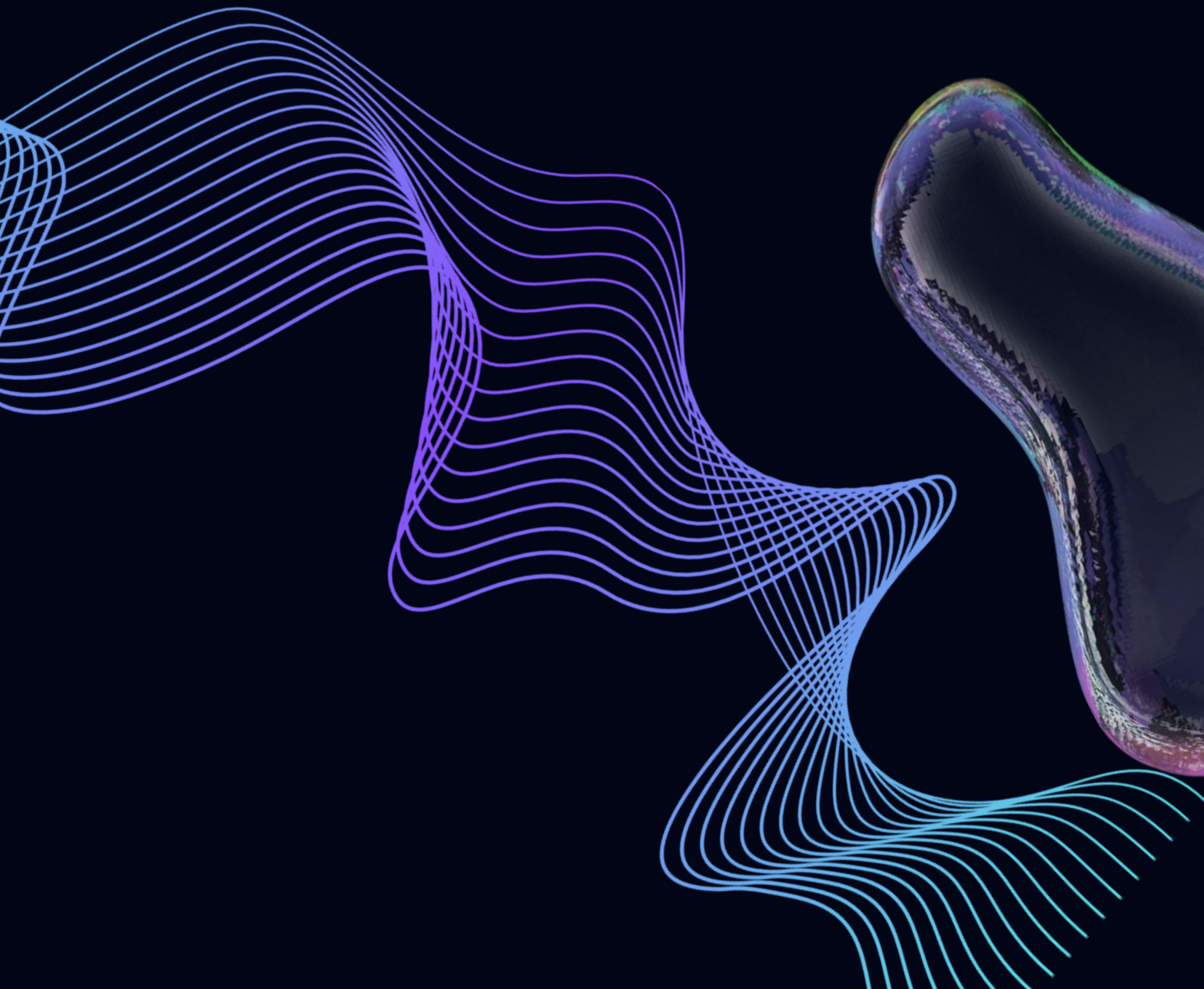
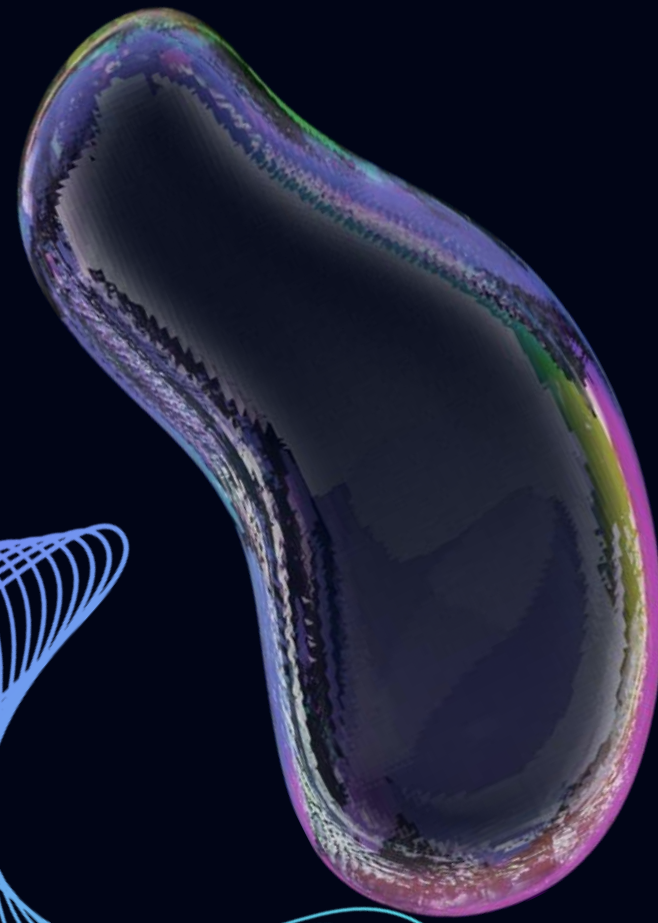
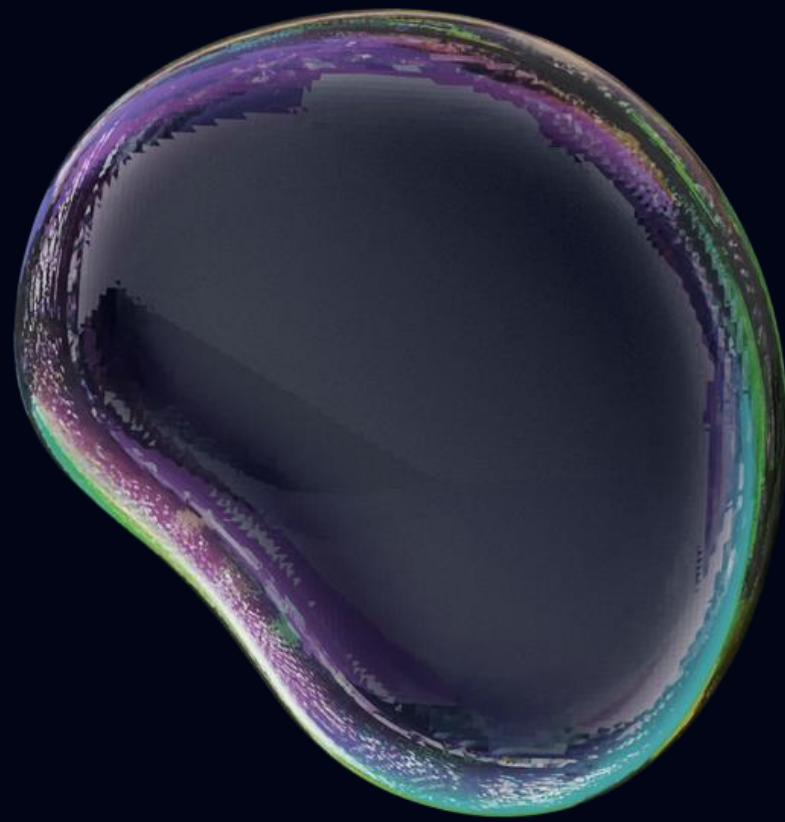
Left pulmonary veins

Inferior vena cava



ANTERİOR	ORTA	POSTERİOR
TİMİK TÜMÖRLER <ul style="list-style-type: none"> • Timoma • Timik Karsinom • Timolipoma • Timoliposarkom 	LENFOMA	NÖROJENİK TÜMÖRLER <ul style="list-style-type: none"> • Kılıf (Schwannoma, nörofibroma) • Otonom Sinir (Nöroblastom, Ganglionöroma) • Paraganglial (Feokromasitoma) • Nöroektodermal (PNET/ Askin's Tm)
GERM HÜCRELİ TÜMÖRLER <ul style="list-style-type: none"> • Teratom • Seminom • Non-seminomatöz Tm 	KİSTLER	ENTERİK KİSTLER
LENFOMA	MALİGNİTELER <ul style="list-style-type: none"> • Mediastinal paragangliom (Feo.) 	ÖZEFAGUS LEZYONLARI
TİROİD KARSİNOMLARI	MORGAGNİ HERNİSİ	BOCHDALEK HERNİSİ
PARATİROİD KARSİNOMLARI	ANEVRİZMALAR	

LENF NODU HARİTASI

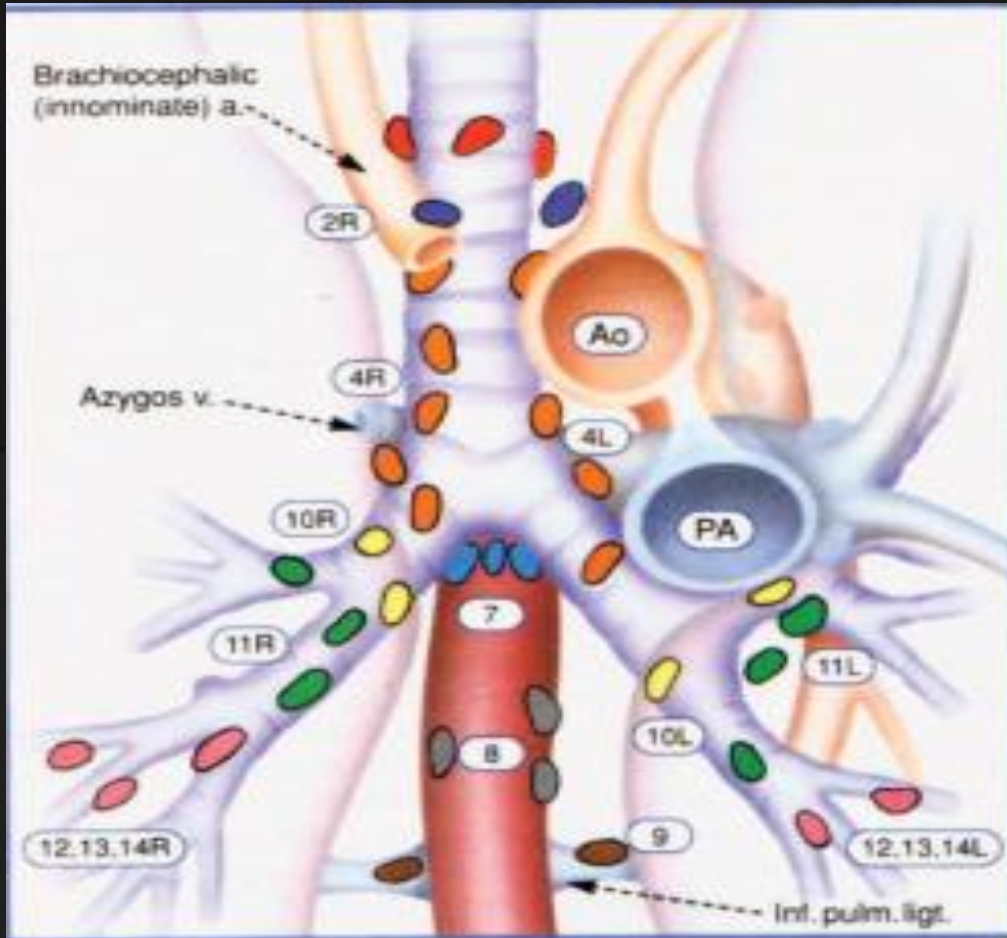


IASLC



The International Association for the Study of Lung Cancer (IASLC)

Lenf Nodu Haritası



Superior Mediastinal Nodes

- 1 Highest Mediastinal
- 2 Upper Paratracheal
- 3 Pre-vascular and Retrotracheal
- 4 Lower Paratracheal (including Azygos Nodes)

N₂ = single digit, ipsilateral
N₃ = single digit, contralateral or supraclavicular

Upper zone (R)

Aortic Nodes

- 5 Subaortic (A-P window)
- 6 Para-aortic (ascending aorta or phrenic)

AP zone (L)

Inferior Mediastinal Nodes

- 7 Subcarinal
- 8 Paraesophageal (below carina)
- 9 Pulmonary Ligament

Subcarinal zone

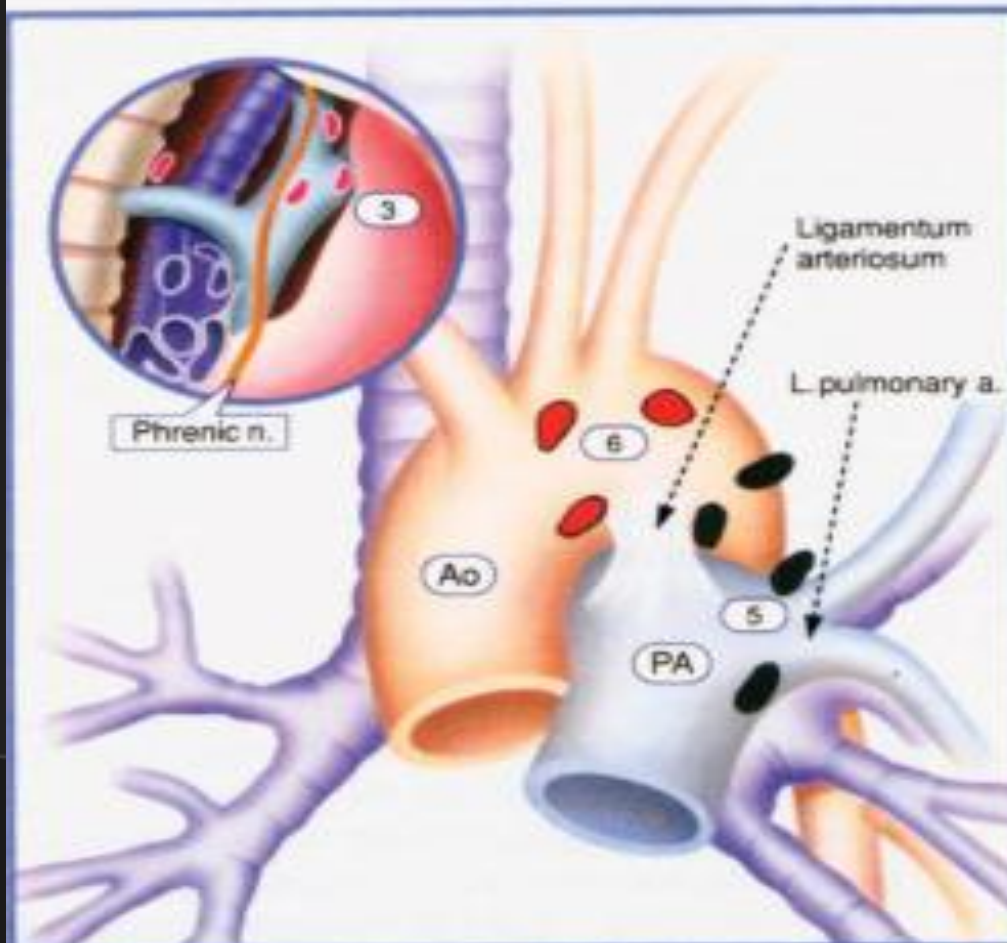
Lower zone

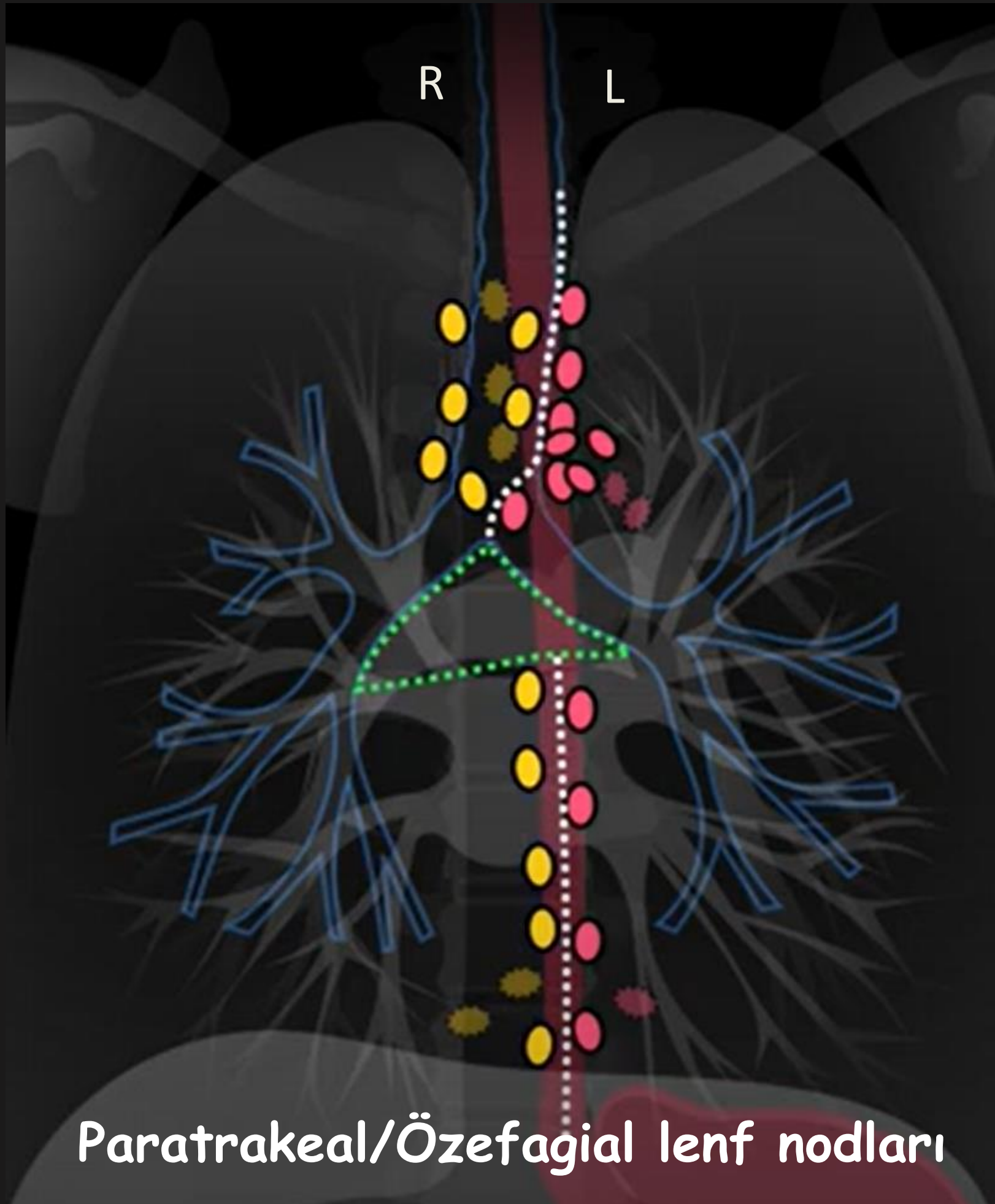
N₁ Nodes

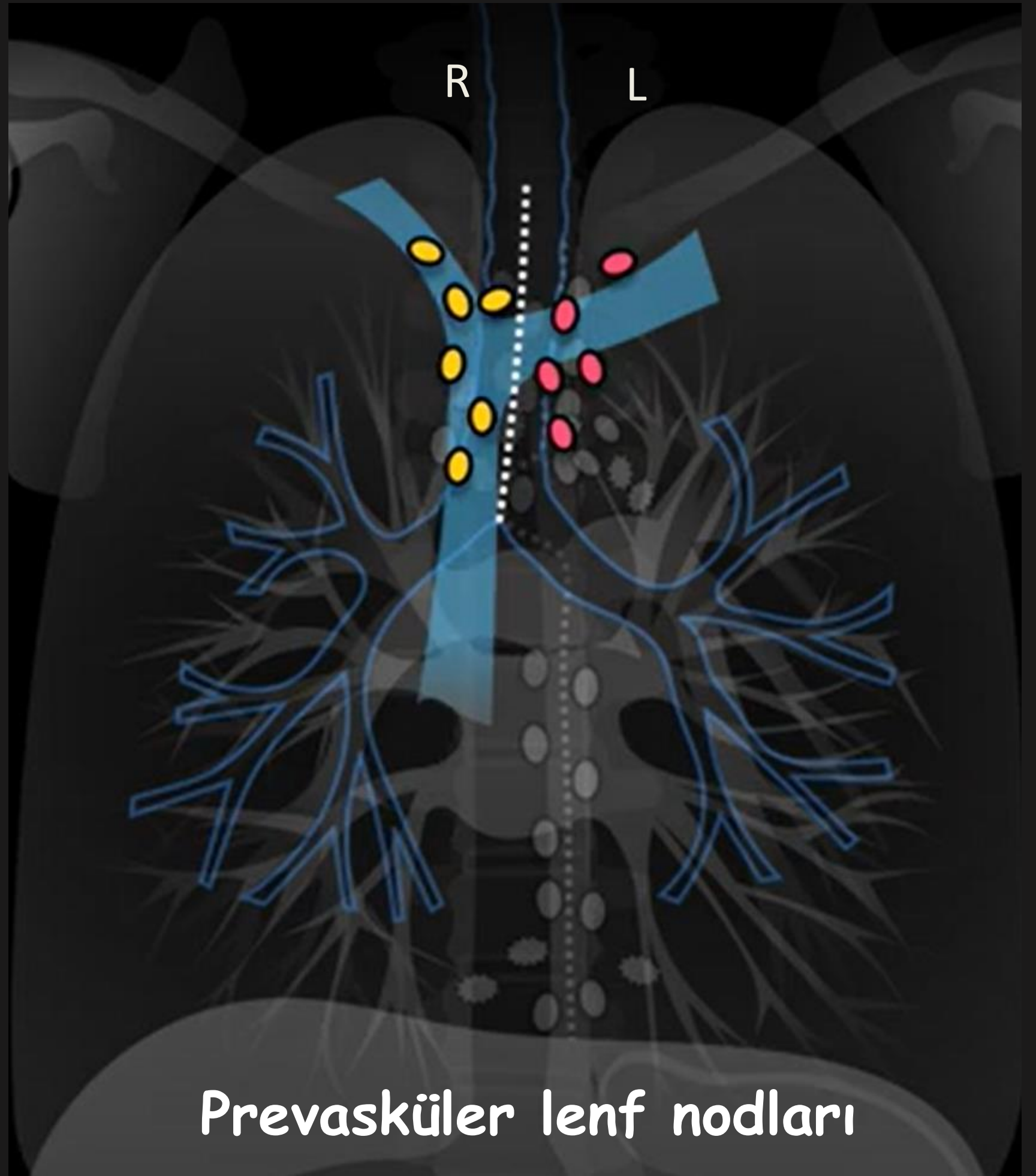
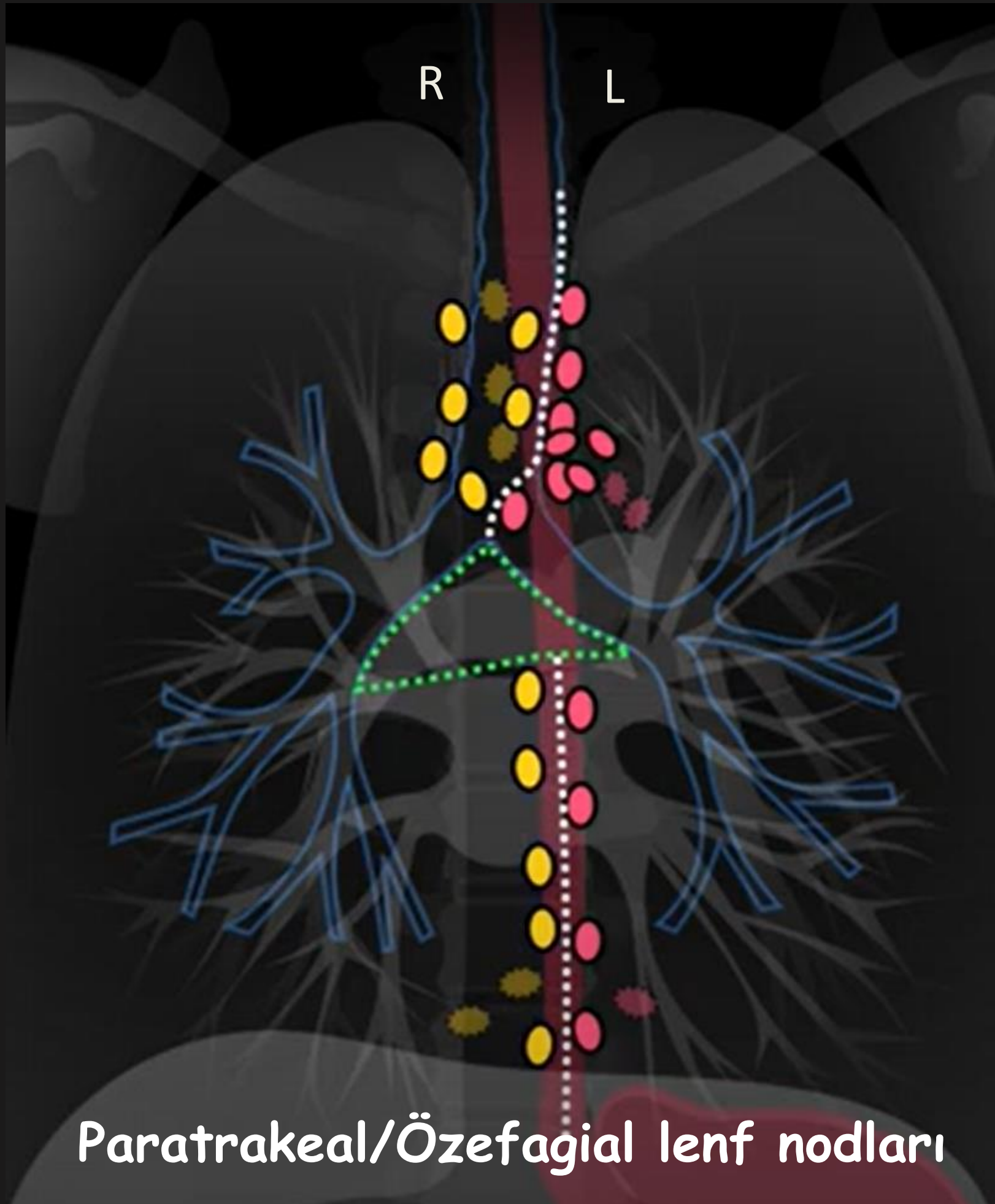
- 10 Hilar
- 11 Interlobar
- 12 Lobar
- 13 Segmental
- 14 Subsegmental

Hilar zone

Peripheral zone

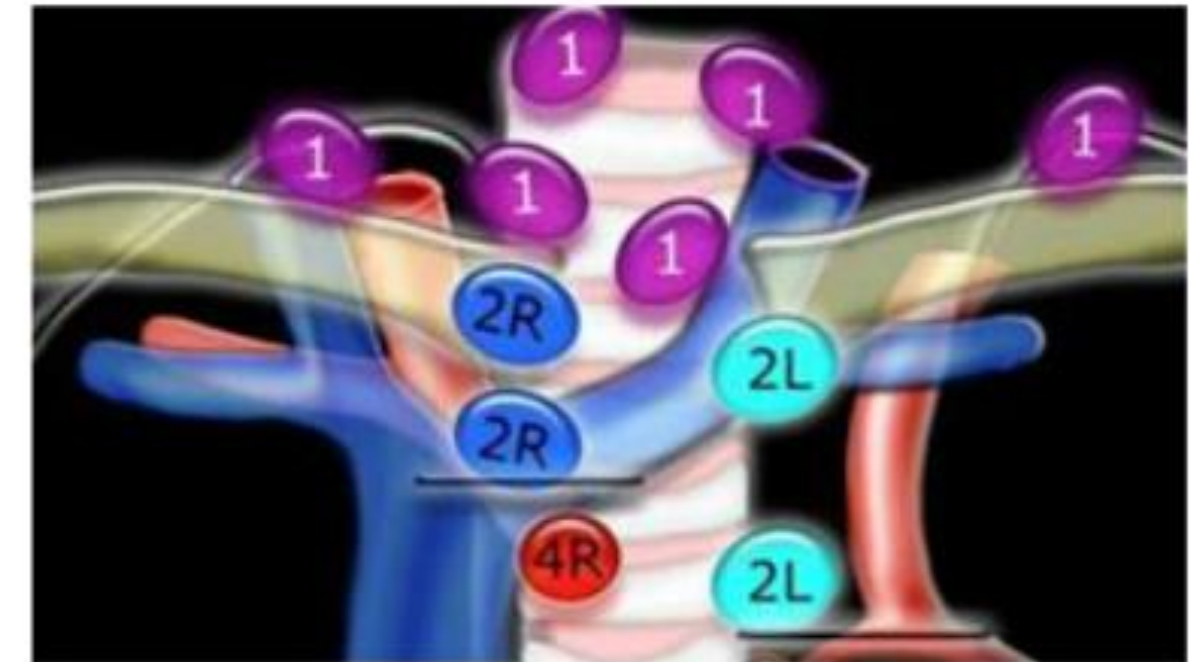
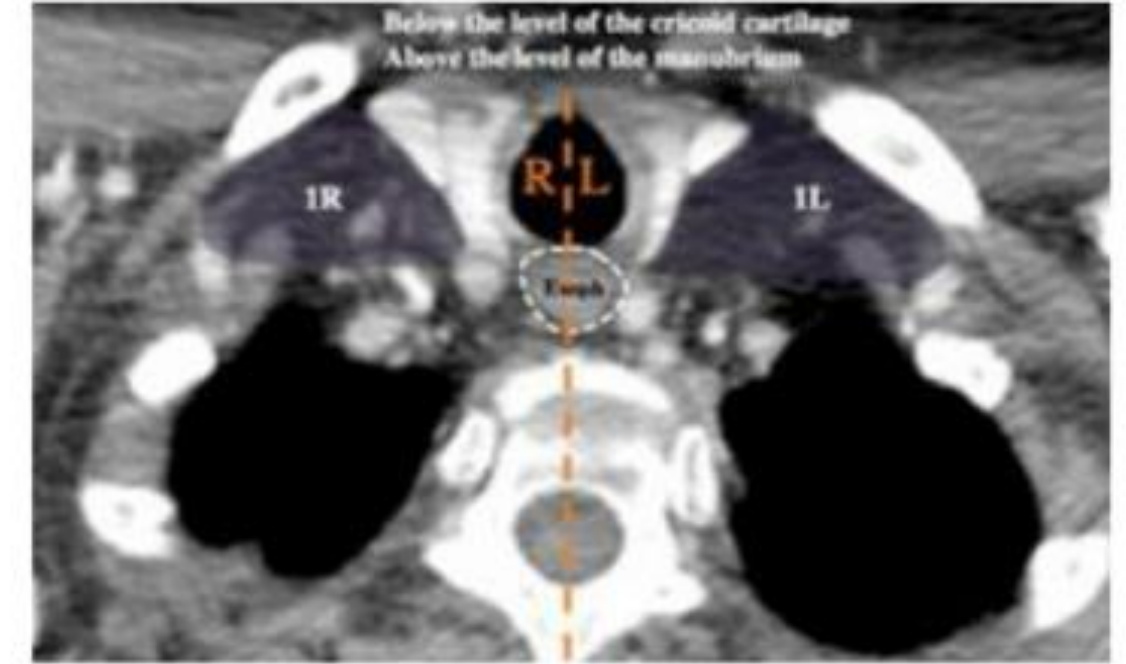






(1) Alt servikal, supraklavikular ve sternal çentik LN

- Üst sınır: Krikoid kıkırdak alt kenarı
- Alt sınır: İki tarafta klavikula kemikleri ile ortada manubrium sterninin üst kenarı
- 1 nolu istasyon için, trakeanın ortasından boylamasına geçen çizgi **1R** ve **1L** arasındaki sınırı yapar



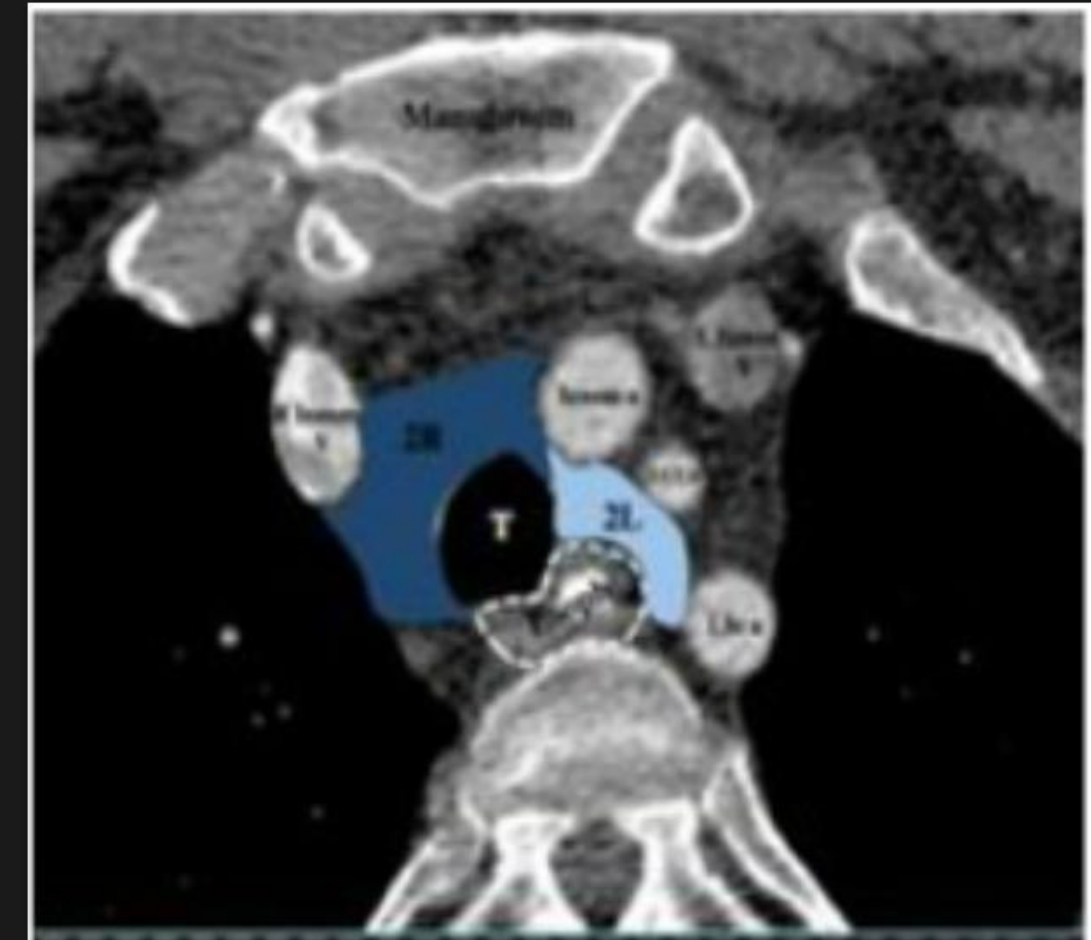
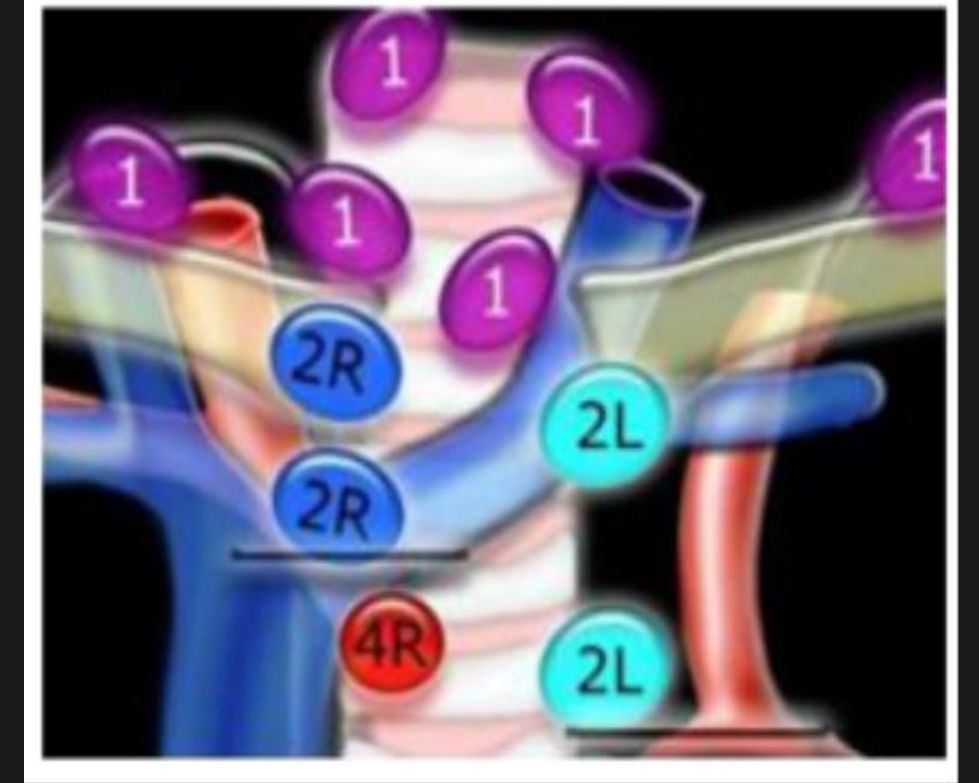
(2) Üst Paratrakeal lenf nodları

2R:

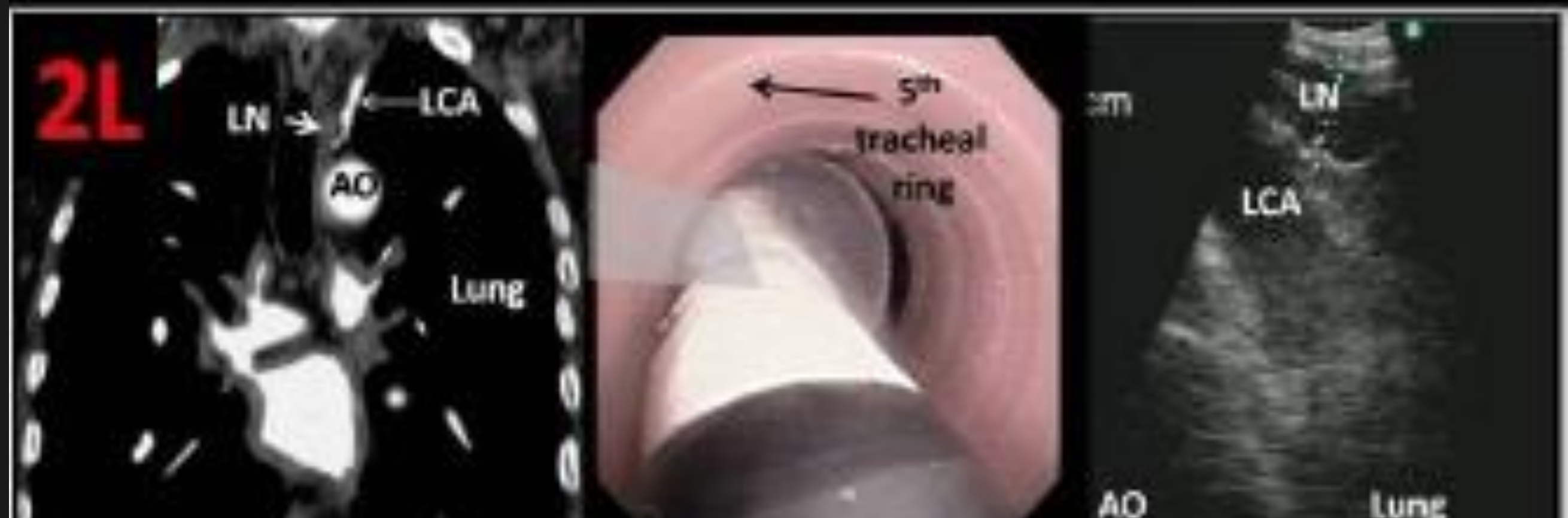
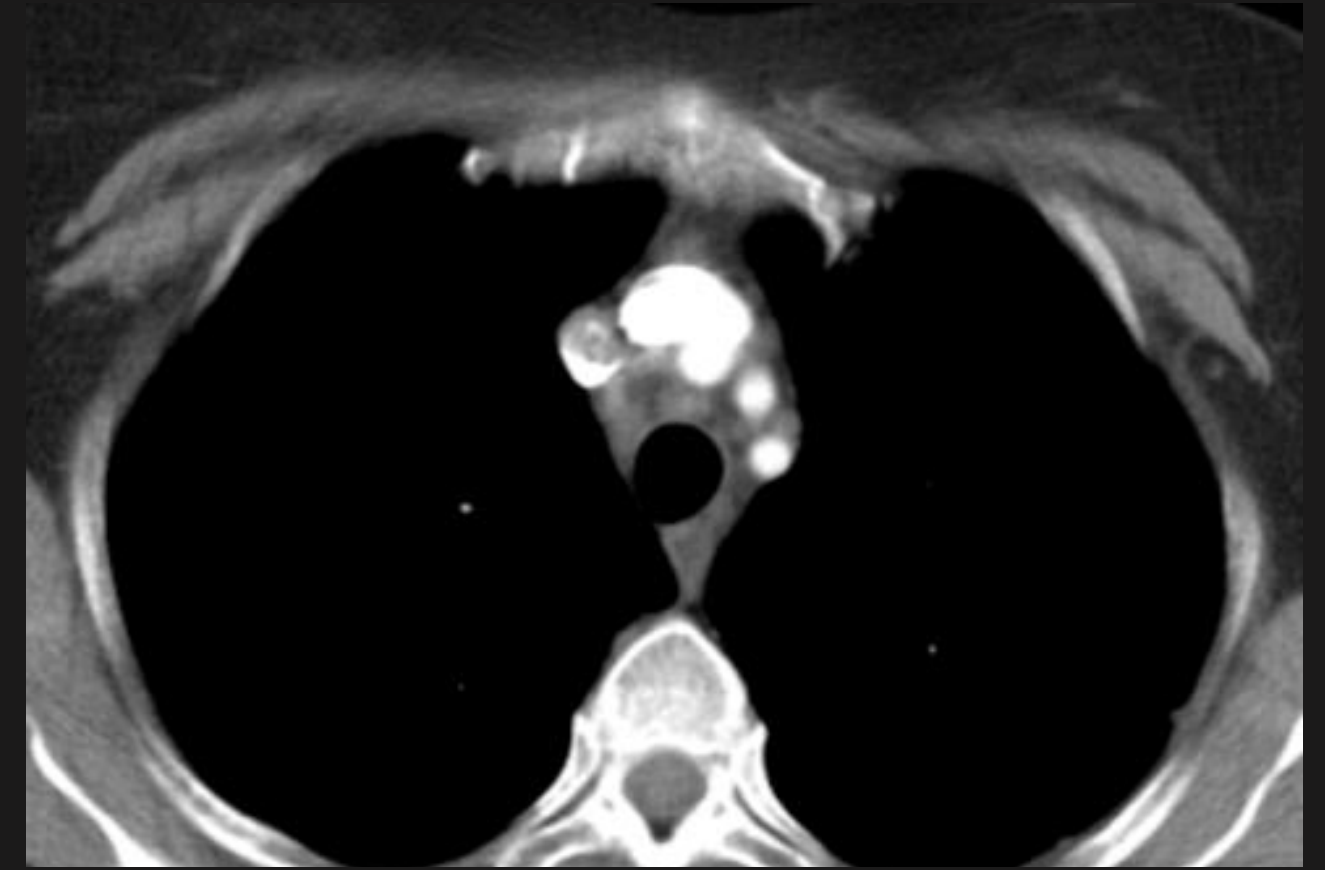
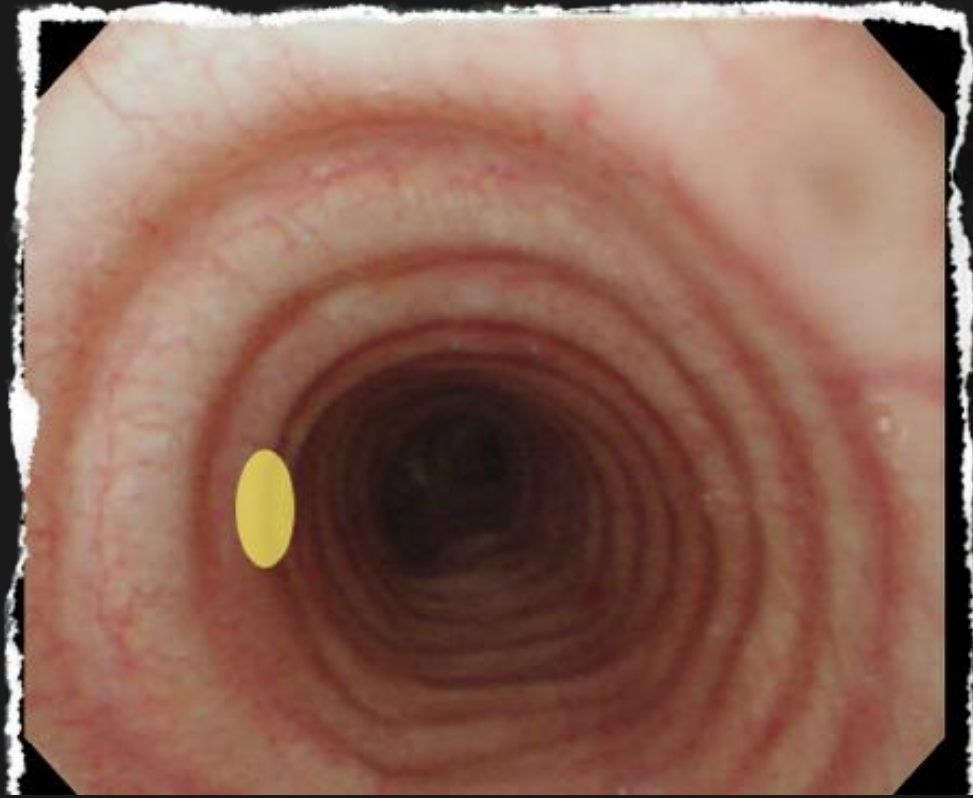
- **Üst sınır:** Sağ akciğer ve plevral boşluğun apeksi ile ortada manubrium sternin üst kenarı
- **Alt sınır:** Trakea ile sol innominant ven alt kenarının kesişimi
- **Orta sınır:** Trakea sol yan kenarı

2L:

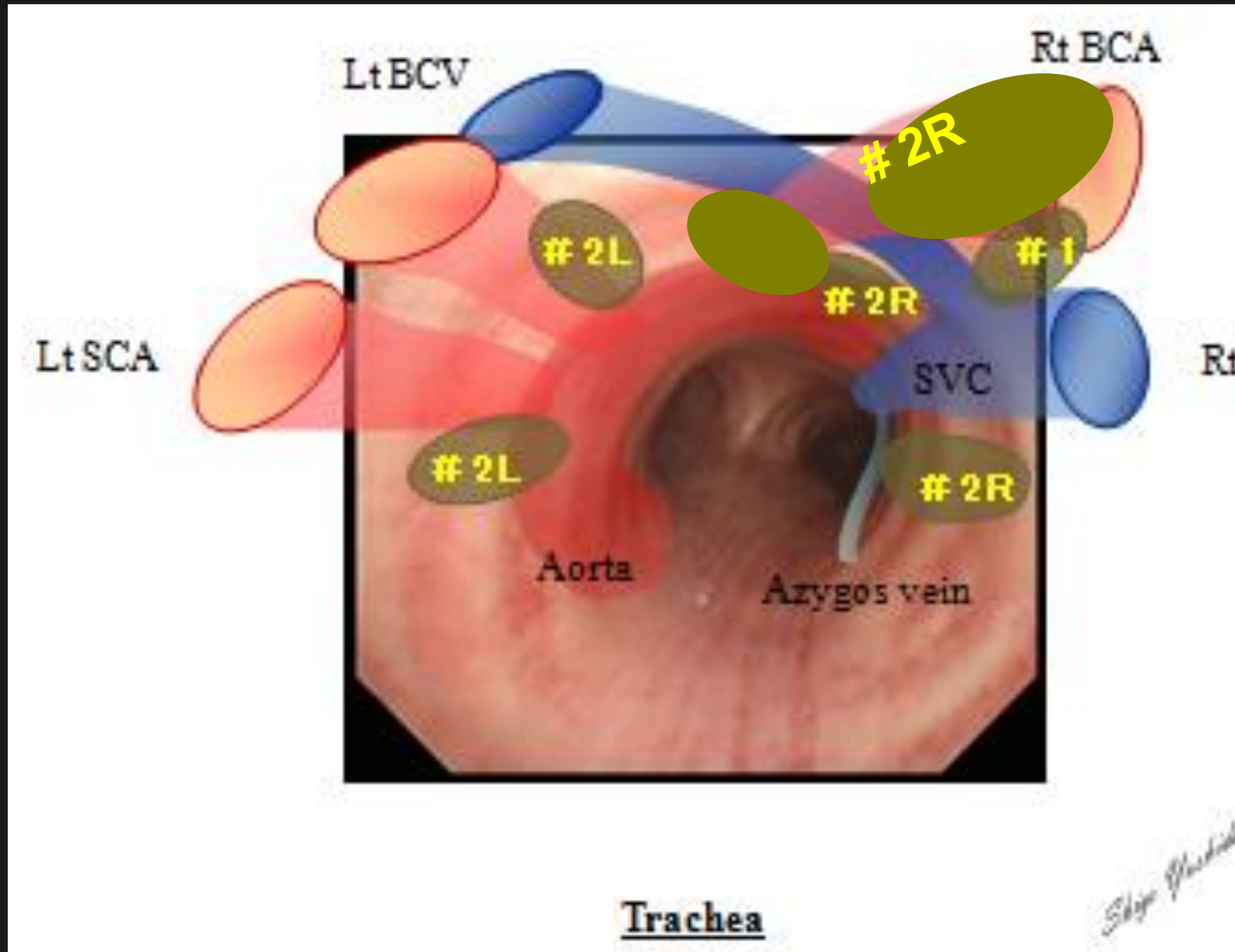
- **Üst sınır:** Sol akciğer ve plevral boşluğun apeksi ile ortada manubrium sternin üst kenarı
- **Alt sınır:** Aortik arkusun üst kenarı



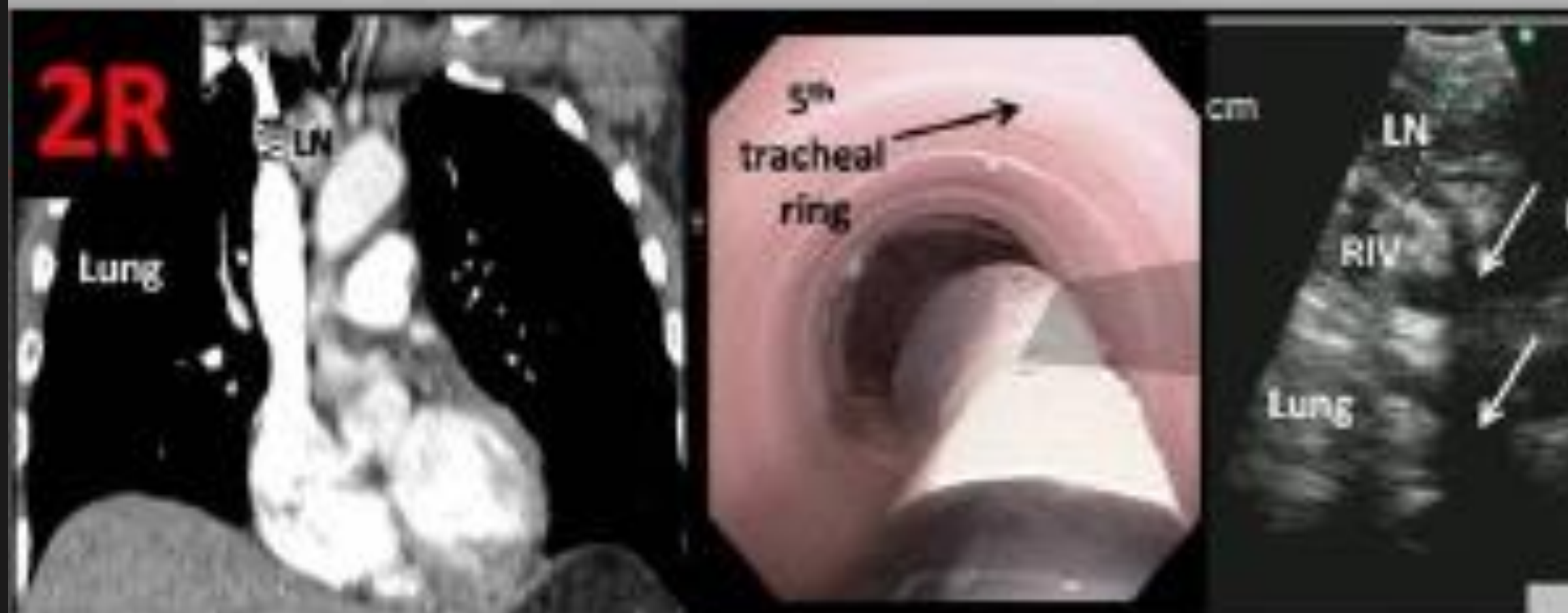
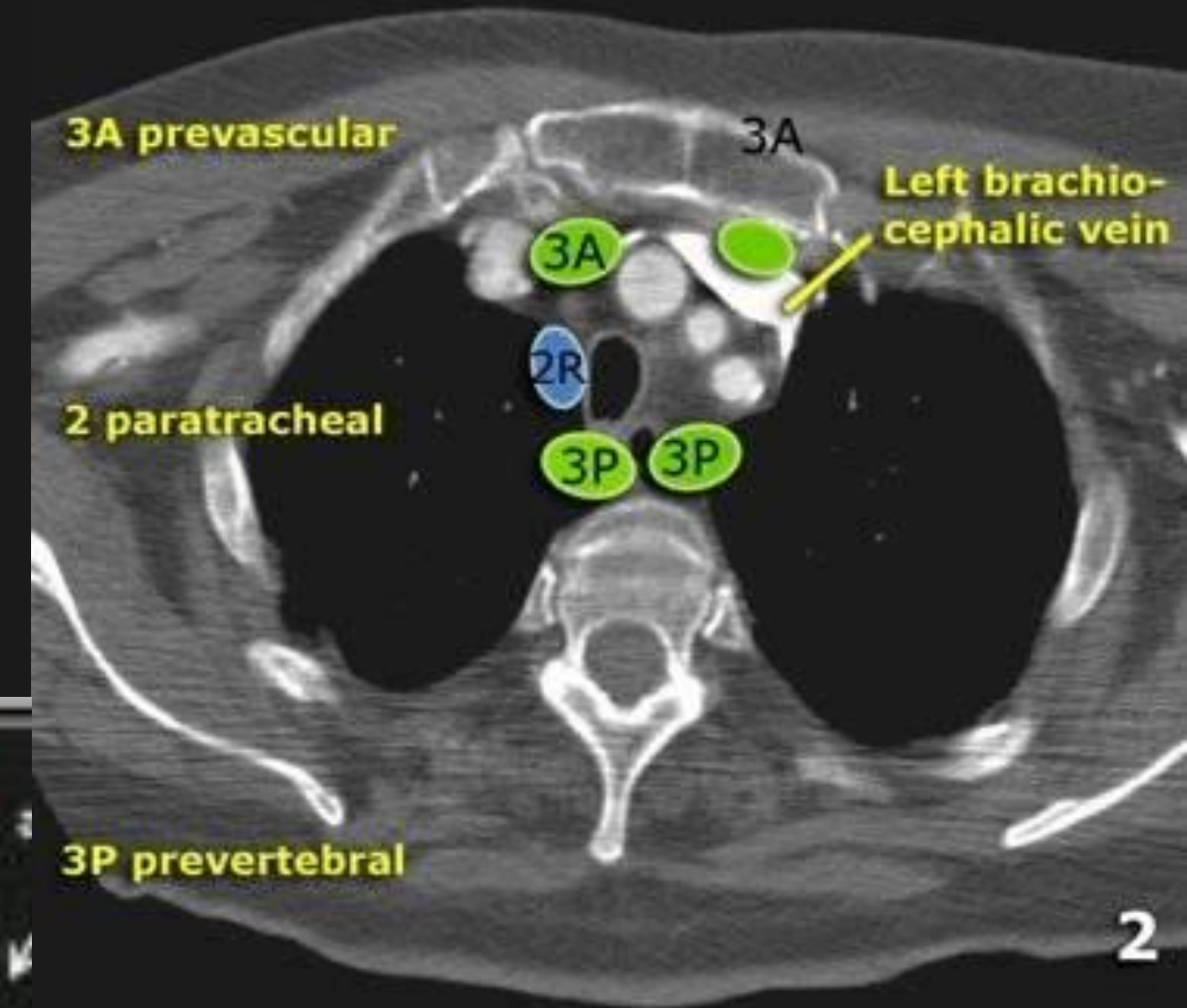
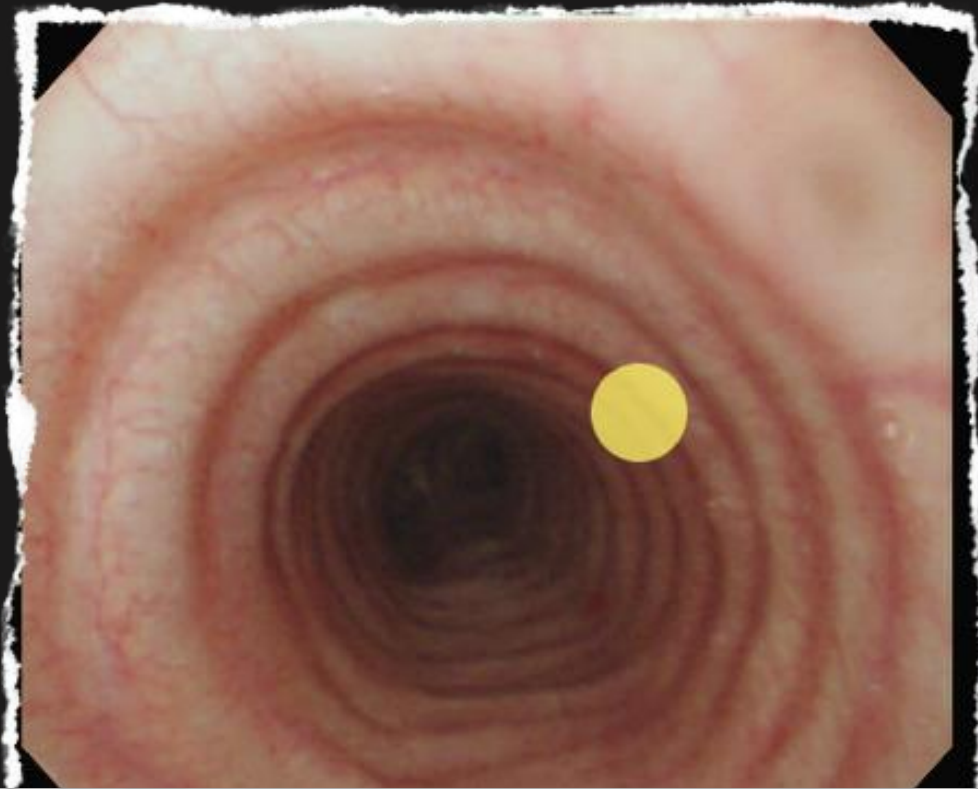
(2L) Üst Paratrakeal lenf nodları



(2L) Üst Paratrakeal lenf nodları



(2R) Üst Paratrakeal lenf nodları

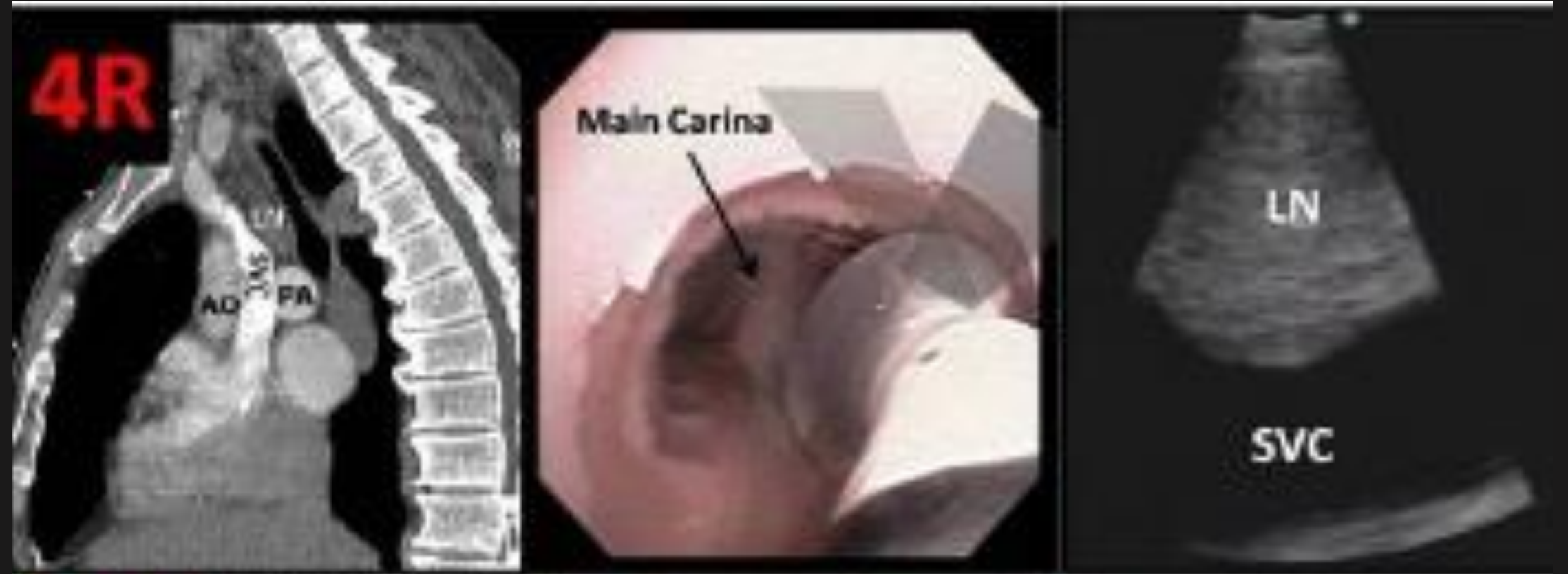
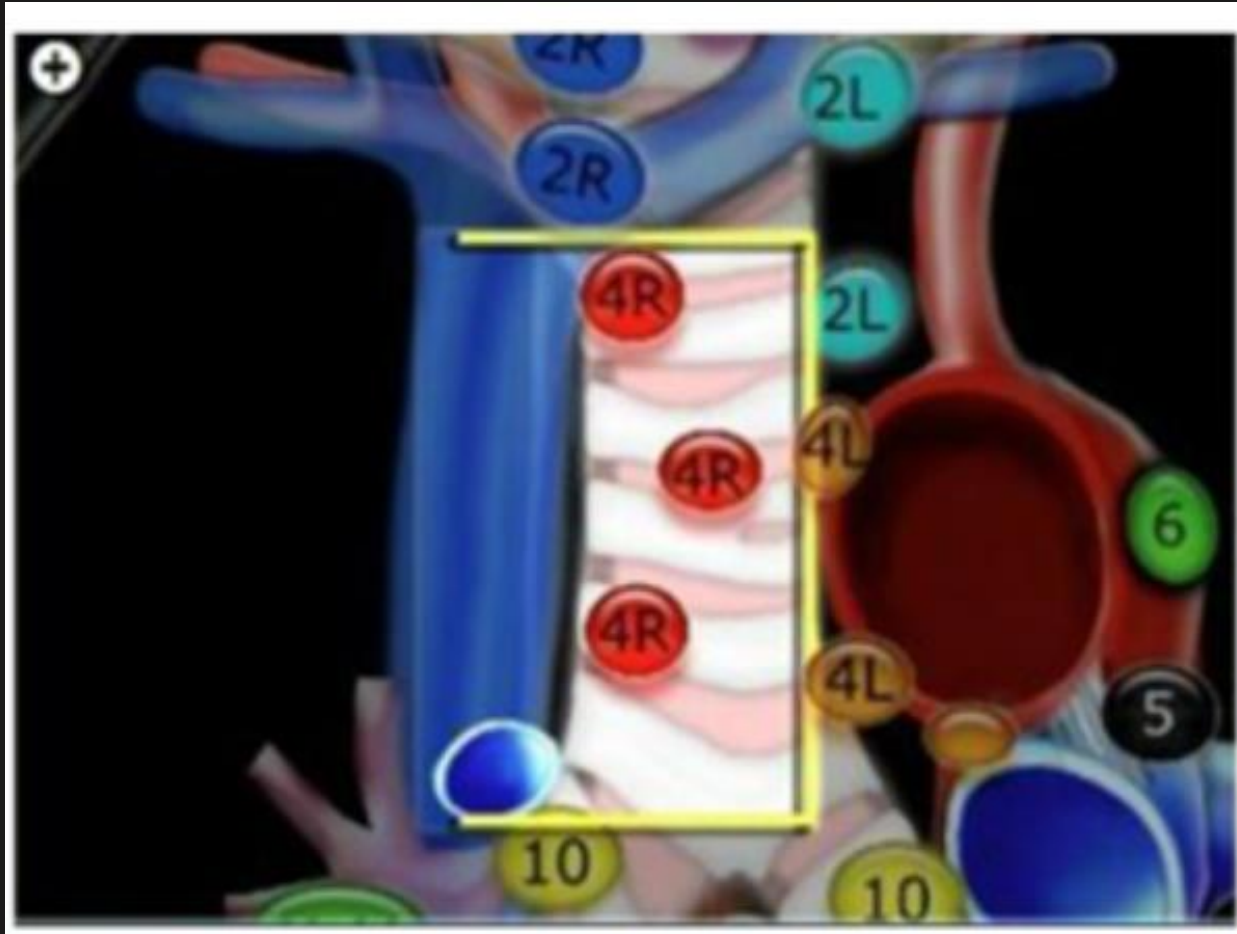


(4R) Alt Paratrakeal lenf nodları

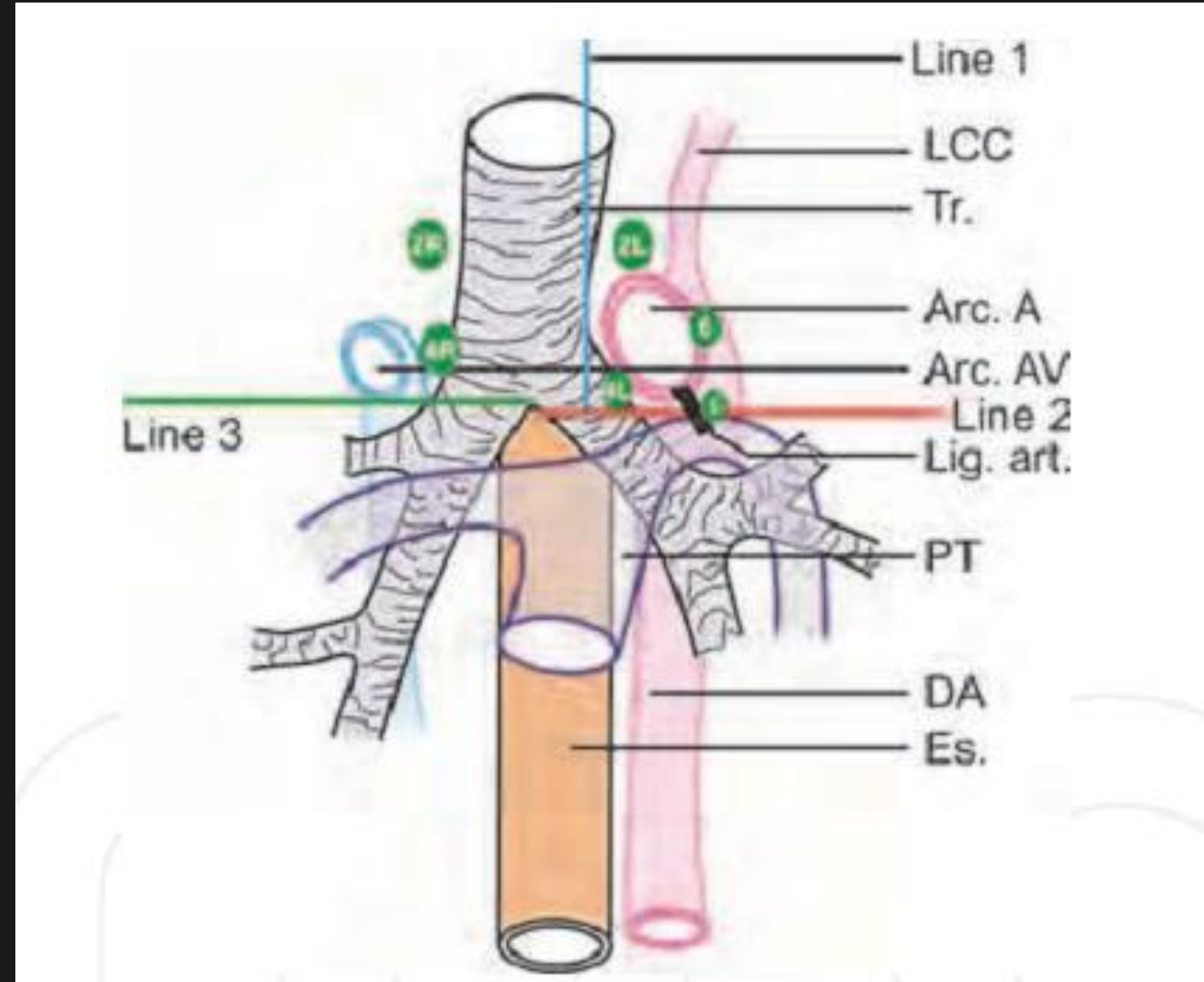


4R:

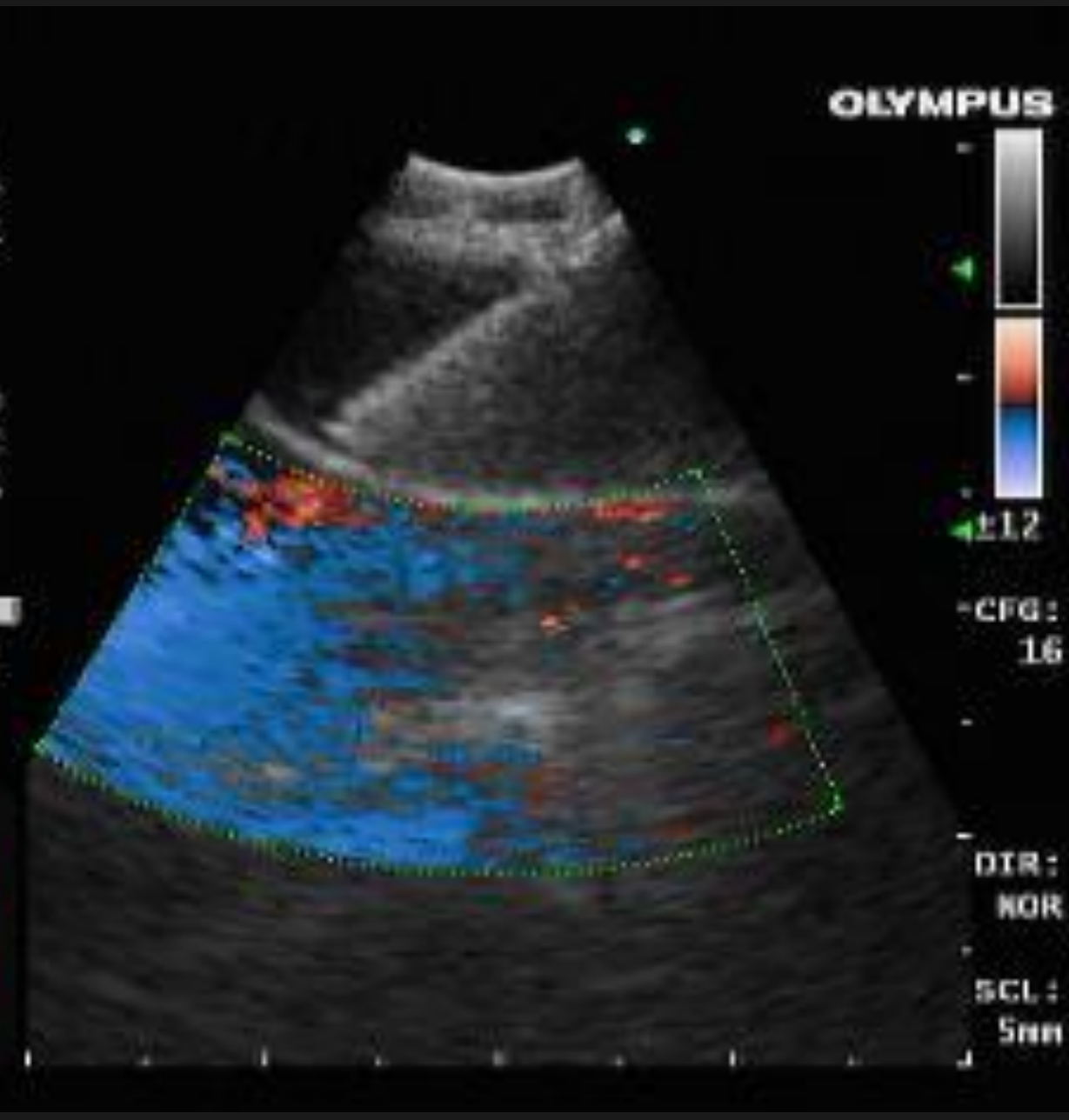
- **Üst sınır:** Trakea ile innominant ven alt kenarının kesişme yeri
- **Alt sınır:** Azigos venin alt kenarı



(4R) Alt Paratrakeal lenf nodları



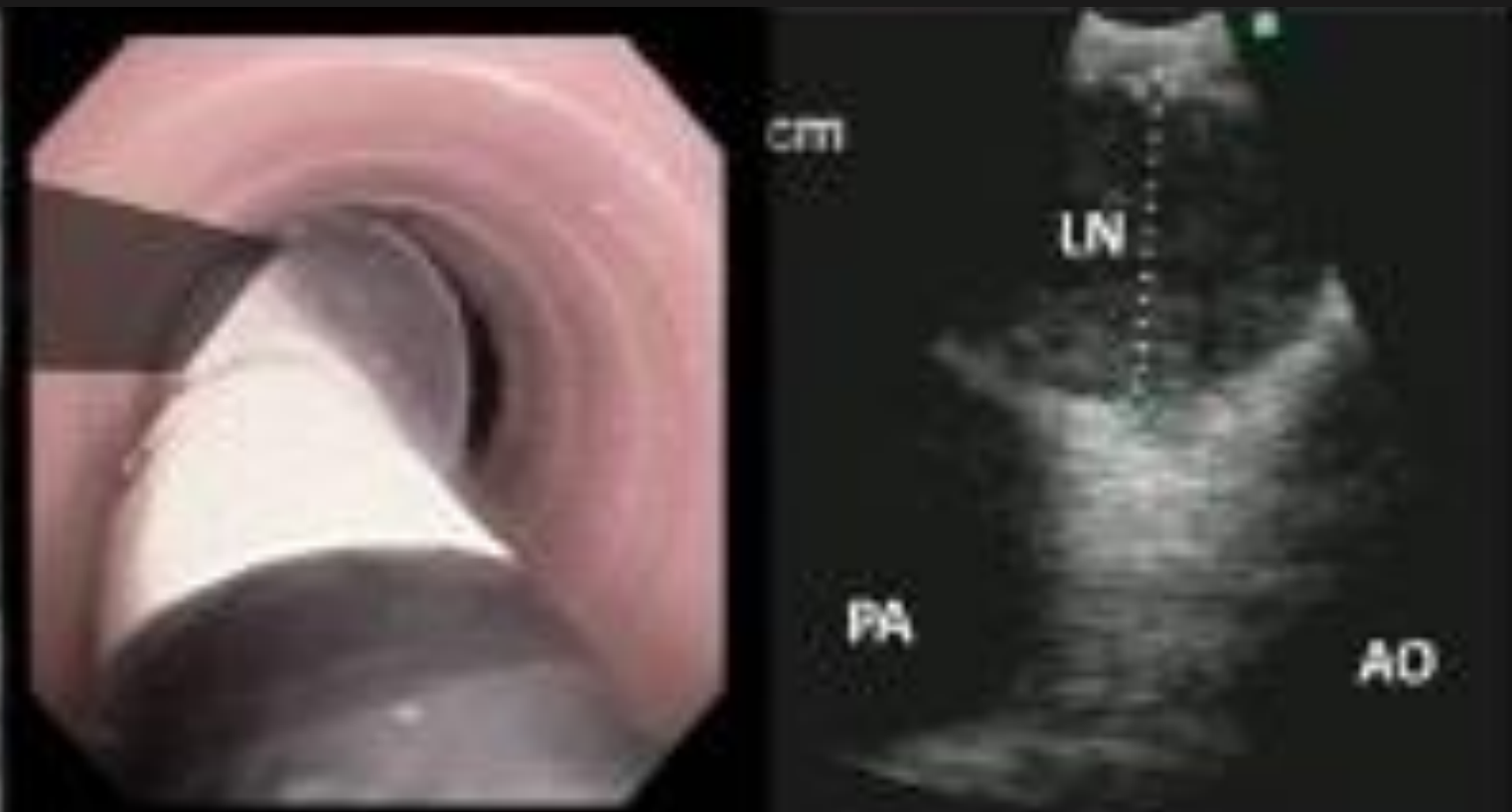
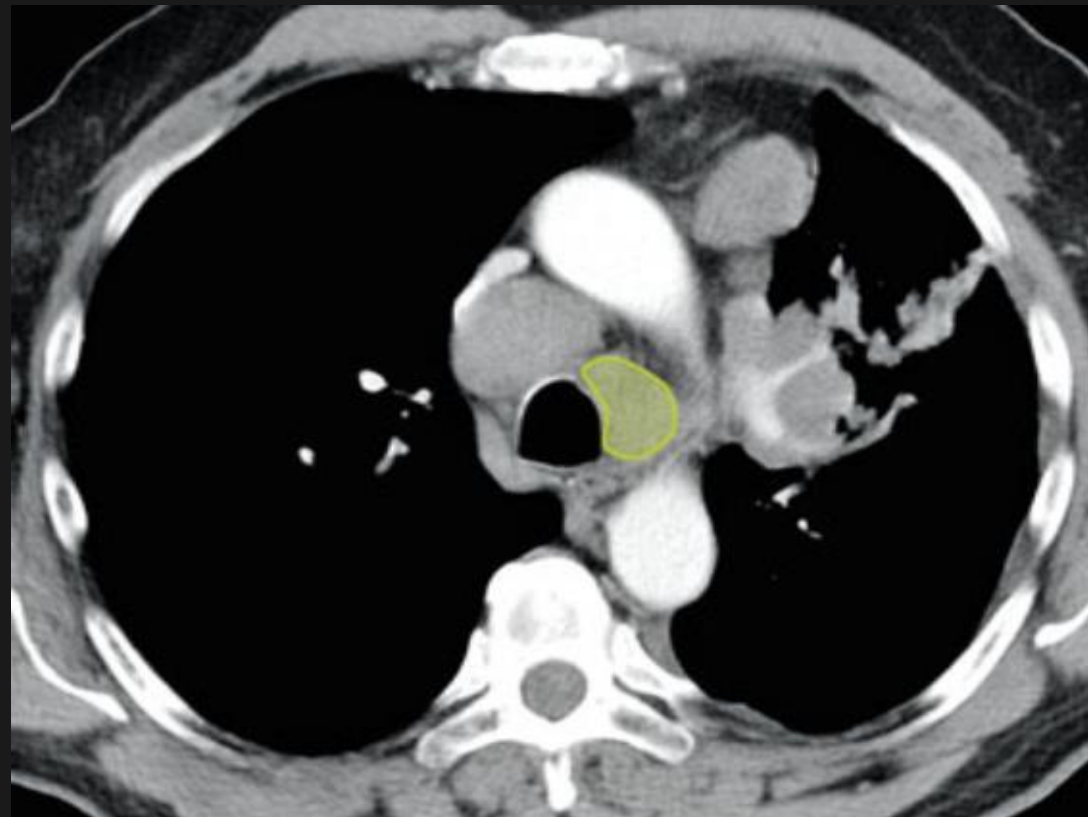
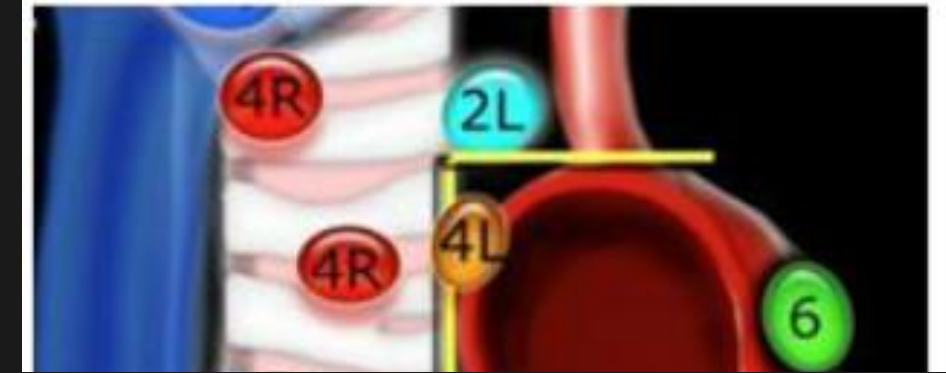
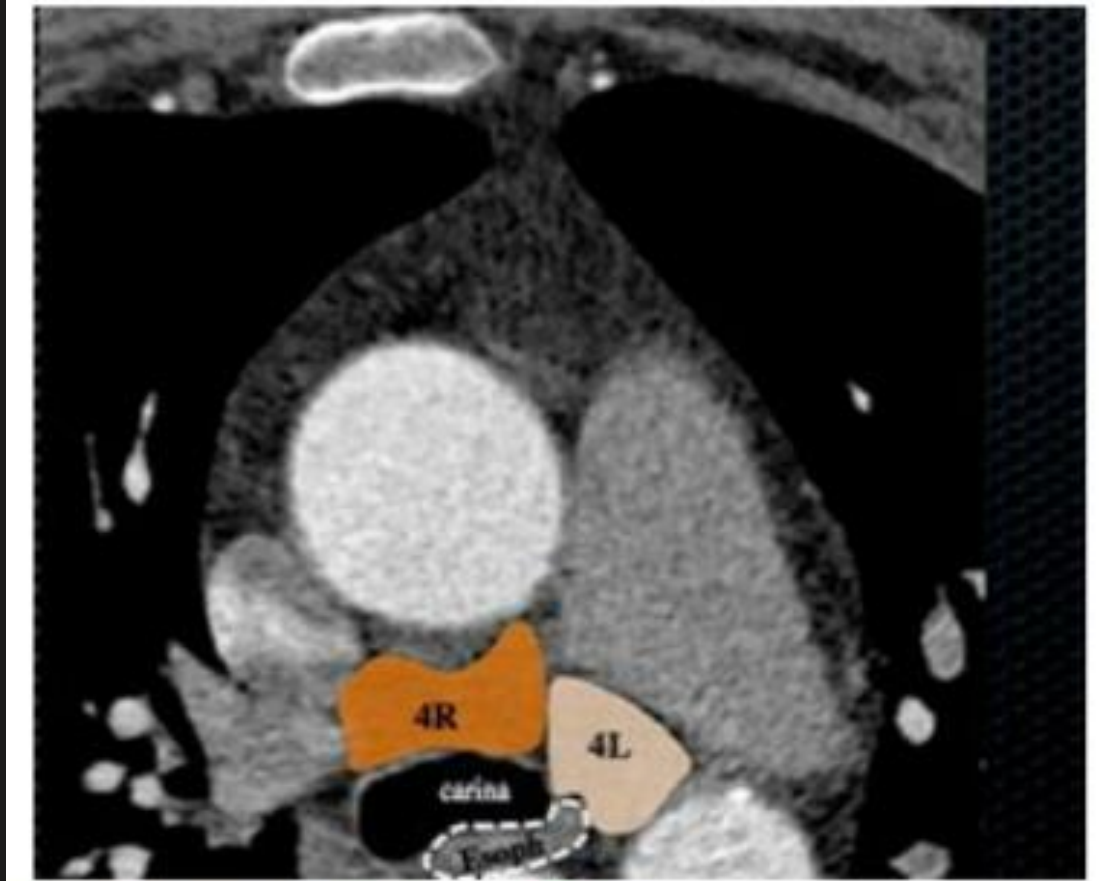
4R

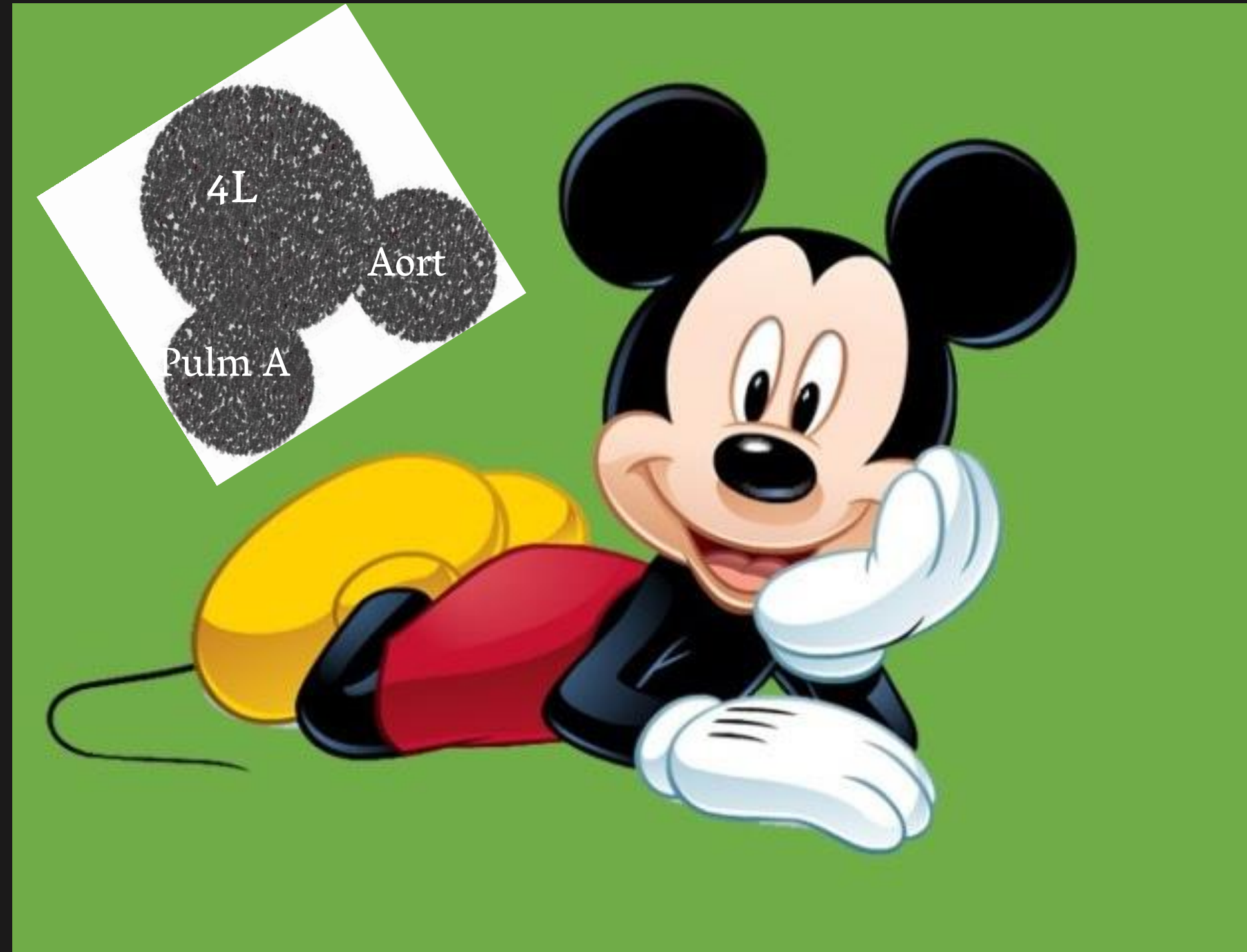
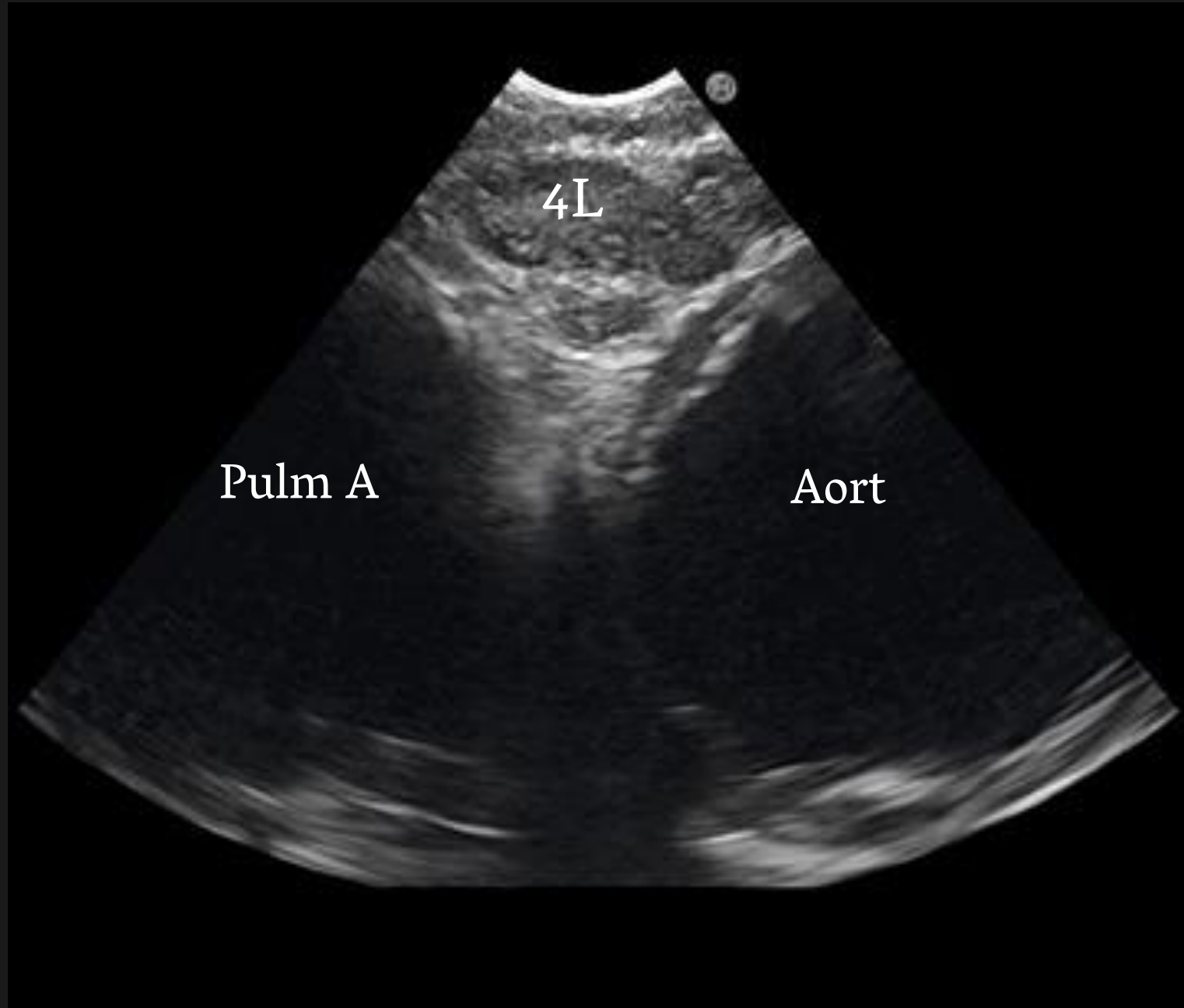


(4L) Alt Paratrakeal lenf nodları

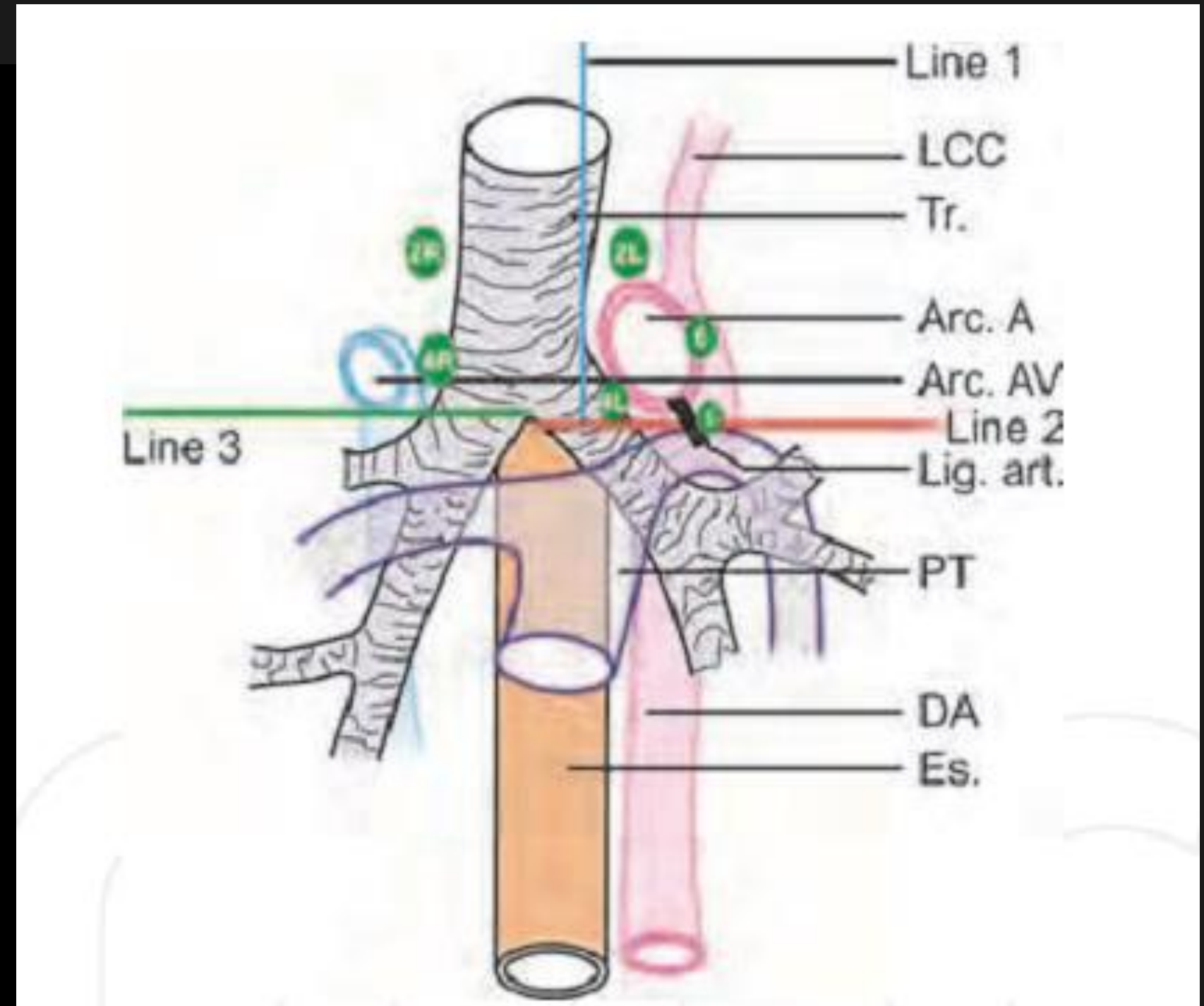
4L

- Üst sınır: Aortik arkusun üst sınırı
- Alt sınır: Sol ana pulmoner arterin üst kenarı





(4L) Alt Paratrakeal lenf nodları



(3) Prevasküler ve Retrokaval LN

3A: Prevasküler

Üst sınır: Toraks apeksi

Alt sınır: Karina seviyesi

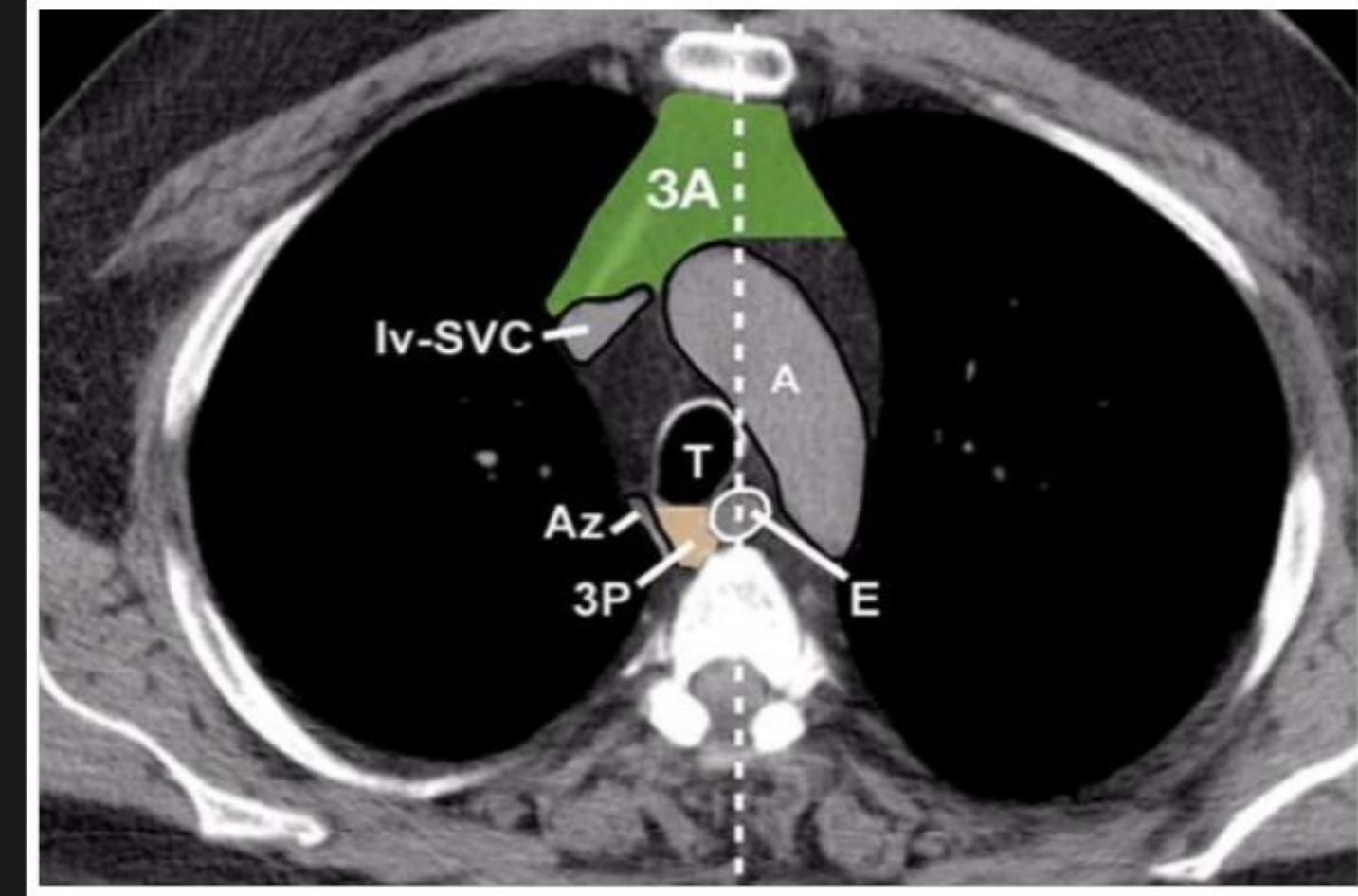
Ön sınır: Sternum arka yüzü

Sağda

Arka sınır: SVK ön yüzü

Solda

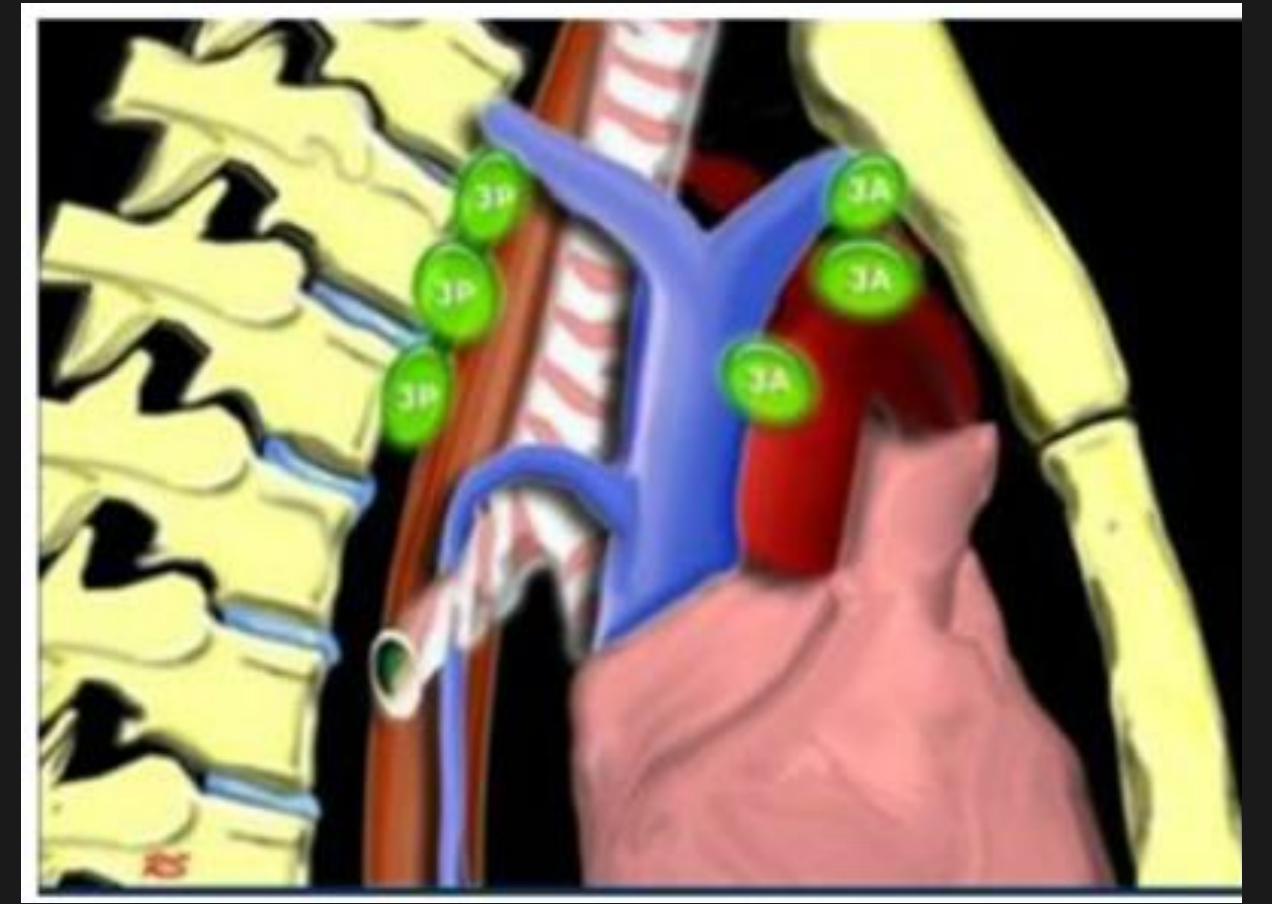
Arka sınır: Sol common carotis arter



3P: Retrotrakeal/prevertebral

Üst sınır: Toraks apeksi

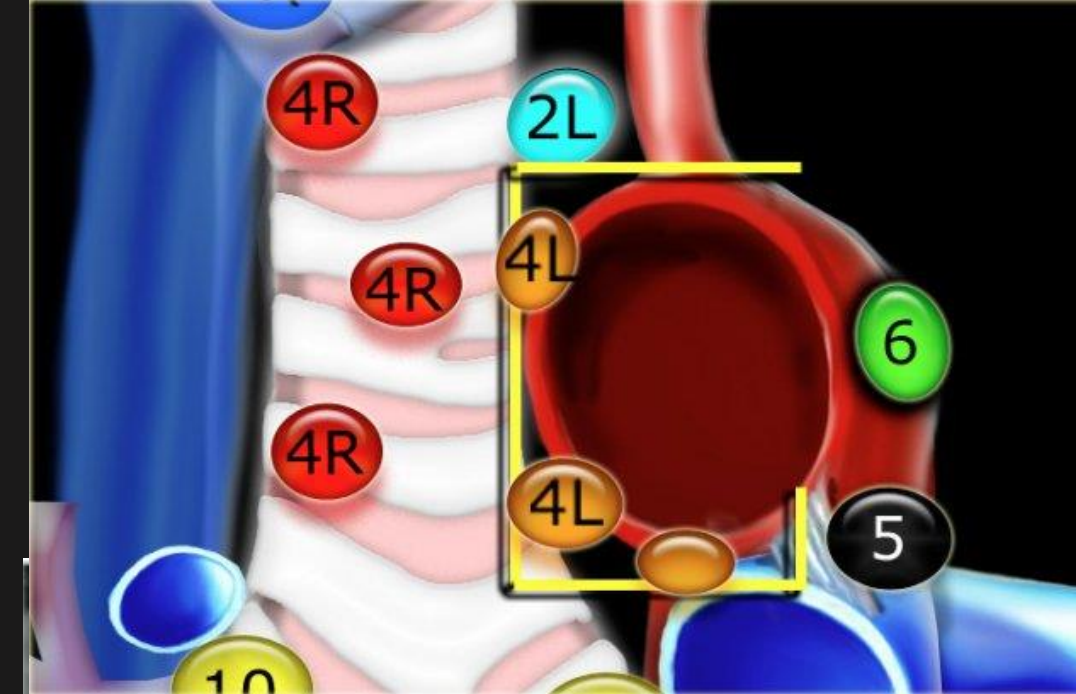
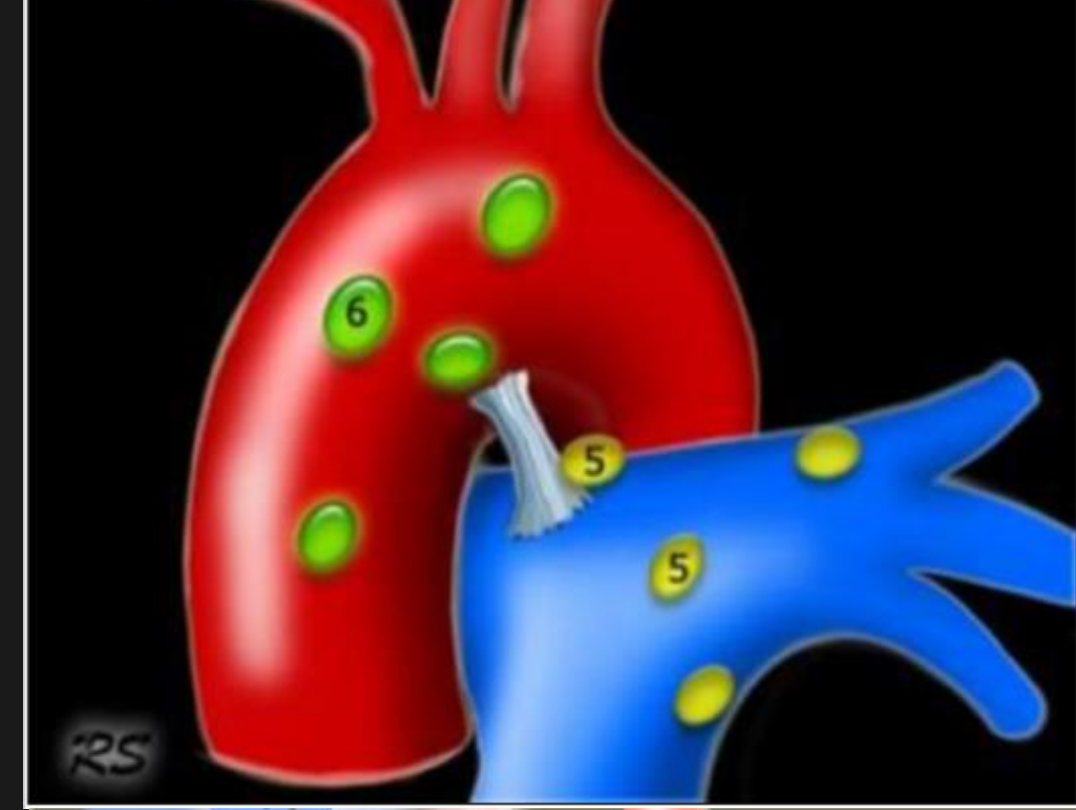
Alt sınır: Karina seviyesi



(5,6) APW-Paraaortik lenf nodları

5:Subaortik (APW) lenf nodları

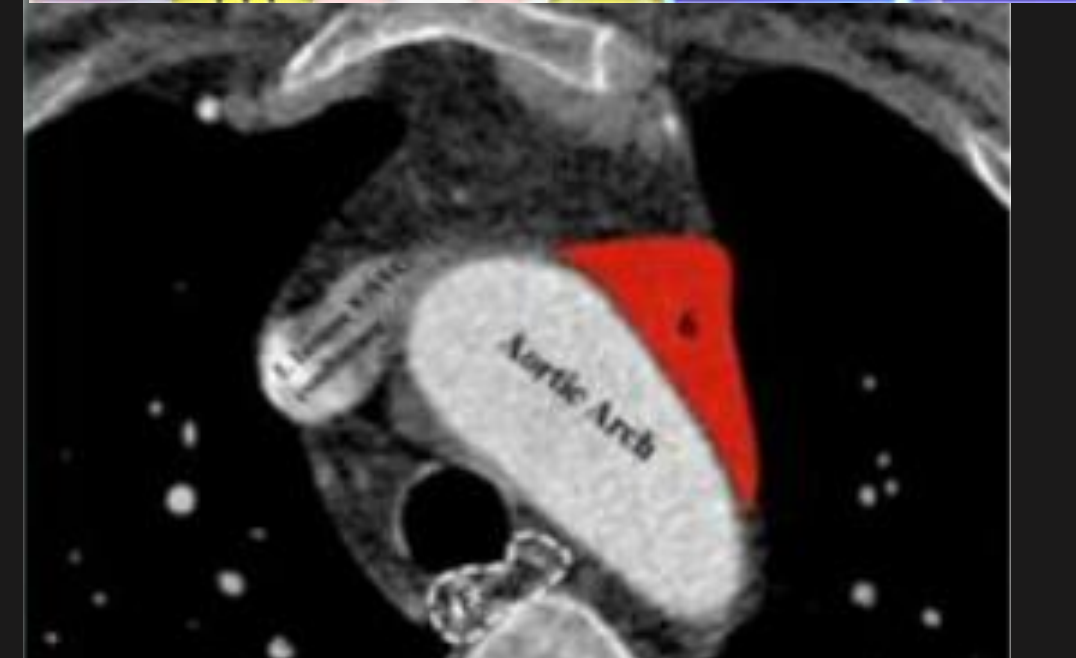
- Ligamentum arteriosumun lateralindeki lenf nodları
- **Üst Sınır:** Arkus aortanın alt kenarı.
- **Alt sınır:** Sol ana pulmoner arterin üst kenarı



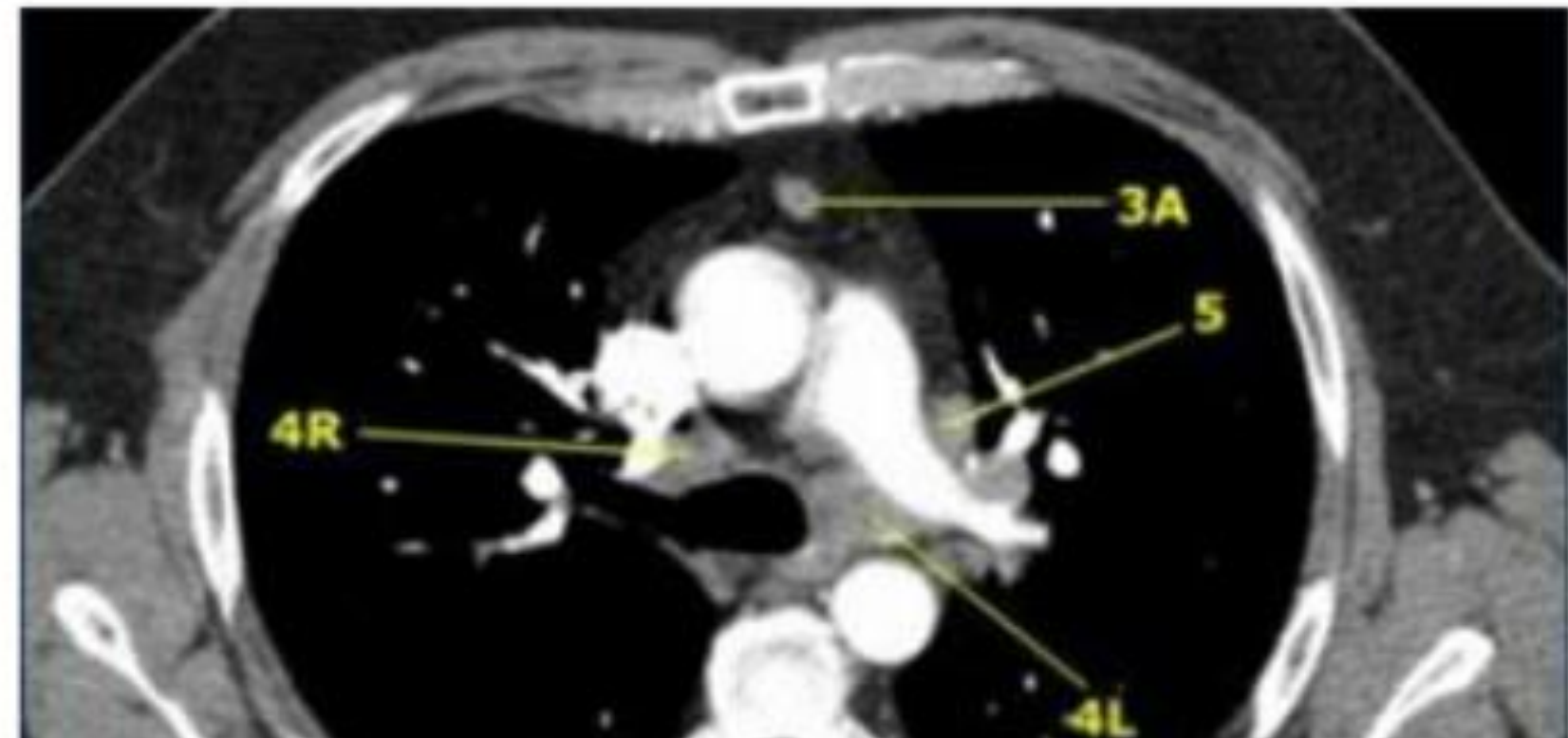
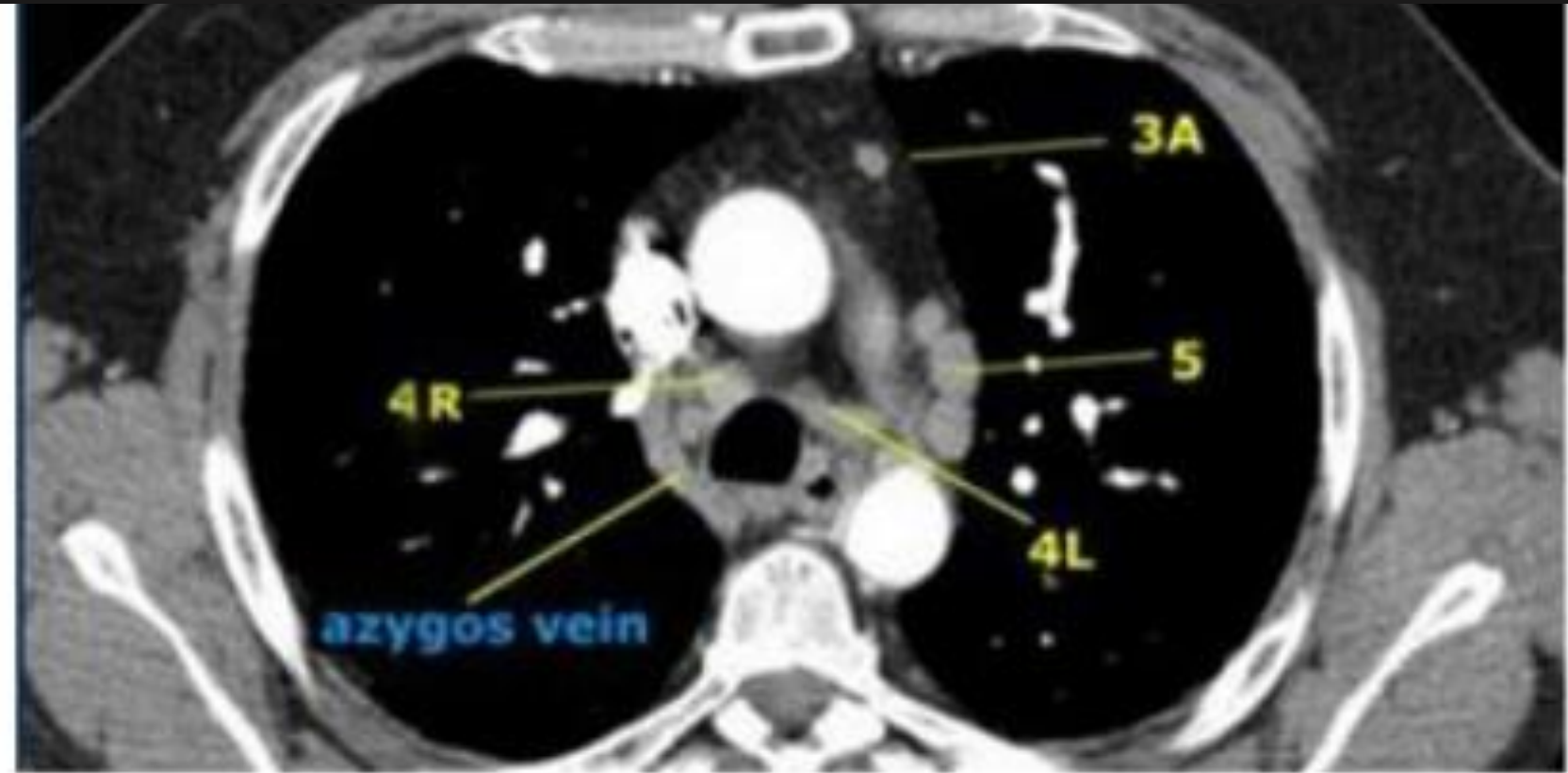
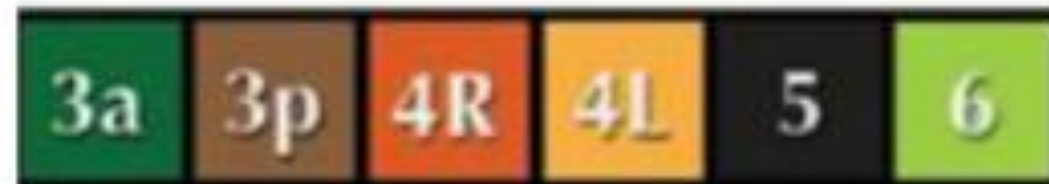
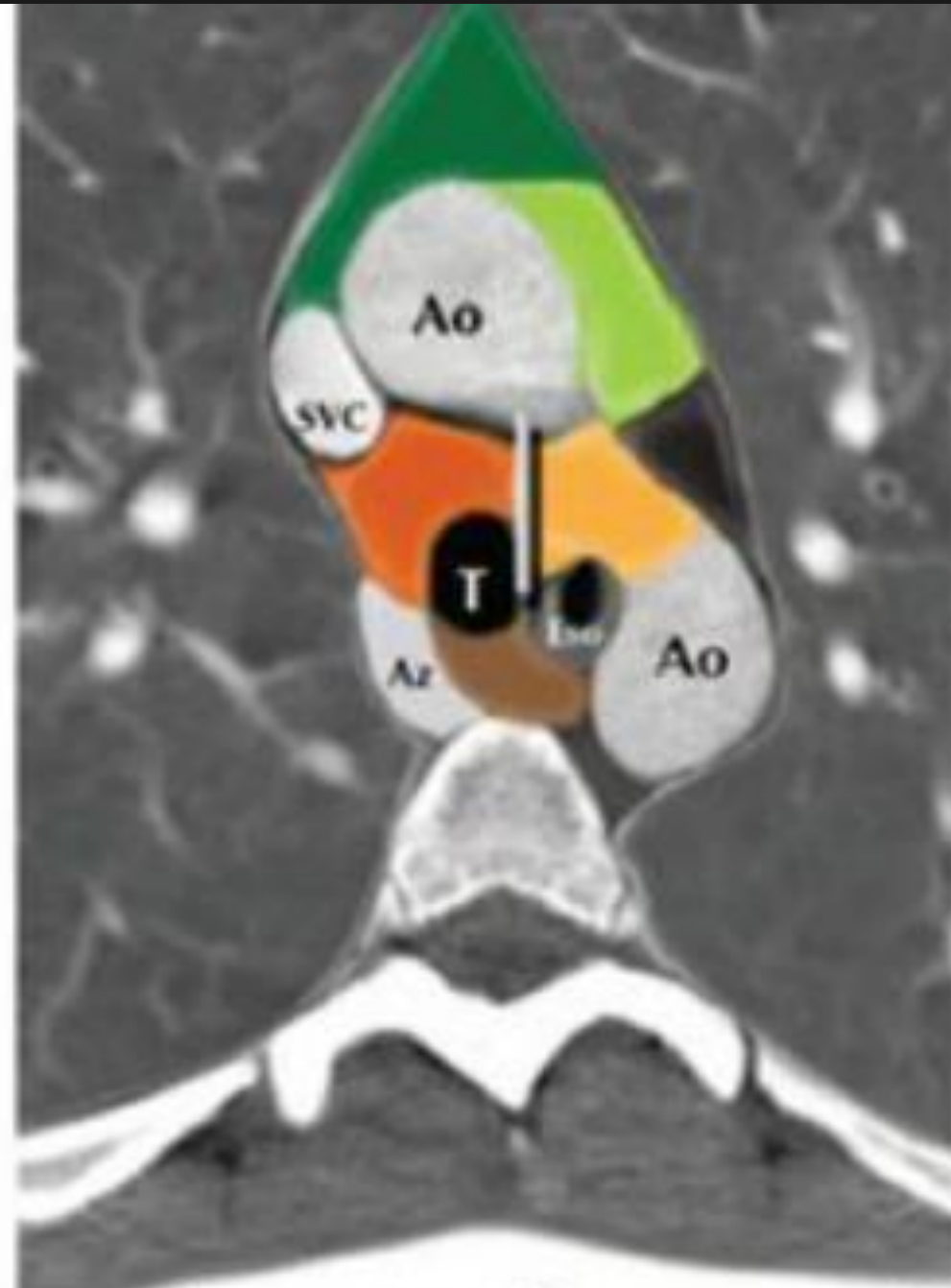
6:Paraaortik (Assendan Aorta) lenf nodları

Arkus Aorta ve assendan aortanın ön ve lateralinde kalan lenf nodları

- **Üst sınır:** Arkus aortanın üst sınırına teğet geçen çizgi
- **Alt sınır:** Arkus aorta alt kenarı

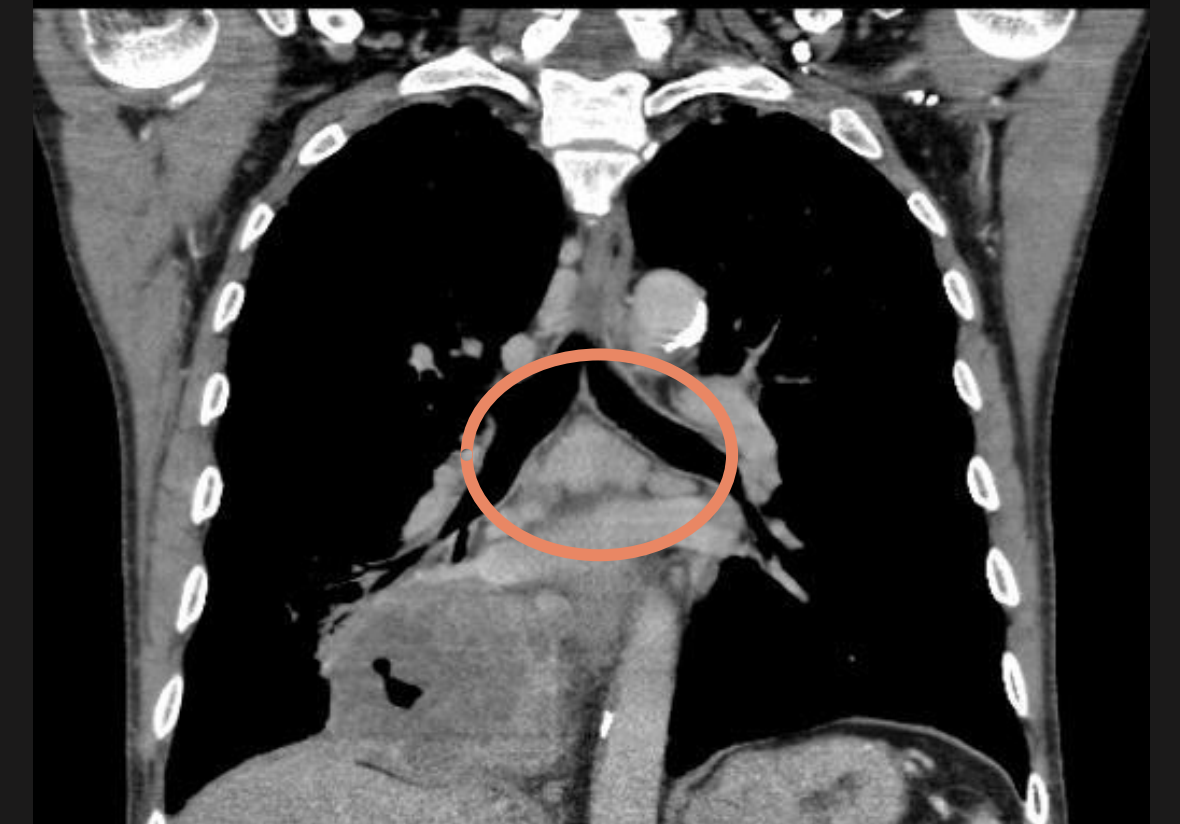
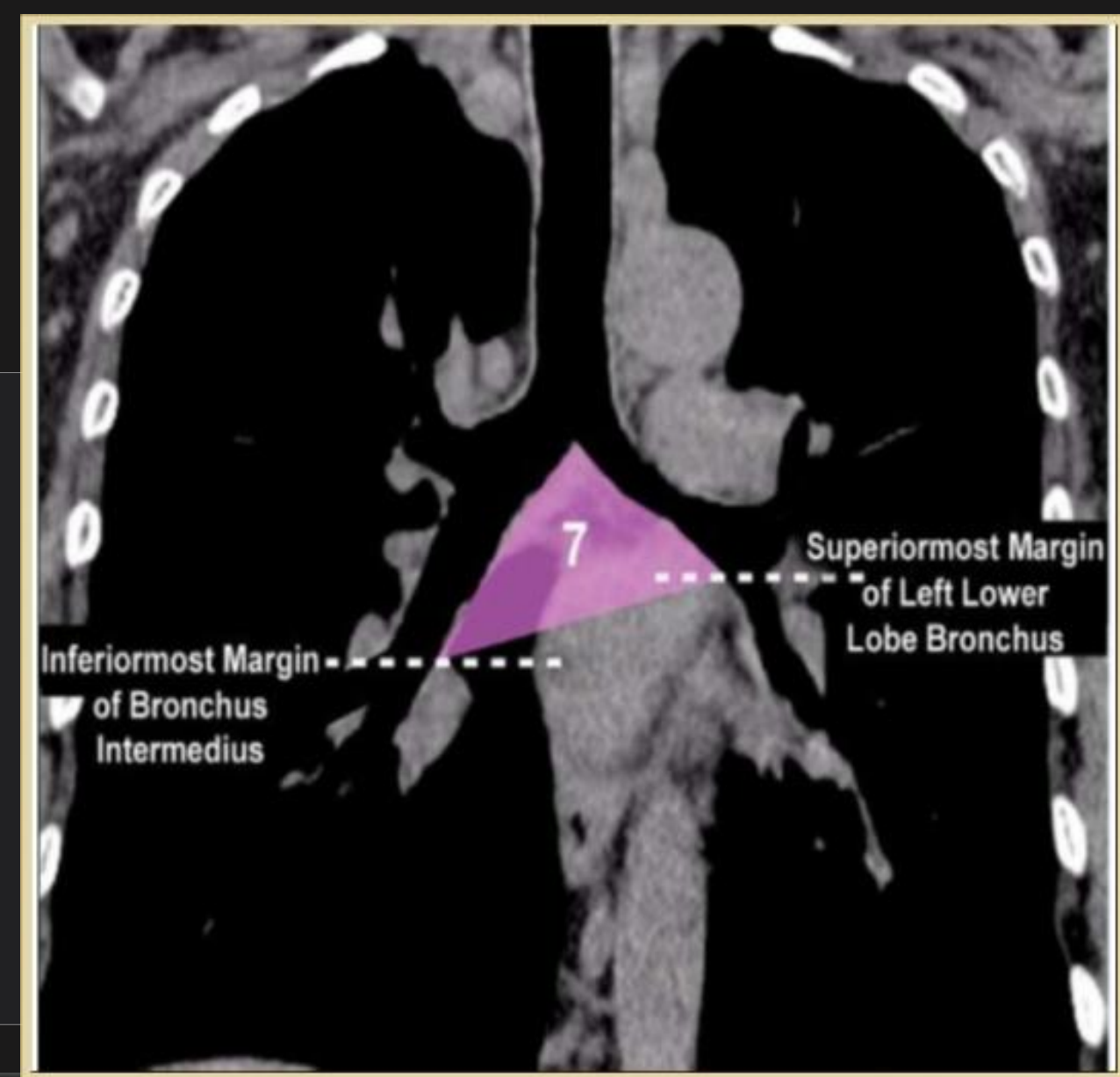


(5,6) APW ve Paraaortik lenf nodları

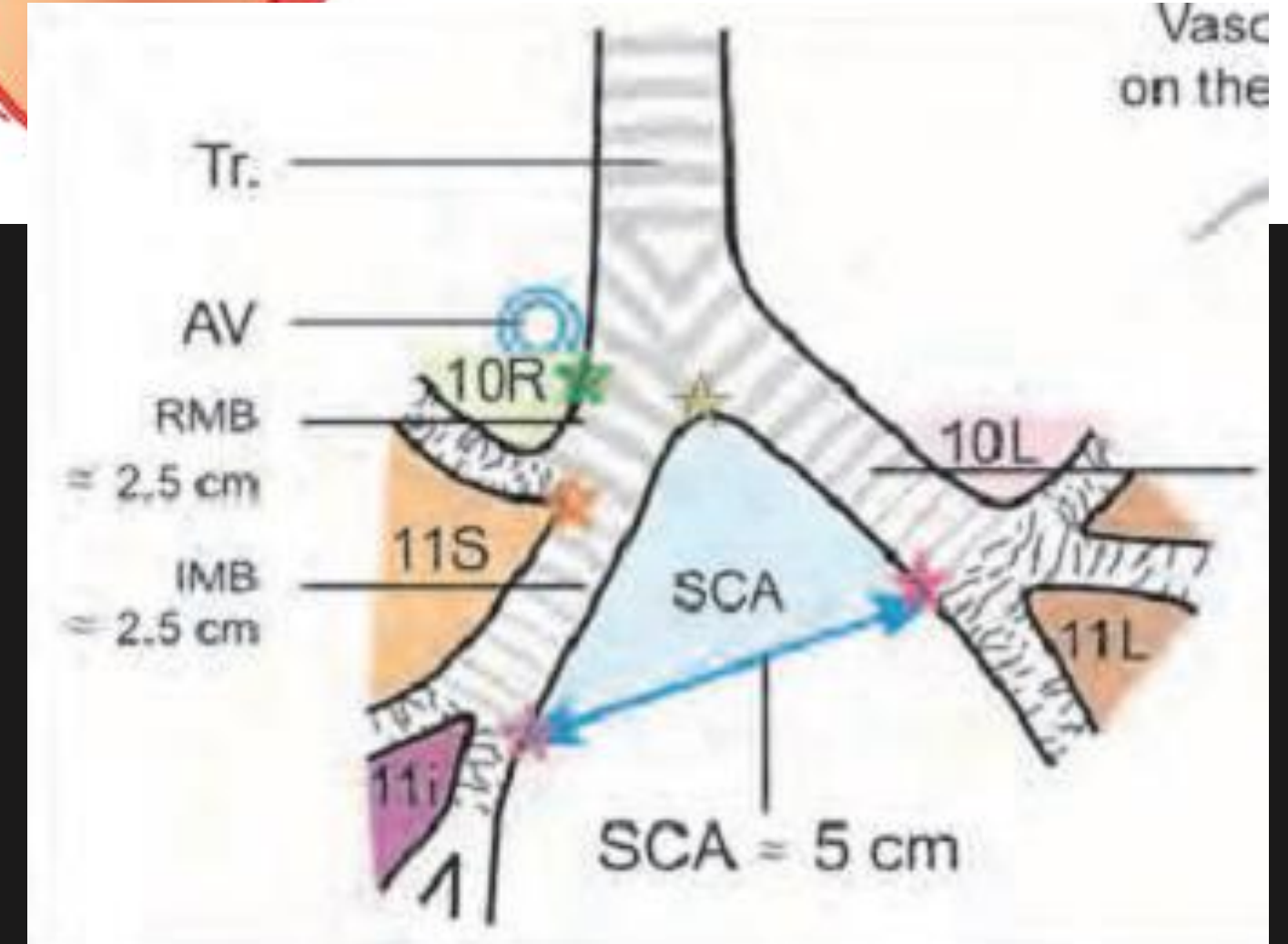
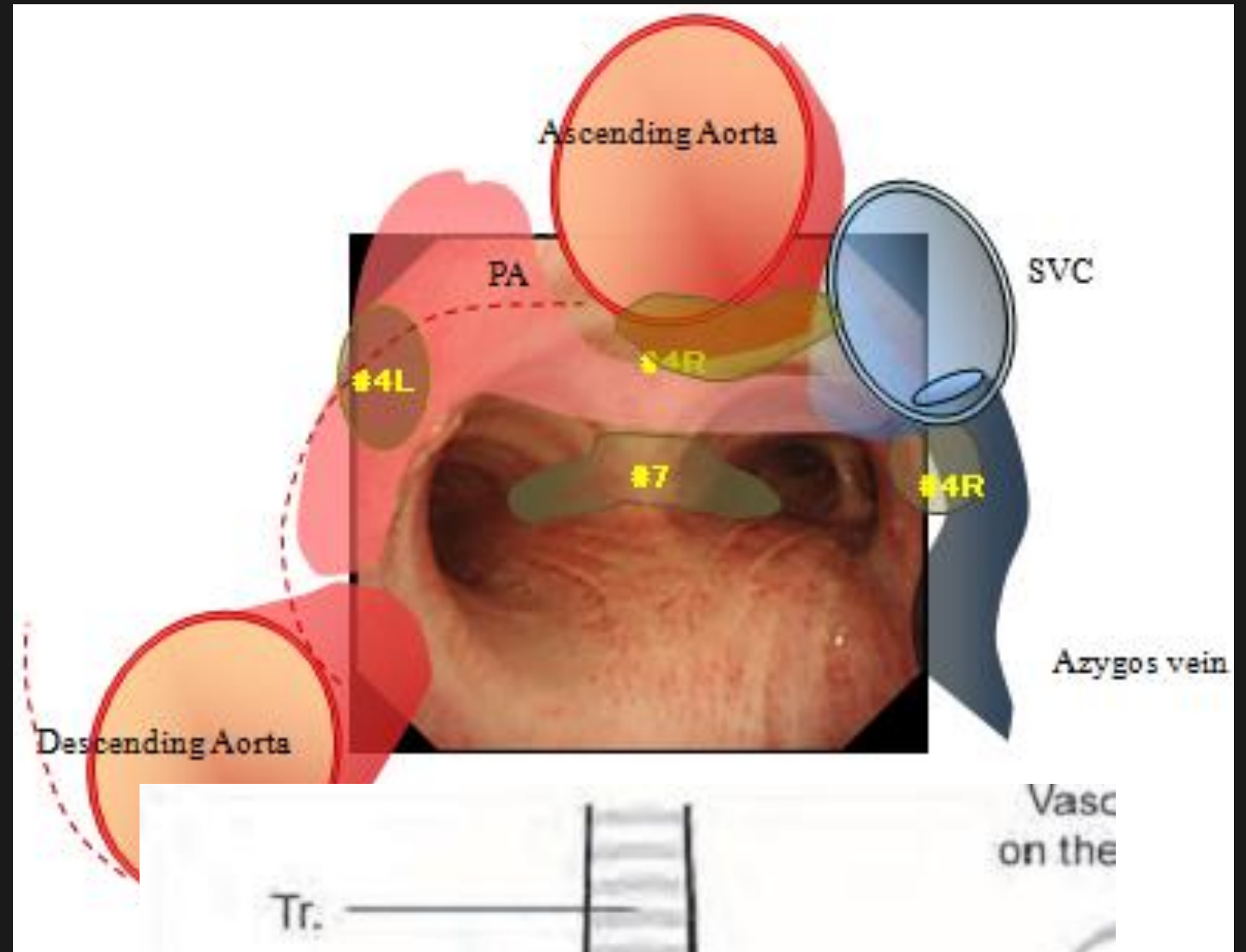


(7) Subkarinal lenf nodları

- Üst Sınır: Ana karina.
- Alt Sınır:
 - Solda alt lob bronşunun üst kenarı;
 - Sağda intermedier bronşun alt kenarı



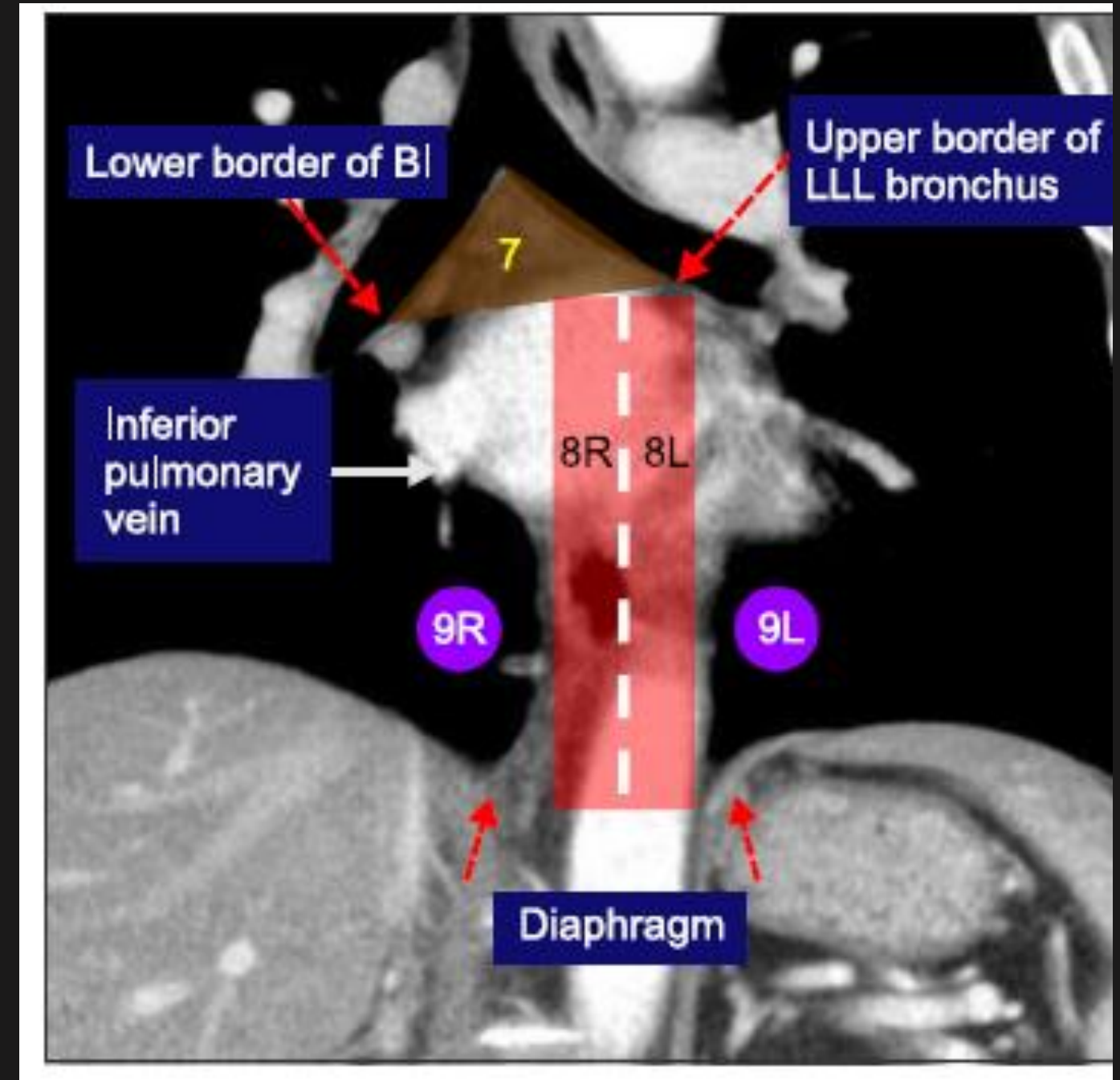
(7) Subkarinal lenf nodları



(8,9) Paraözefageal, Pulmoner Ligaman lenf nodları

8: Paraözefageal lenf nodları
Özefagus duvarın komşu olarak yerleşen lenf nodları

- **Üst sınır:**
 - Solda alt lob bronşunun üst kenarı,
 - Sağda intermedier bronşun alt kenarı
- **Alt sınır:** Diyafragma



(8,9) Paraözefageal, Pulmoner Ligaman lenf nodları

8: Paraözefageal lenf nodları

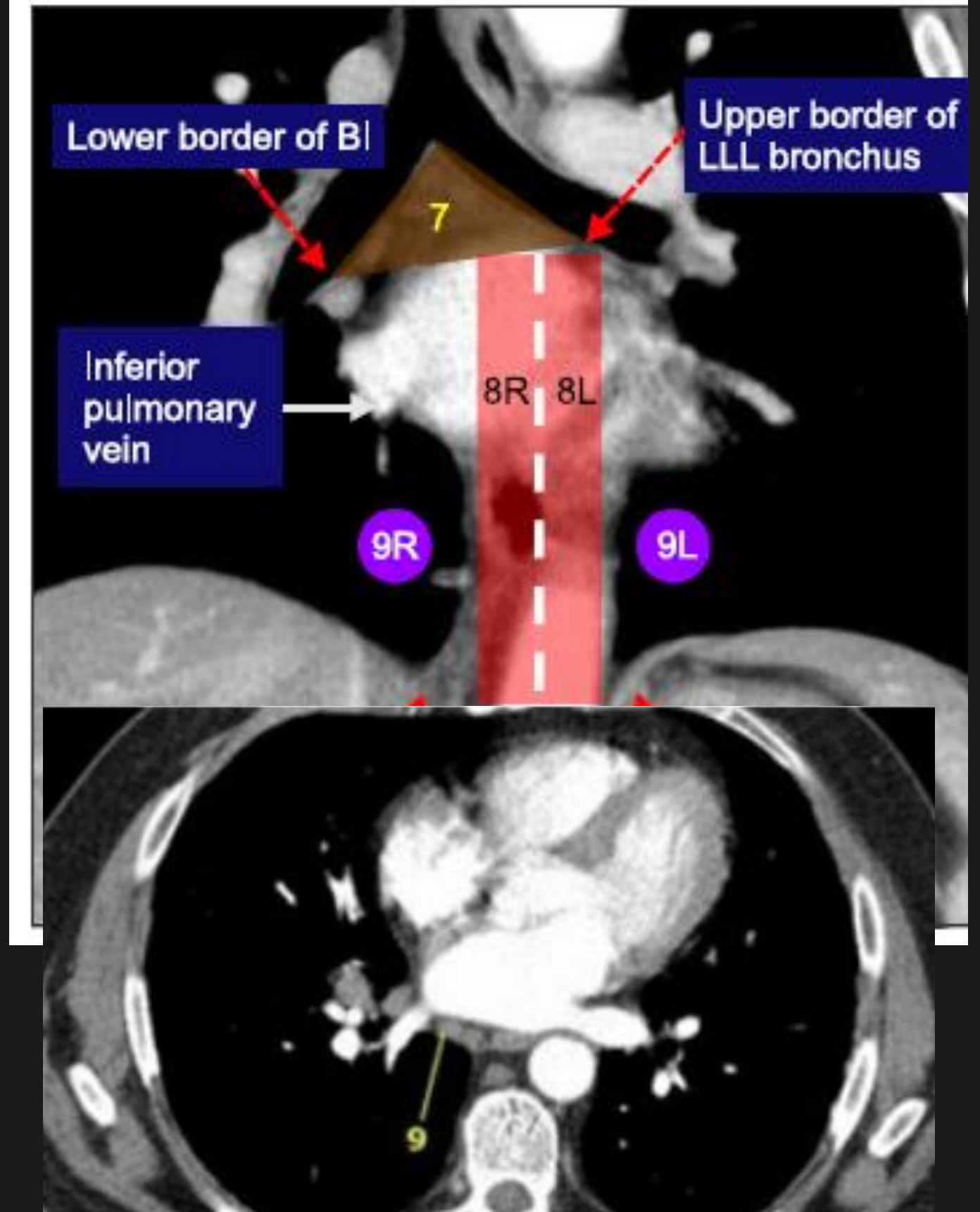
Özefagus duvarın komşu olarak yerleşen lenf nodları

- **Üst sınır:**
 - Solda alt lob bronşunun üst kenarı,
 - Sağda intermedier bronşun alt kenarı
- **Alt sınır:** Diyafragma

9: Pulmoner ligaman lenf nodları

Pulmoner ligaman içinde bulunan lenf nodlarıdır.

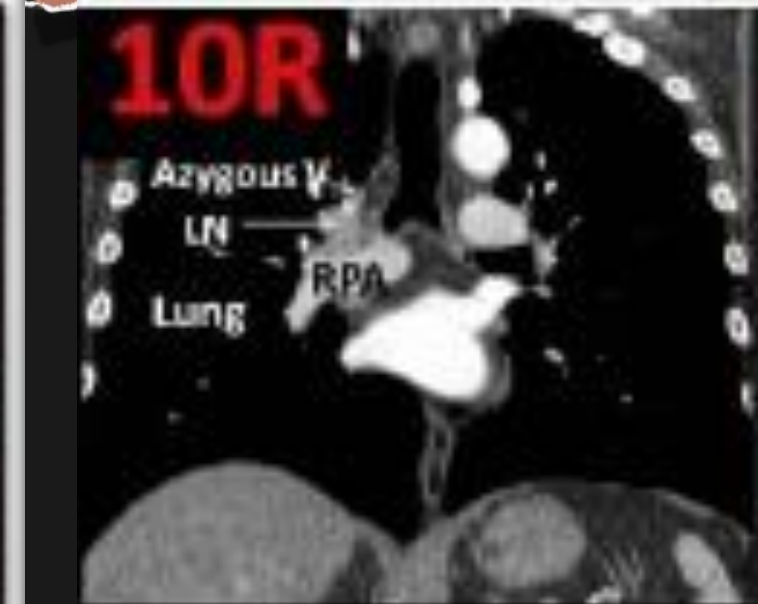
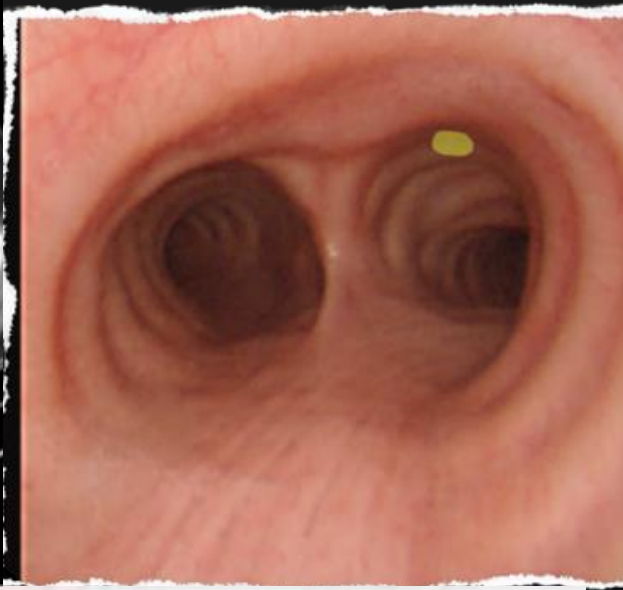
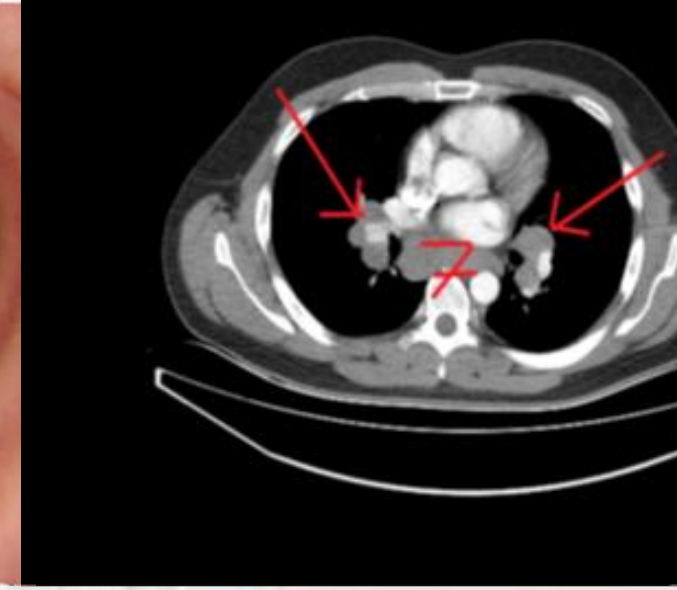
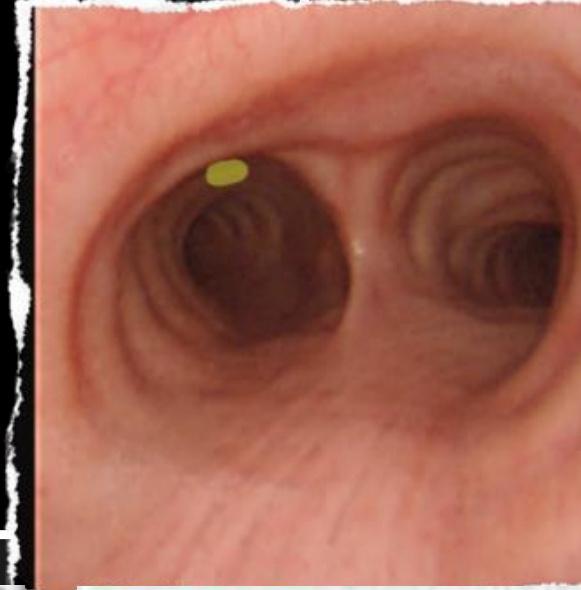
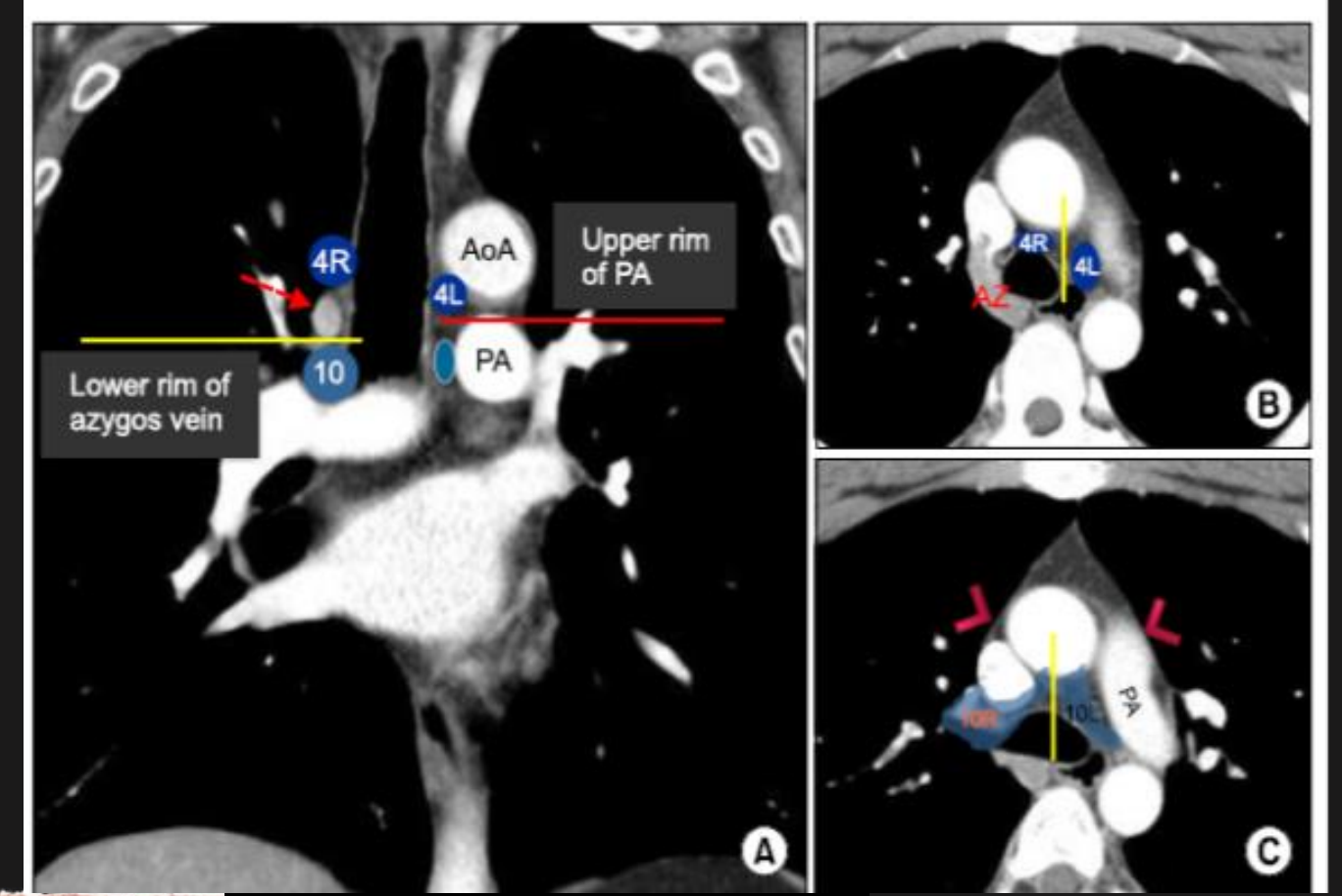
- **Üst sınır:** Inferior pulmoner ven
- **Alt sınır:** Diyafragma



(10) Hiler lenf nodları

Ana pulmoner arter ve pulmoner venlerin proksimal kısımlarındaki hiler damarlara ve ana bronşa komşu lenf nodlarıdır.

- **Üst sınır:**
 - Sağda azigos ven alt kenarı;
 - Solda pulmoner arter üst kenarı
- **Alt sınır:** İki taraflı interlober bölge



00:21:0

10R

4R

Azygos

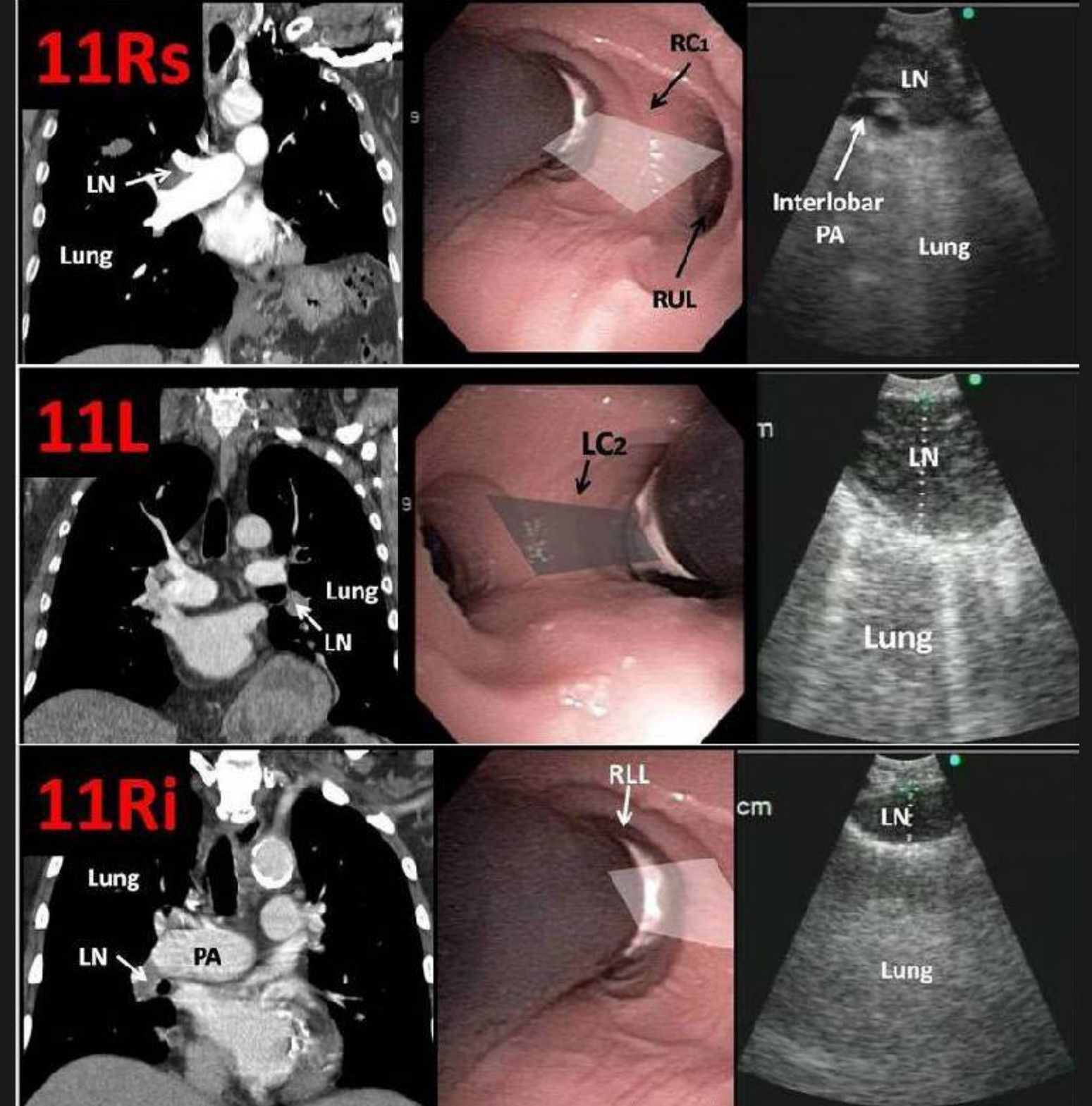
Superior Vena cava



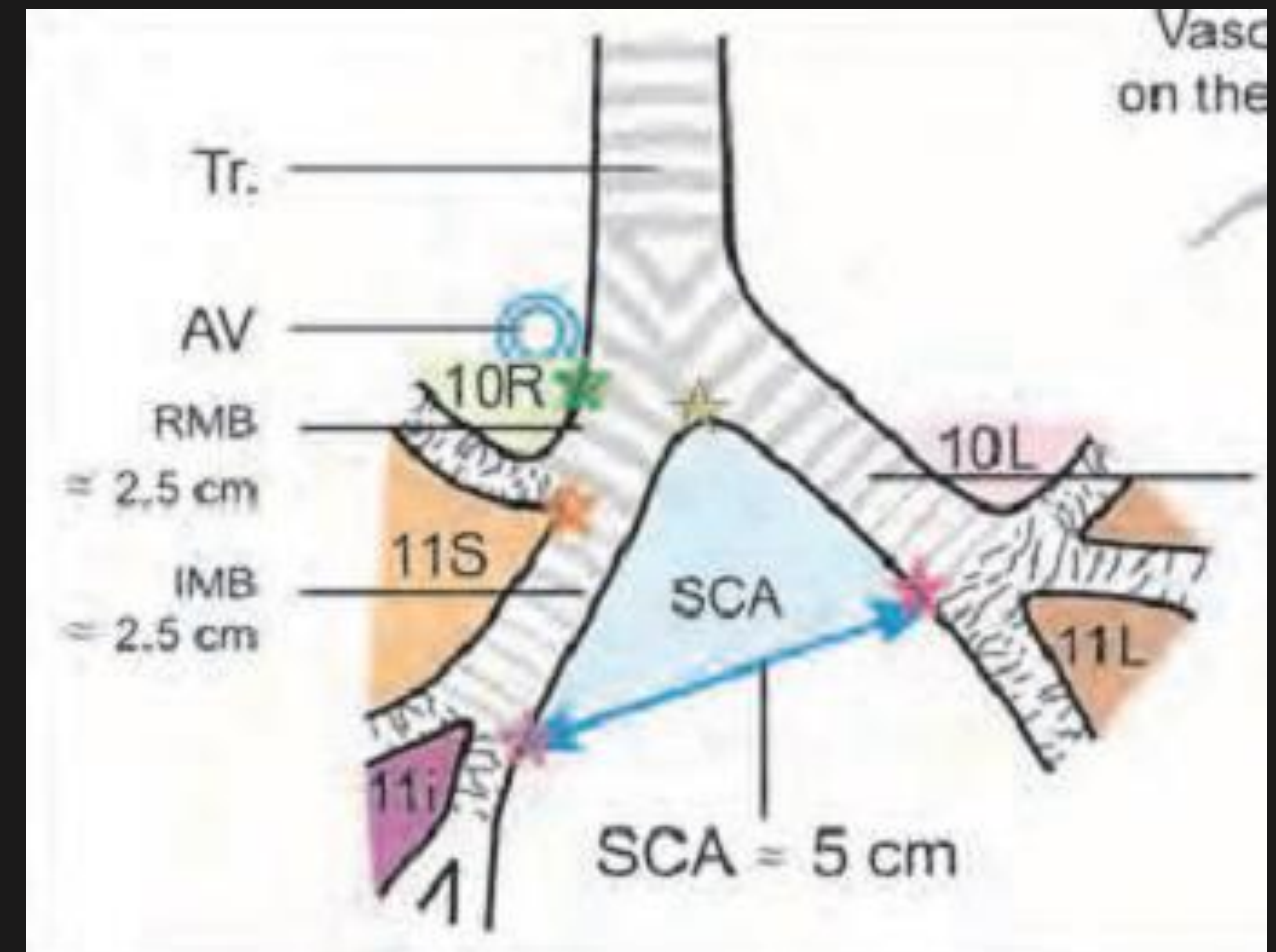
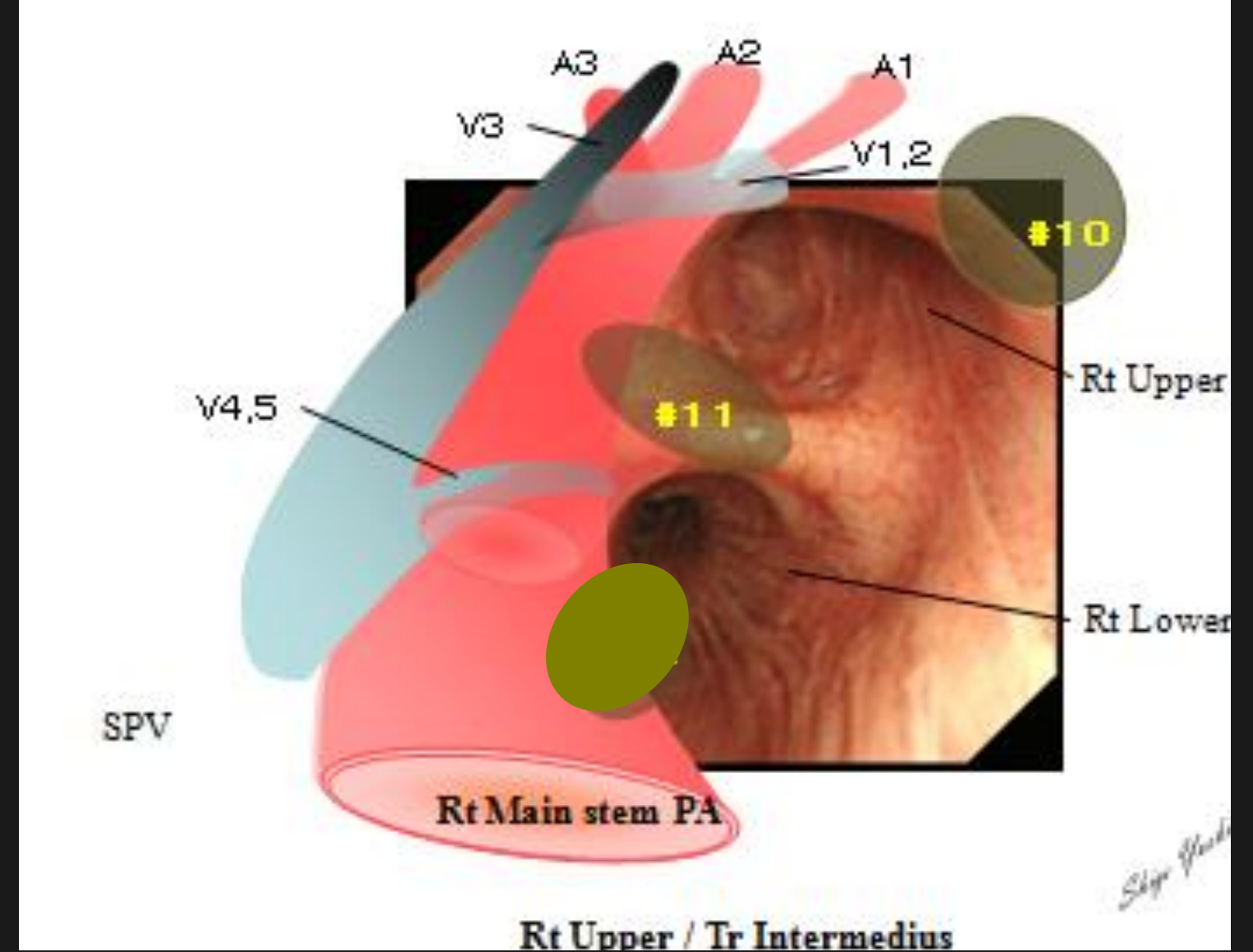
(11) İnterlobar lenf nodları

11R ve 11L :

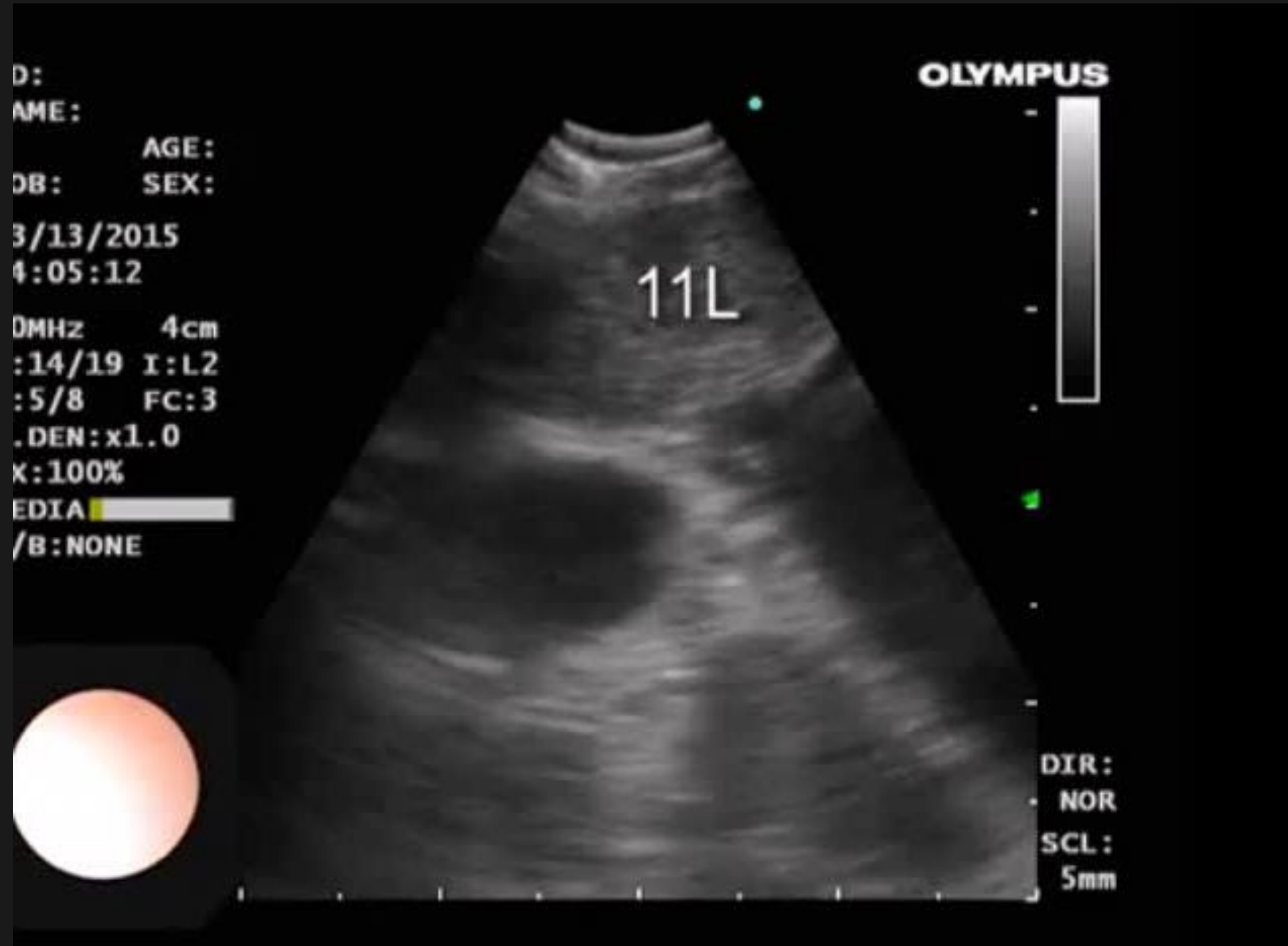
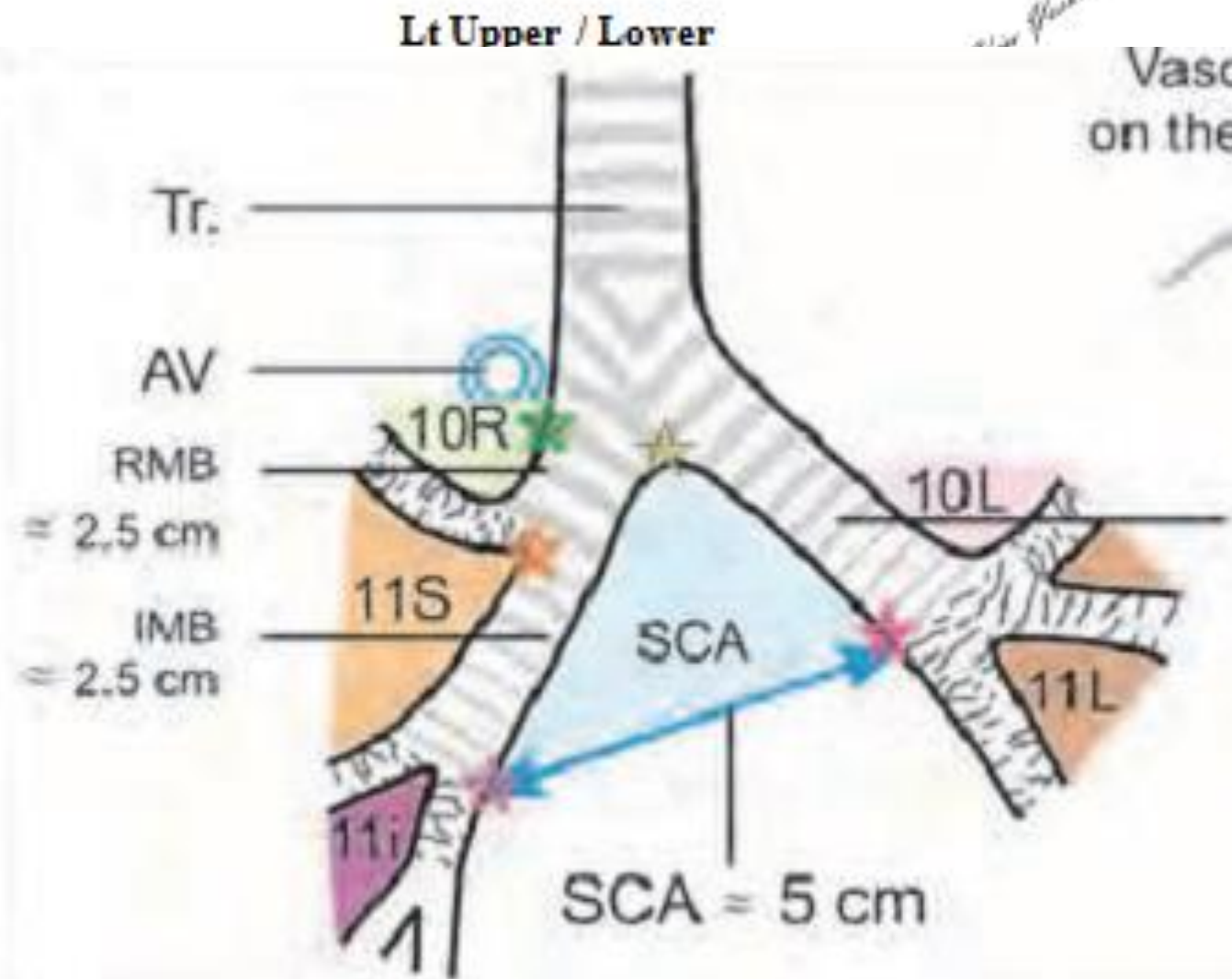
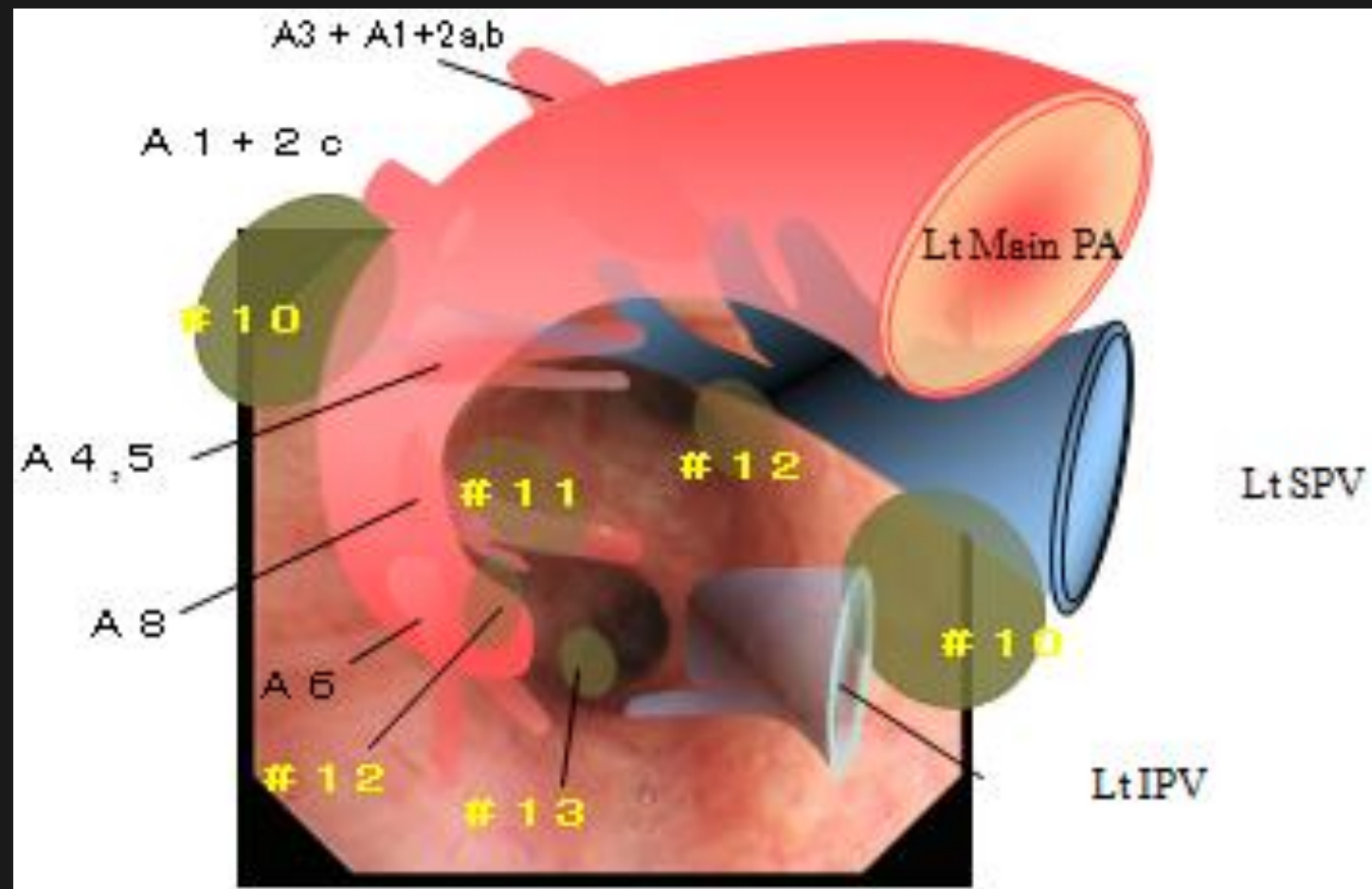
- Lober bronş başlangıç bölümleri arasındaki lenf nodları
 - **11Rs (süperior)** sağda intermedier bronş ile üst lob bronşu arasında
 - **11Ri (inferior)** sağda orta ve alt bronşu arasındaki LN



(11R) İnterlobar lenf nodları



(11L) İnterlobar lenf nodları



(12-14) Periferal bölge lenf nodları

12 Lober lenf nodları

- 12 R ve 12 L lobar bronşa komşu

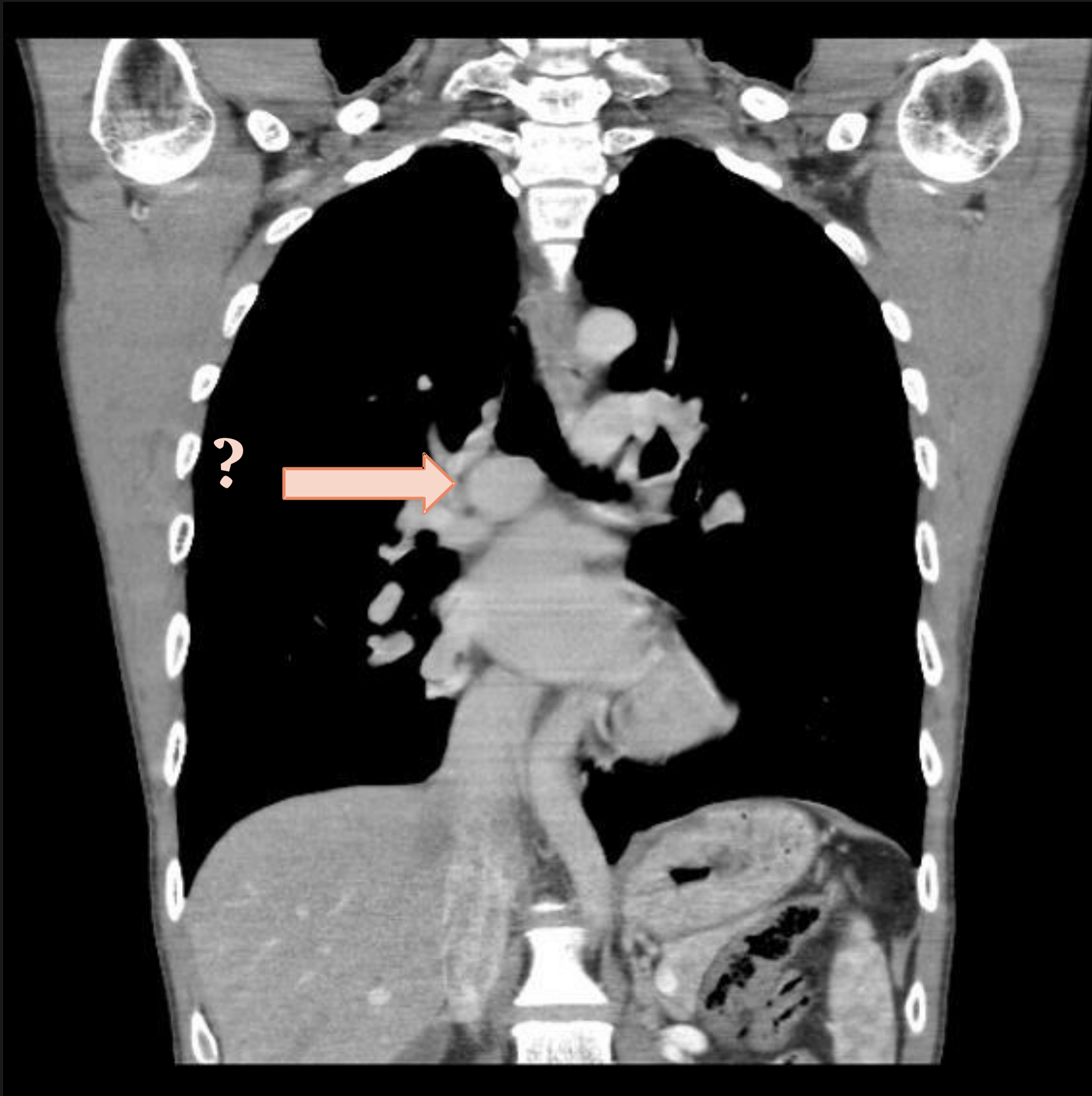
13 Segmental lenf nodları

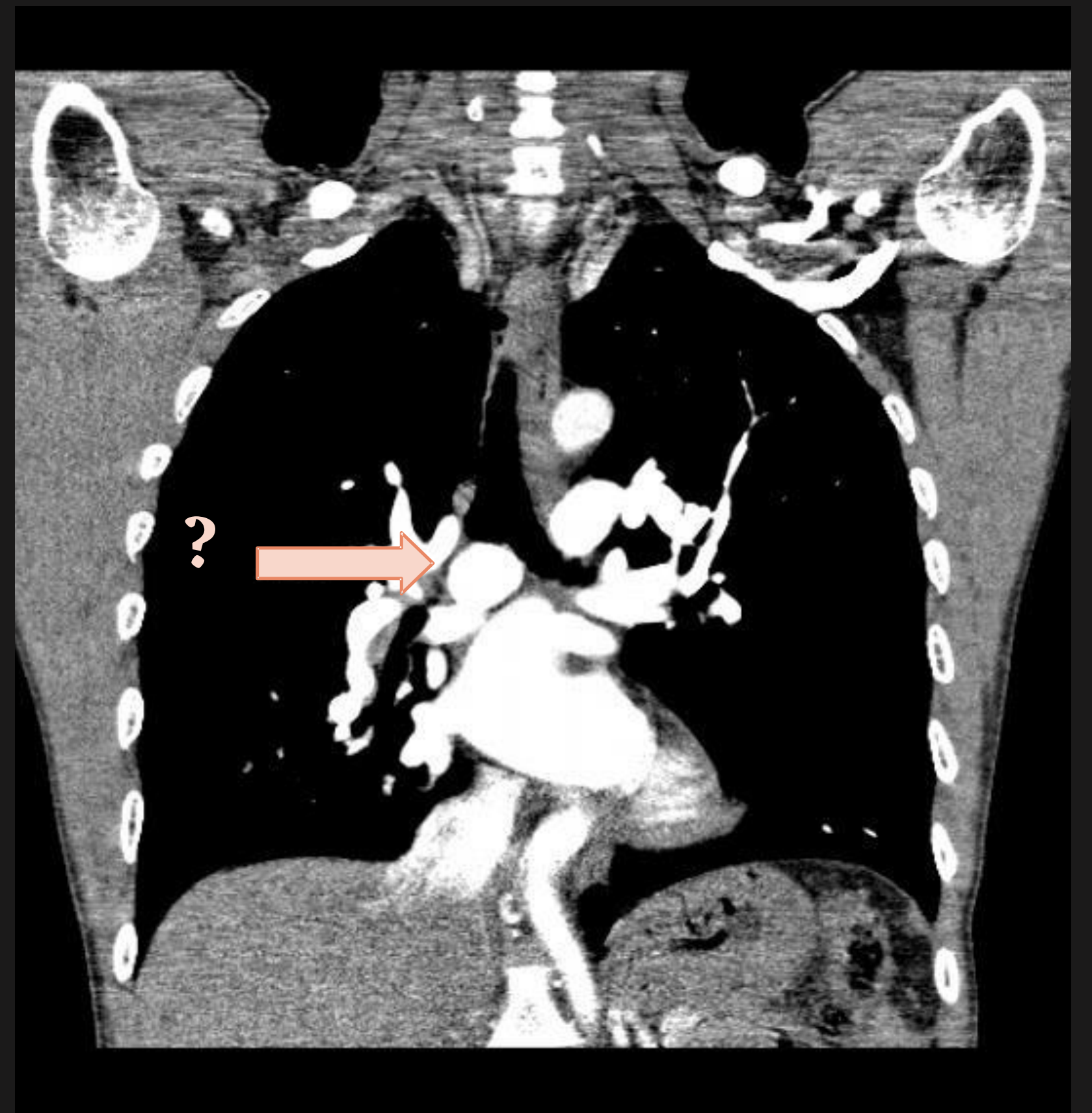
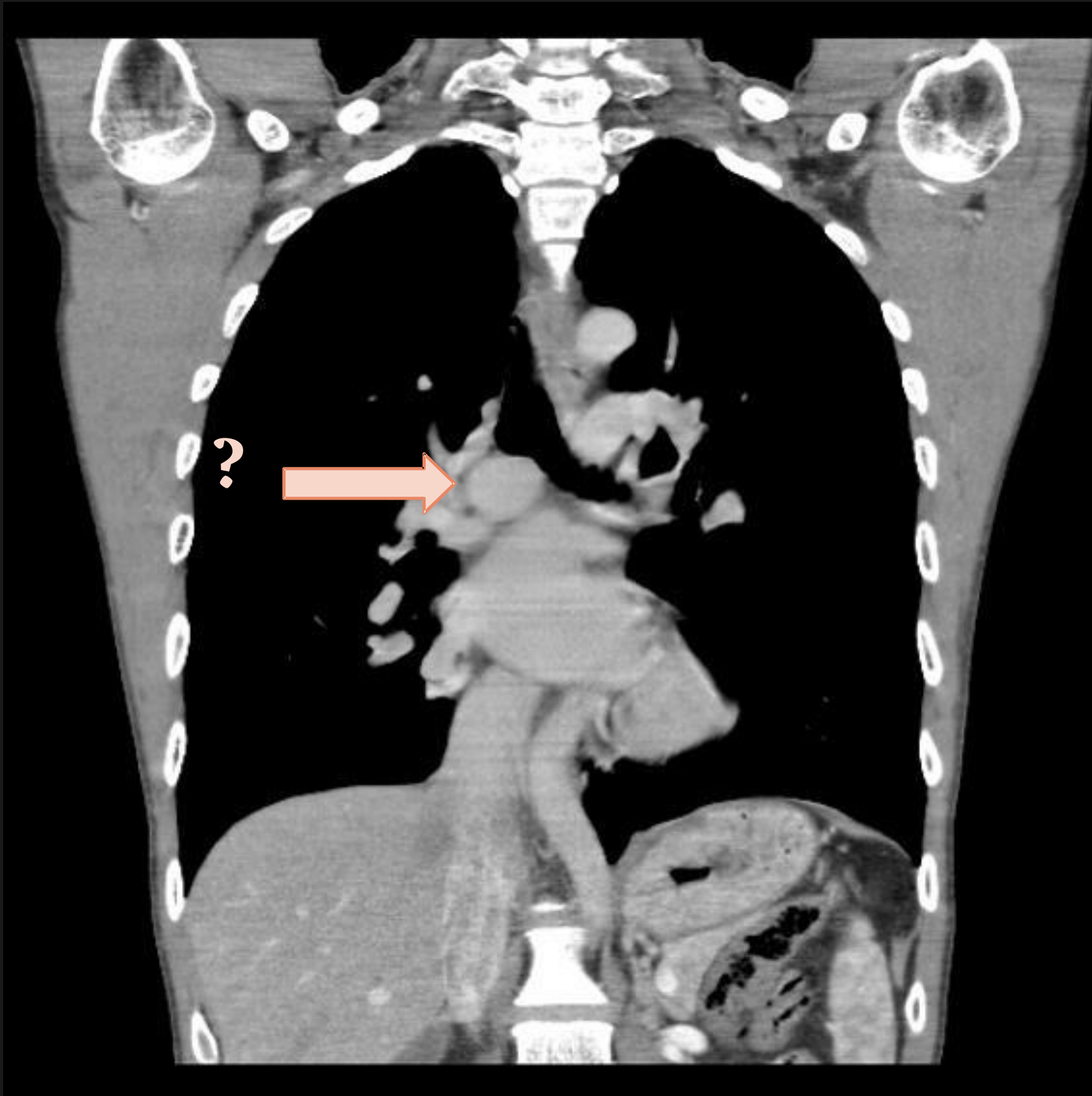
- 13 R ve 14 L Segment bronşlarına komşu

14 Subsegmental lenf nodları

- 14 R ve 14 L subsegment bronşlarına komşu

OLGU





endocam
25/01/2018
15:57:45

FOO
AVE
1/60



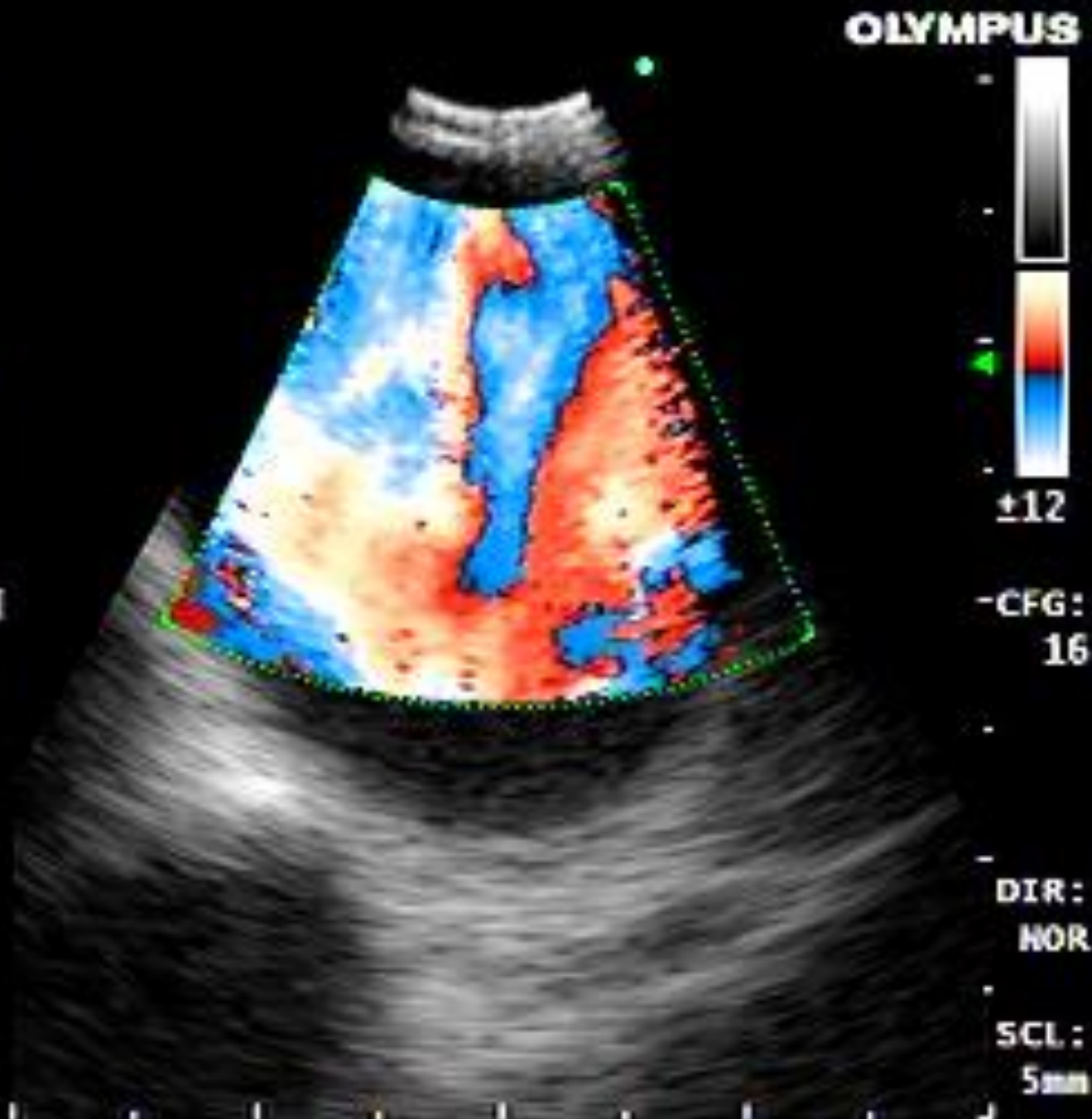
MedGate 4041 - (9479)

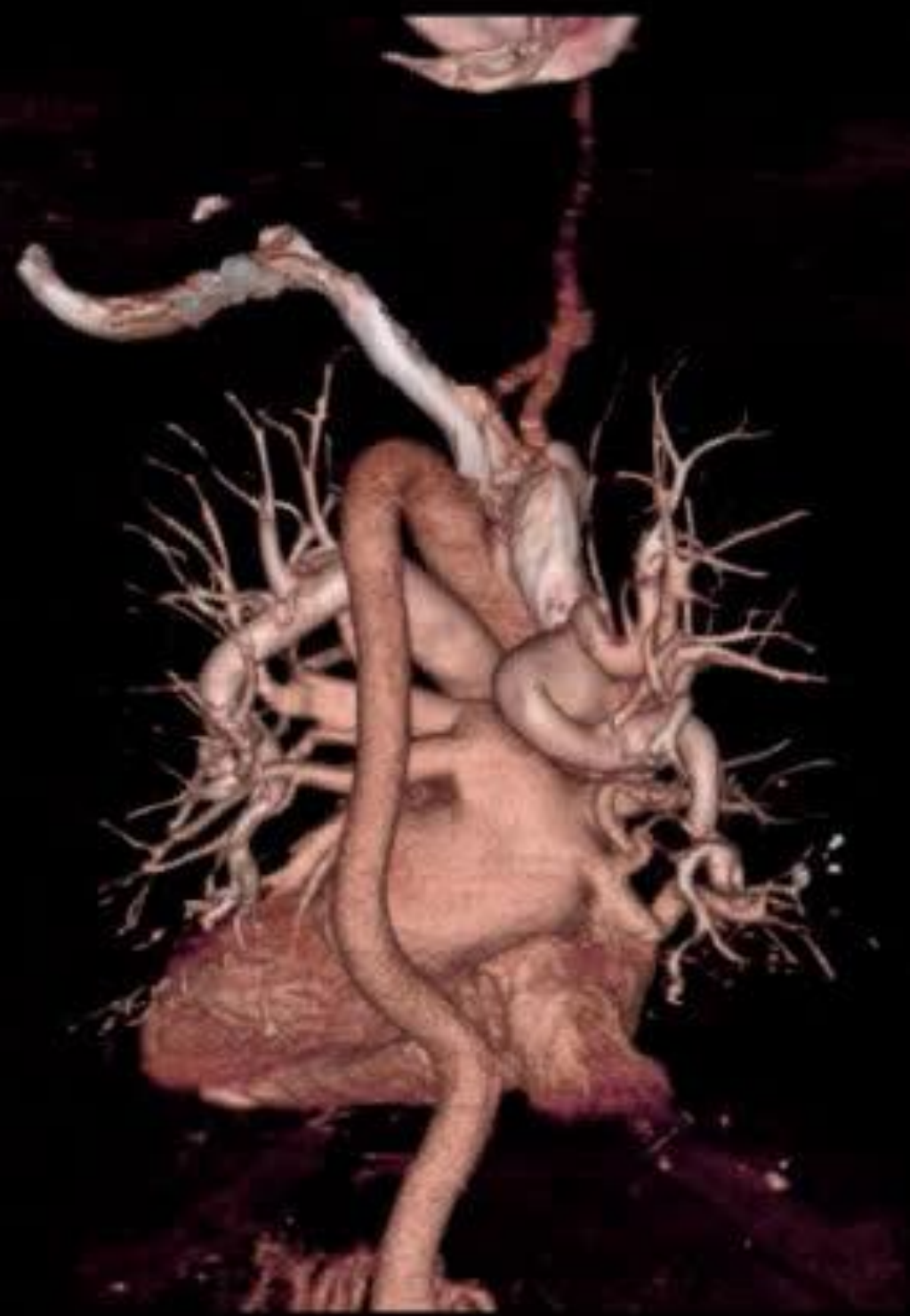
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C:6/8 FC:3
L.DEN:x2.0
TX:100%
MEDIA 
T/B:CINE REV
1/ 97



MedGate 4041 - (9479)

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AGE:
DOB: SEX:
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C:6/8 FC:1
L.DEN:x1.5
TX: 56%
MEDIA 
T/B:CINE REV
1/ 23







UASK 2024

Uluslararası Katılımlı

AKCİĞER SAĞLIĞI KONGRESİ

6-9 Mart 2024
Sueno Deluxe Hotel,
Belek/Antalya



Sizin Sesiniz, Sizin Kongreniz...

DINLEDİĞİNİZ İÇİN
TEŞEKKÜRLER