



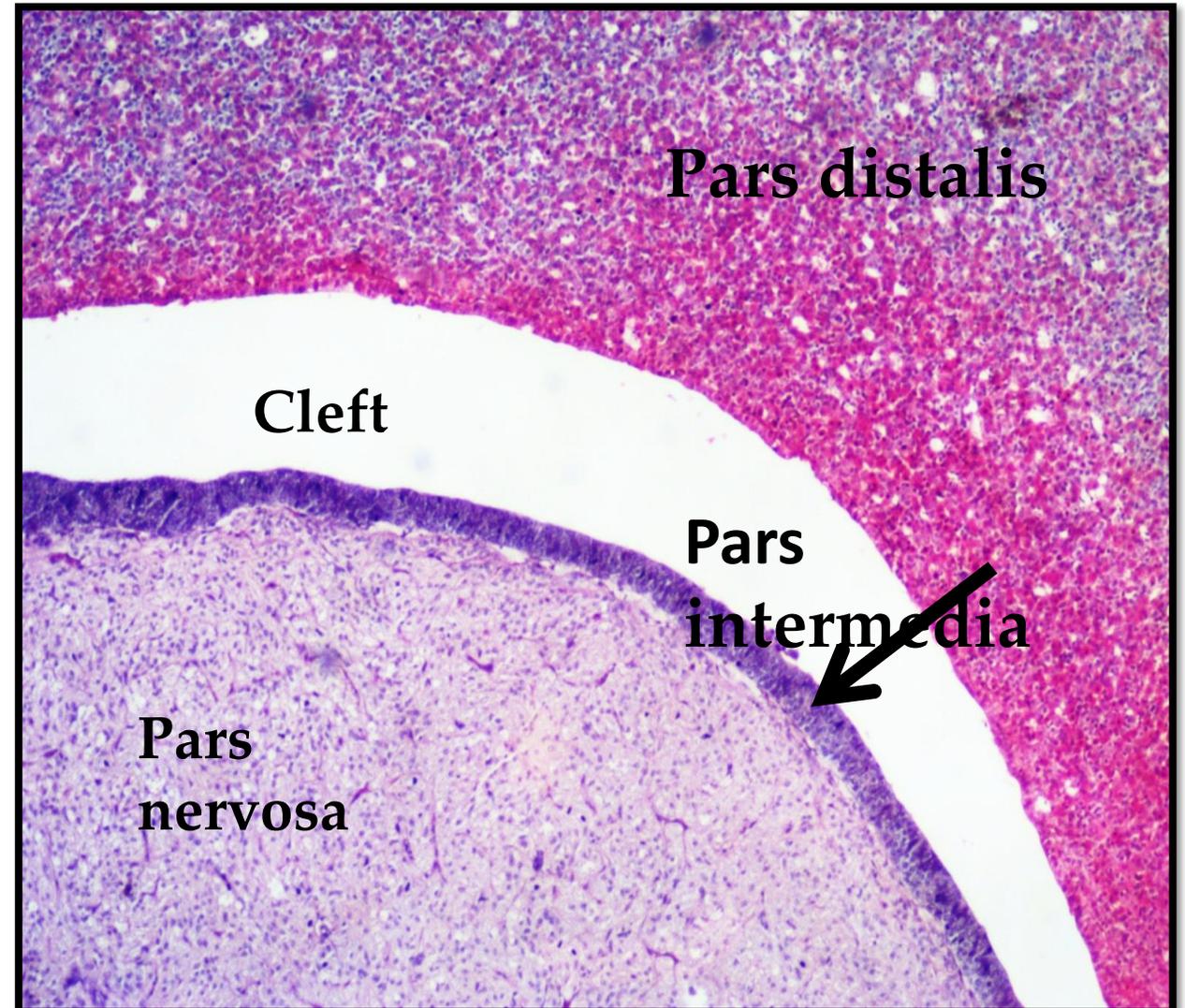
Endocrine & Reproduction Module



Endocrine

Pituitary gland

- **Pars distalis** (Acidophilic anterior lobe) and **pars nervosa** (pale posterior lobe) separated by **cleft**.
- **Pars intermedia** is a narrow strip of short basophilic cords of cells over **pars nervosa**.

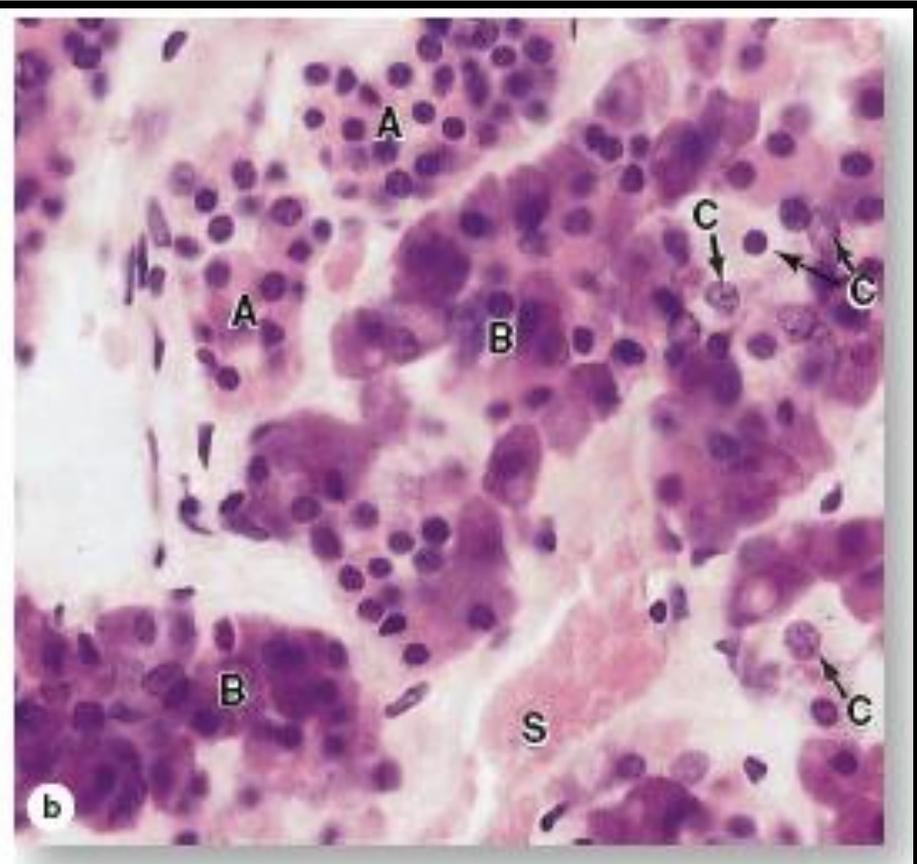
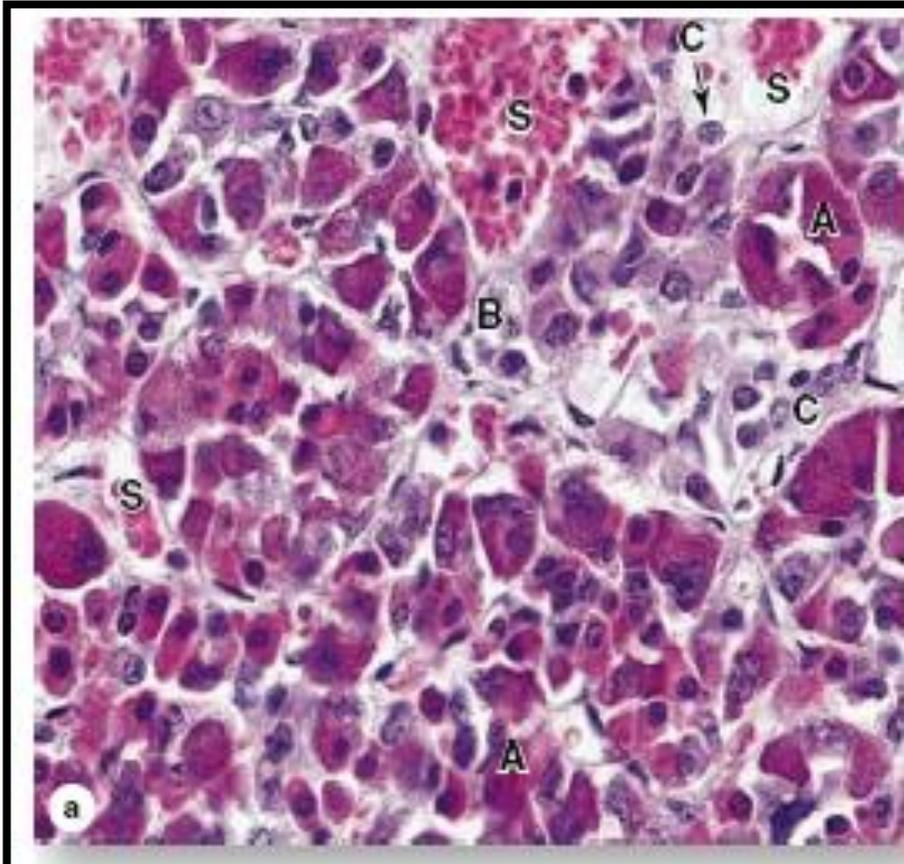




Pars distalis

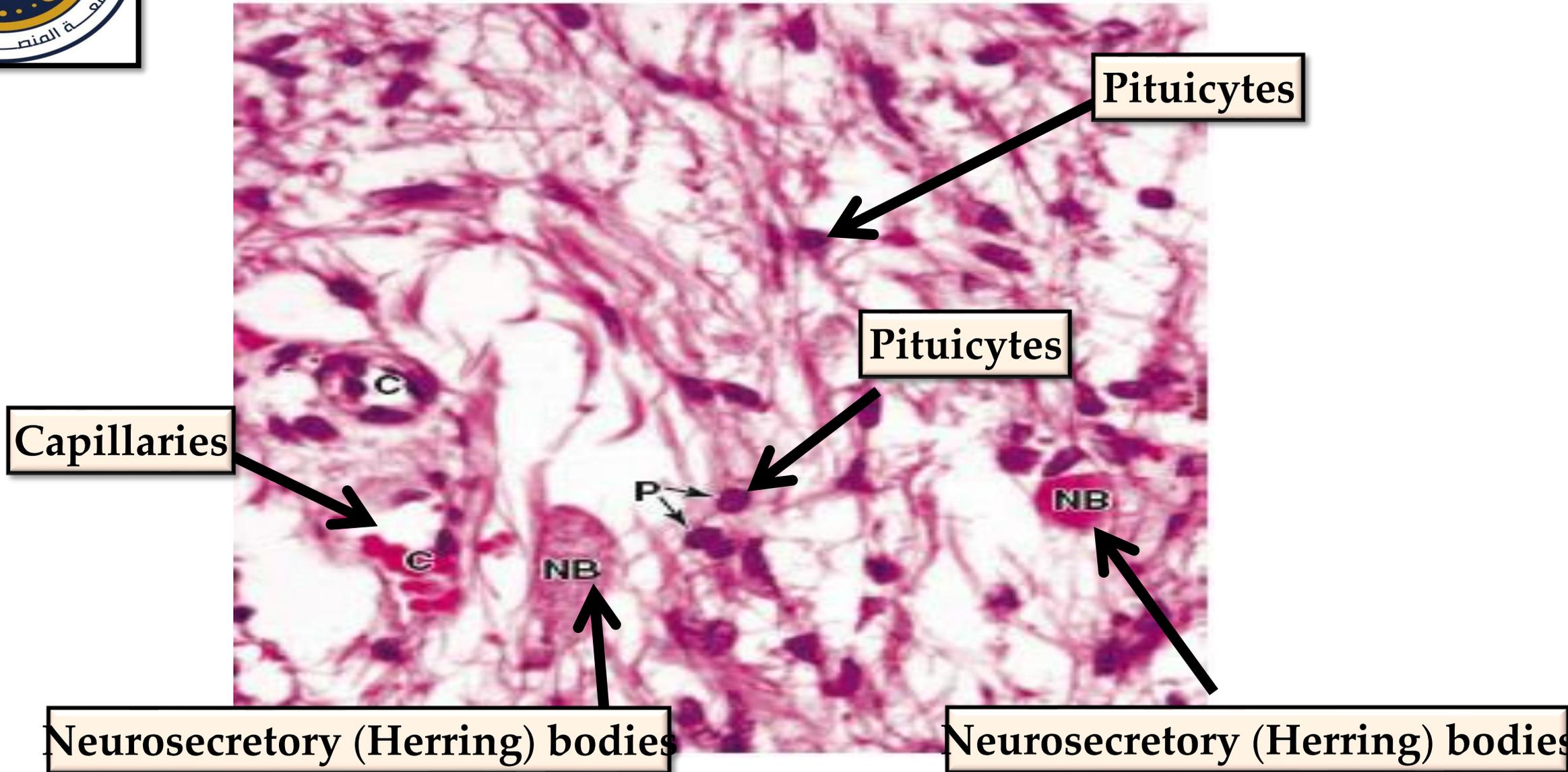
Pars distalis is subdivided into acidophils (A), basophils (B) and chromophobes (C)

(C)



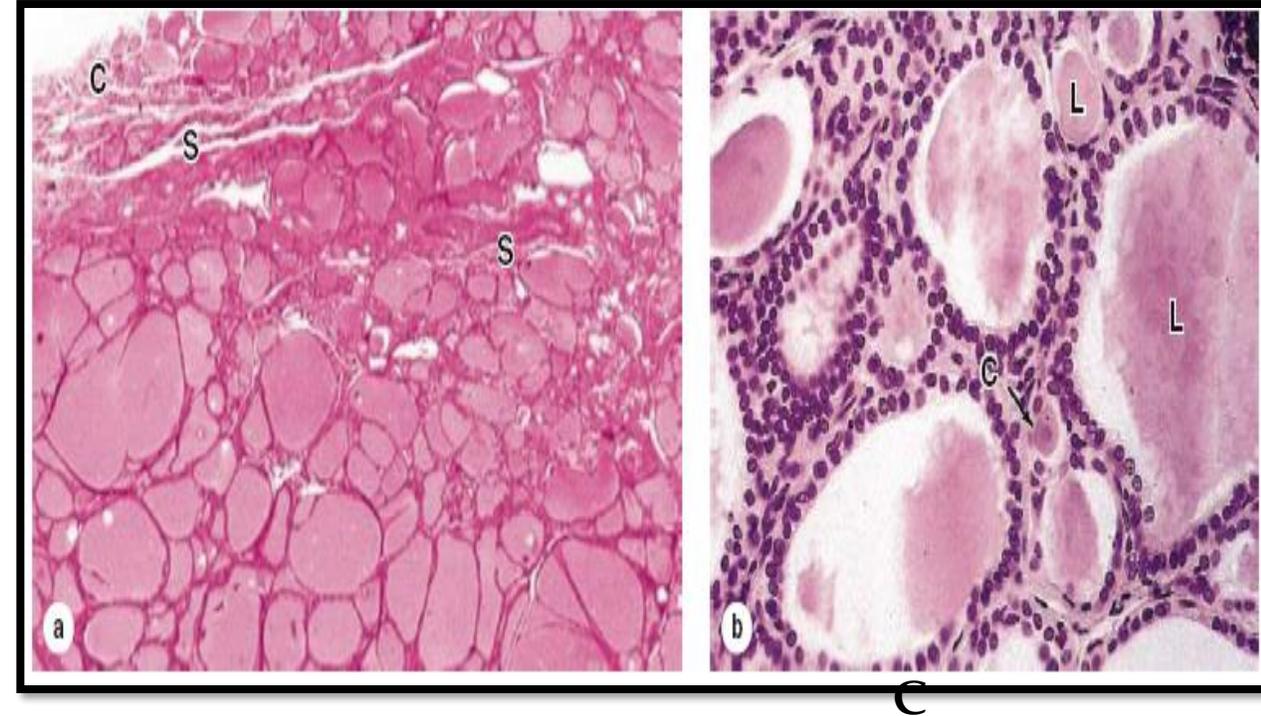
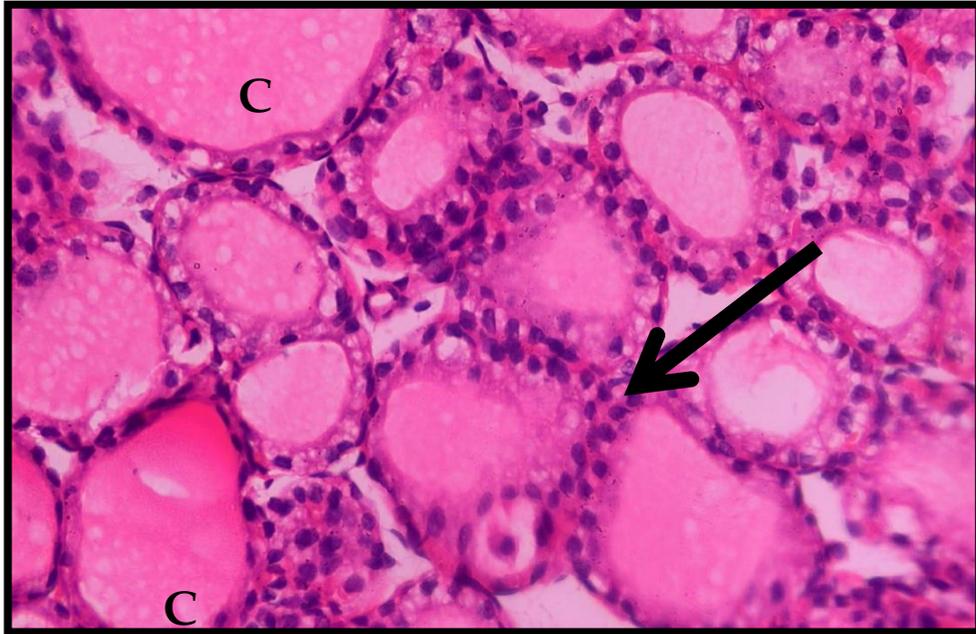


Pars nervosa





Thyroid gland

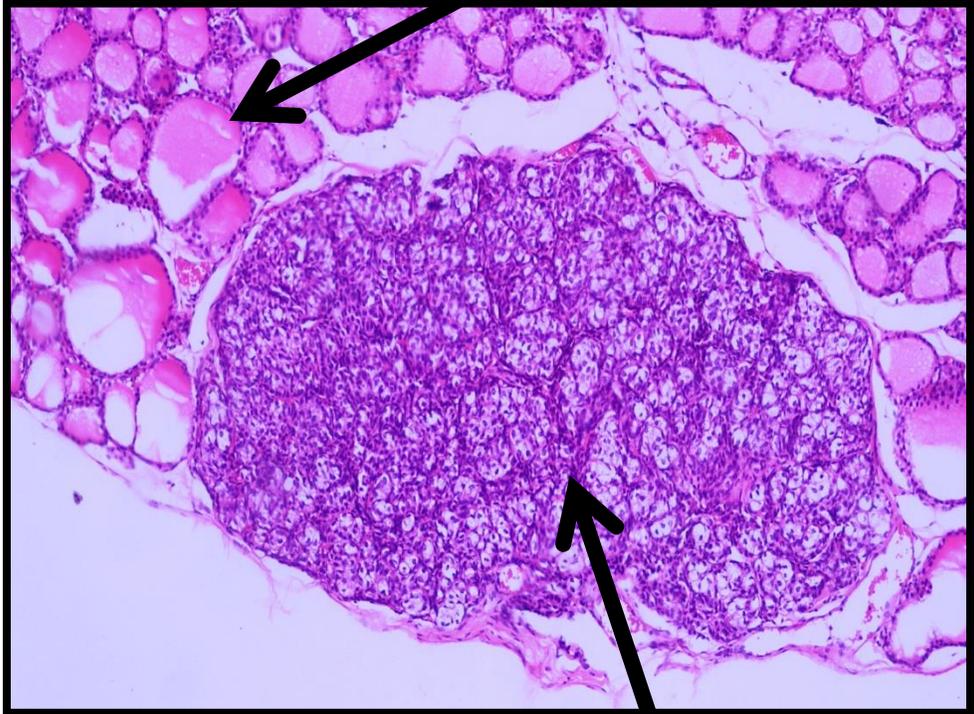


- It consists of thyroid follicles which are variable in size and separated by loose connective tissue septa.
- Higher magnification showing the thyroid follicles lined by **cuboidal basophilic cells** (follicular cells).
- The follicles contain homogenous acidophilic **colloid**.



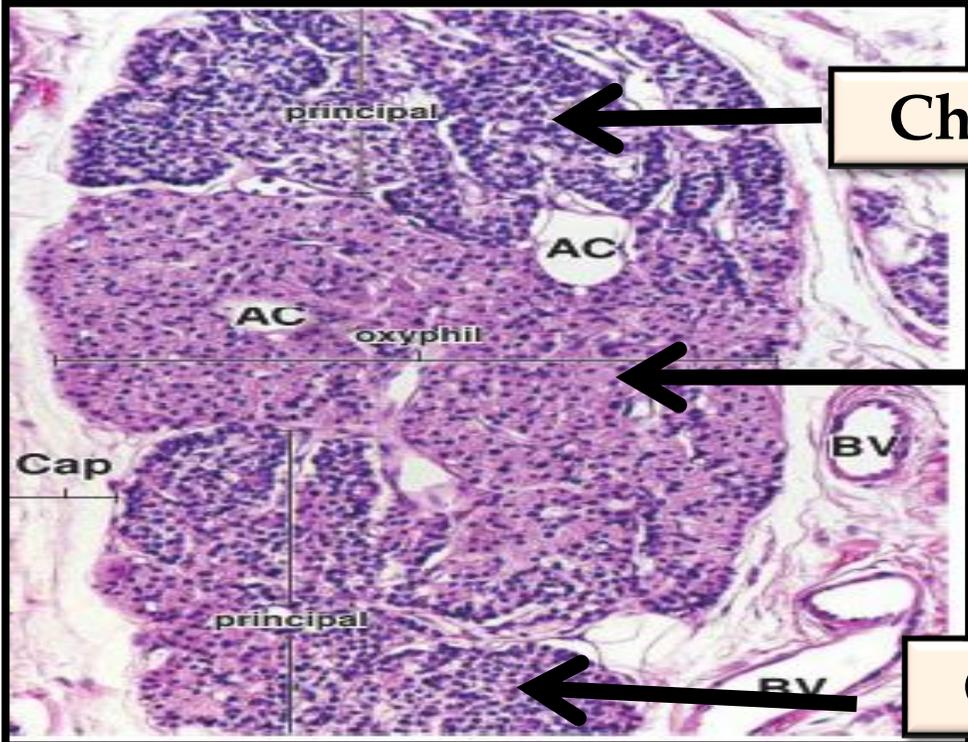
Thyroid and parathyroid gland

- **Thyroid gland** formed of thyroid follicles full of colloid.
- **Parathyroid gland** formed of basophilic mass surrounded by thin capsule.



Thyroid gland

Parathyroid gland



Chief cells

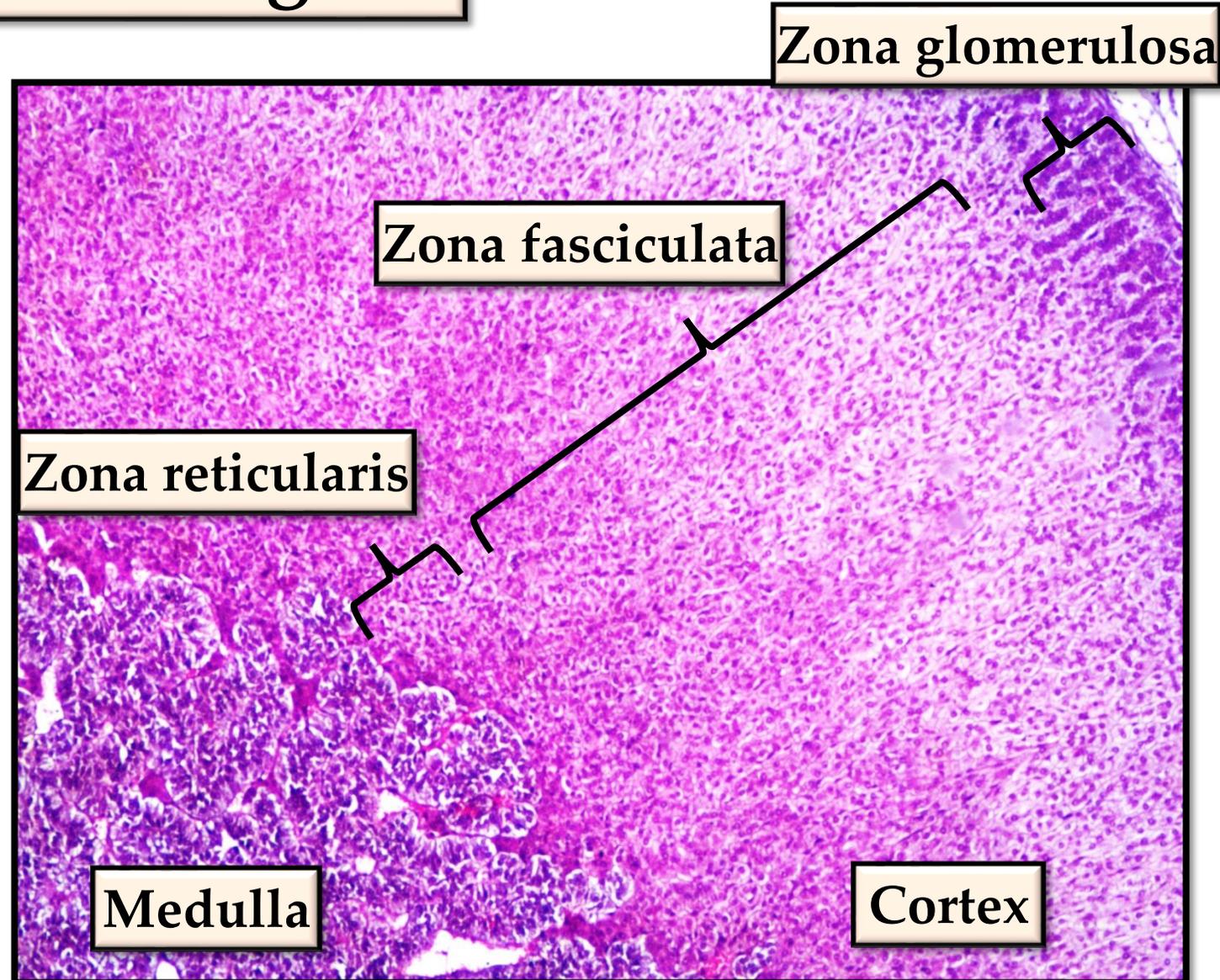
Oxyphil cells

Chief cells



Suprarenal gland

- It is differentiated into outer thick pale acidophilic cortex and a thin inner basophilic medulla
- The cortex shows 3 zones
 - ❑ Zona glomerulosa
 - ❑ Zona fasciculata
 - ❑ Zona reticularis.

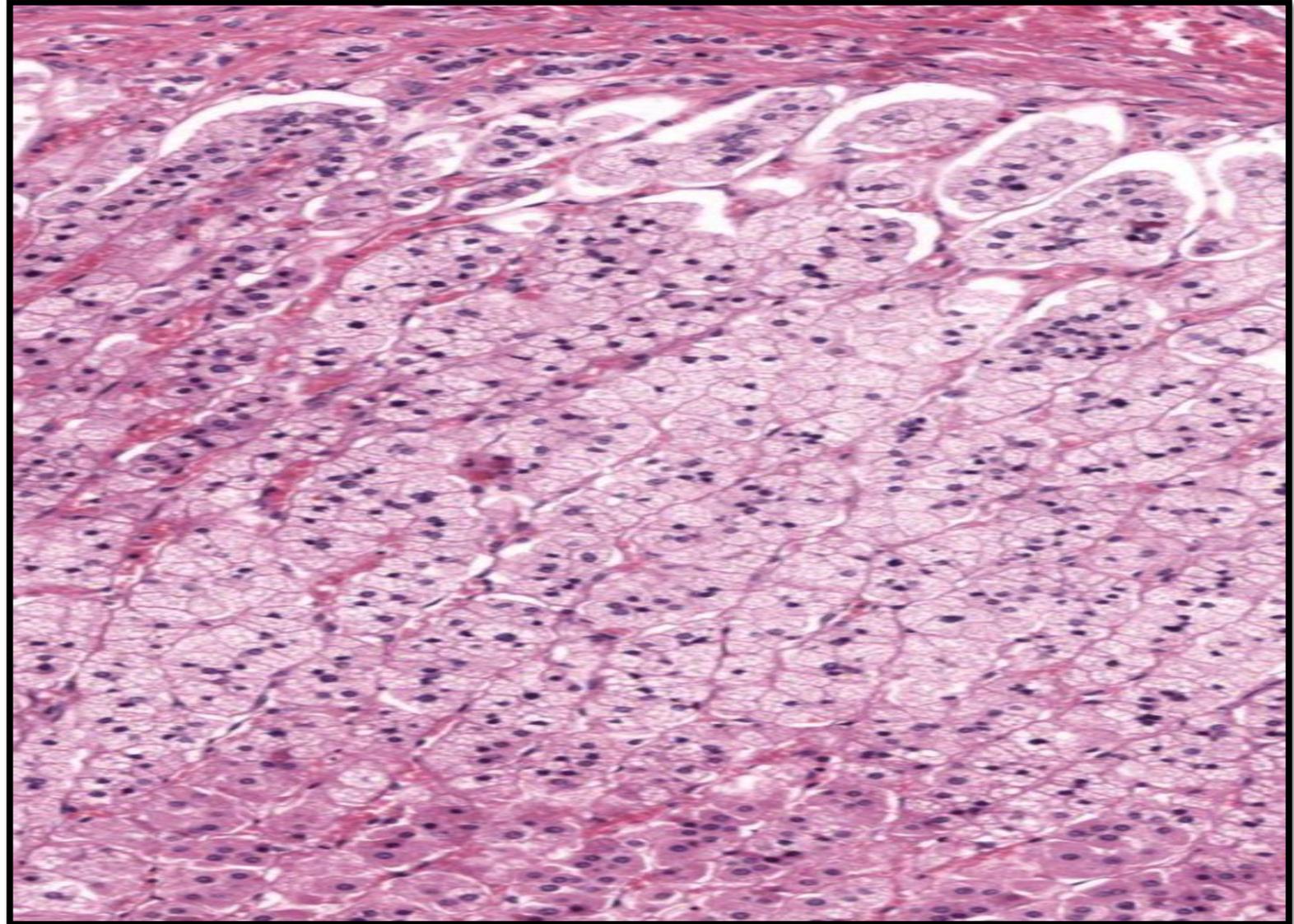


Suprarenal Cortex

Zona glomerulosa

Zona fasciculata

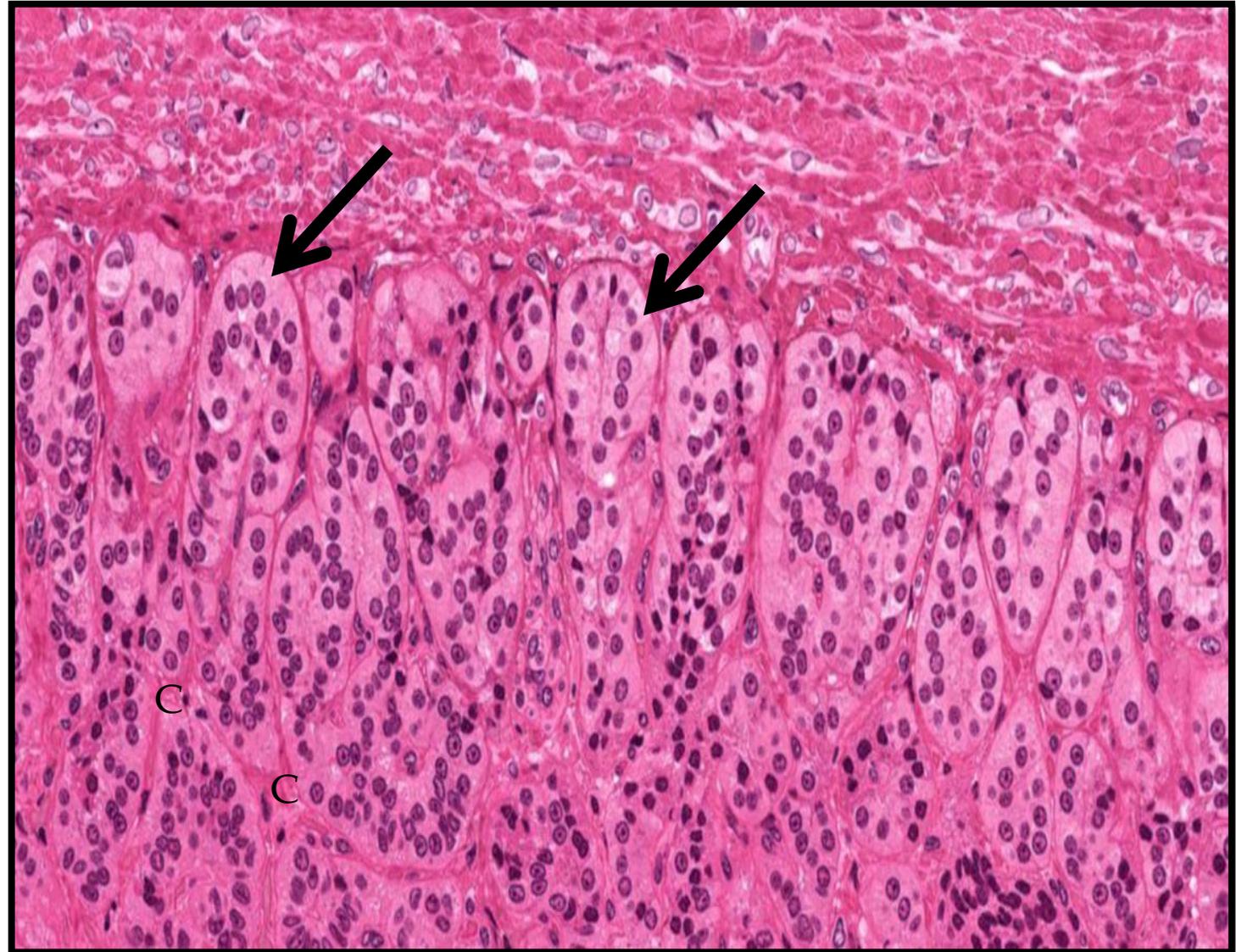
Zona reticularis





Zona glomerulosa

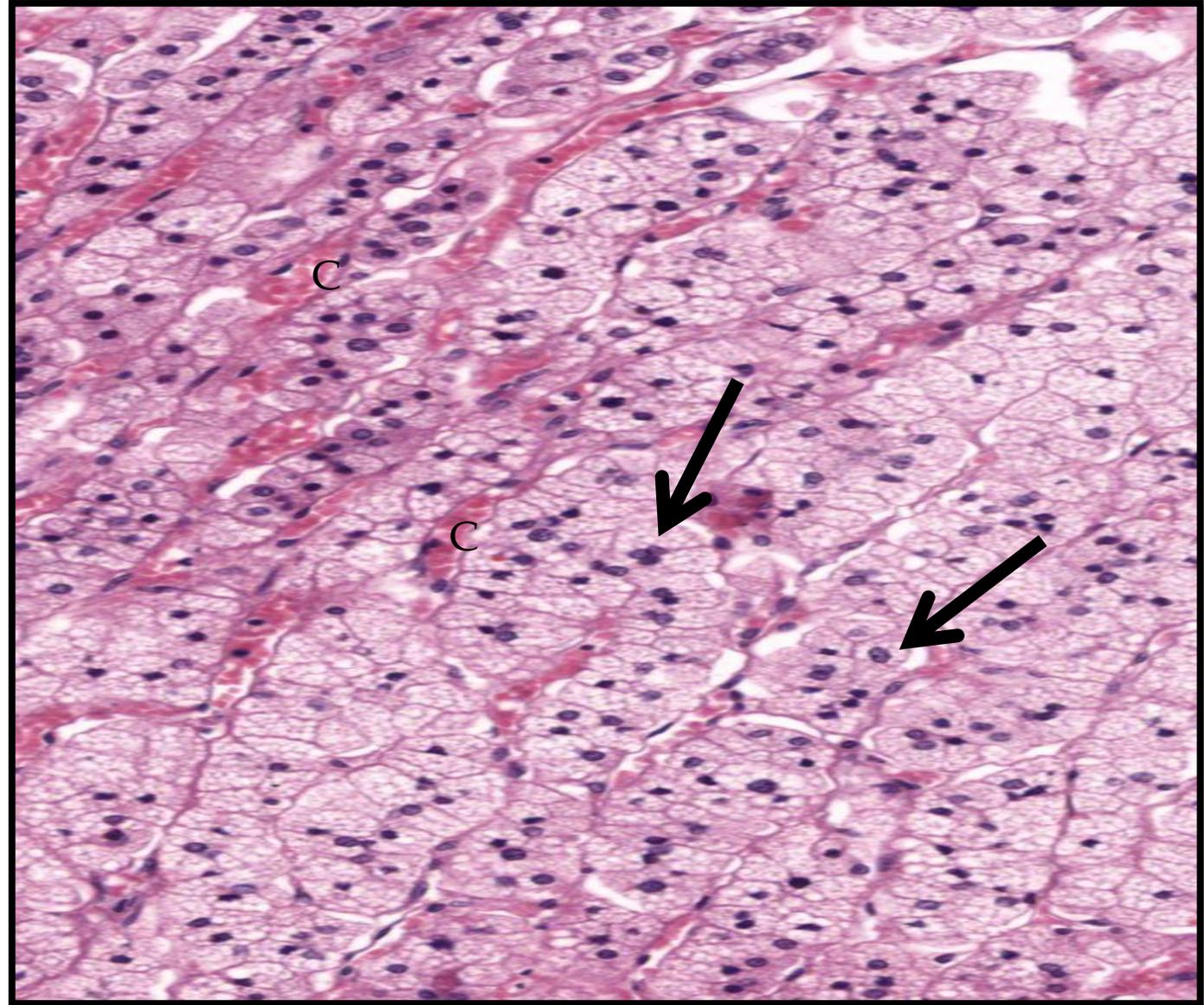
- Cells are closely packed arranged into **glomeruli**.
- **Columnar** cells with central rounded nuclei.
- Presence of **blood capillaries**.





Zona fasciculata

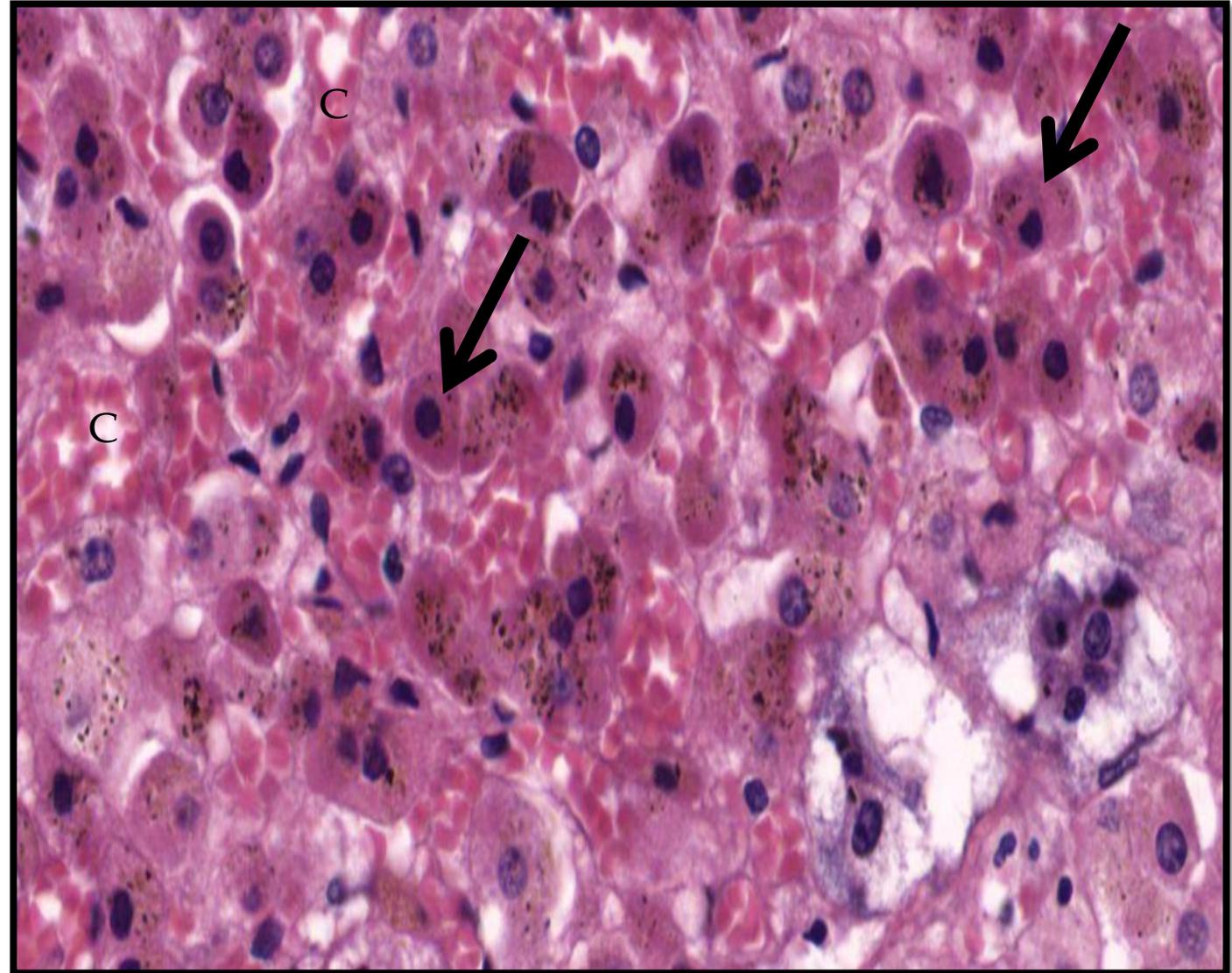
- Long cords of large **polyhedral** cells.
- One or two cells thick.
- Many fenestrated **sinusoidal capillaries**.





Zona reticularis

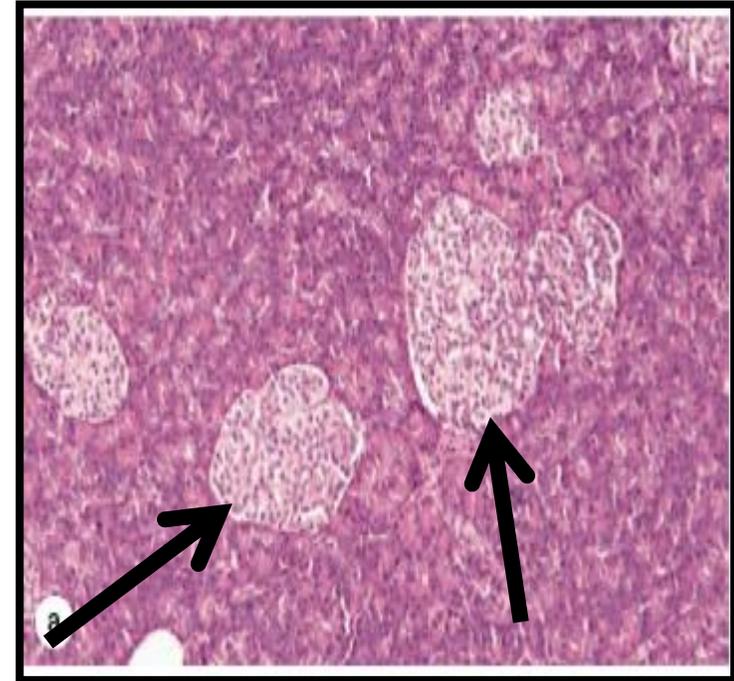
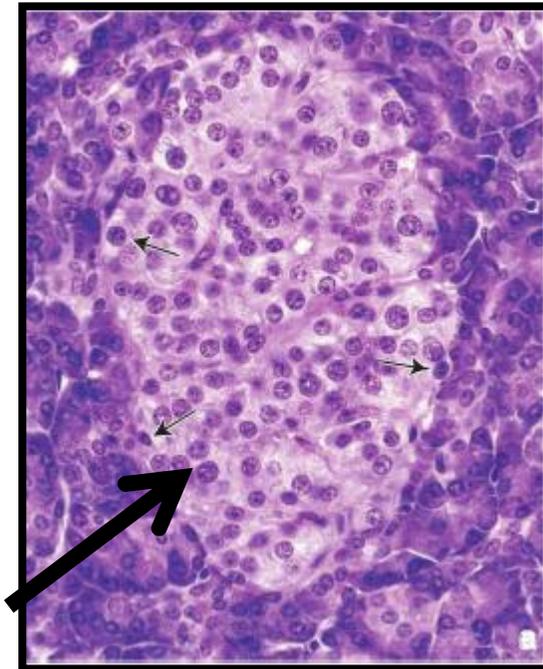
- Small **polyhedral cells** with few lipid droplets.
- Dark cells (contain lipofuscin pigment).
- Presence of **blood capillaries**.





Endocrine part of the pancreas

Islets of langerhans are non capsulated masses of endocrine cells scattered in the pancreatic lobules especially at the tail region.





Reproduction



Male genital system



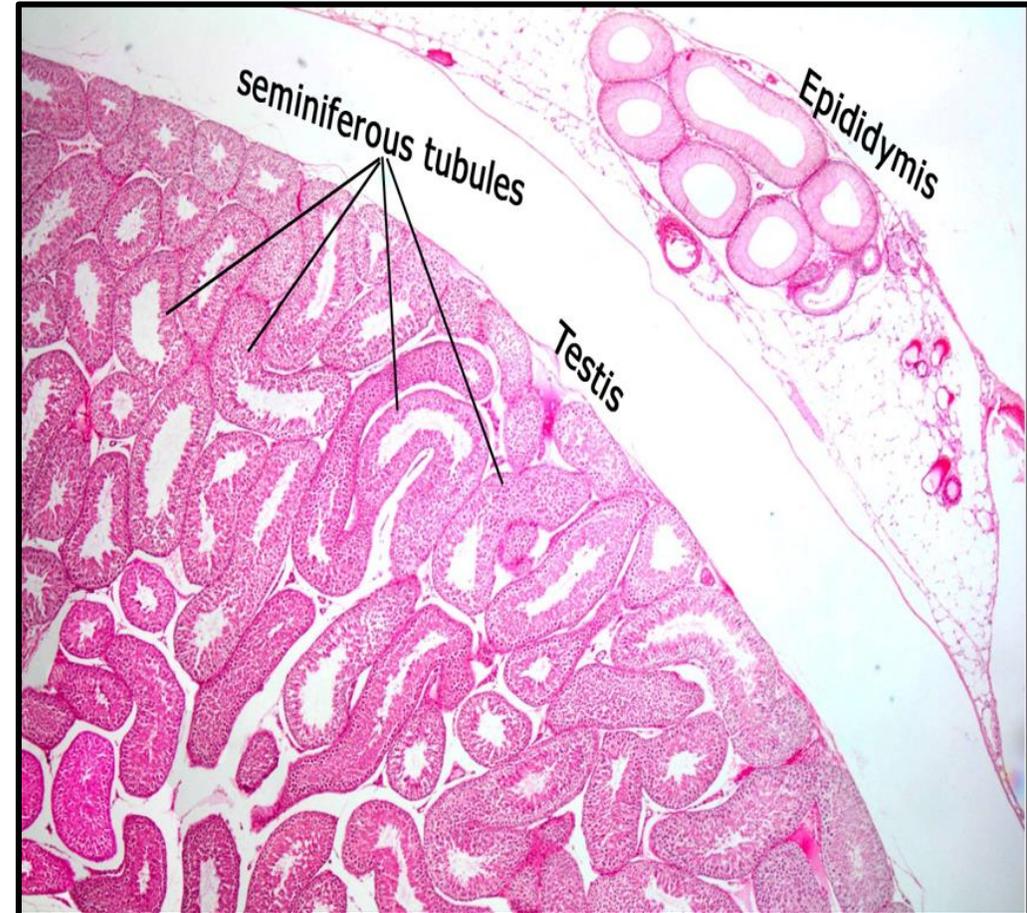
Testis & epididymis

Testis

- Round ,oval and irregular shaped seminiferous tubules.
- Tubules lined by both spermatogenic cells and Sertoli cells
- Testicular interstitium between tubules.

Epididymis

- Wide tubules surrounded by connective tissue.

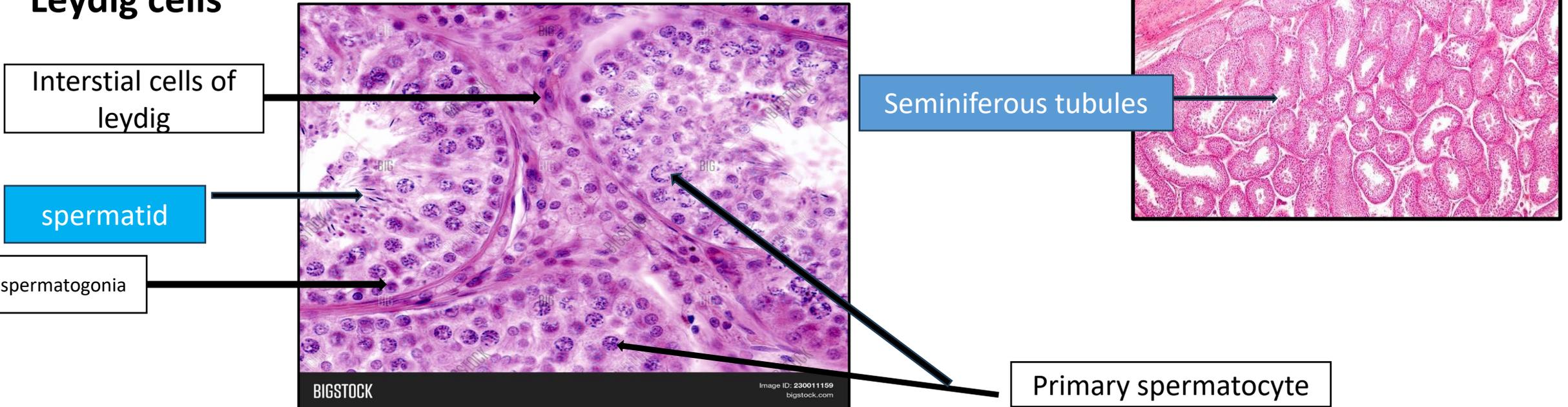


Seminiferous tubules

Seminiferous tubules lined by spermatogenic cells:

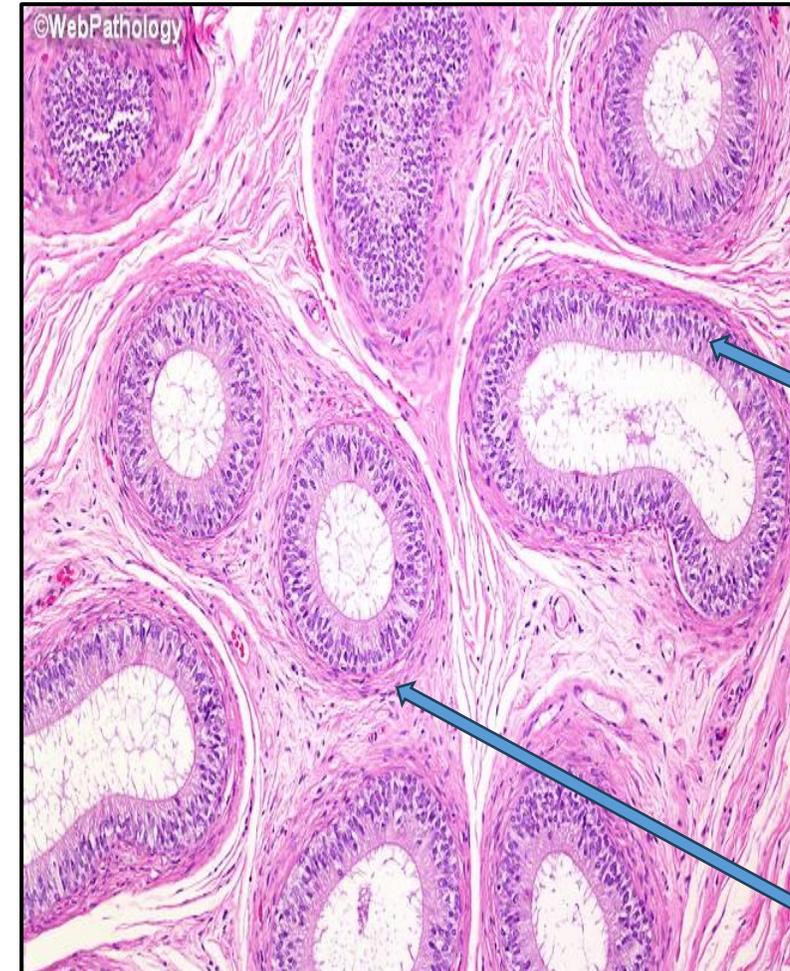
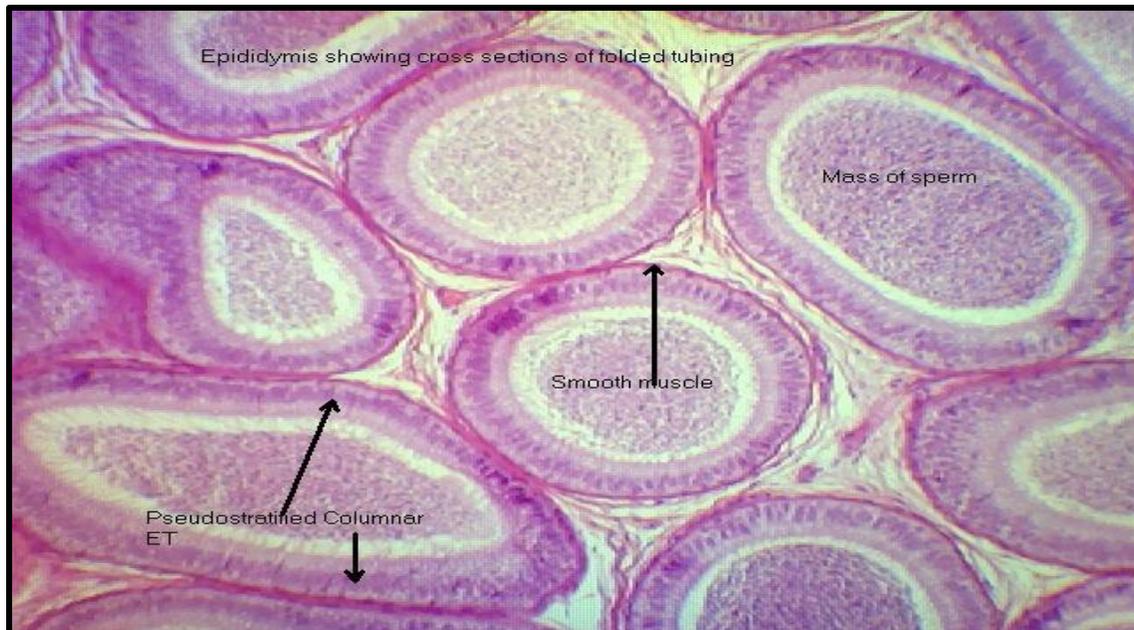
- Spermatogonia immediate on the basement membranes
- Primary spermatocyte (the most prominent cells)
- Spermatid on the top.

Testicular interstitium :Vascular connective tissue with Leydig cells



Epididymis

- Tubules with wide lumens containing sperms
- **Epithelium:** Pseudostratified columnar with long stereocilia.
- **Vascular C.T.** surround tubules rich in **smooth Muscles.**



Tubules of epididymis

Vascular C.T. & Smooth muscles

Spermatic cord

Contents of spermatic cord:

- Vas deference
- Pampiniform plexus of veins.
- Testicular artery and vein.
- Nerves.
- Cremasteric striated muscles



Vas deference

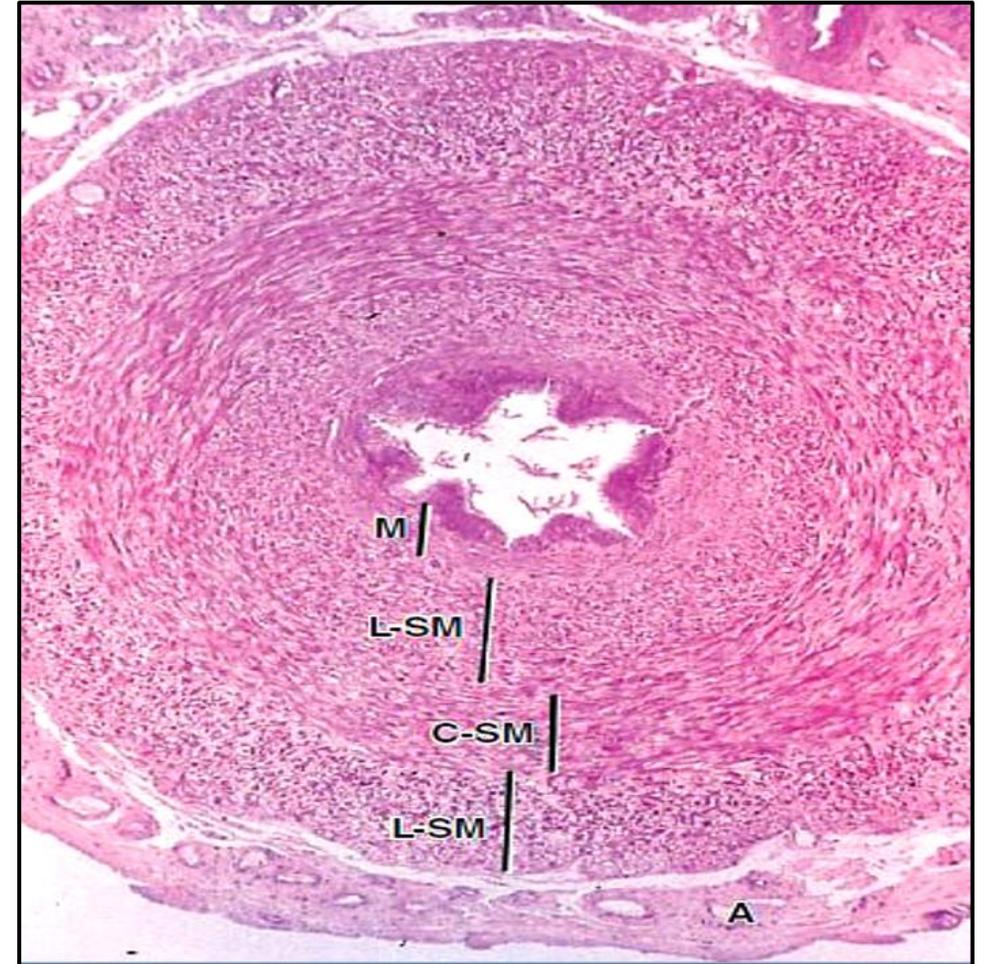
1- Inner mucosa (M)

- pseudo stratified epithelium with stereocilia
- Thin lamina propria.

2-Musculosa:

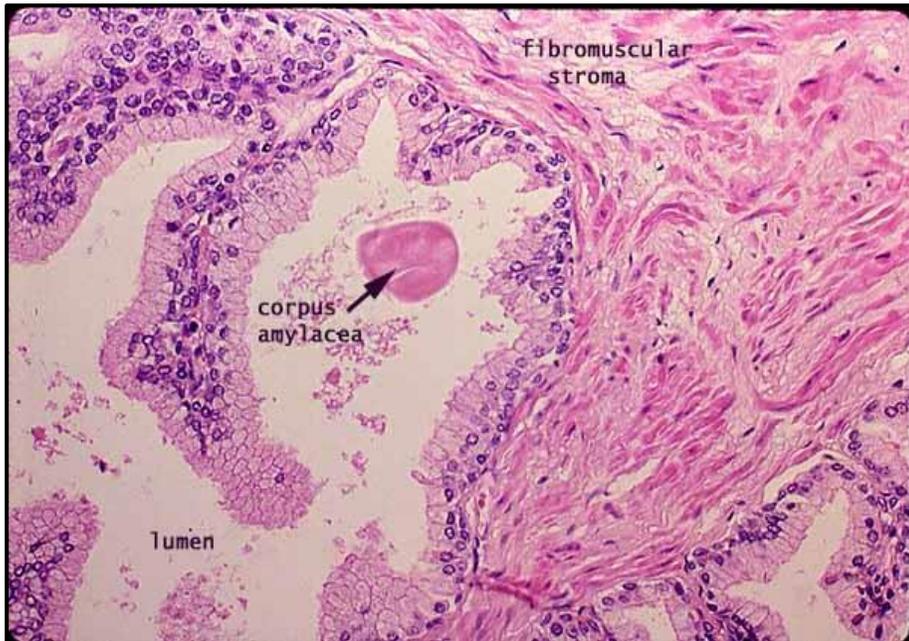
- Inner longitudinal (LSM)
- Middle circular(C-SM)
- Outer longitudinal (LSM)

3- adventia (A)



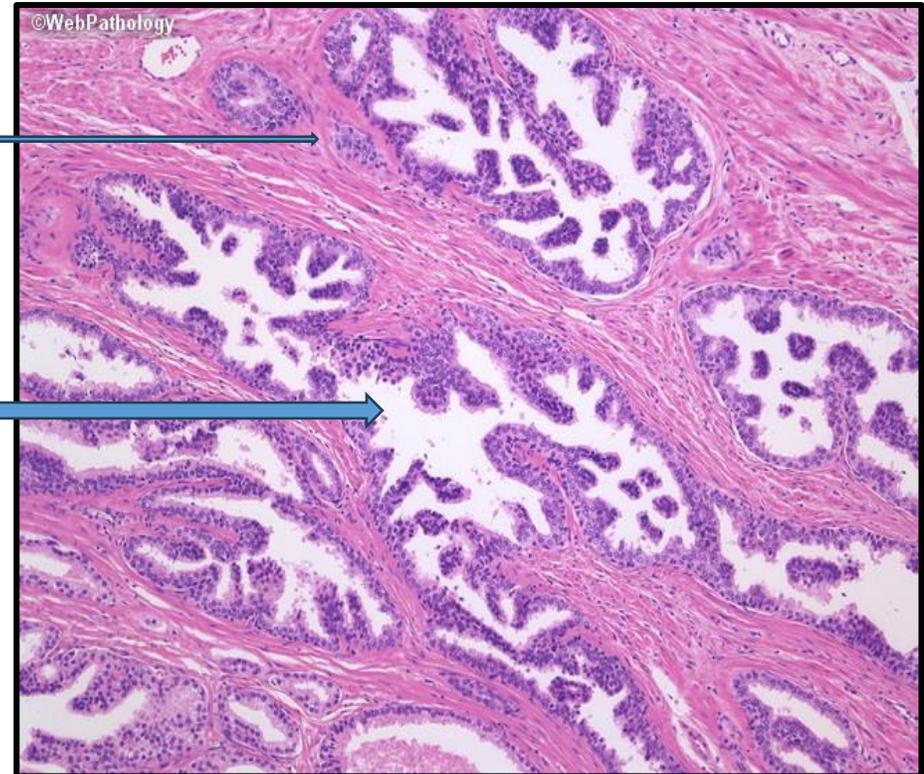
Prostate gland

- **Stroma** : Capsule and septa rich in smooth muscles
- **Parenchyma**: prostatic acini
- **Acini** lined either by cubical or columnar or pseudostratified.
- **Corpora amylacea** :small spherical concretions in the lumen of most acini at old age



fibromuscular
stroma

Prostatic
acini

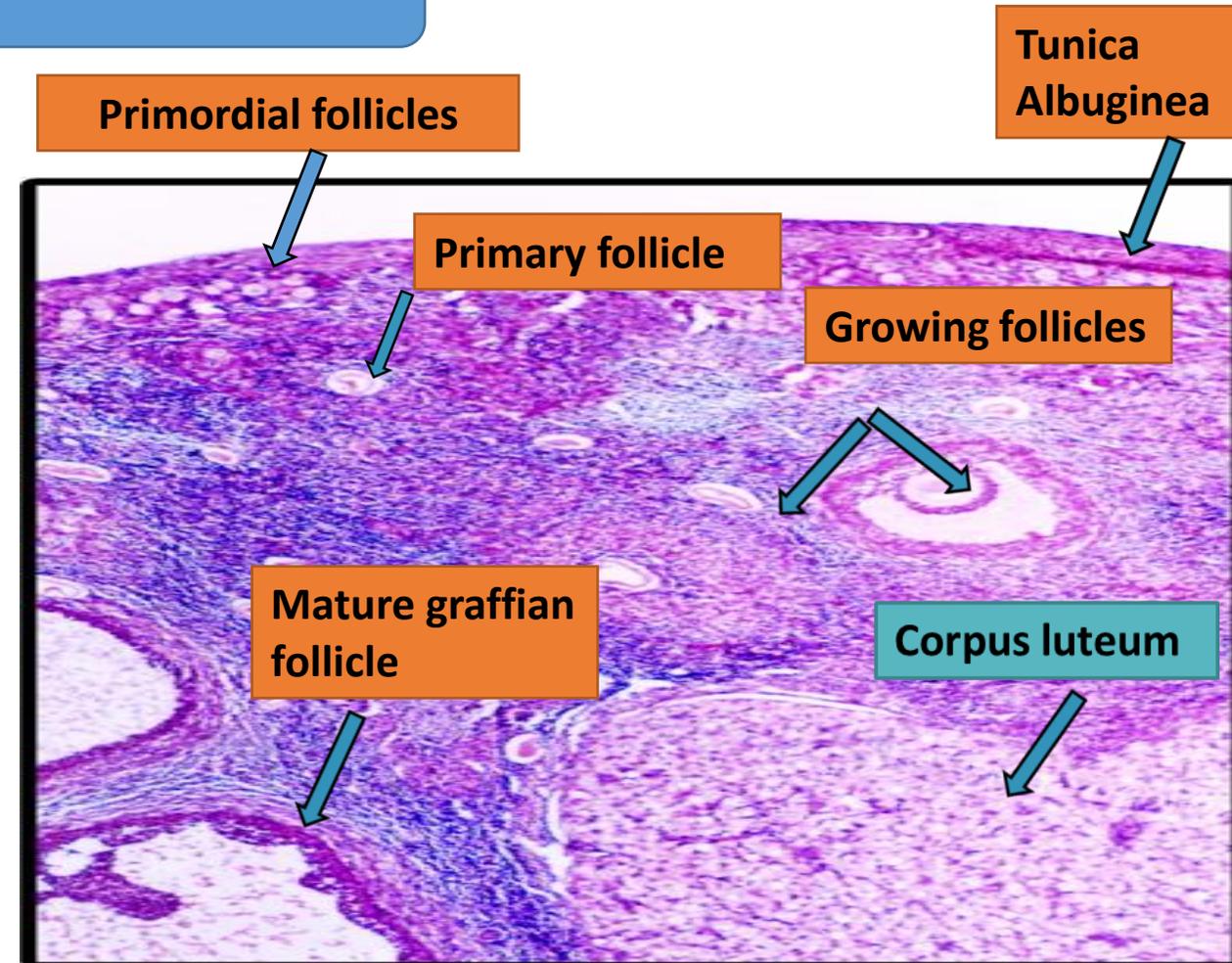




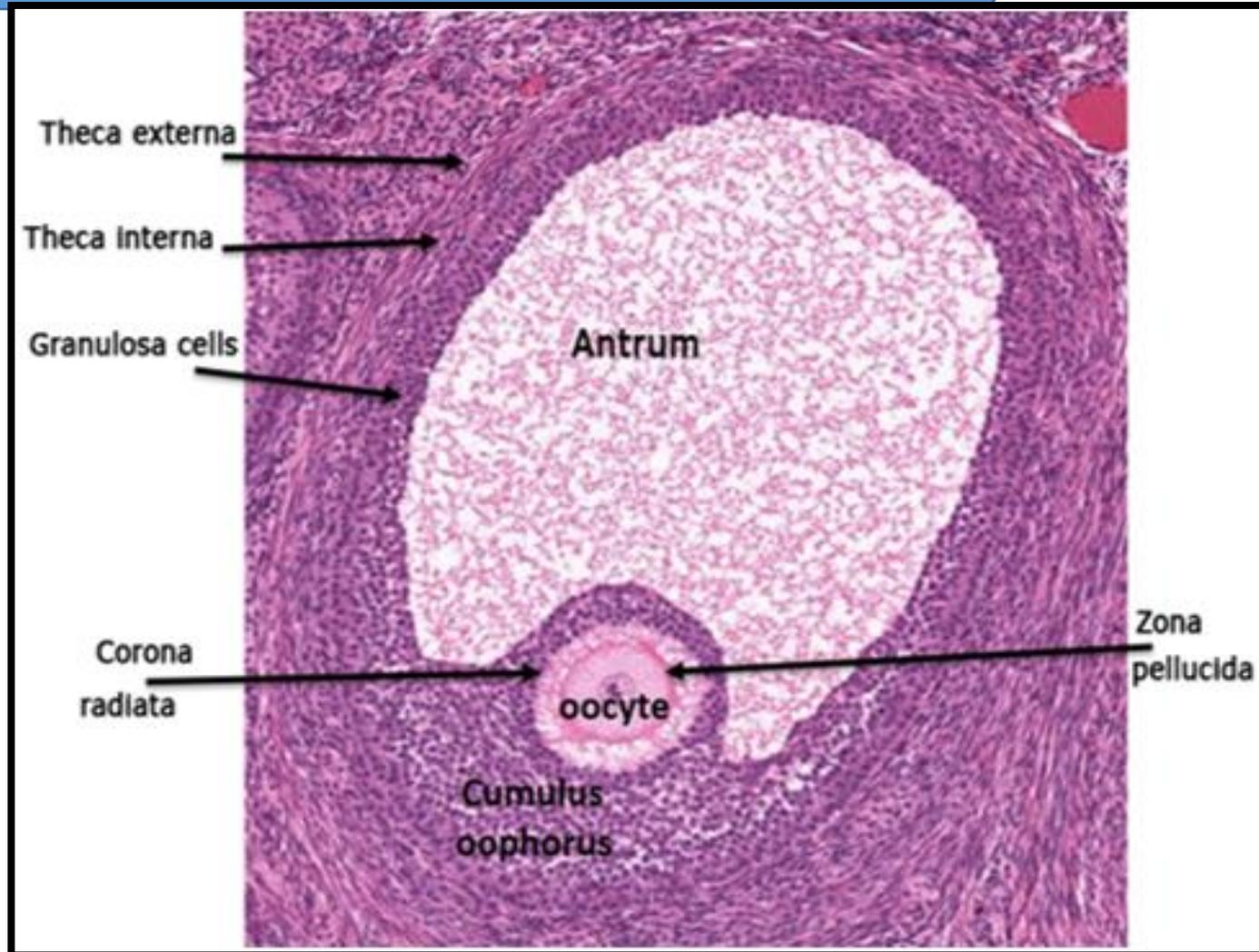
Female genital system

The adult ovary

- Surrounded by thick **tunica albuginea**.
- The outer cortex contains many **primordial** and **primary** follicles in groups.
- The inner cortex contains **growing** and **mature graffian follicles** and **corpus luteum**.



The Mature Graffian Follicle





The Uterus

Endometrium (mucosa):

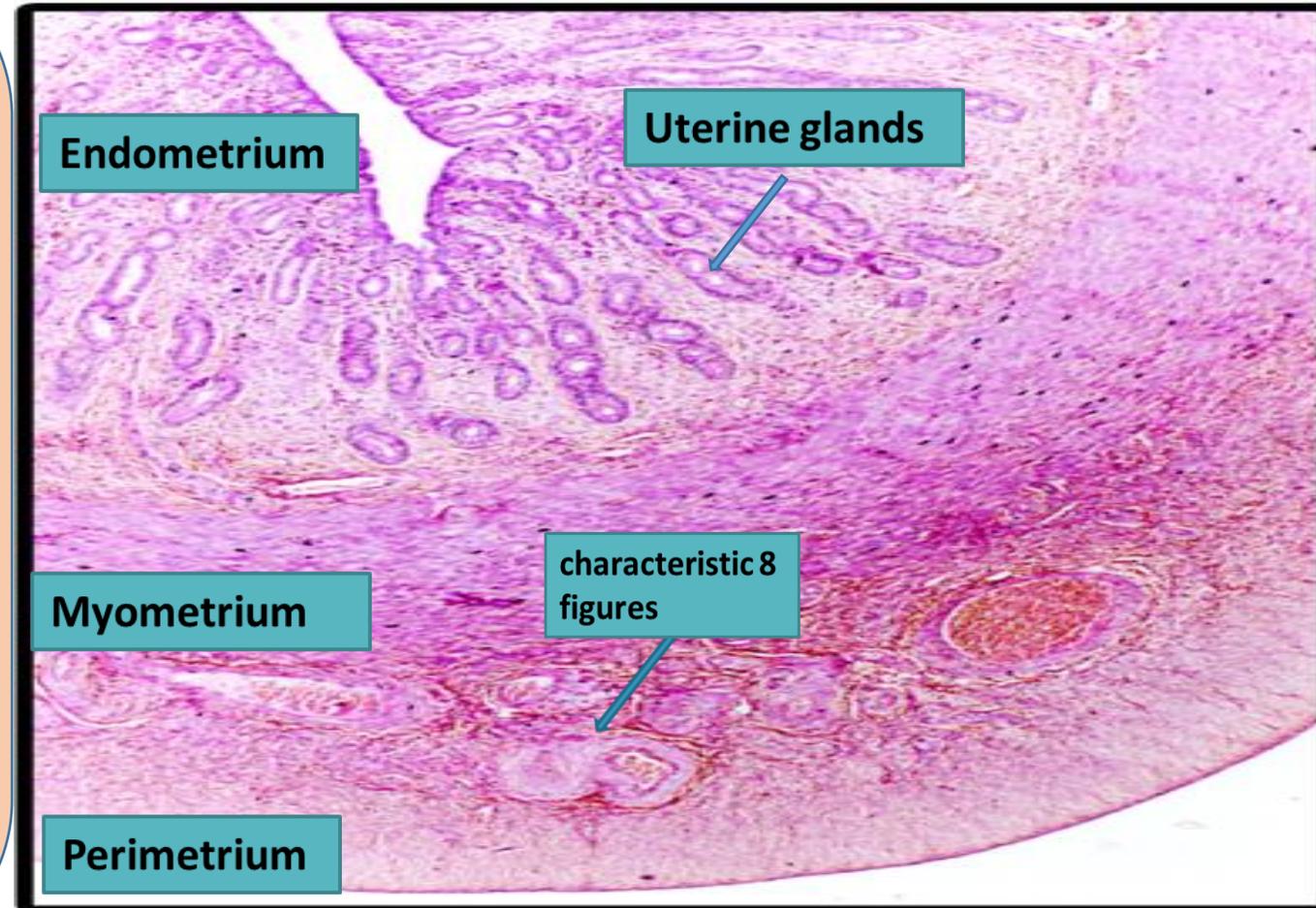
Lined with simple columnar partially secretory partially ciliated epithelium. Contains endometrial (uterine glands).

Myometrium (Musculosa):

It forms the main thickness of the wall
Smooth ms. Fibers arranged around blood vessels in spiral manner
(characteristic 8 figures)

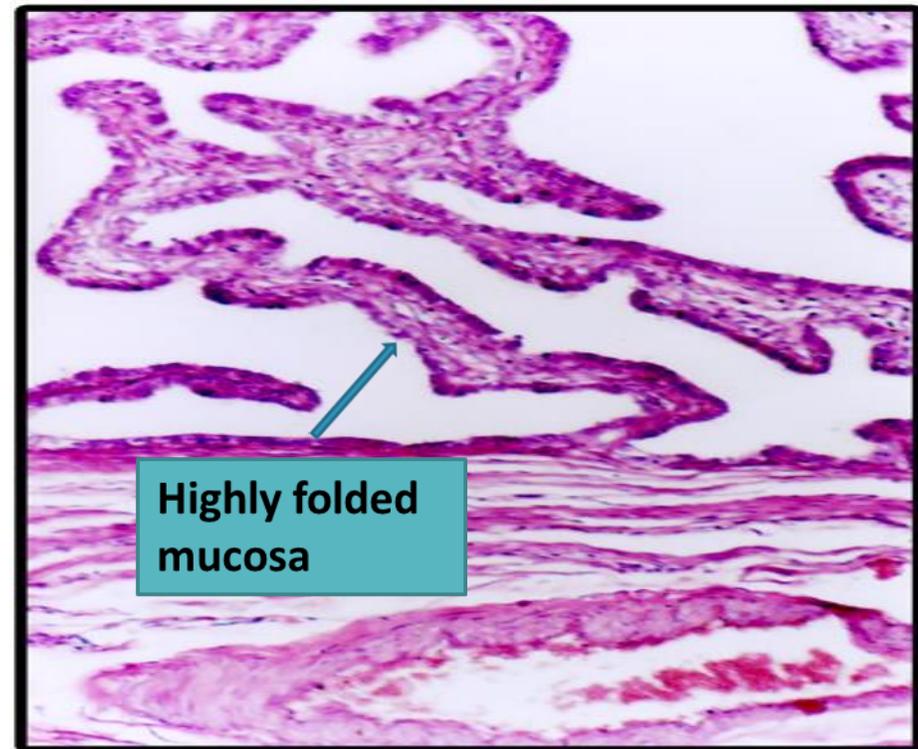
Perimetrium (Serosa):

Connective tissue covered with mesothelium.



The Fallopian Tube

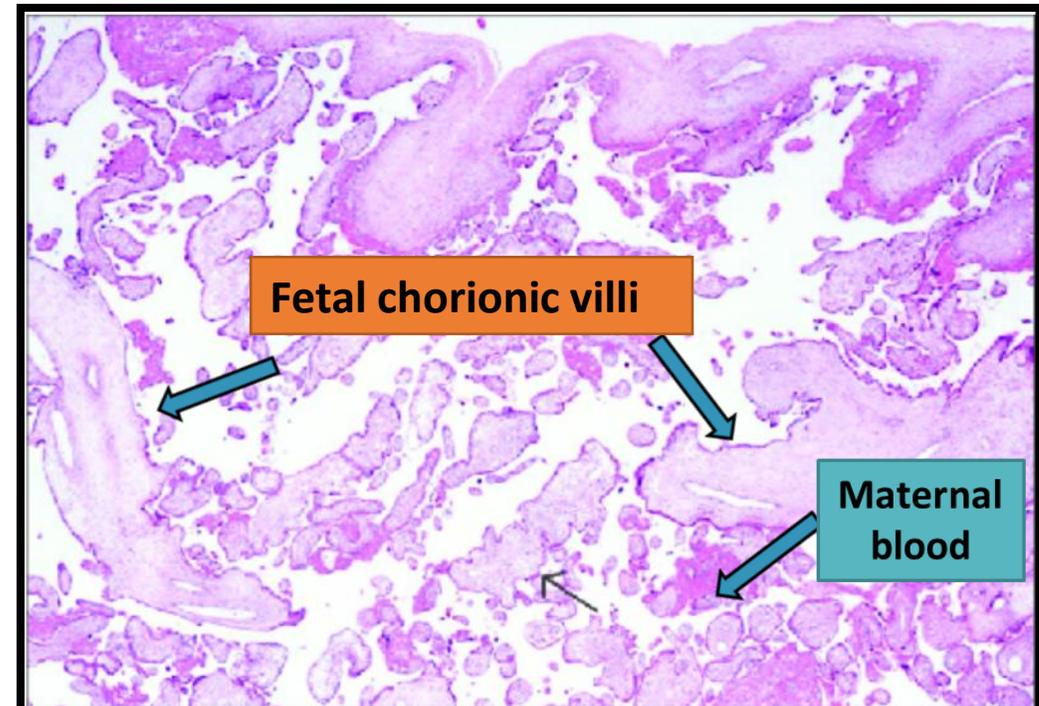
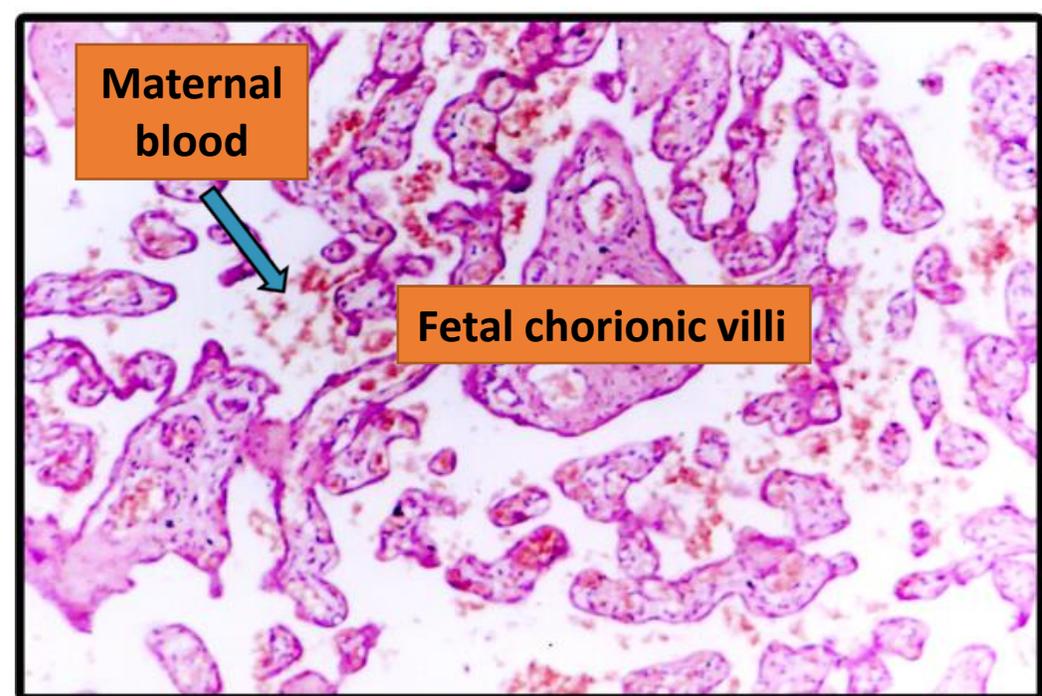
- **Highly folded mucosa**, the lumen appears to be divided into cavities.
- The epithelium is simple columnar partially ciliated partially secretory.
- Outer C.T layer covered with mesothelium (serosa).





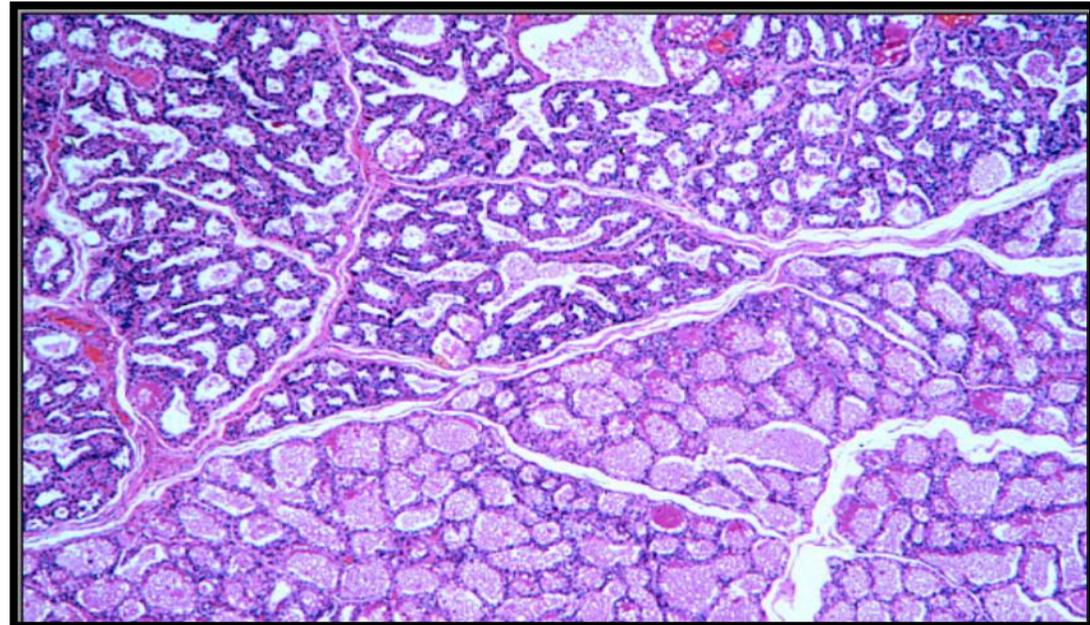
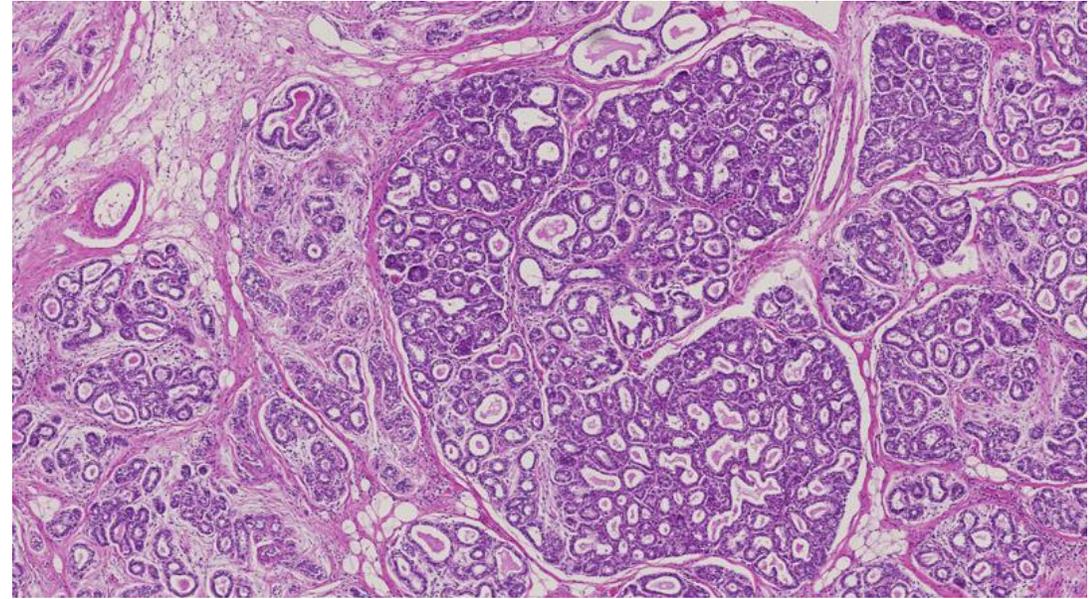
The Placenta

- **Fetal chorionic villi** cut in different planes.
- The wall of the villus is covered with multinucleated syncytium.
- Fetal blood is seen in the Centre of these villi.
- **Maternal blood** is seen between the villi.



Lactating mammary gland

- Many lobules packed with ducts and alveoli.
- The alveoli are separated by thin C.T septa.
- These alveoli are lined with low cubical or columnar cells.
- The lumen of the alveoli contains milk, in which there is many vacuoles (to differentiate it from the colloid of the thyroid follicles).



Vagina

- The epithelium is stratified squamous non-keratinized **rich in glycogen**.
- There is no submucosa or mucous glands.
- Thin inner circular, thick outer longitudinal layer of smooth muscle fibers.

