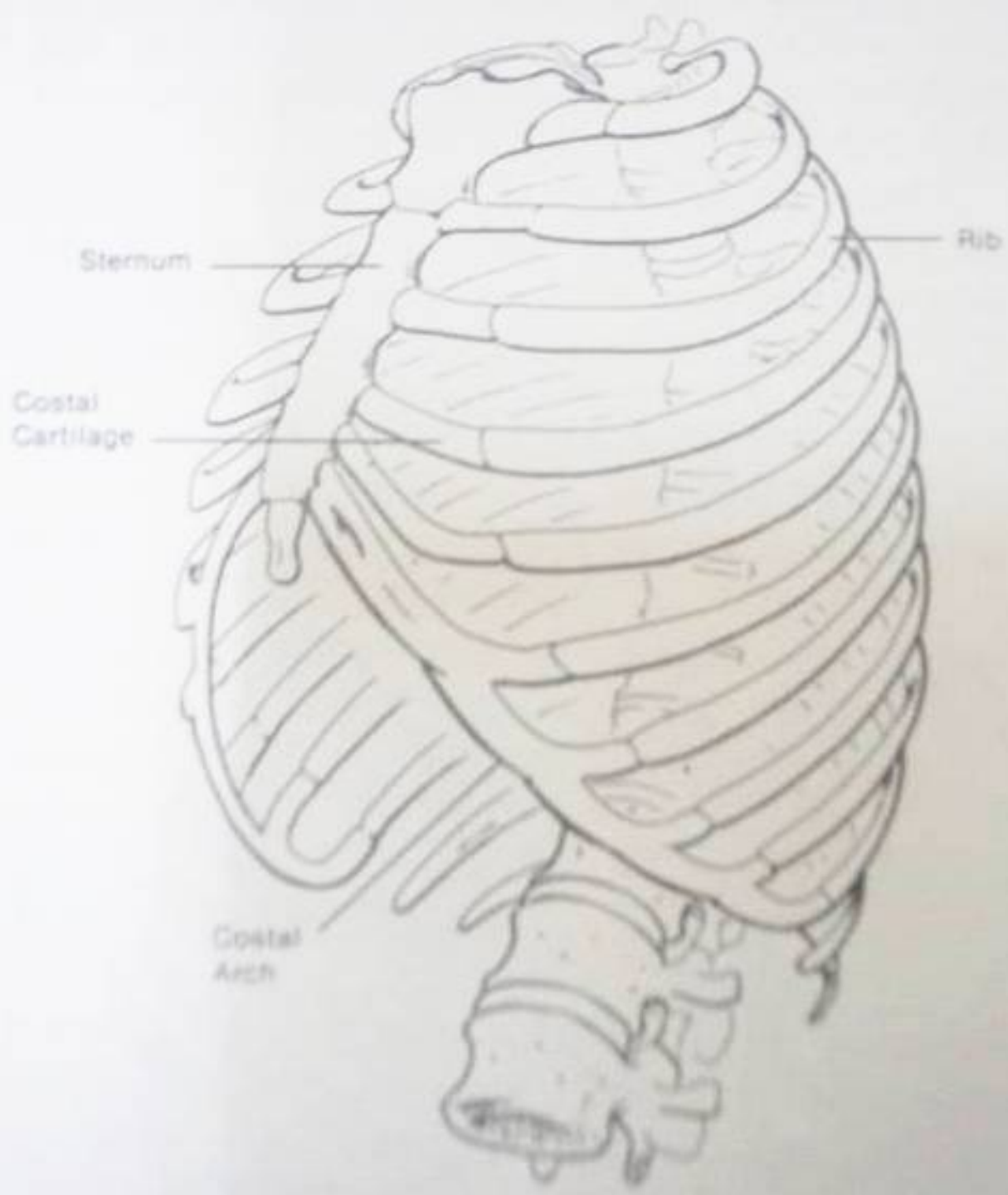
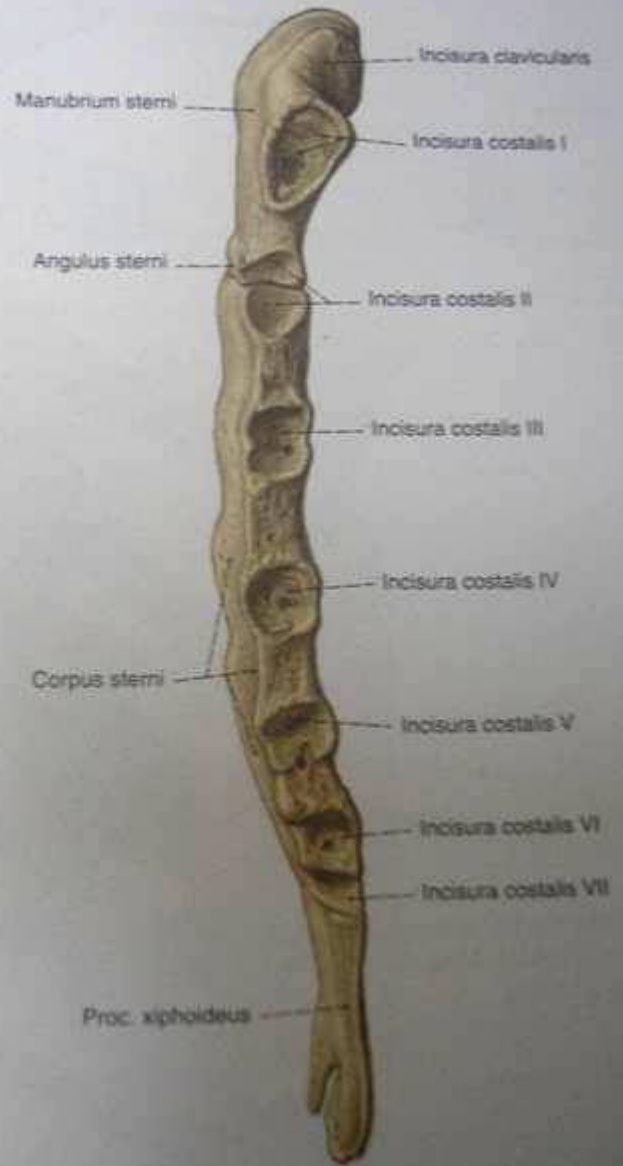
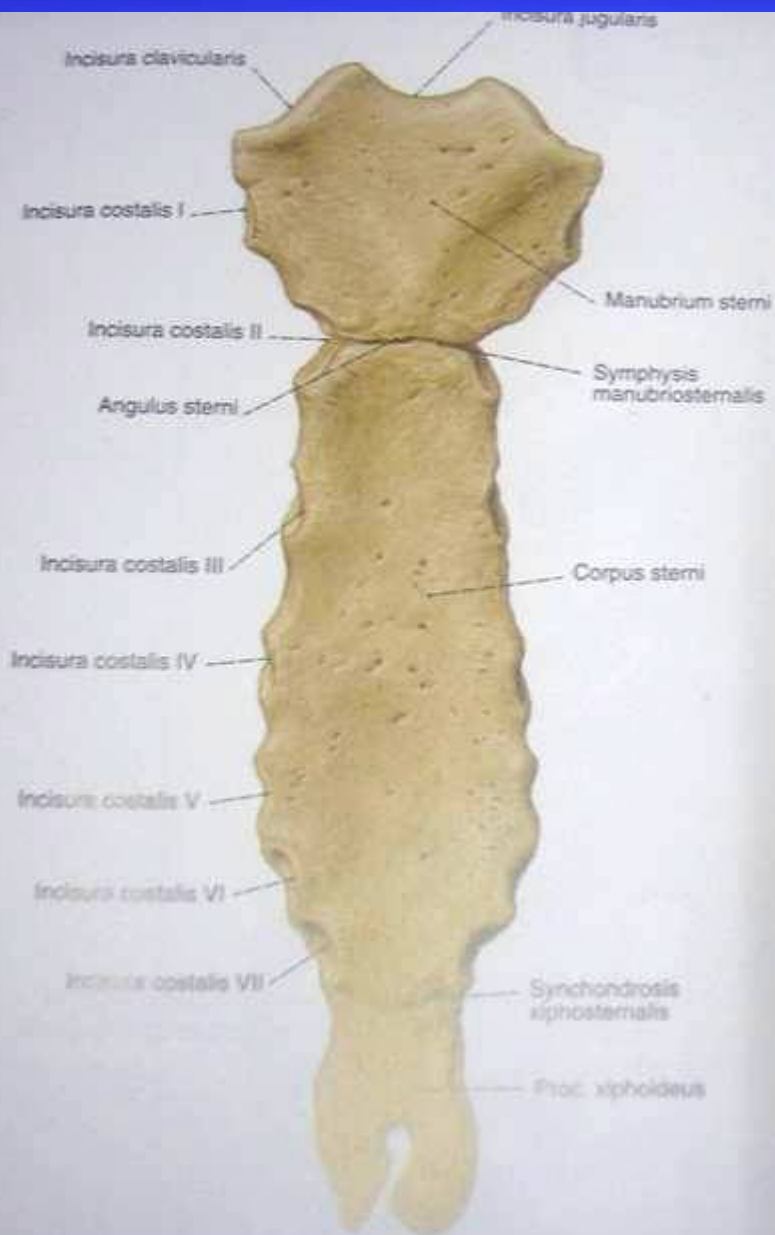


Toraks Anatomisi

Hazırlayan :

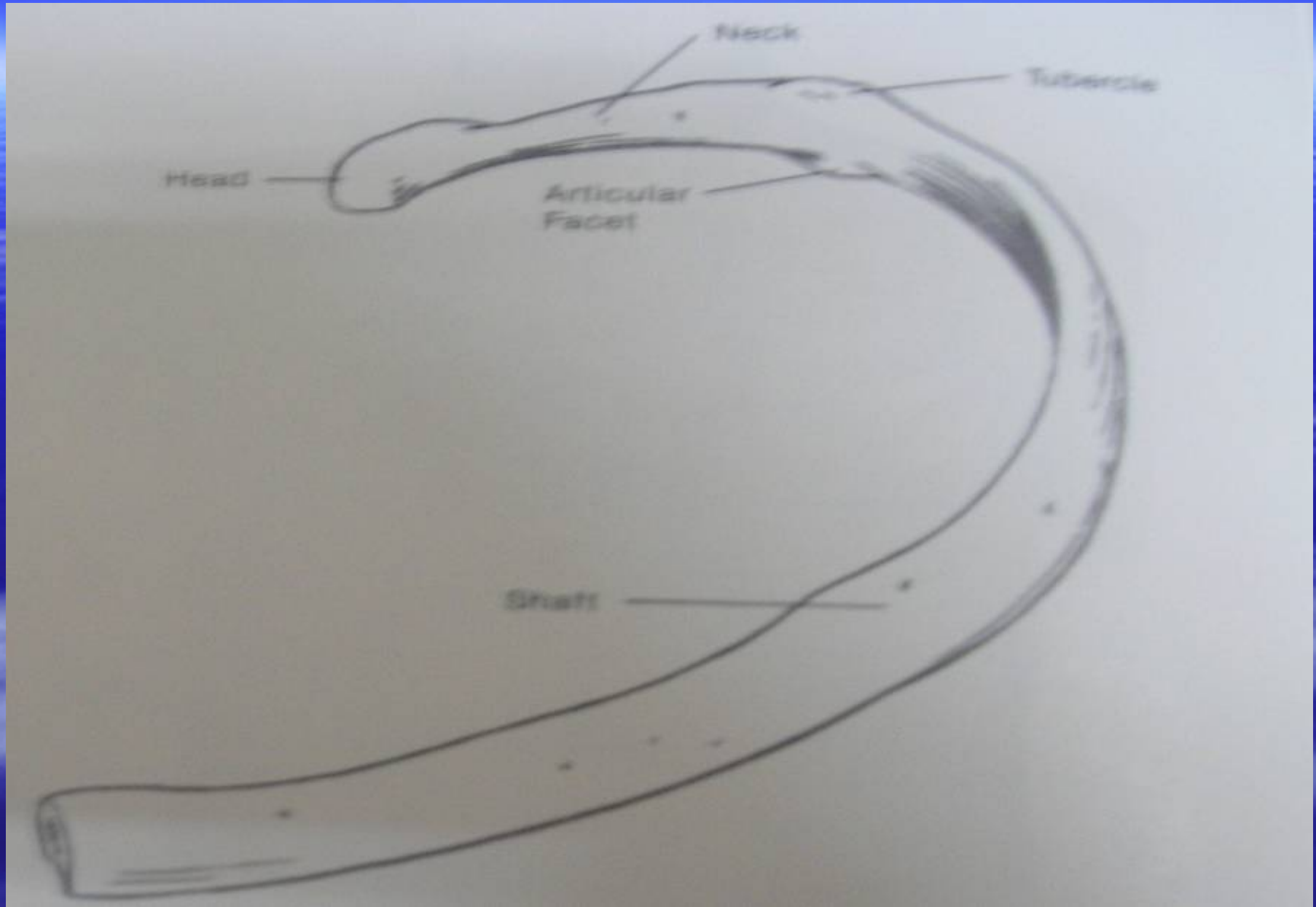
Dr. Necati ıtak

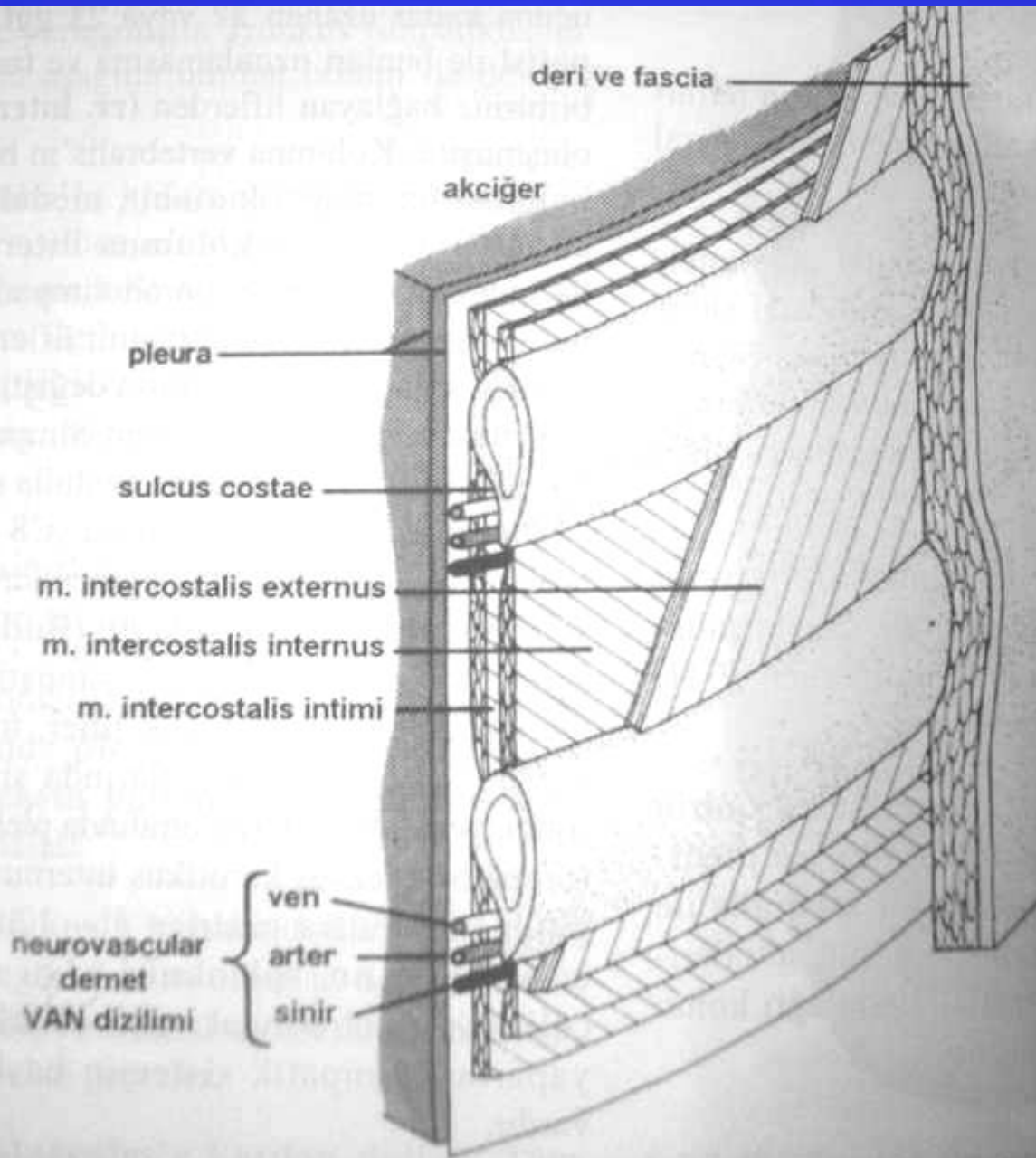


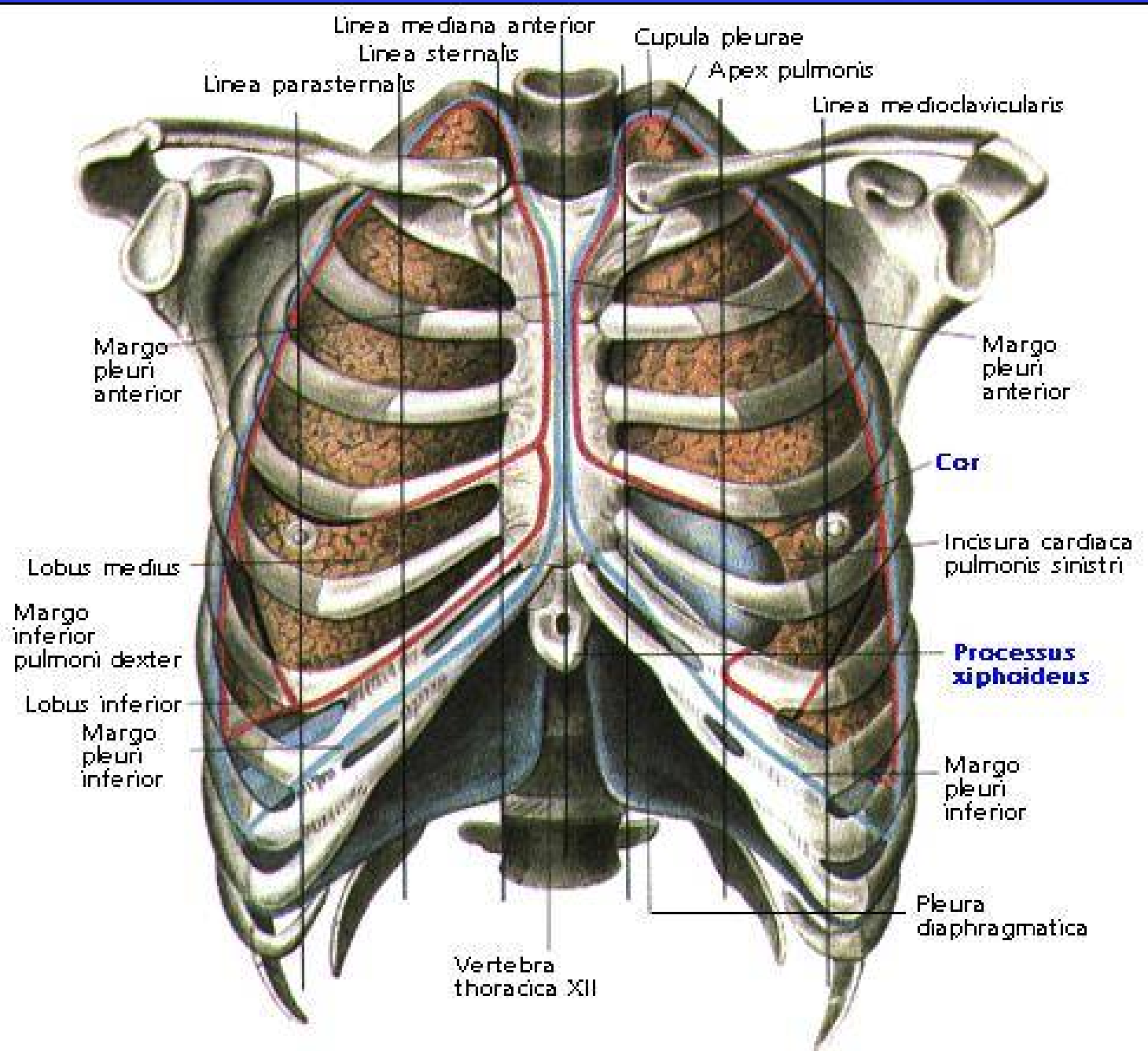


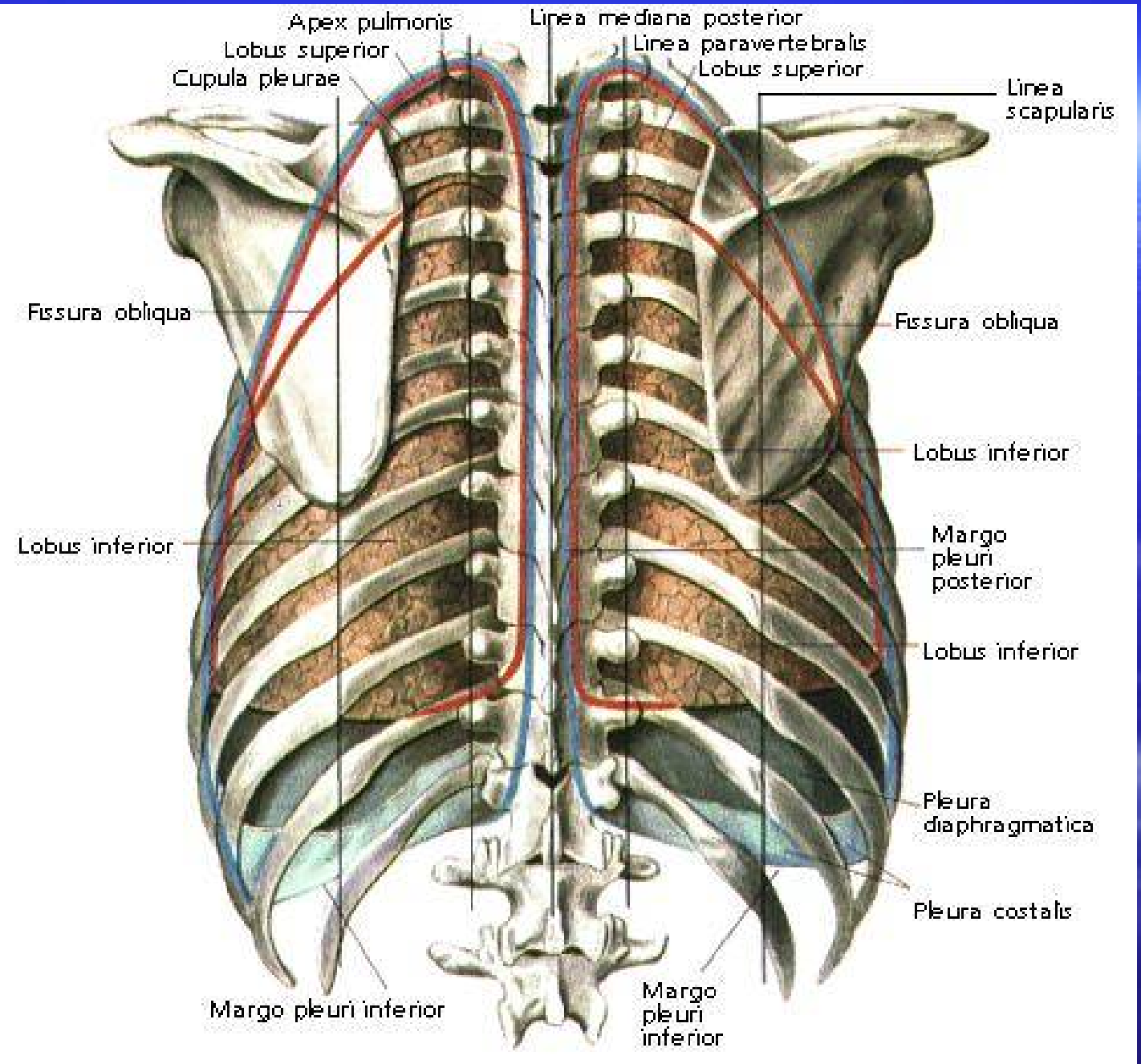
Linea Interspinalise özgün nirengi noktaları

- Th4 korpusunun alt kenarı hizasından
- 2.kostanın sternuma bağlandığı yerden (Louis açısı)
- Mediastinumu, superius ve inferius diye ikiye ayırarak
- Oskültasyonda üst lob ile alt lob sınırı
- Arkus aortanın başlangıcı ve bitişini
- Bifurkasyo trakea



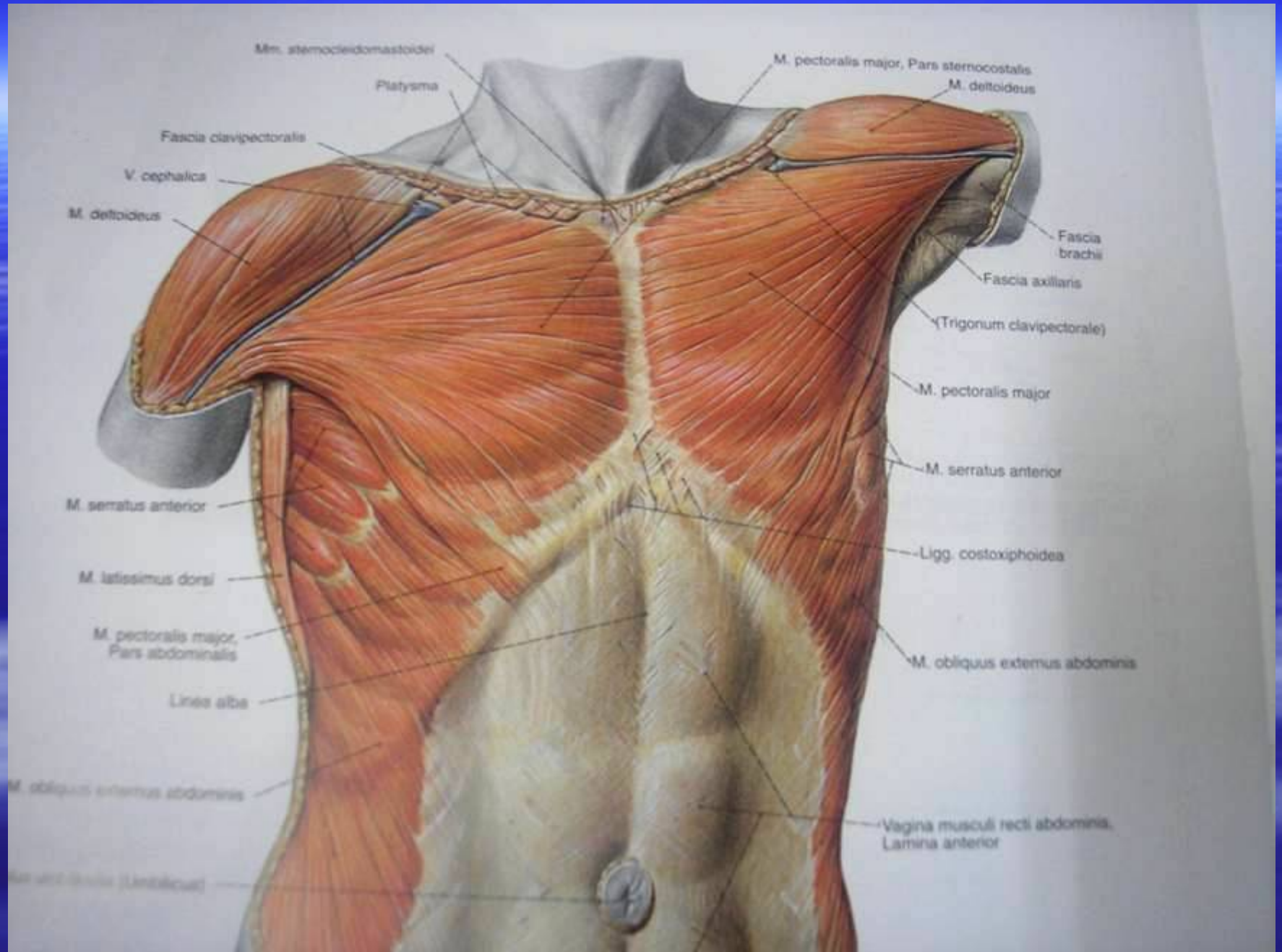


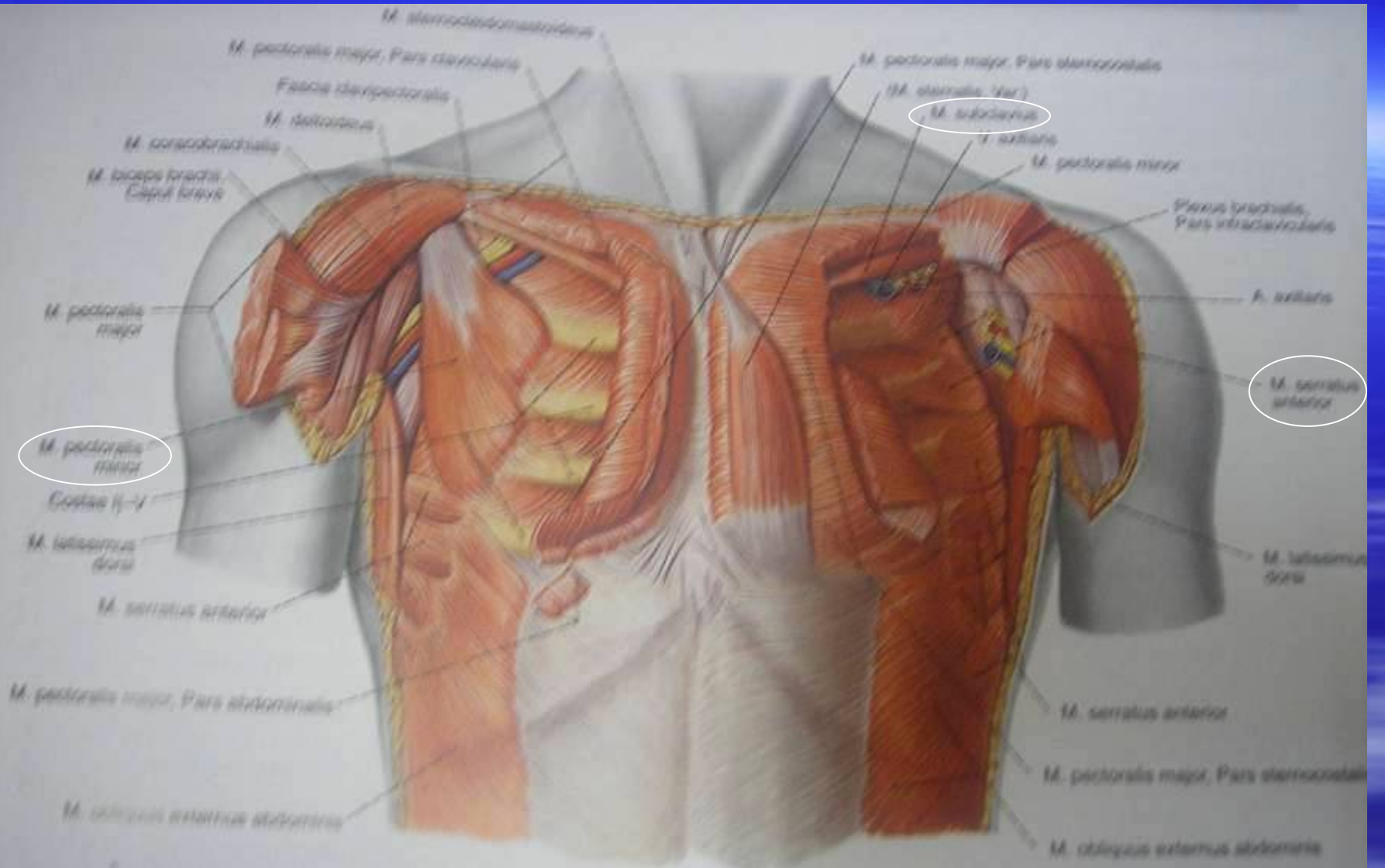




TORAKSIN EKLEMLERİ

- Artikulasyo zigapofisialis
- Simfisis intervertebralis
- Artikulasyo kostovert.
- Artikulasyo interkondrales
- Artikulasyo sternokondrales
- Sinkondrosis manubriosternalis
- Simfisis ksifosternalis

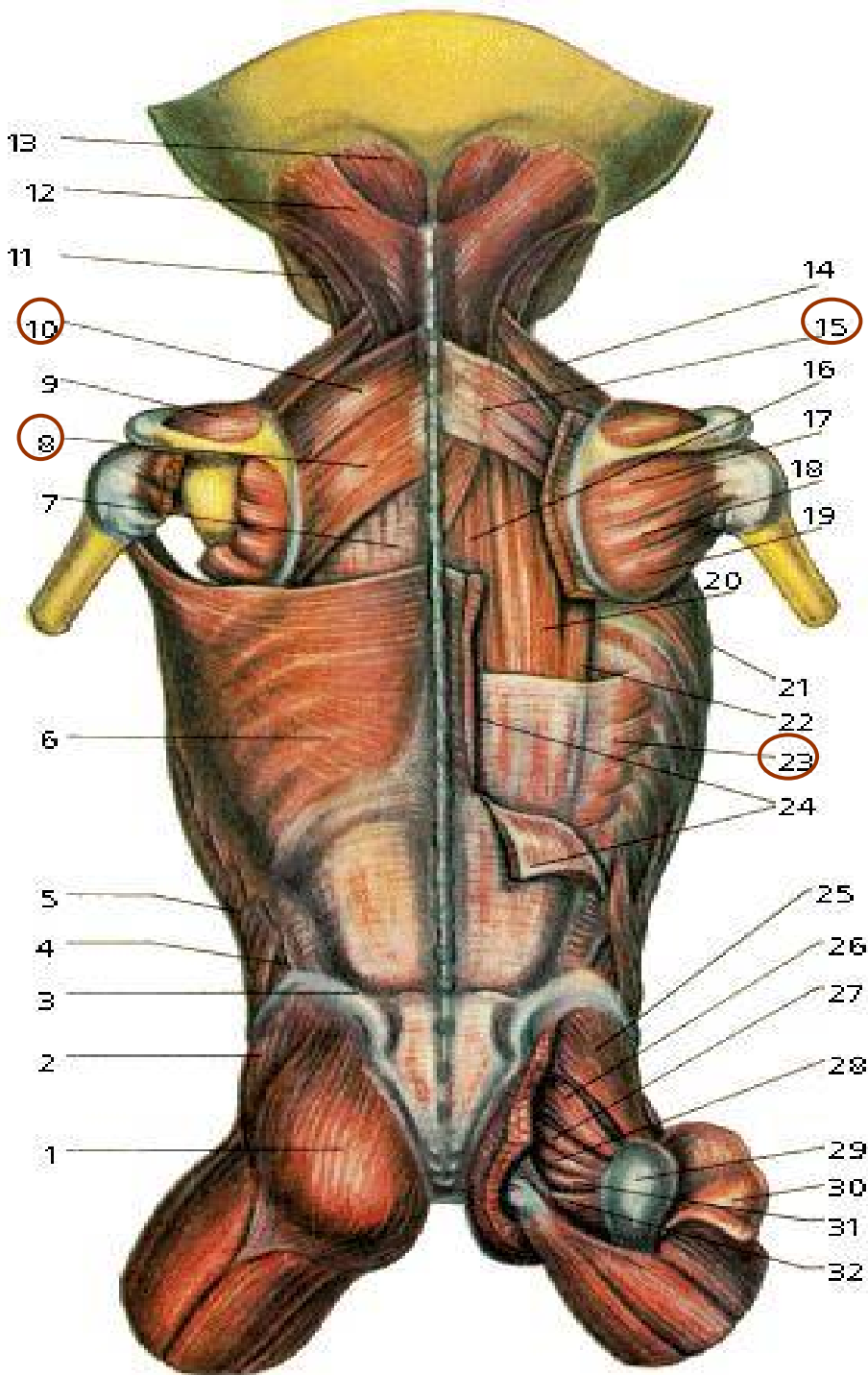




Şek. 794 Göğüs kasları, Mm. thoracis; sağ tarafta M. pectoralis major kısmen

uzaklaştırılmış, sol tarafta ise M. pectoralis minor ortadan kesilmiş ve yukarı kaldırılmıştır; önden.



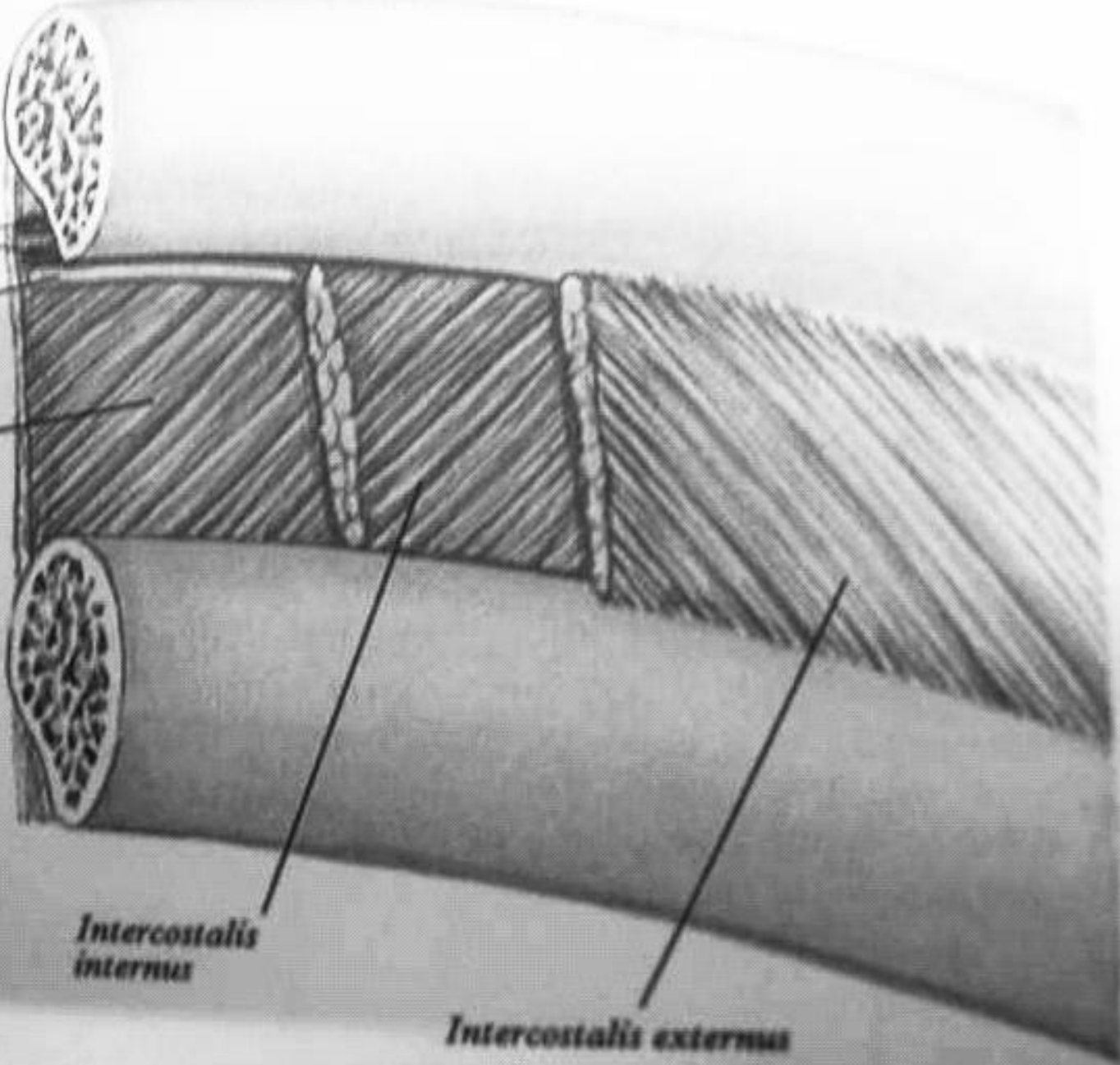


- 1 - m.gluteus maximus;
- 2 - m.gluteus medius;
- 3 - crista iliaca;
- 4 - trigonum lumbale;
- 5 - m.obliquus externus abdominis;
- 6 - m.latissimus dorsi;
- 7 - m.erektor spinae;
- 8 - m.rhomboideus major;
- 9 - m.supraspinatus;
- 10 - m.rhomboideus minor;
- 11 - m.sternocleidomastoideus;
- 12 - m.splenius capitis;
- 13 - m.semispinalis capitis;
- 14 - m.levator scapulae;
- 15 - m.serratus posterior superior;
- 16 - m.spinalis thoracis;
- 17 - m.infraspinatus;
- 18 - m.teres minor;
- 19 - m.teres major;
- 20 - m.longissimus thoracis;
- 21 - m.serratus anterior;
- 22 - m.iliocostalis thoracis;
- 23 - m.serratus posterior inferior;
- 24 - m.latissimus dorsi;
- 25 - m.gluteus medius;
- 26 - m.piriformis;
- 27 - m.gemellus superior;
- 28 - m.obturatorius internus;
- 29 - trochanter major;
- 30 - m.gluteus maximus;
- 31 - m.gemellus inferior;
- 32 - m.quadratus femoris.

Intercostal vessels

Intercostal nerve

Intercostalis intimus



Intercostalis internus

Intercostalis externus

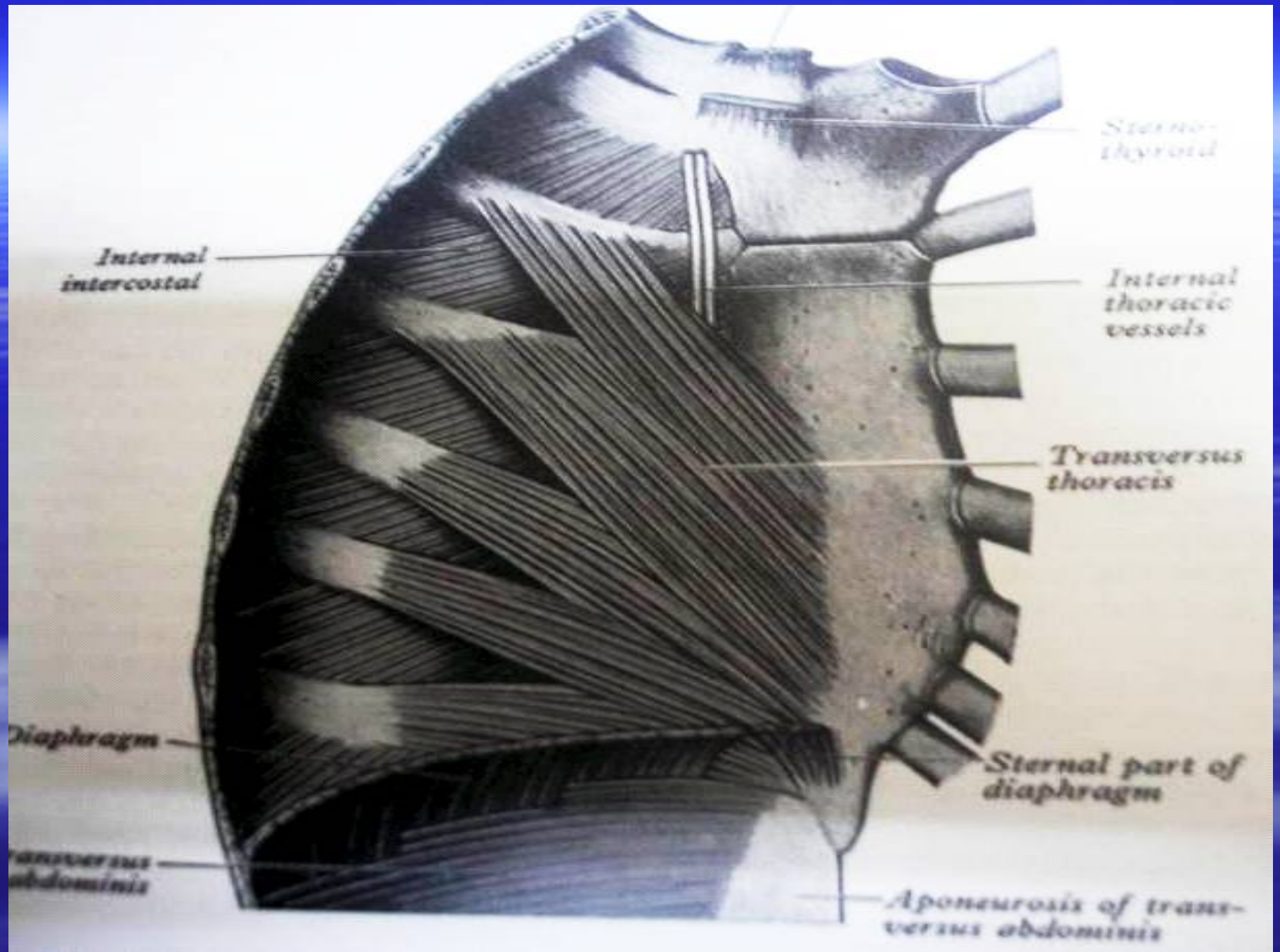
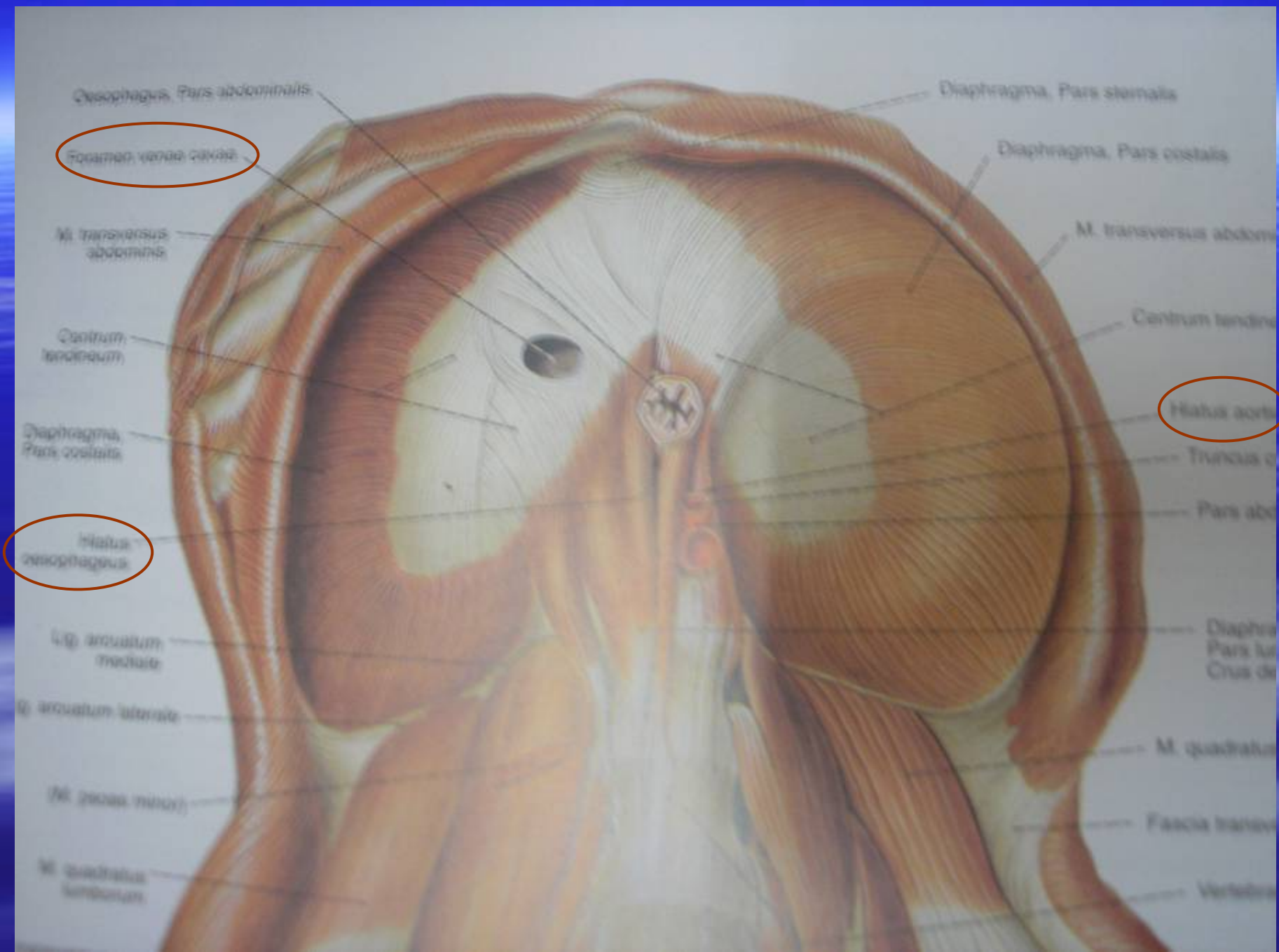


TABLE 1-1 • Thoracic muscles

Muscle	Origin	Insertion	Respiratory
External intercostal muscle	Inferior rib border	Superior border of rib below	Inspiratory/expiration
Internal intercostal muscle	Inferior rib border	Superior border of rib below	Inspiratory/expiration
Transversus thoracis	Adjacent ribs	Adjacent ribs	Inspiratory/expiration
Diaphragm	Xiphoid process; lower six costal cartilages; L1-3	Central tendon	Inspiratory
Levatores costarum	Tips of transverse process of C7, T1-T11	Rib below	Inspiratory
Serratus posterior superior	Lower cervical and upper thoracic spines	Upper ribs	Inspiratory
Serratus posterior inferior	Upper lumbar and lower thoracic spines	Lower ribs	Inspiratory

7. İKA'dan yapılacak torasentez sırasında sirasıyla geçilecek yapılar

1. Deri
2. Fasia superfisialis
3. M.serratus anterior
4. M.interkostalis eksternus
5. M.interkostalis internus
6. Paryetal plevra



Oesophagus, Pars abdominalis

Diaphragma, Pars sternalis

Foramen venae cavae

Diaphragma, Pars costalis

M. transversus abdominis

M. transversus abdominis

Centrum tendineum

Centrum tendineum

Diaphragma, Pars costalis

Hiatus aortae

Truncus c...

Hiatus oesophageus

Pars ab...

Lig. arcuatum mediale

Diaphragma, Pars l...
Crua de...

Lig. arcuatum laterale

M. quadrat...

M. psoas minor

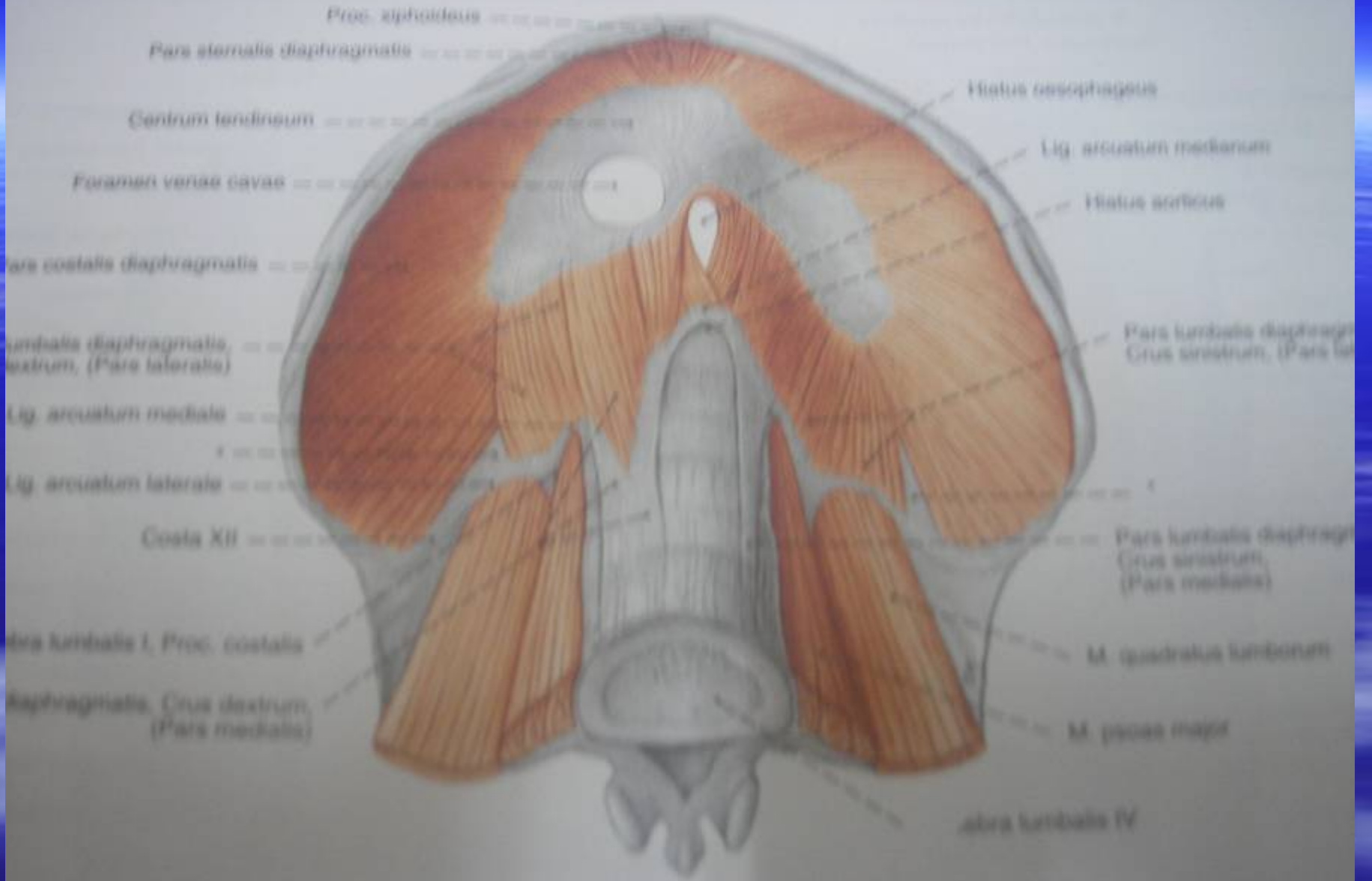
Fascia tran...

M. quadratus lumborum

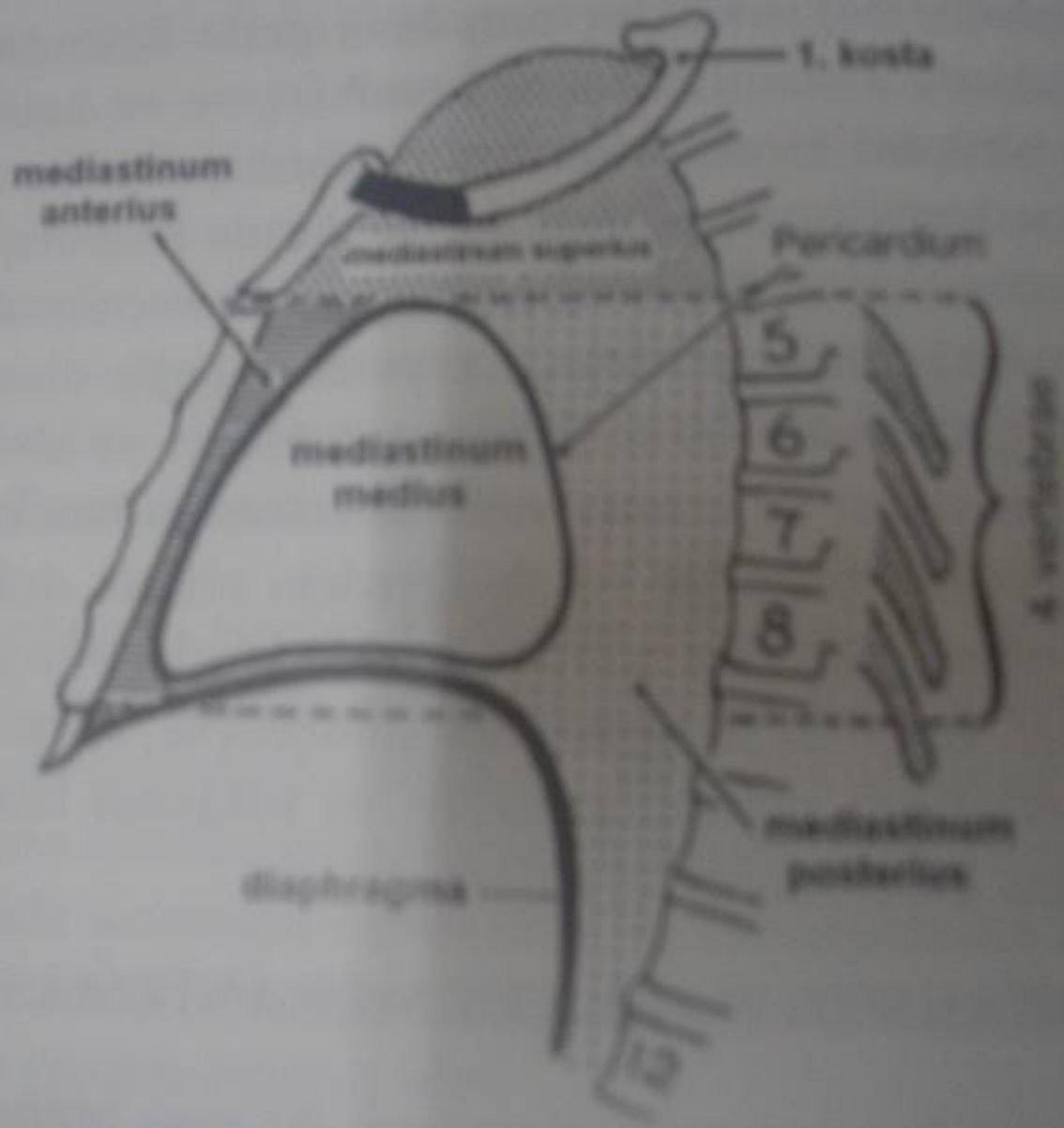
Vertebrae

Diyafagma'daki geçitler

Adı	Yeri ve Durumu	Yapılar
Hiatus aorticus	Pars lumbalis, crus dextrum ve crus sinistrum arasında	Aorta; Ductus thoracicus
Hiatus oesophageus	Pars lumbalis, Crus dextrum	Oesophagus; Nn. vagi; N. phrenicus, R. phrenico-abdominalis sinister
Foramen venae cavae	Centrum tendineum	V. cava inferior; N. phrenicus, R. phrenico-abdominalis dexter
LARREY aralığı	Pars sternalis ve pars costalis arasında	A., V. epigastrica superior
İmsiz	Pars lumbalis, Crus dextrum / sinistrum, Pars medialis	N. splanchnicus major ve minor; V. azygos; V. hemiazygos
İmsiz	Pars lumbalis, Pars medialis ve pars lateralis arasında	Truncus sympatheticus



Şek. 805 Diyafragma, Diaphragma; ve karın arka duvarı.



Cartilago thyroidea

Lig.cricothyroideum

Cartilago cricoidea

Cartilagine tracheales

Prominentia laryngea

Lig. cricotracheale

Ligg.anularia (trachealia)

Esophagus

- 1-Bronchus segmentalis basalis anterior
- 2-Bronchus lobaris inferior dexter
- 3-V.azygos
- 4-Esophagus
- 5-Pars thoracica aortae
- 6-Bronchus lobaris inferior sinister
- 7-Bronchus segmentalis basalis lateralis

Bifurcatio tracheae

Bronchus principalis dexter

Bronchus lobaris superior dexter

Bronchus segmentalis apicalis

A.pulmonalis dextra

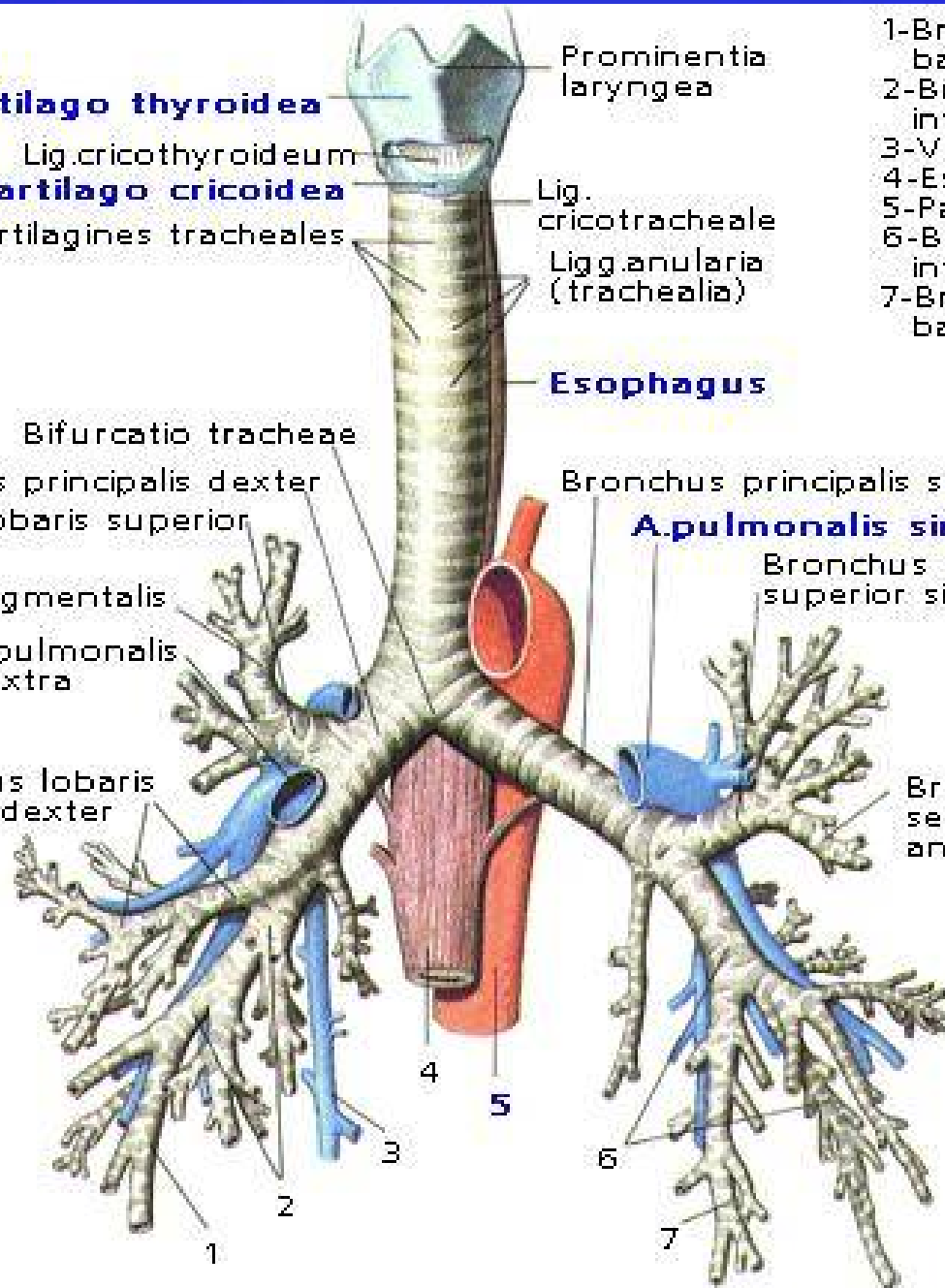
Bronchus lobaris medius dexter

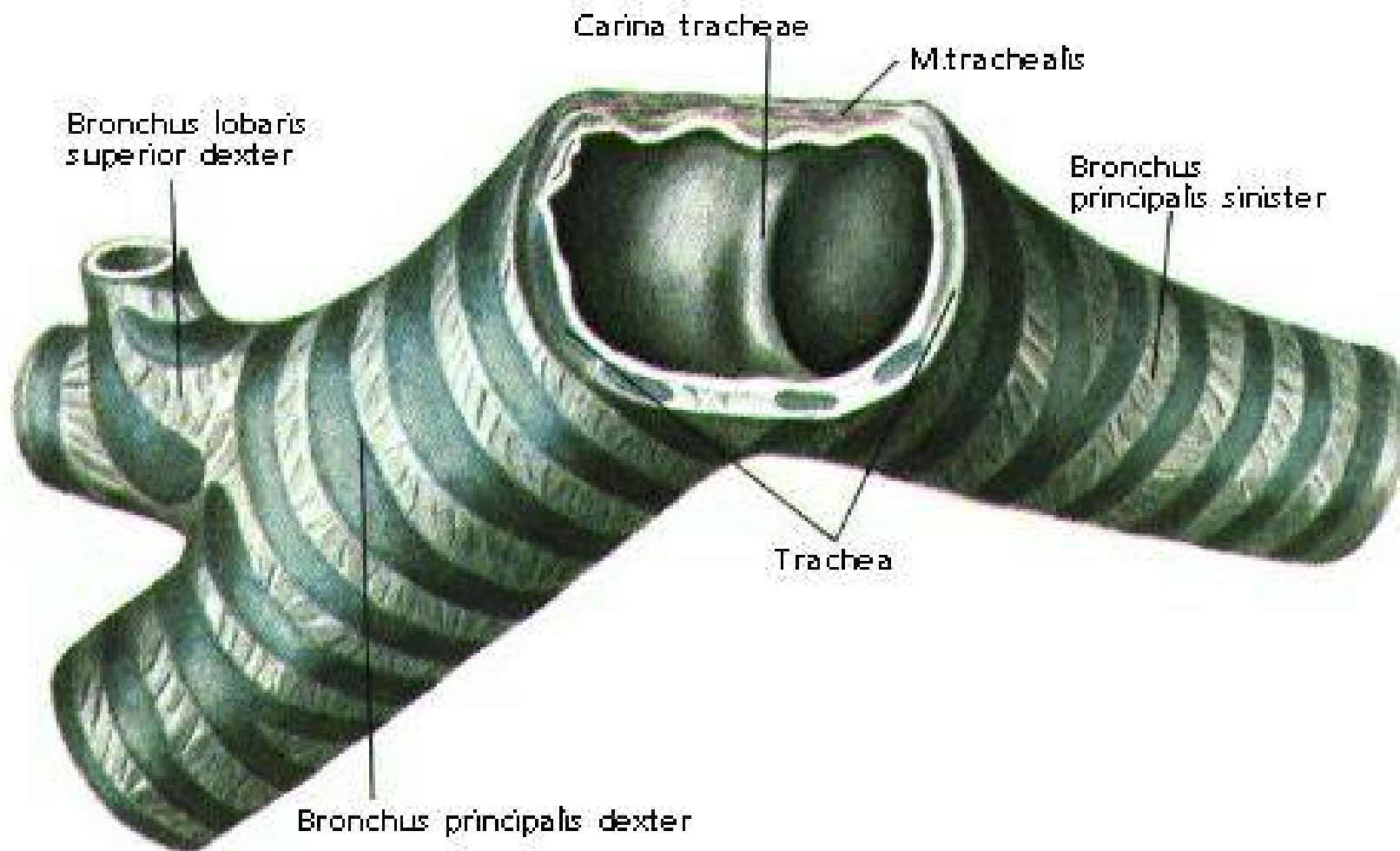
Bronchus principalis sinister

A.pulmonalis sinistra

Bronchus lobaris superior sinister

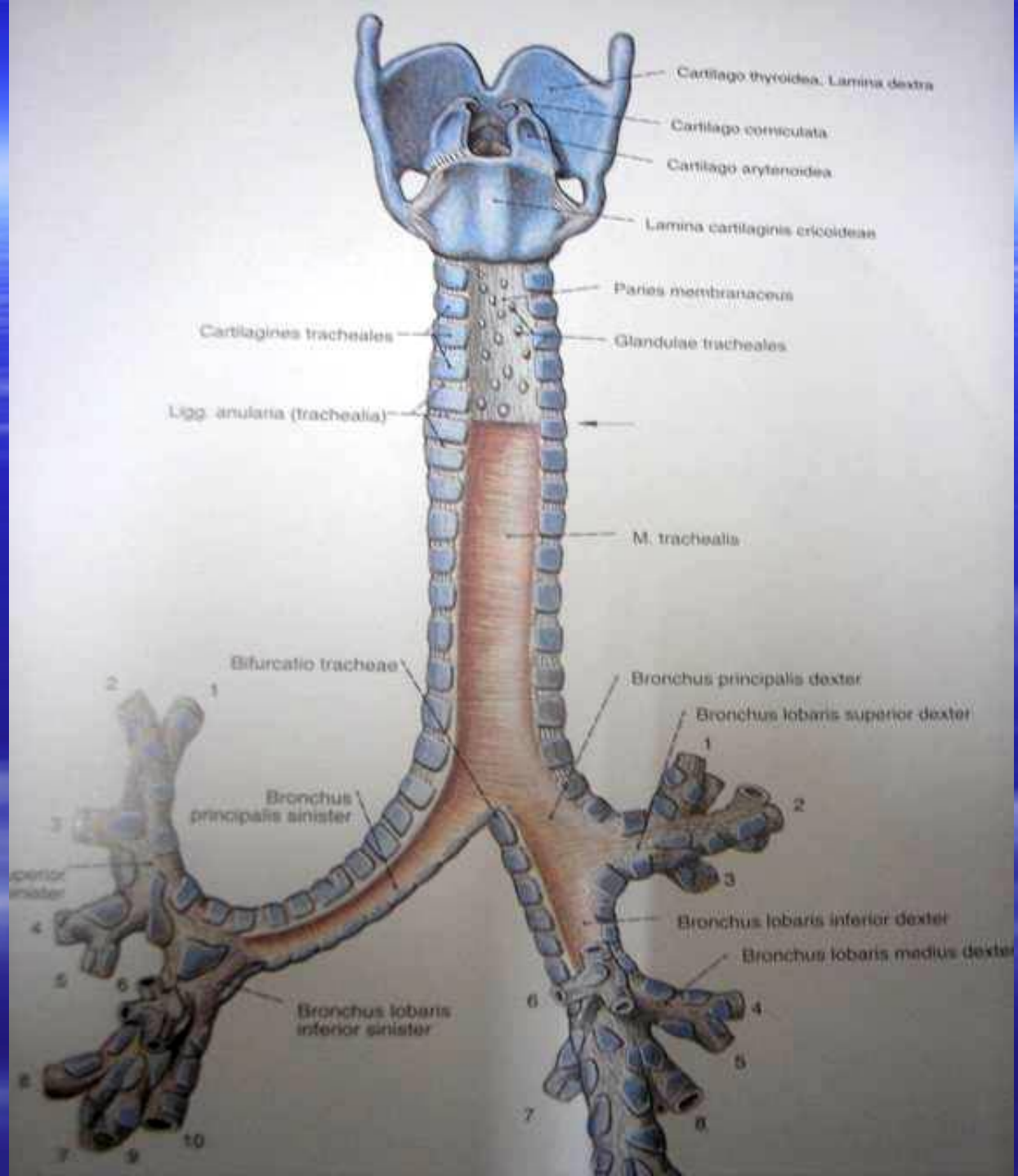
Bronchus segmentalis anterior





Trakeanın komşulukları

- Önde; timus
v.brakiosefalika
arcus aorta
- Arkada; özefagus
sol n.laringeus inferior
- Sağ; v.azigos
sağ n.vagus ve n.frenikus
- Sol; a.karotis comm sinistra
a.subklavia sinistra
sol n.vagus ve n.frenikus



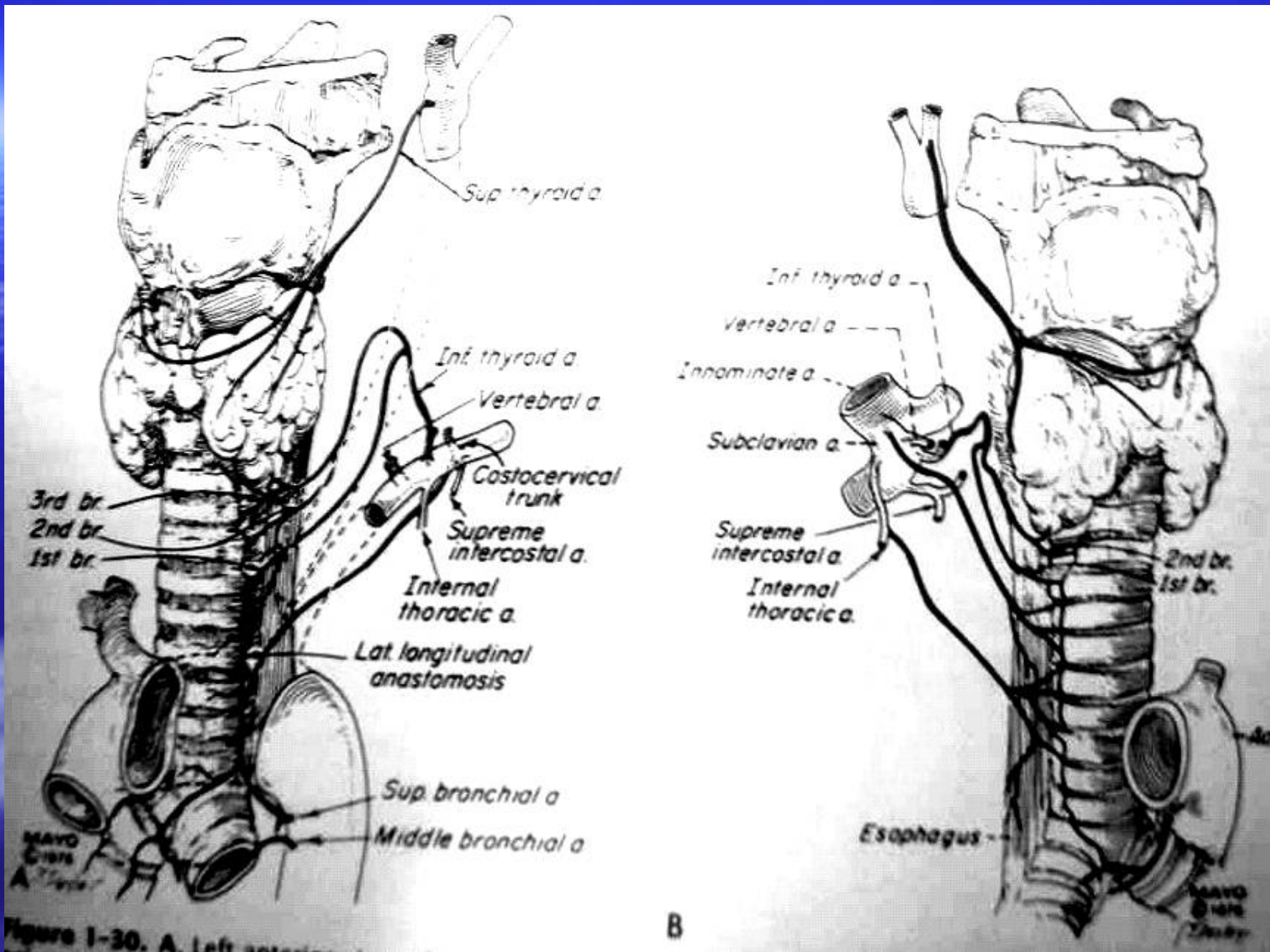
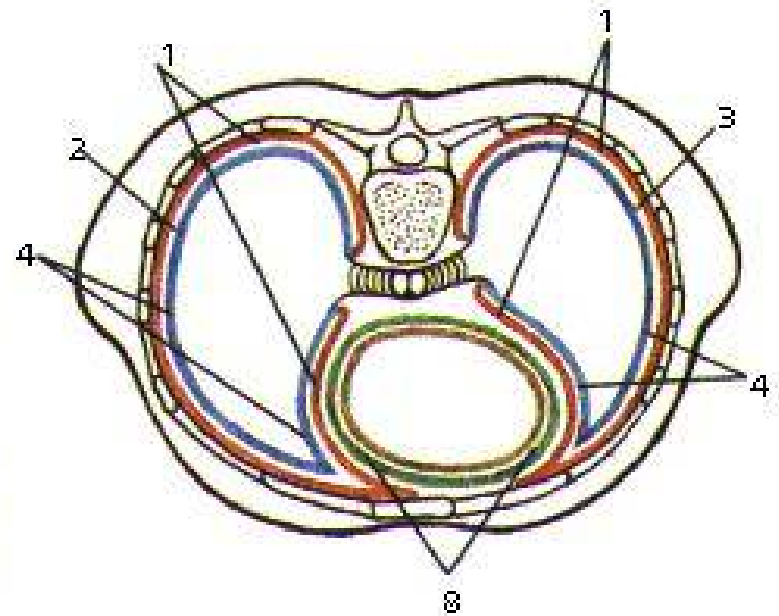
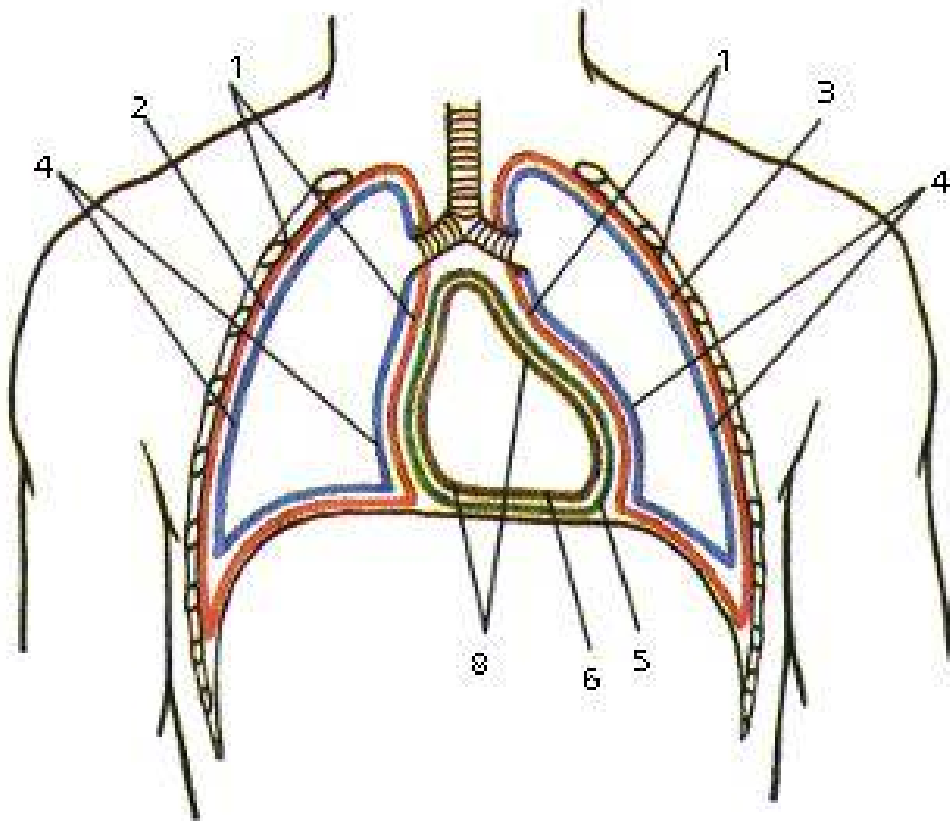


Figure 1-30. A. Left anterior view.

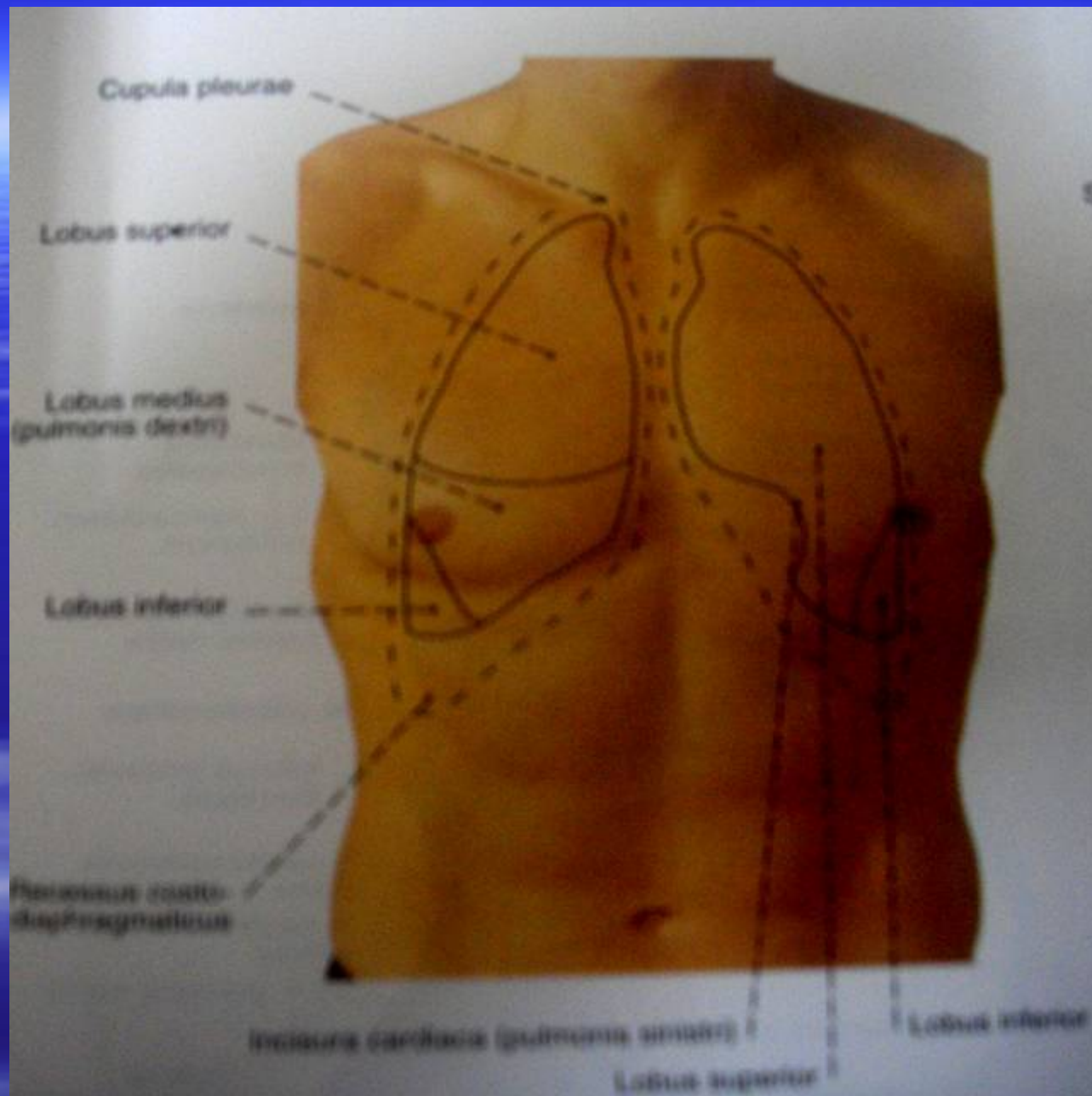
B

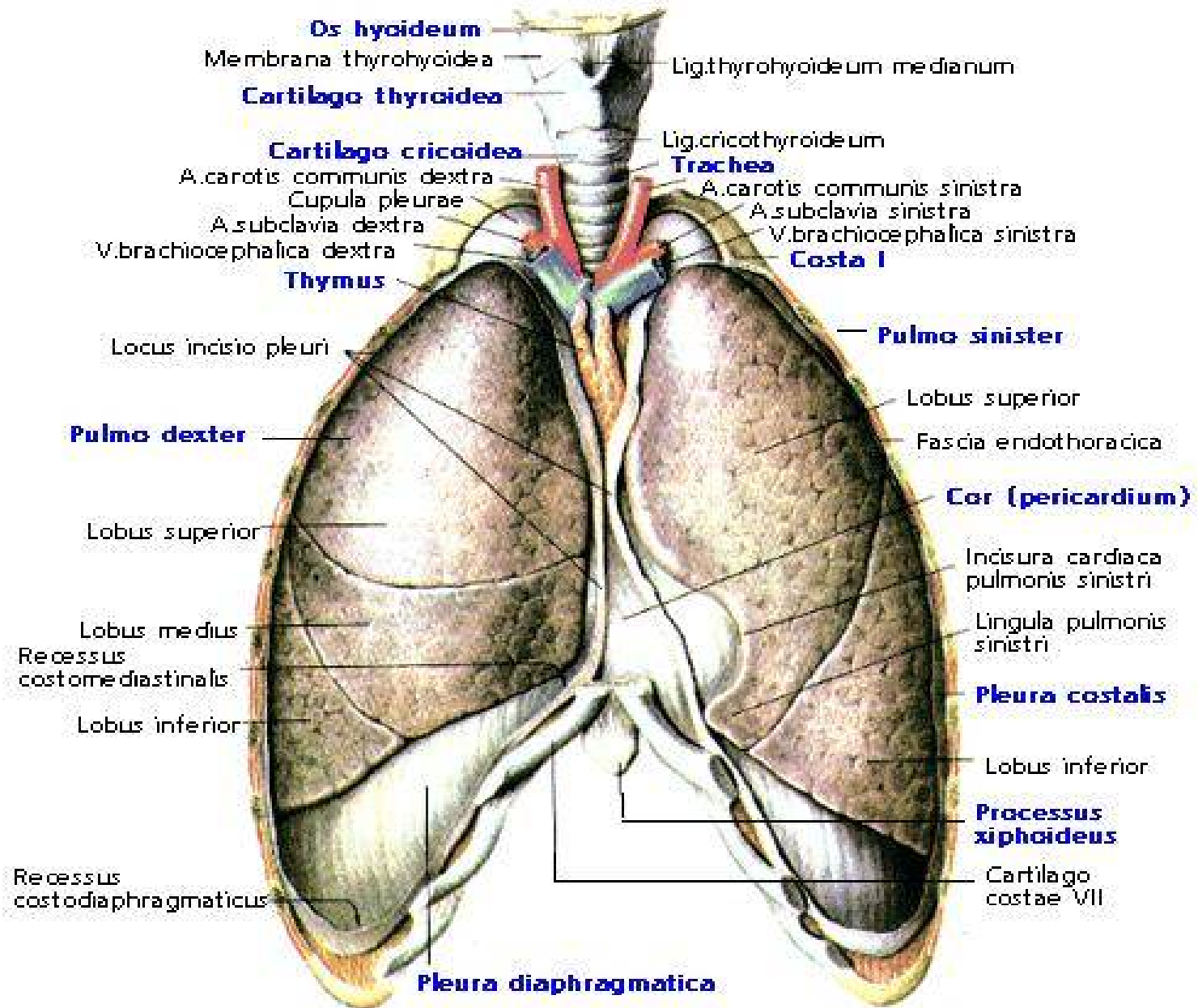


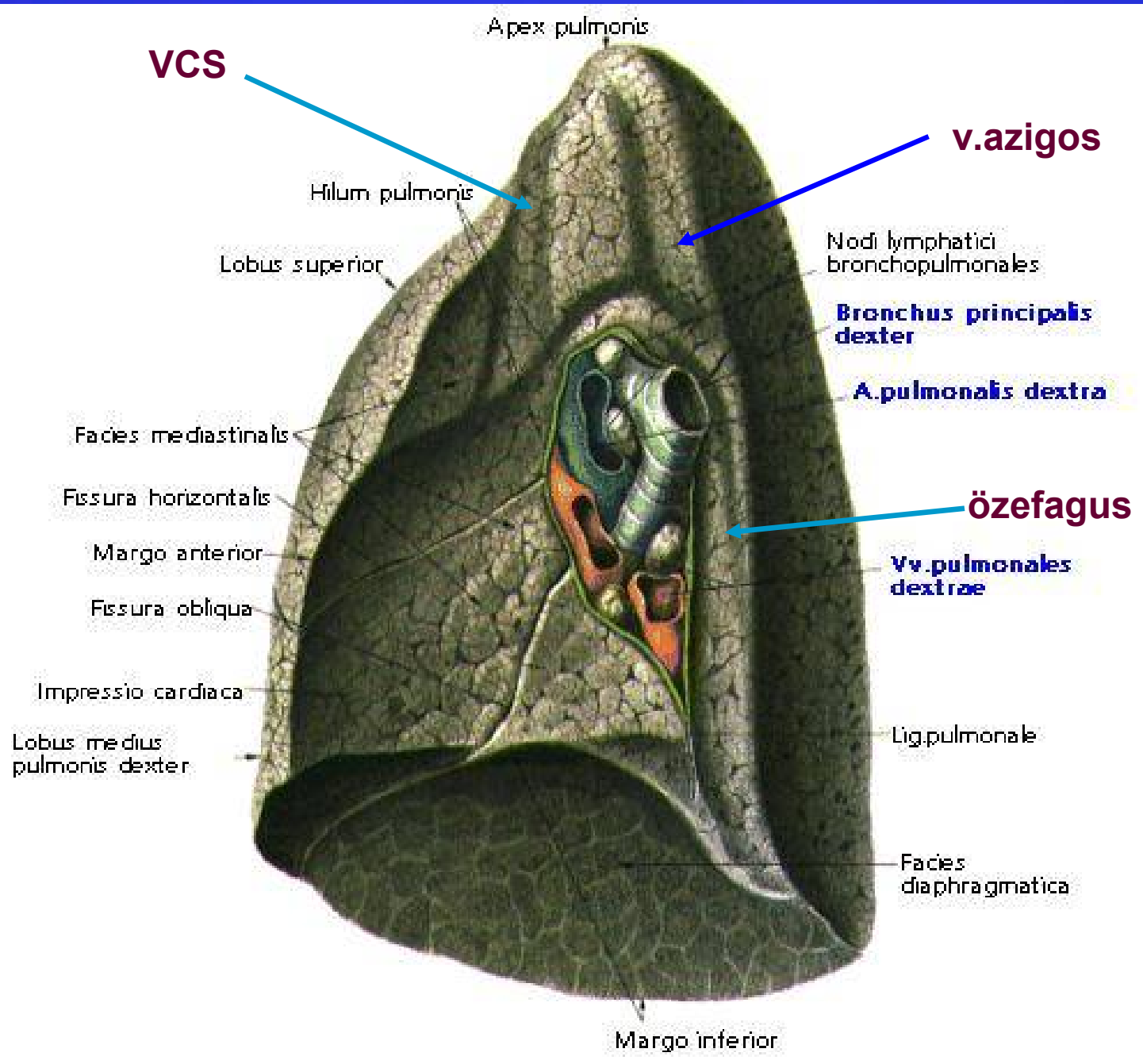
- 1 - pleura parietalis;
- 2 - cavitas pleuralis dextra;
- 3 - cavitas pleuralis sinistra;
- 4 - pleura visceralis (pulmonalis);
- 5 - lamina parietalis;
- 6 - lamina visceralis (epicardium);
- 7 - pericardium serosum;
- 8 - cavitas pericardialis.

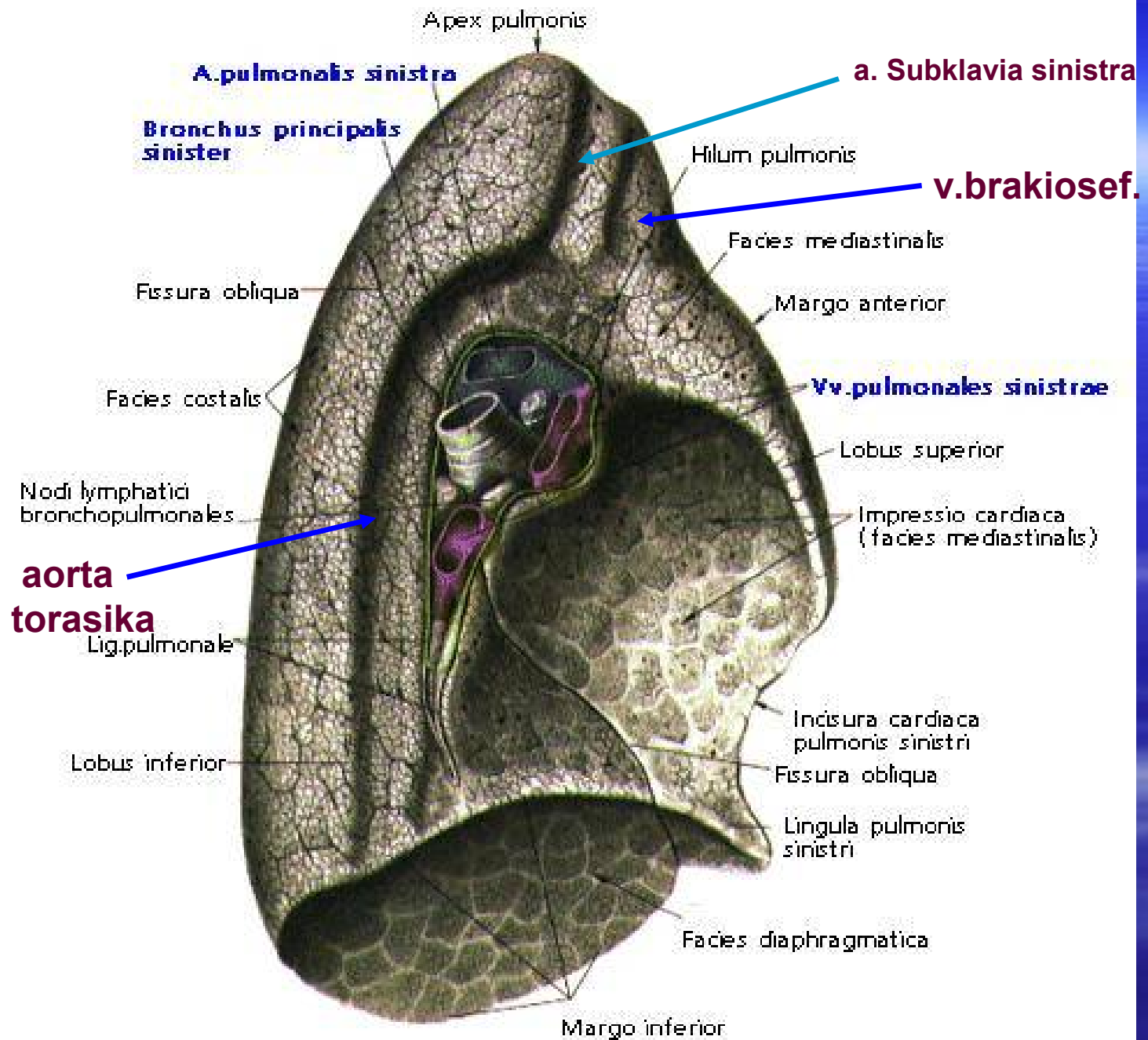
Visseral plevra, sadece n.vagustan duyu alır. Ancak n.vagus ağrı ve temas duyusu almaz.

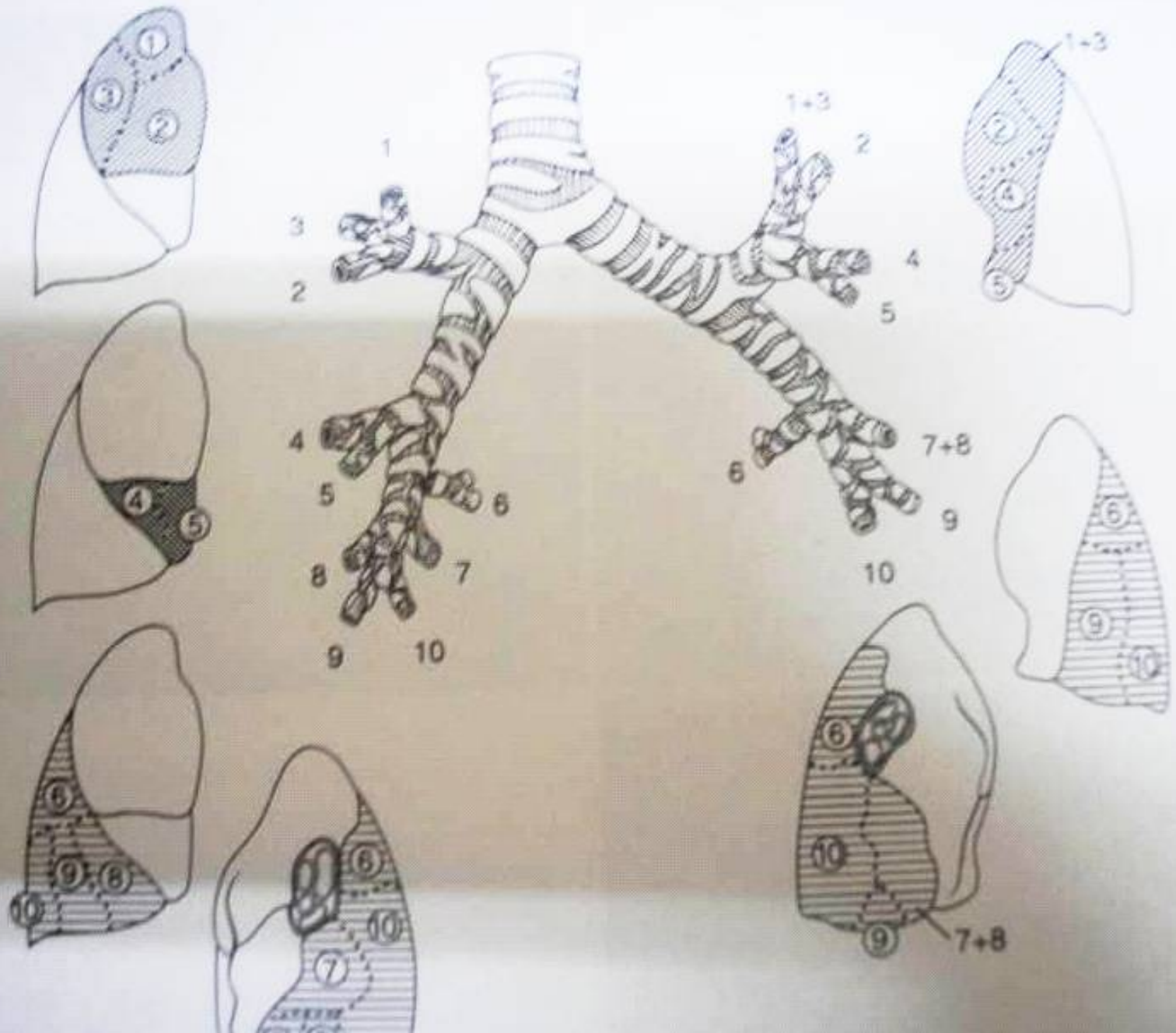
Paryetal plevra, interkostal sinirler ve n.frenikusla innerve olur. Bu yüzden ağrı ve temas duyusu vardır.











BRONKUS PRINSIPALIS DEKSTER**Bronkus lobaris superior**

1. Bronkus segmentalis apikalis
2. Bronkus segmentalis posterior
3. Bronkus segmentalis anterior

Bronkus lobaris medius

1. Bronkus segmentalis lateralis
2. Bronkus segmentalis medialis

Bronkus lobaris inferior

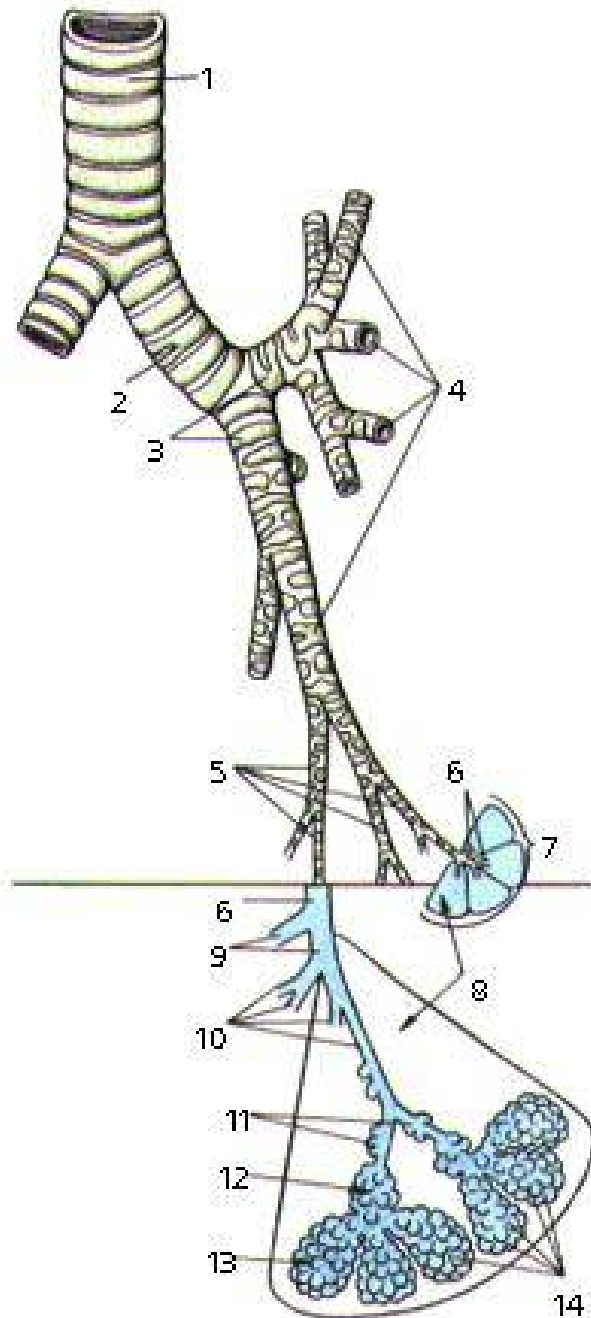
1. Bronkus segmentalis superior
2. Bronkus segmentalis basalis medialis
3. Bronkus segmentalis basalis anterior
4. Bronkus segmentalis basalis lateralis
5. Bronkus segmentalis basalis posterior

BRONKUS PRINSIPALIS SINISTER**Bronkus lobaris superior**

1. - 2. Bronkus segmentalis apikoposterior
3. Bronkus segmentalis anterior
4. Bronkus segmentalis superior
5. Bronkus segmentalis inferior

Bronkus lobaris inferior

1. Bronkus segmentalis superior
2. Bronkus segmentalis basalis medialis
3. Bronkus segmentalis basalis anterior
4. Bronkus segmentalis basalis lateralis
5. Bronkus segmentalis posterior



- 1 - trachea;
- 2 - bronchus principalis sinister;
- 3 - bronchii lobares;
- 4 - bronchii segmentales;
- 5 - rr.bronchiales segmentarium;
- 6 - bronchus lobularis (BNA);
- 7 - lobus pulmonis (secundarius);
- 8 - lobus pulmonis (primarius);
- 9 - bronchioli terminales;
- 10- bronchioli respiratorii;
- 11- ductuli alveolares;
- 12- atrium alveolare;
- 13- sacculus alveolaris;
- 14- alveoli pulmonis.

Akciğer asinususu

Terminal bronşiolde_n sonra gelen respiratuar bronşiol, ilk kez gaz alış-verişinin yapıldığı yerdir.

AKCİĞERİN DAMARLARI

Vasa Privata

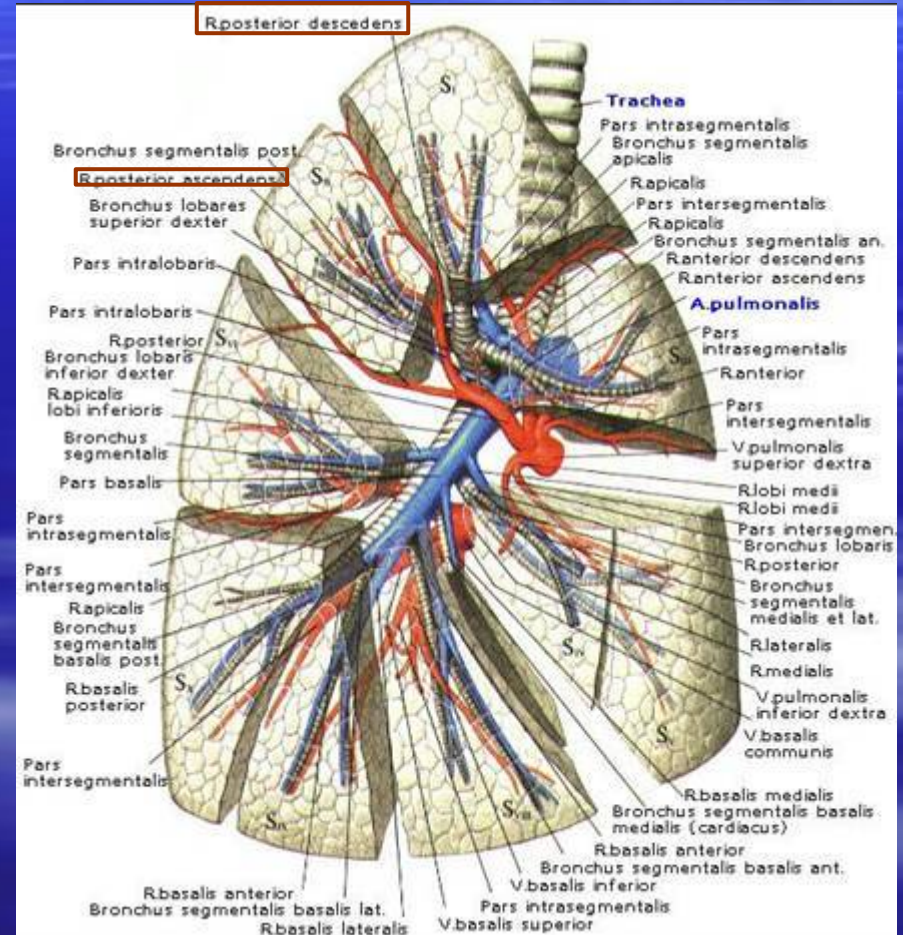
Vasa Publica

A.Bronşialis (besleyen)
Pulmonalis(fonks)
Solda aorttan direk
Sağda interkostalis posteriordan

A. ve V.

Sağ pulm arter

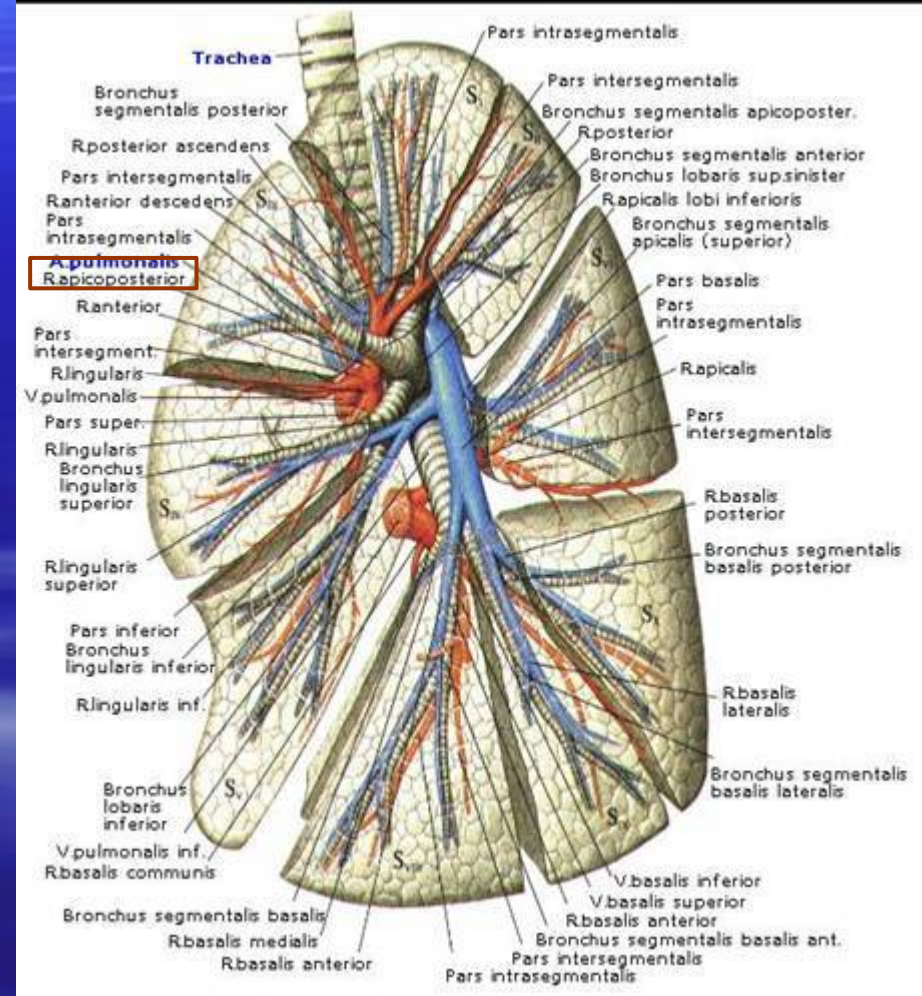
- Uzun ve kalın
- Arkus aorta ile vena cava superiorun arkasından
- Üst ve alt olarak ikiye ayrılır
- Üst; ant gövde; ikiye ayrılır; apikal ve anterior
- Fissürde posterior çıkan arter
- Alt; orta ve alt lobu besleyen arterleri verir.

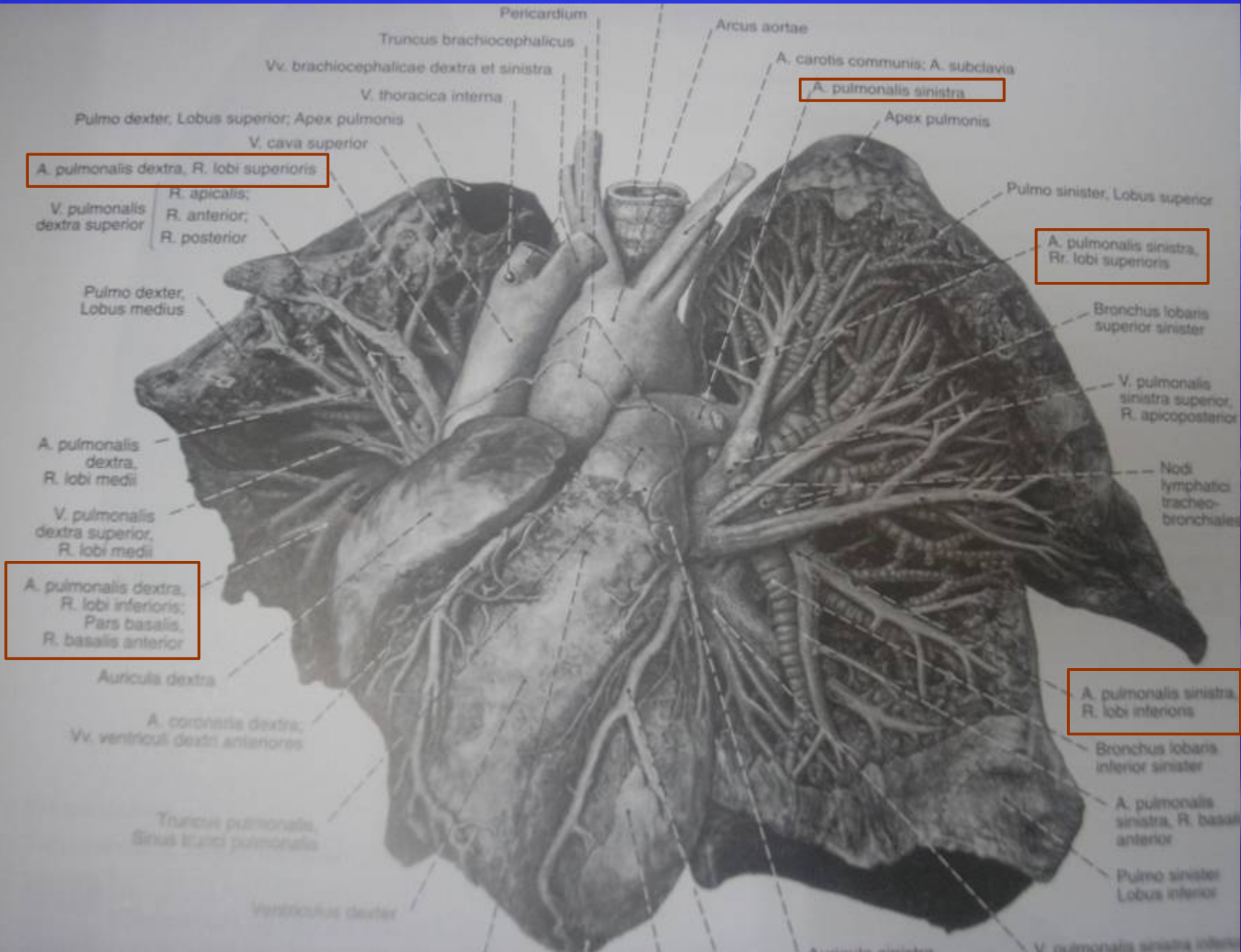


Sol pulm arter

- Kısa ve ince
- Aorta torasikanın önünden geçer
- Üst ve alt loba giden dallar verir

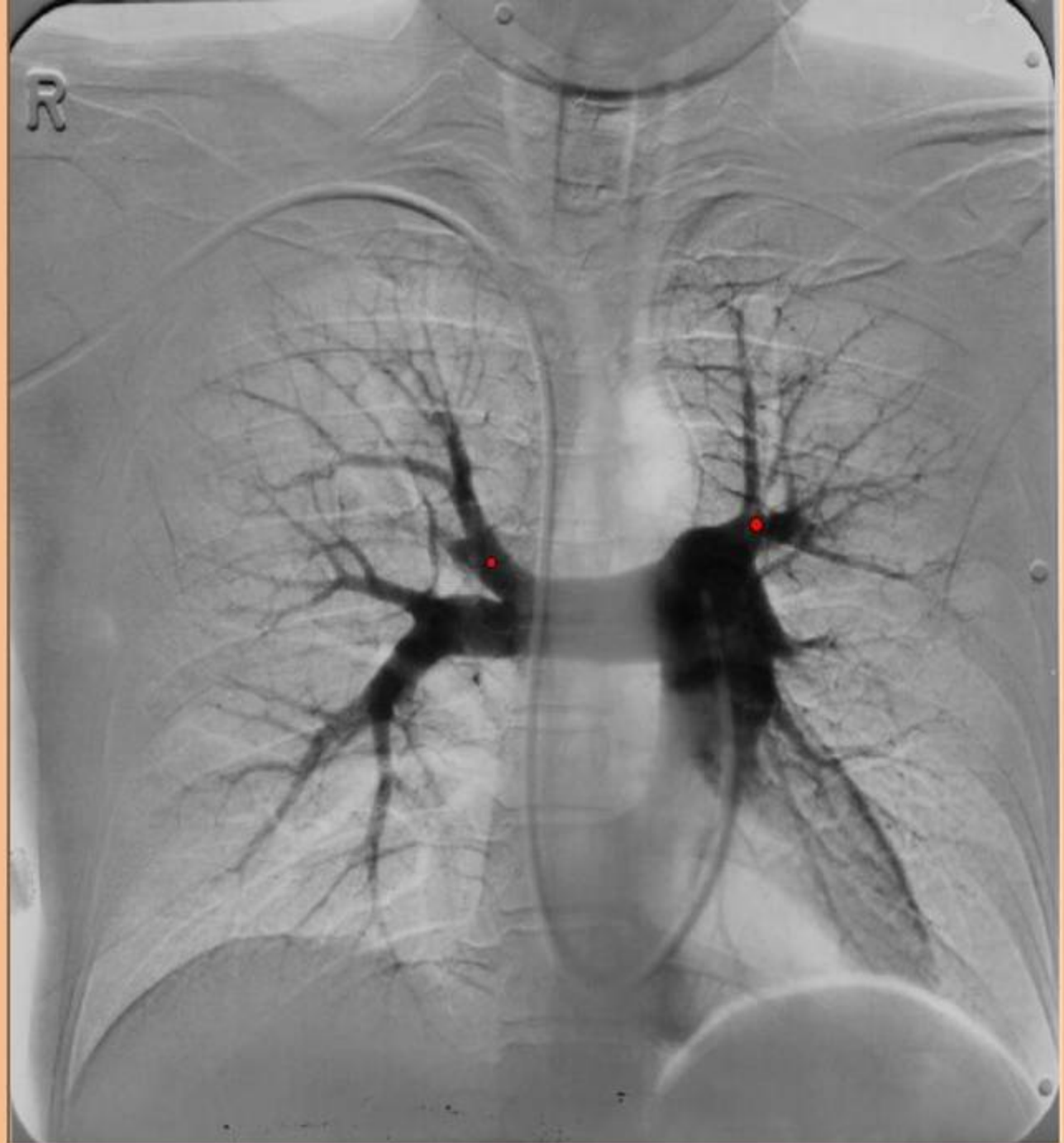
** Bilateral olarak arkasından akciğerlere girer.





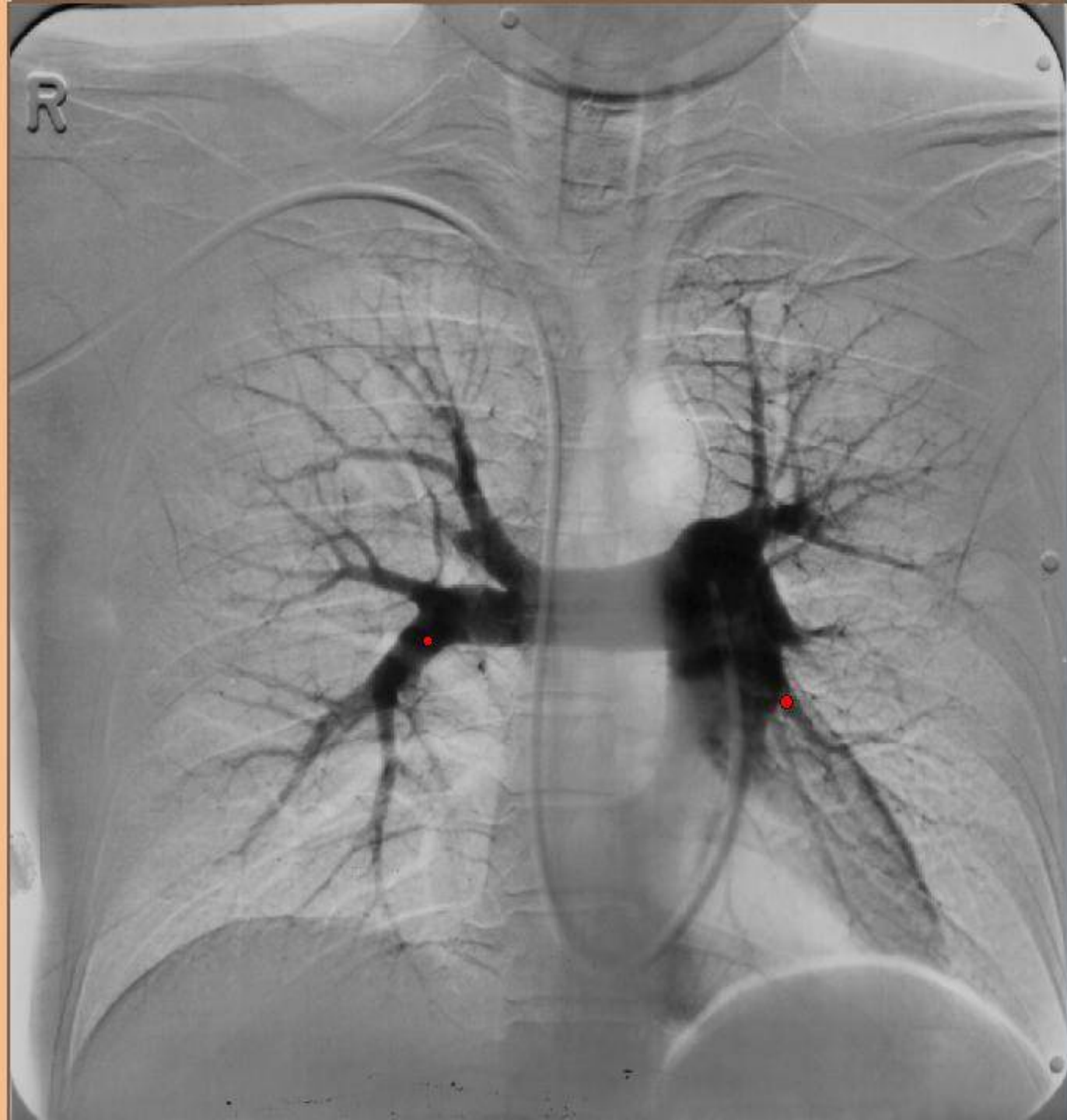
Auricula sinistra V. pulmonalis sinistra inferior

Catheter introduced via right brachial vein
Tip of catheter in main pulmonary artery
Right pulmonary artery
Left pulmonary artery
Superior lobe pulmonary artery
Inferior lobe pulmonary artery
Middle lobe pulmonary artery
Lateral basal artery
Posterior basal artery
Medial basal artery
Medial artery (middle lobe)
Lateral artery (middle lobe)
Apical artery (superior lobe)
Posterior artery (superior lobe)
Anterior artery (superior lobe)
Superior lingular artery
Inferior lingular artery



Pulmonary arteriogram

Catheter introduced via right brach
Tip of catheter in main pulmonary a
Right pulmonary artery
Left pulmonary artery
Superior lobe pulmonary artery
Inferior lobe pulmonary artery
Middle lobe pulmonary artery
Lateral basal artery
Posterior basal artery
Medial basal artery
Medial artery (middle lobe)
Lateral artery (middle lobe)
Apical artery (superior lobe)
Posterior artery (superior lobe)
Anterior artery (superior lobe)
Superior lingular artery
Inferior lingular artery



Catheter introduced via right brachi
Tip of catheter in main pulmonary a
Right pulmonary artery
Left pulmonary artery
Superior lobe pulmonary artery
Inferior lobe pulmonary artery
Middle lobe pulmonary artery
Lateral basal artery
Posterior basal artery
Medial basal artery
Medial artery (middle lobe)
Lateral artery (middle lobe)
Apical artery (superior lobe)
Posterior artery (superior lobe)
Anterior artery (superior lobe)
Superior lingular artery
Inferior lingular artery

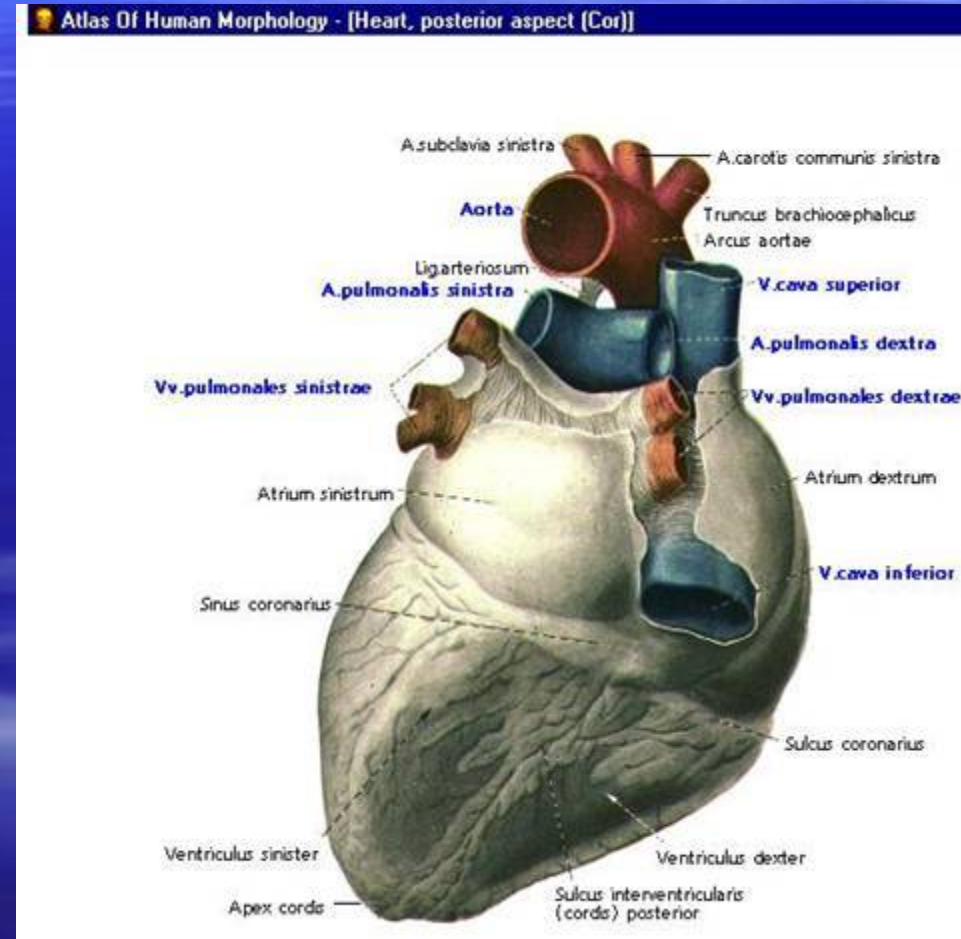


- Anterior and superior in right bronchus
- Tip of catheter in main pulmonary a
- Right pulmonary artery
- Left pulmonary artery
- Superior lobe pulmonary artery
- Inferior lobe pulmonary artery
- Middle lobe pulmonary artery
- Lateral basal artery**
- Posterior basal artery
- Medial basal artery
- Medial artery (middle lobe)
- Lateral artery (middle lobe)
- Apical artery (superior lobe)
- Posterior artery (superior lobe)
- Anterior artery (superior lobe)
- Superior lingular artery
- Inferior lingular artery



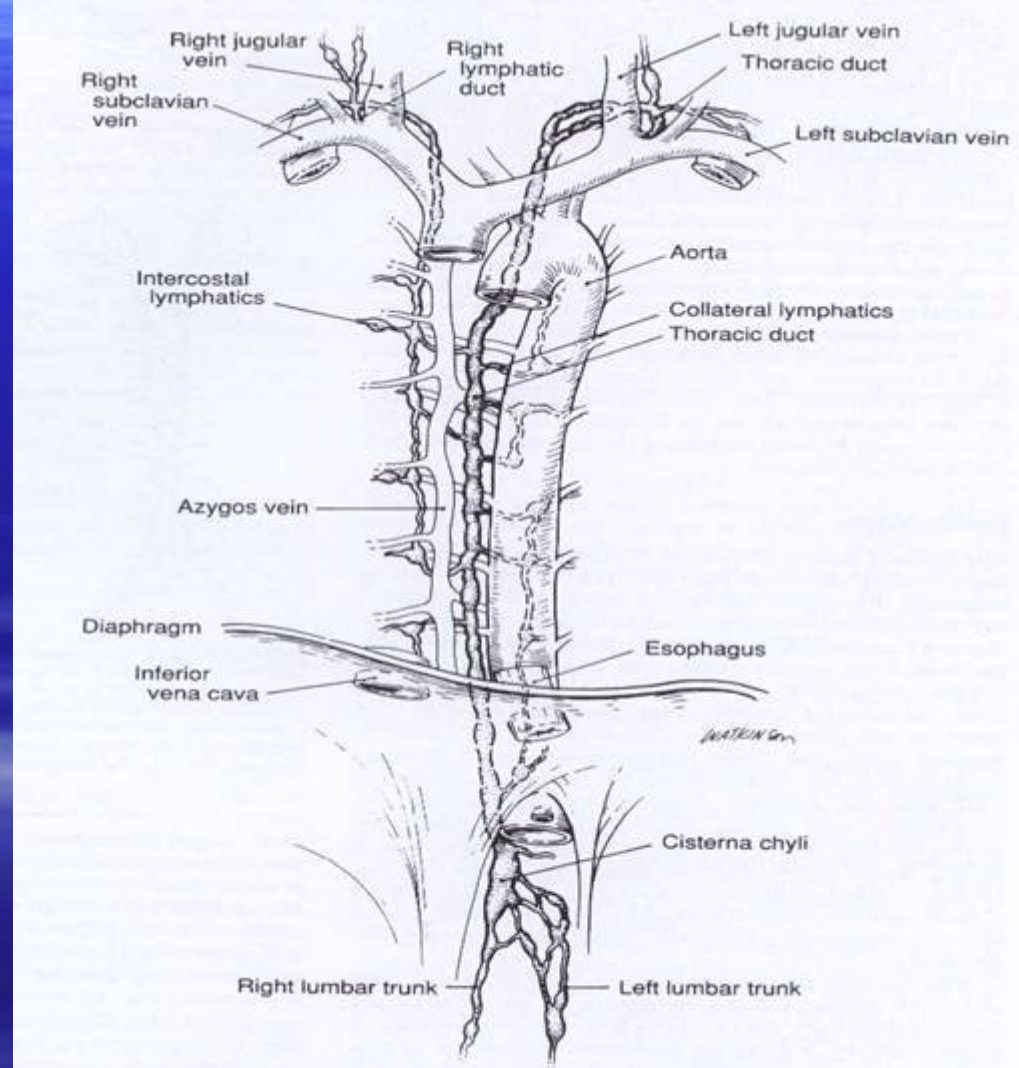
Vena pulmonalisler

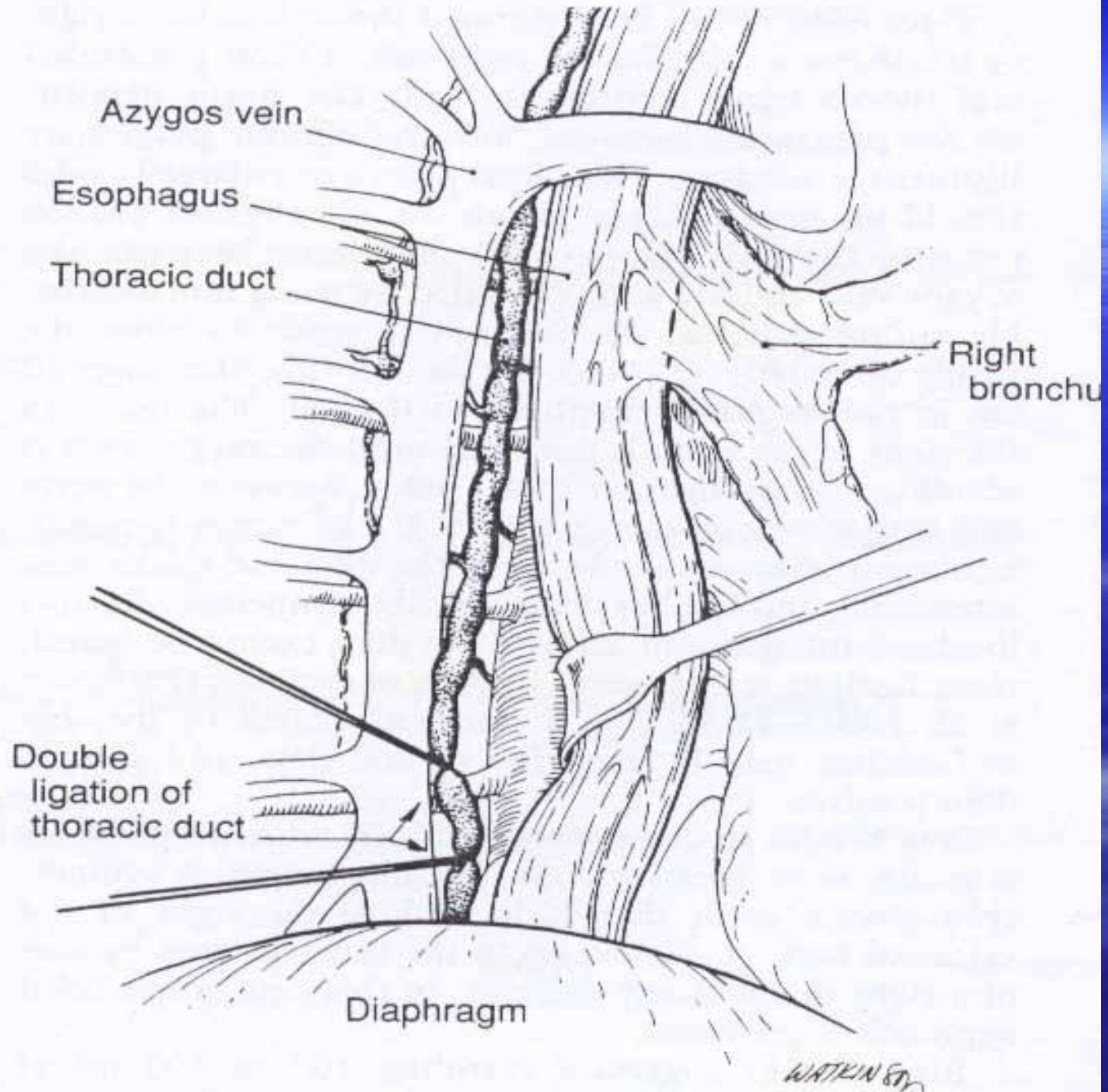
- Bilat 2 adet
- Sağ vp; perikard içinde vcs ve sağ atriumun arkasından sol atriuma
- Sol vp; sol pulm arterin altından sol atriuma



Duktus Torasikus

- Lenfatik sistemin ana toplayıcı damarıdır
- Genellikle *sisterna şili* den (L1-L2) orijin alır
- T 10-12 hizasında aortun sağından göğüs boşluğuna girer. (hiatus aortikustan)
- T 5-6 vertebra hizasında vertebrayı çaprazlayarak sol tarafa geçer(aort ve azigos arasında)
- Genellikle sol internal juguler venle subclavian venin birleşim yerine drene olur. (Piragow açısı)





AORTA

Başlıca 3 bölüm;

2. Çıkan aort

3. Arkus:

a)trunk. brakiosefalikus

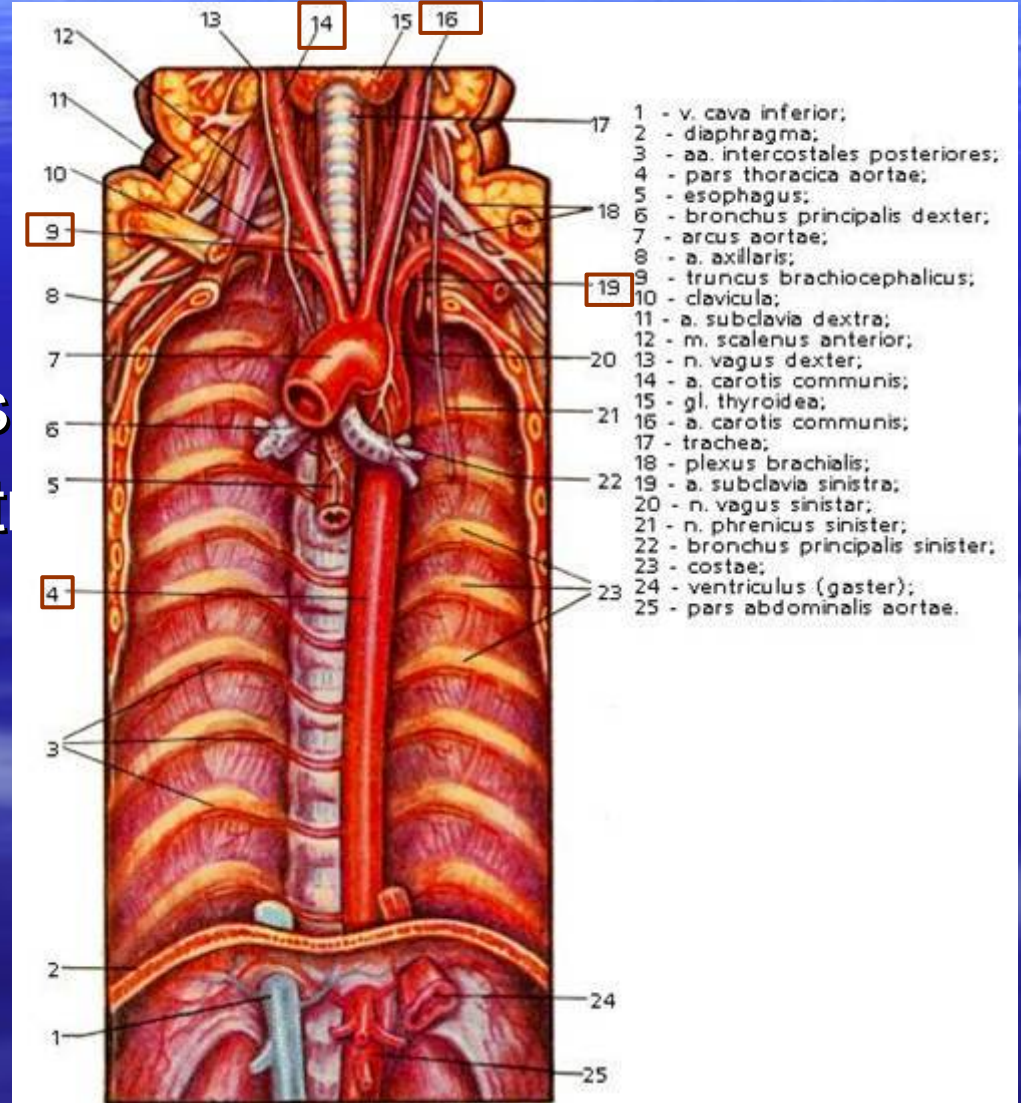
b)a.carotis.comm.sinist

c)a.subkavia sinistra

7. İnen aort:

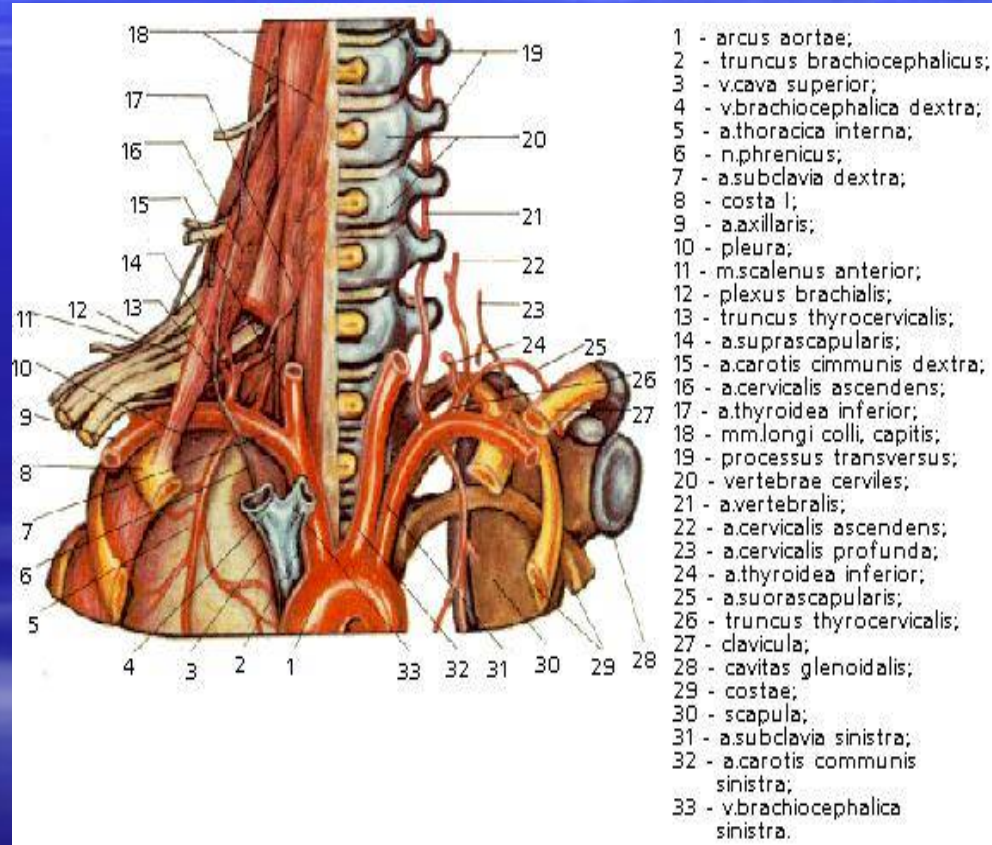
a)a.torasika

b)a.abdominalis



Arkus Aorta

- Louis açısından posteriora doğru horizontal olarak çizilen hatta başlar ve biter.
- Mediastinum superiusta
- Trunk.brakiosefalika(2)
 - a.subklavia dextra(7)
 - a.carotis comm.dextra(15)
- A.carotis comm.sinistra(32)
- A.subclavia sinistra(31)



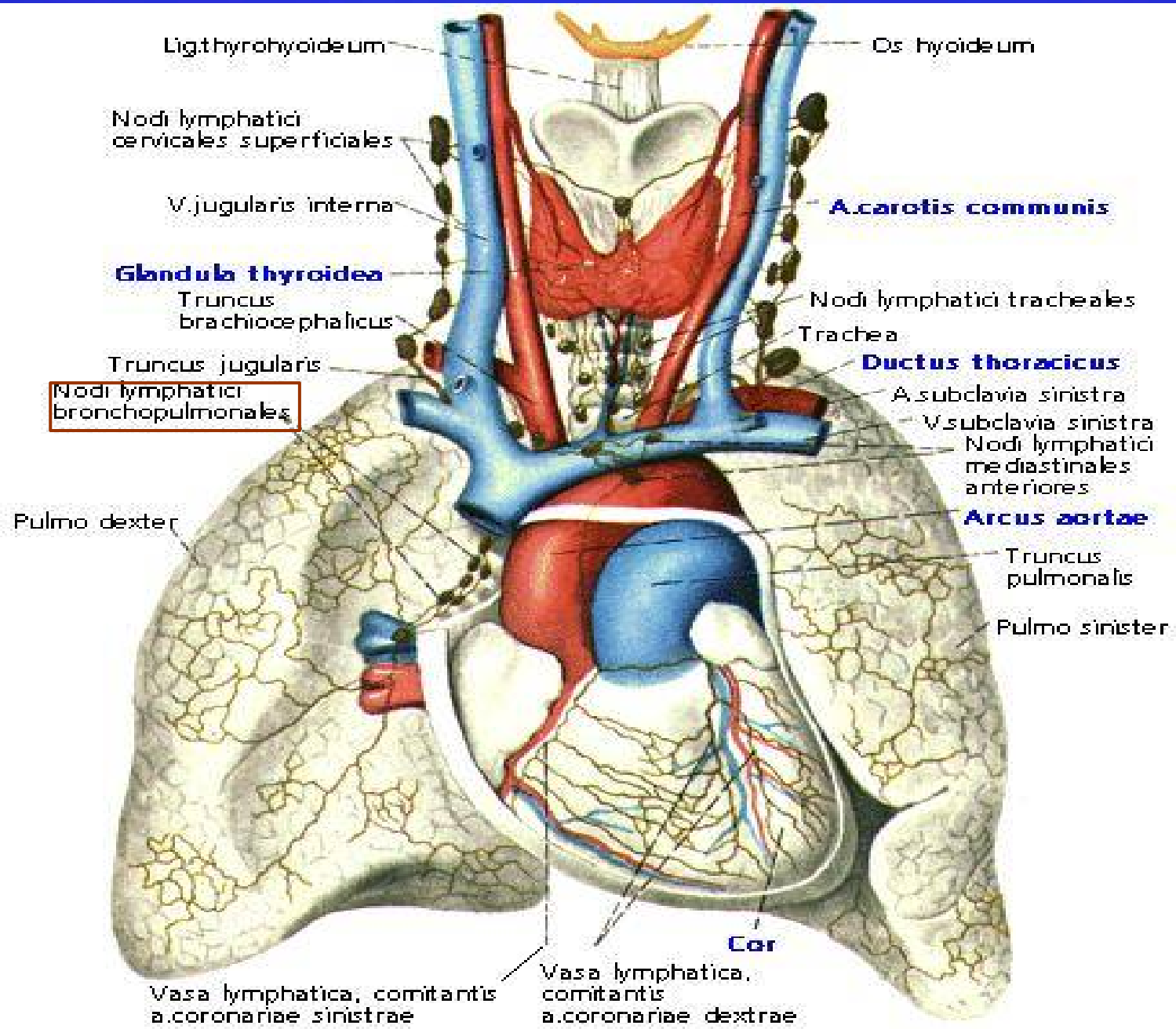
İnen Aort

- T4-L4 arasında uzanır
- A.torasika: mediastinum posteriorda
 - visseral dalları: bronşialis sinistra
 - özefageales
 - perikardi
 - mediastinalis
 - trakeales
- paryetal dalları: interkostales post(I. ve II. hariç)

Toraks Kavitesinin Lenf Nodu Haritası (Amerikan Thoracic Society)

- 1R-L: supraklavikular
- 2R-L: yüksek paratrakeal nodlar; ac'in apeksi ve aortik arkın üst bölümünde
- 4R: alçak paratrakeal nod; aortik arkın başlangıcında ve v.azigosun başlangıcında
- 4L: alçak paratrakeal nod; aortik arkın üstünde, lig arterosumun medialinde
- 5: aortapulm nod: aort yada sol pulm arterin ilk dalının proksimalinde

- 6: ant mediastinal nod: ascending aorta yada innominate (sol v.brakiosefalika)
- 7: subkarinal nod: karinanın kaudalinde ama ac'in alt loblarının bronş ve arterleriyle ilişkili değil
- 8: paraözefageal nod; özefagusun dorsalinde descending aorta ile ilişkili
- 10R: sağ trakeabronşiol nod; trakeanın sağında, sağ üst lob bronşunun başlangıç noktasında
- 10L: sol trakeabronşiol nod; karinayla sol üst lob bronşu arasında, lig arteriosumun medialinde



Lig. thyrohyoideum

Os hyoideum

Nodi lymphatici
cervicales superficiales

V. jugularis interna

A. carotis communis

Glandula thyroidea

Truncus
brachiocephalicus

Nodi lymphatici tracheales

Trachea

Truncus jugularis

Ductus thoracicus

Nodi lymphatici
bronchopulmonales

A. subclavia sinistra

V. subclavia sinistra

Nodi lymphatici
mediastinales
anteriores

Arcus aortae

Pulmo dexter

Truncus
pulmonalis

Pulmo sinister

Cor

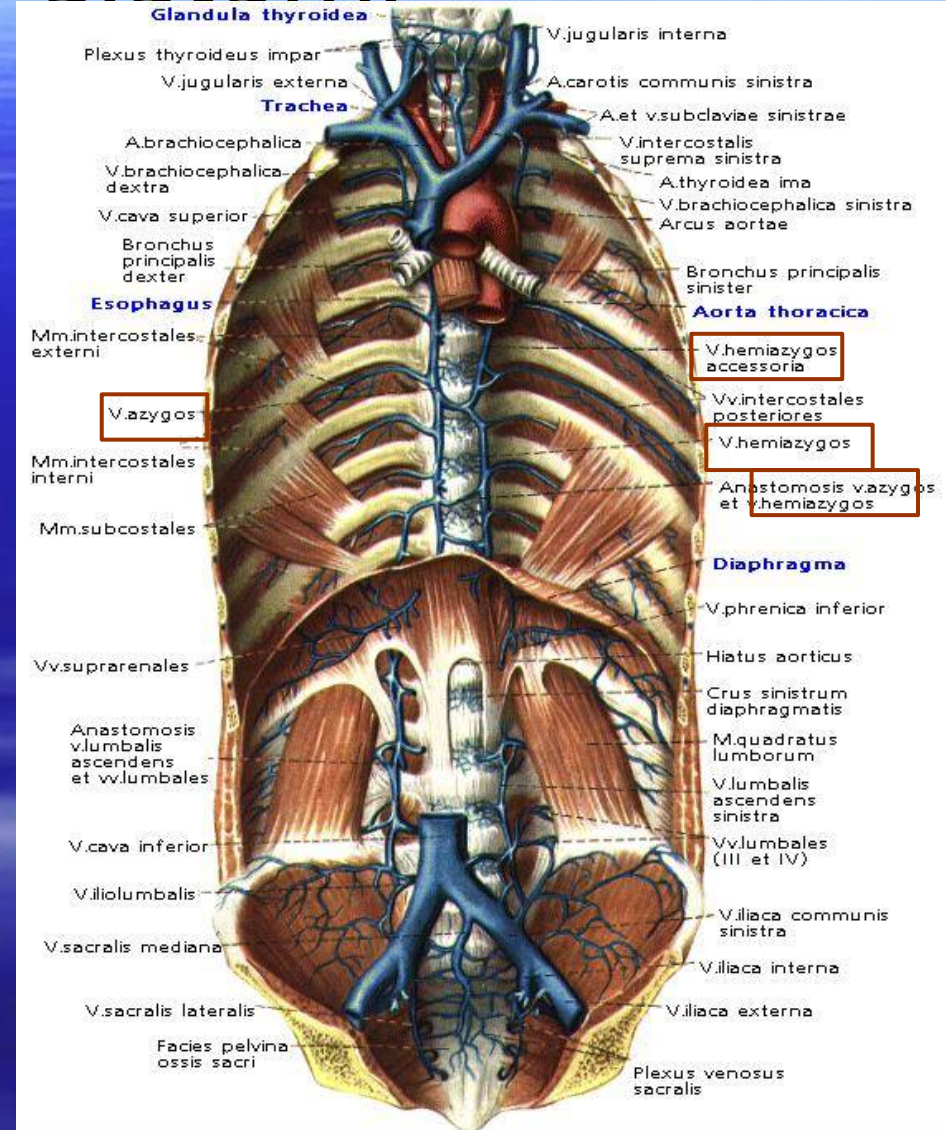
Vasa lymphatica,
comitantis
a. coronariae sinistrae

Vasa lymphatica,
comitantis
a. coronariae dextrae

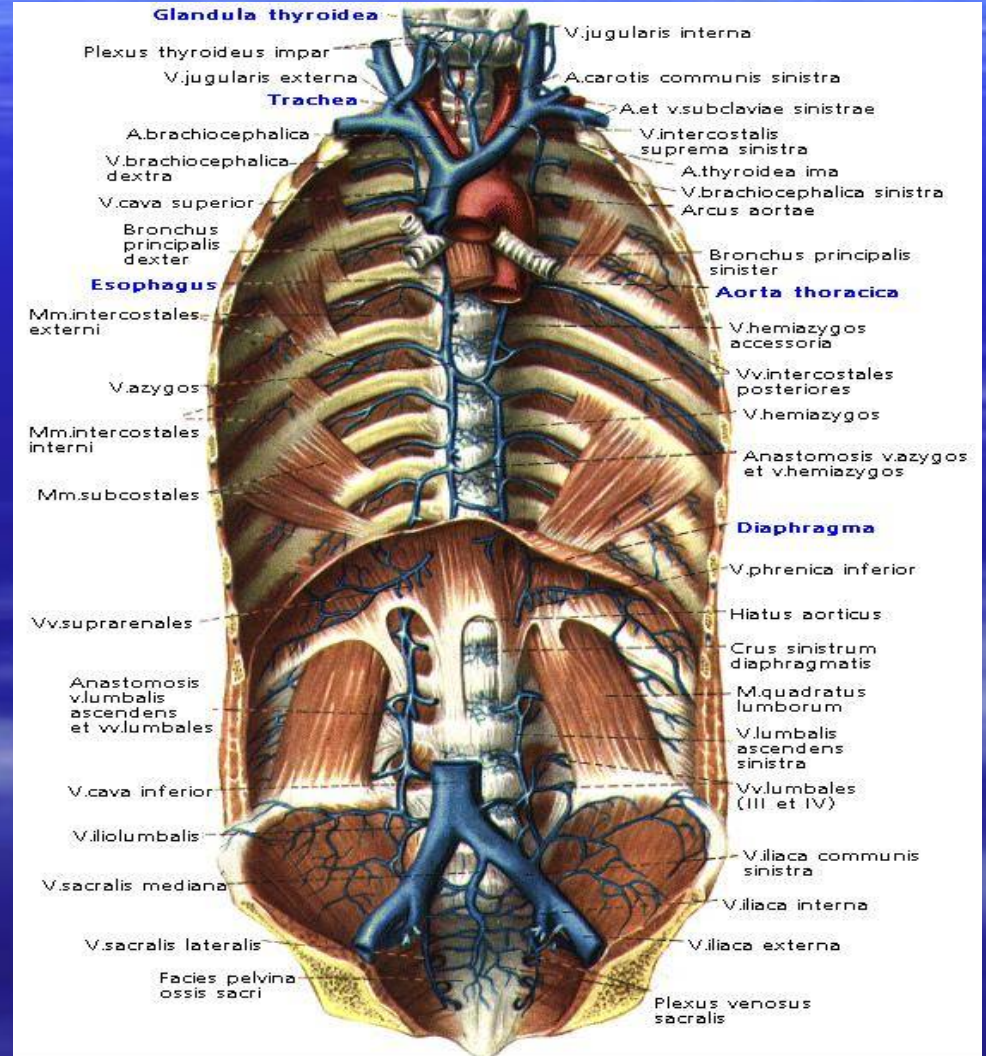


Azigos sistemi

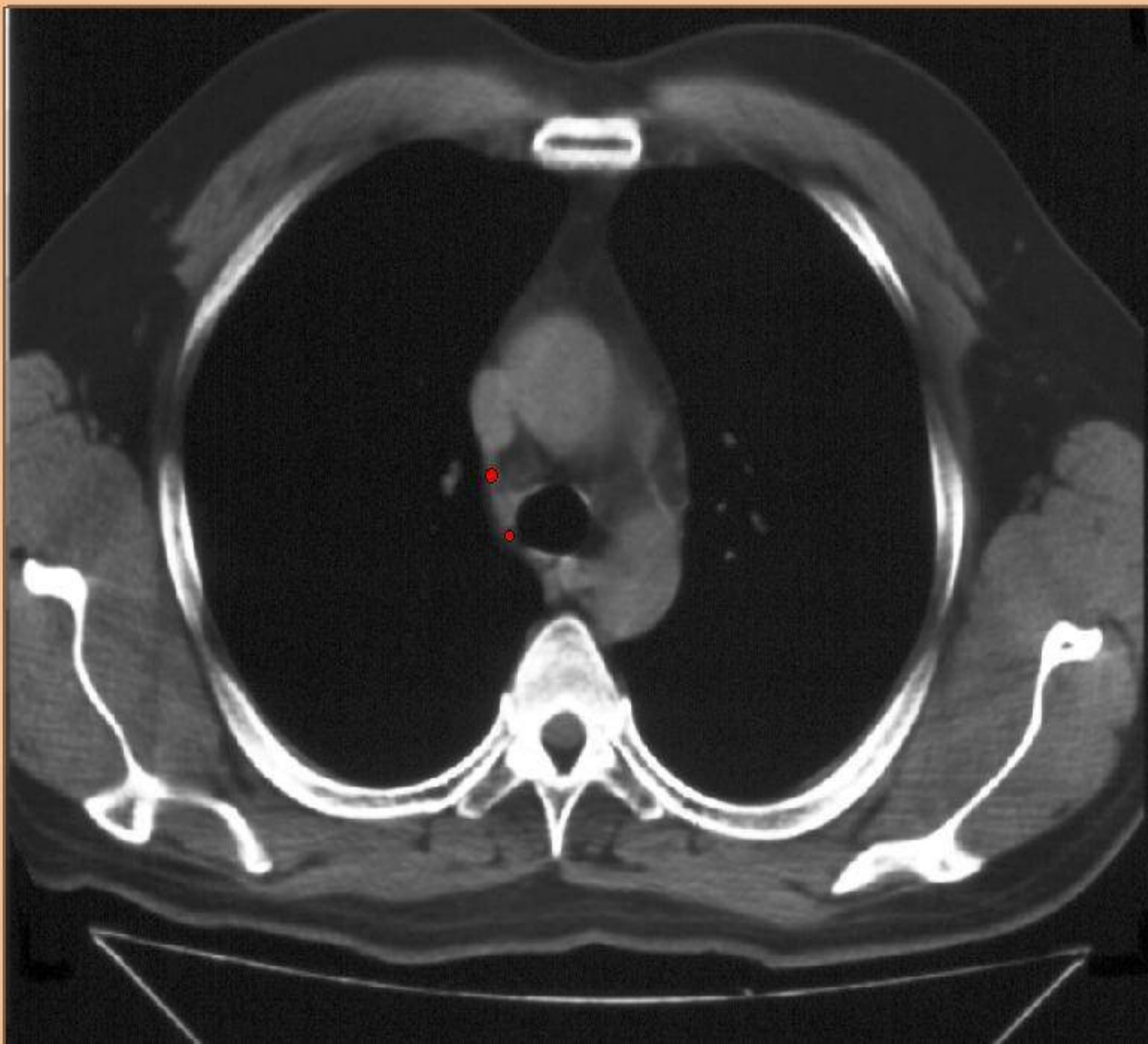
- Toraksın paryetal venöz dolaşımını toplayan bir sistem
- 3 venden oluşur: v.azigos, v.hemiazigos, v.hemiazigos aksesoria



- V.azigos: sağ taraf kasın boşluğundan başlar. Hiatus aortikustan toraksa, Th4 seviyesinde sağ ac radiksin üzerinden geçip vena cava superiora dökülür.
- V.hemiazigos: L1-2 hizasında toraksa, Th9 seviyesinde sağa döner aort, özef, d.torasikusun arkasından, v.azigosa drene olur.
- V.hemiazigos aks: Sol vert bölgede yukarıdan aşağıya uzanır. Th7'yi çaprazlayıp, v.azigos veya v.hemiazigosu dökülür.



- Ascending aorta
- Descending aorta
- Superior vena cava
- Trachea
- Oesophagus
- Azygos vein**
- Superior lobe branch of right pulm
- Right superior pulmonary vein
- Internal thoracic artery and vein
- Body of sternum
- Pectoralis major muscle
- Pectoralis minor muscle
- Subscapularis muscle
- Infraspinatus muscle
- Latissimus dorsi muscle
- Teres major muscle
- Teres minor muscle
- Rhomboid major muscle
- Head of rib
- Joint of head of rib



Esophagus
Right inferior lobe bronchus
Left inferior lobe bronchus
Azygos vein
Hemi-azygos vein
Right pulmonary artery
Left pulmonary artery
Pulmonary trunk
Right superior pulmonary vein
Anterior interventricular branch of
Right atrial appendage (auricle)
Left atrial appendage (auricle)
Left atrium
Body of sternum
Pectoralis major muscle

