



Endocrine system

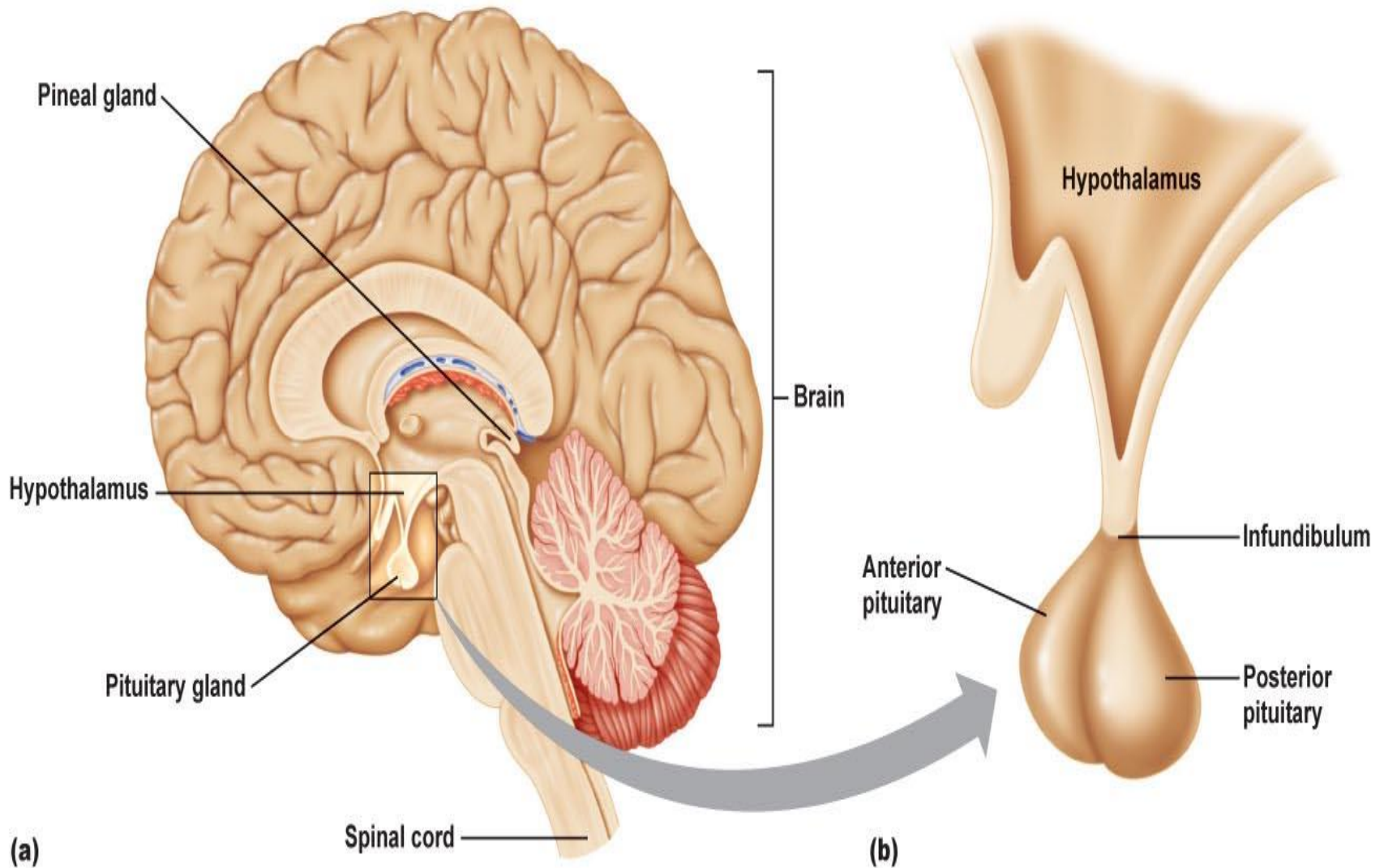
HISTOLOGY

Semester 2, Year 2 •

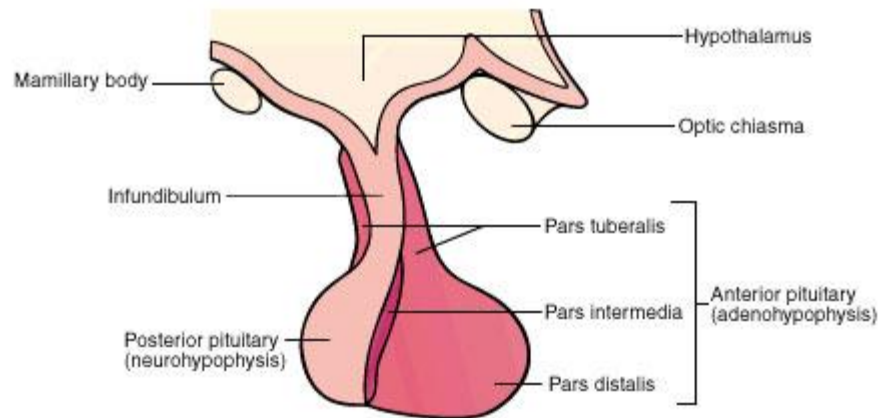
Dr . Amira Osman

Associate professor of Human histology & Cell Biology

Pituitary Gland



PARTS OF PITUITARY GLAND



Pars tuberalis

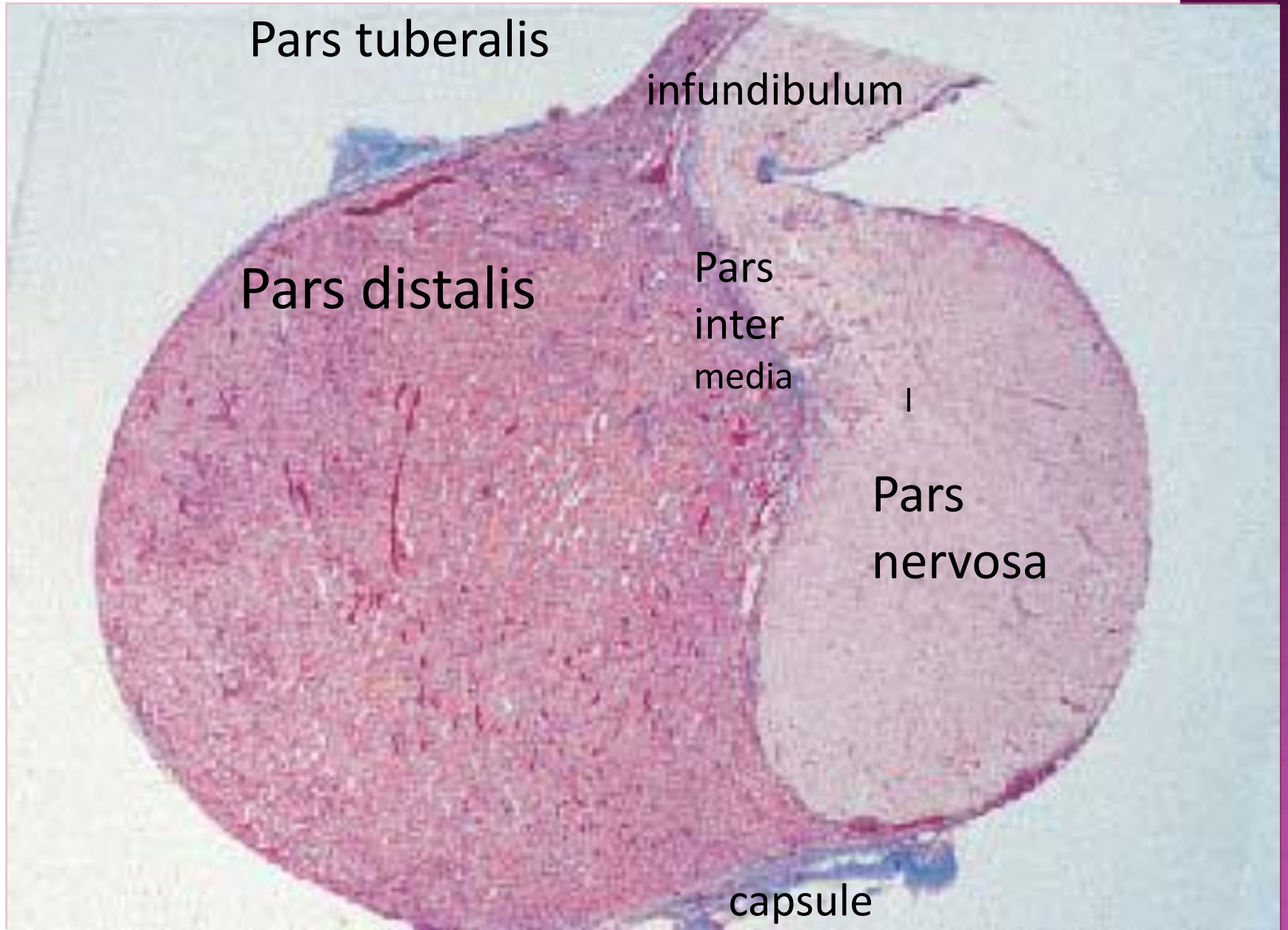
infundibulum

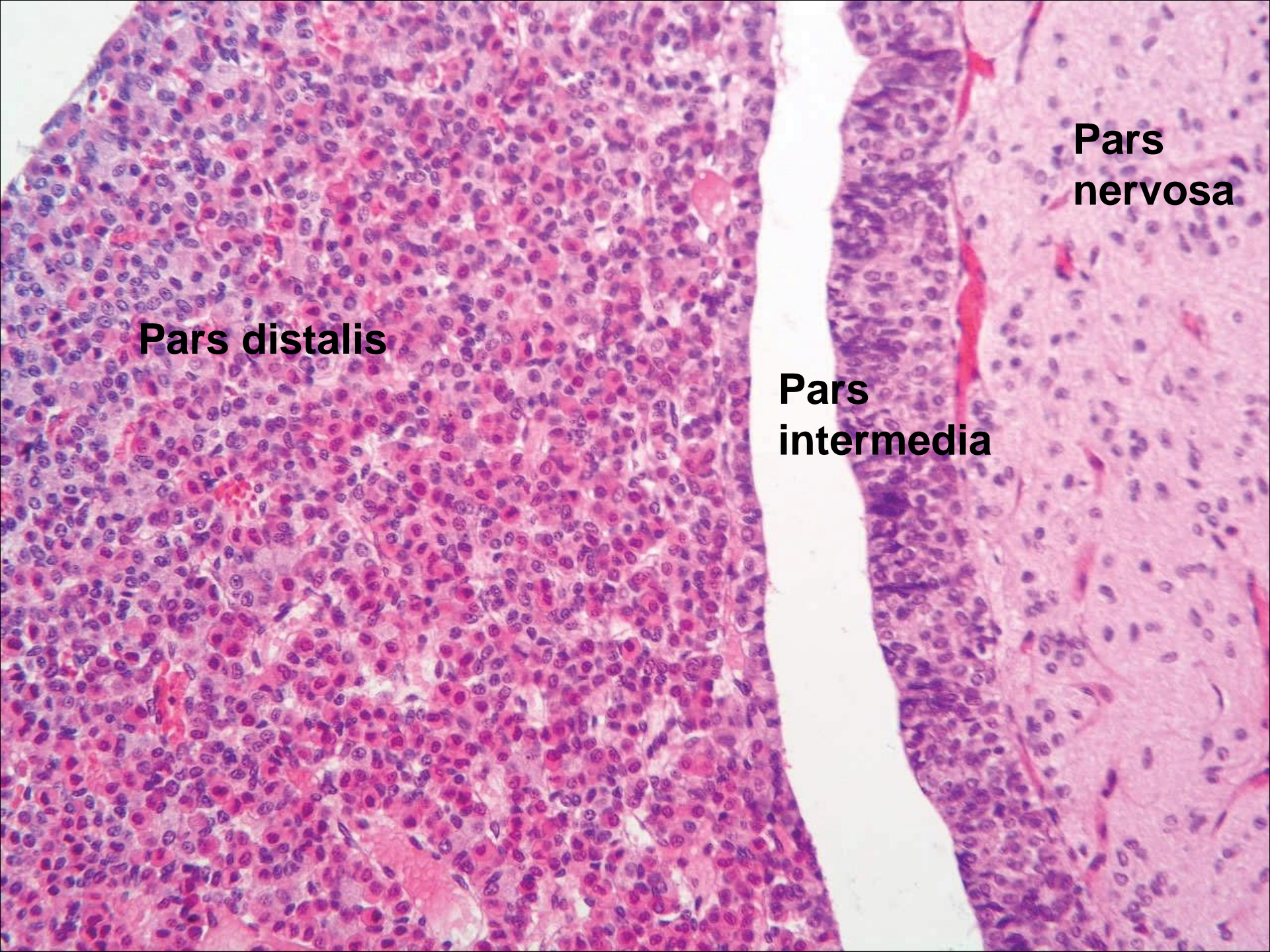
Pars distalis

Pars
inter
media

Pars
nervosa

capsule





Pars distalis

Pars intermedia

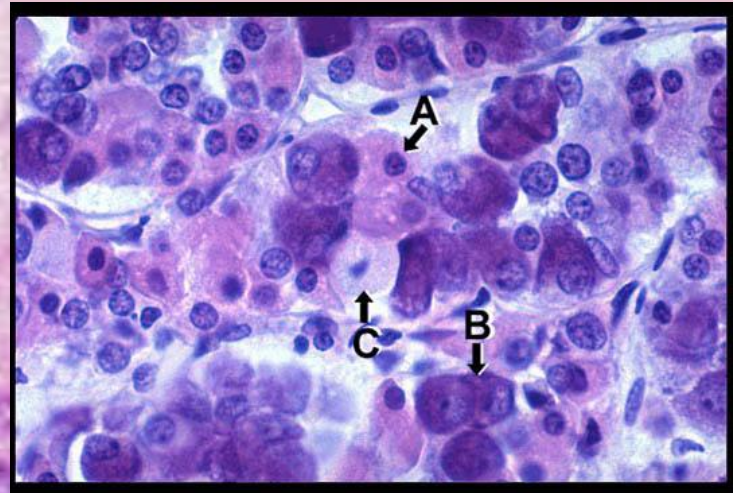
Pars nervosa

Pituitary Gland H&E

basophils

chromophobes

acidophils



source: Wilson FJ, Kastenbaum MG, Gibney JA, Matta S: *Histology*
Image Review: <http://www.accessmedicine.com>
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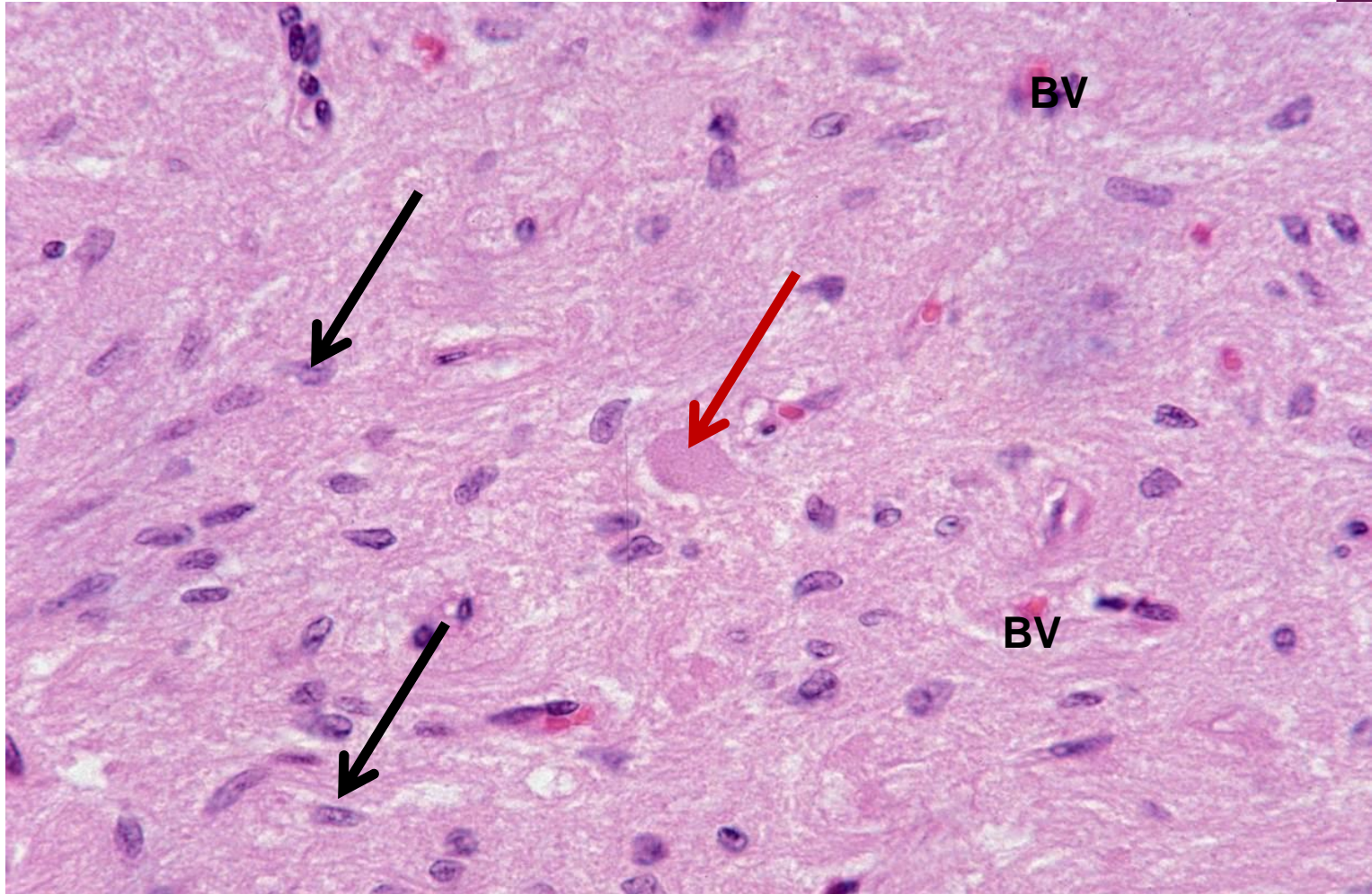
Pars Distalis

A: acidophils

B: basophils

C: chromophobes

PARS NERVOSA (POSTERIOR PITUITARY)

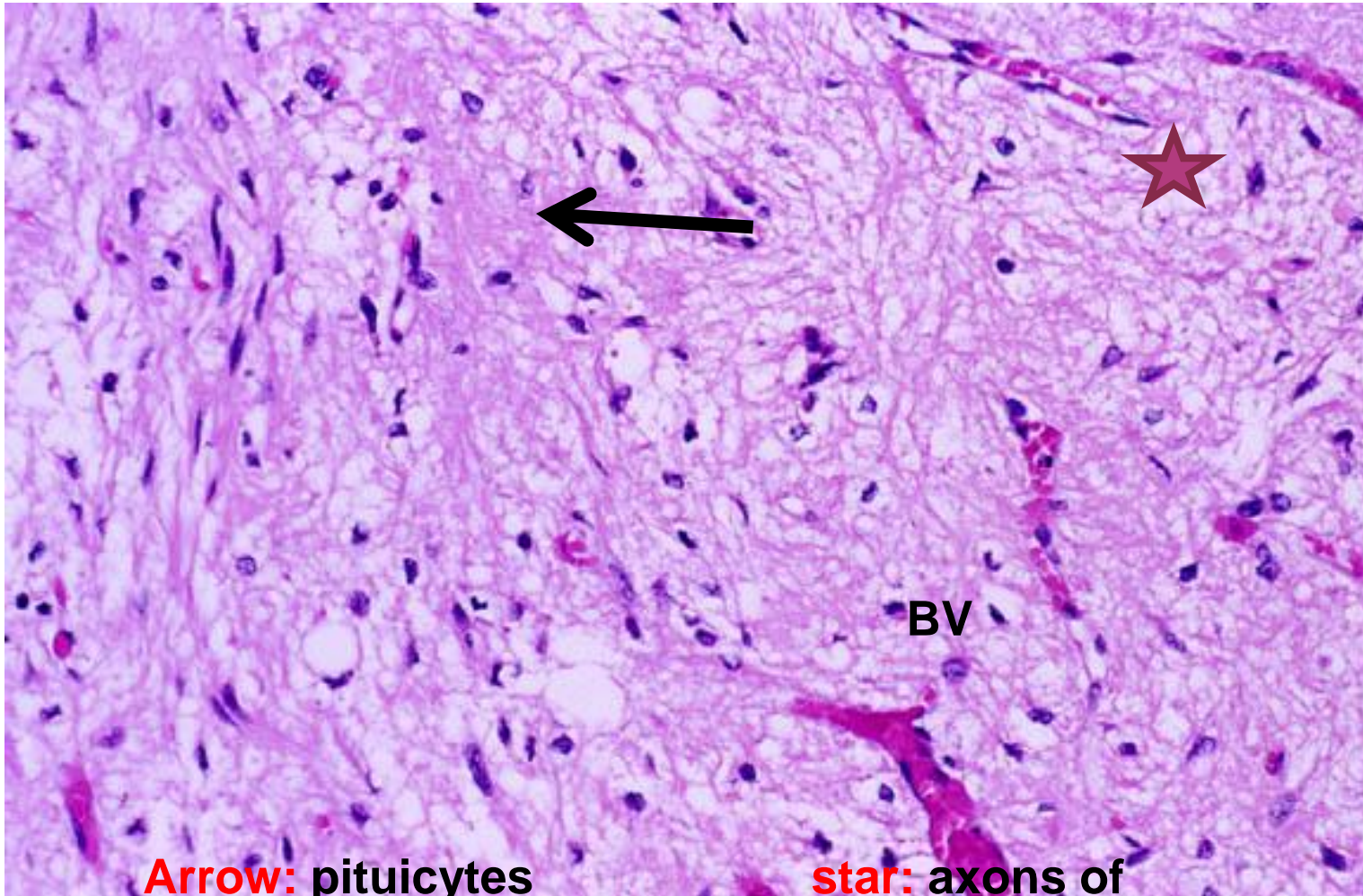


Black arrows: Pituicytes
vessel (fenestrated capillaries)

Red arrow: Herring body

BV: blood

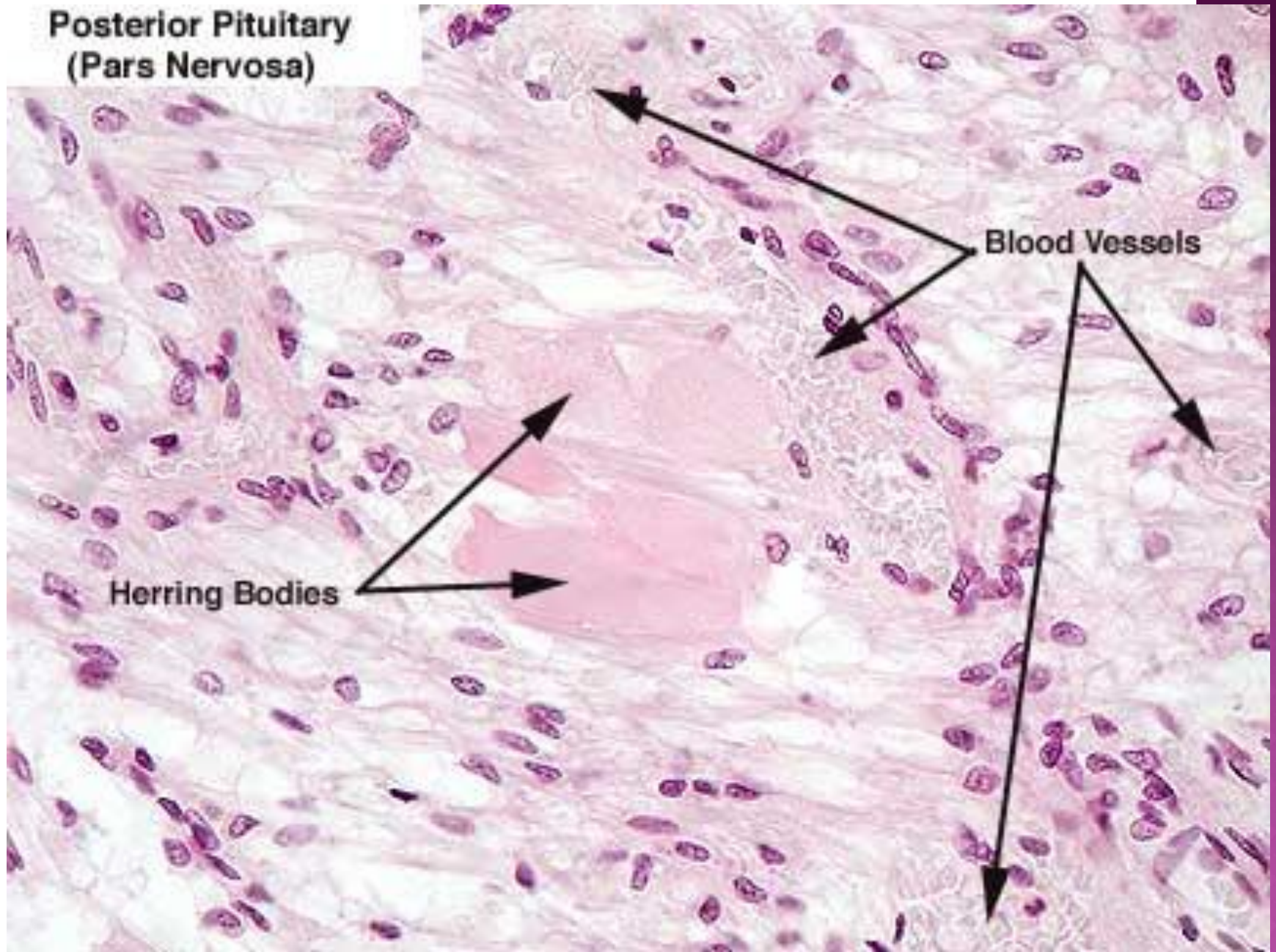
POSTERIOR PITUITARY



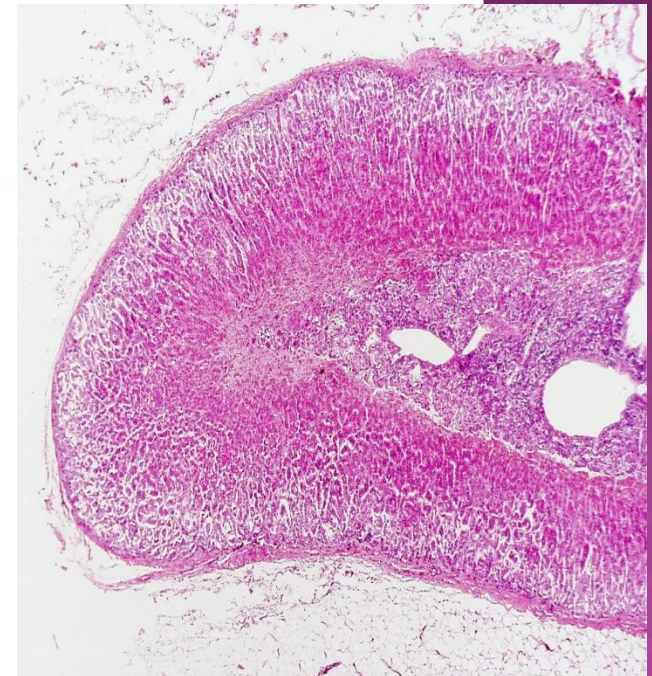
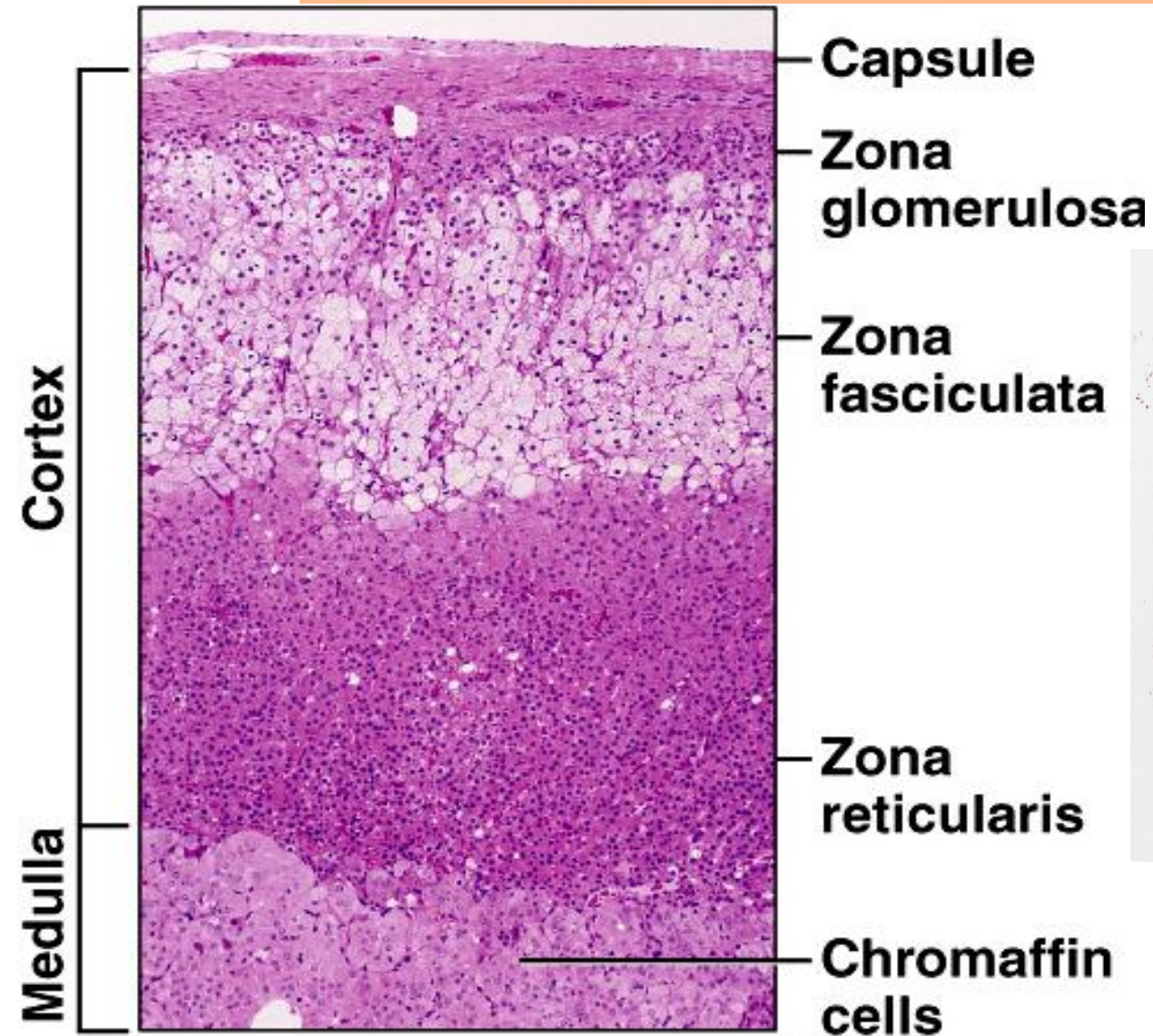
Arrow: pituicytes

star: axons of
neurosecretory cells

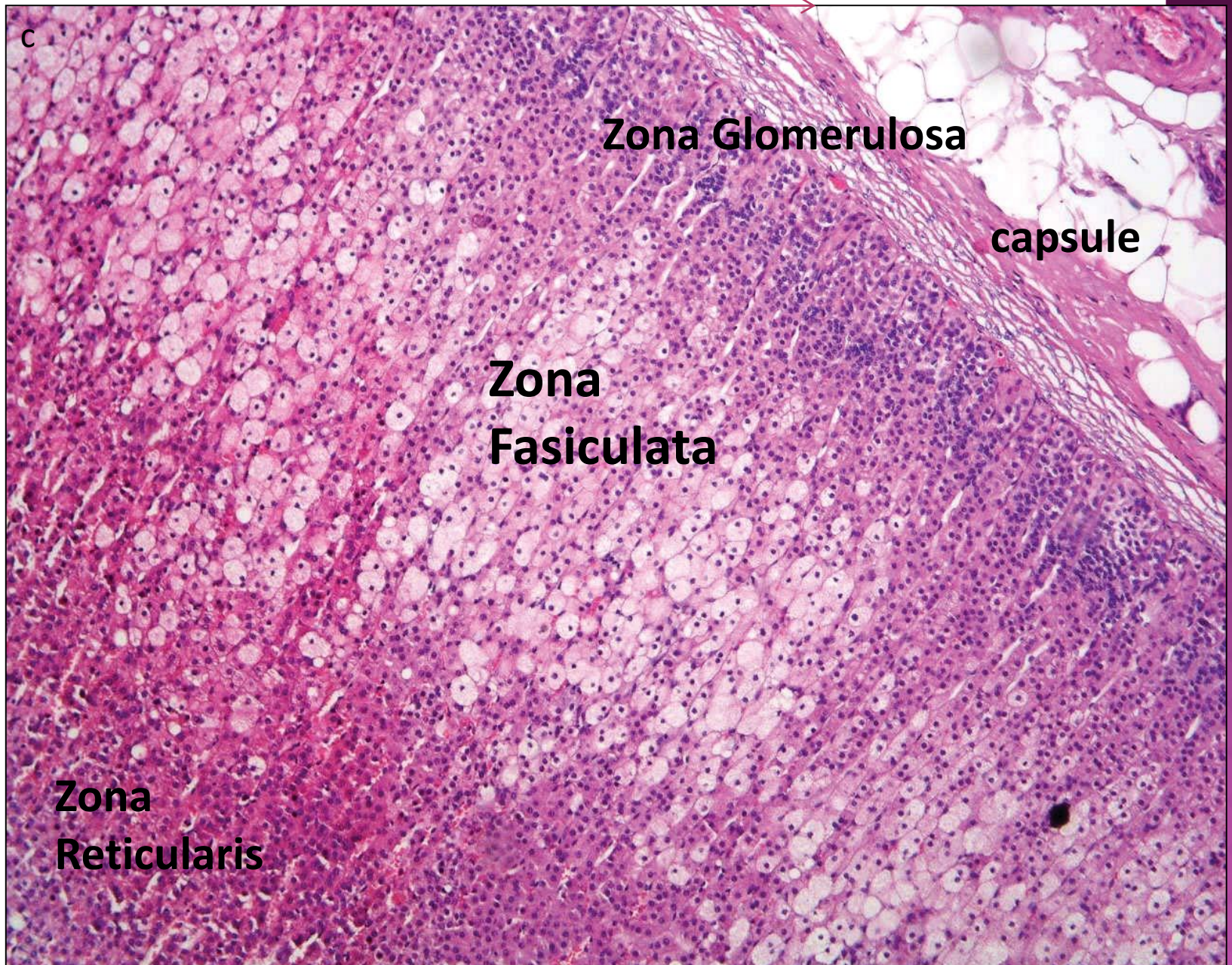
**Posterior Pituitary
(Pars Nervosa)**



SUPRA RENAL GLAND



Suprarenal Gland





Capsule

This histological image shows a cross-section of the adrenal cortex. At the top, a thin, pink-stained capsule is visible. Below it is the zona glomerulosa, a narrow layer of cells arranged in rounded clusters. The majority of the image is occupied by the zona fasciculata, which consists of several layers of cells arranged in straight cords. The cells in the fasciculata have a characteristic foamy or vacuolated appearance due to the presence of lipid droplets in their cytoplasm.

Zona glomerulosa:

Narrow zone under
the capsule.

Columnar cells
arranged

In arched groups.

Glomerulosa

Zona fasciculata:

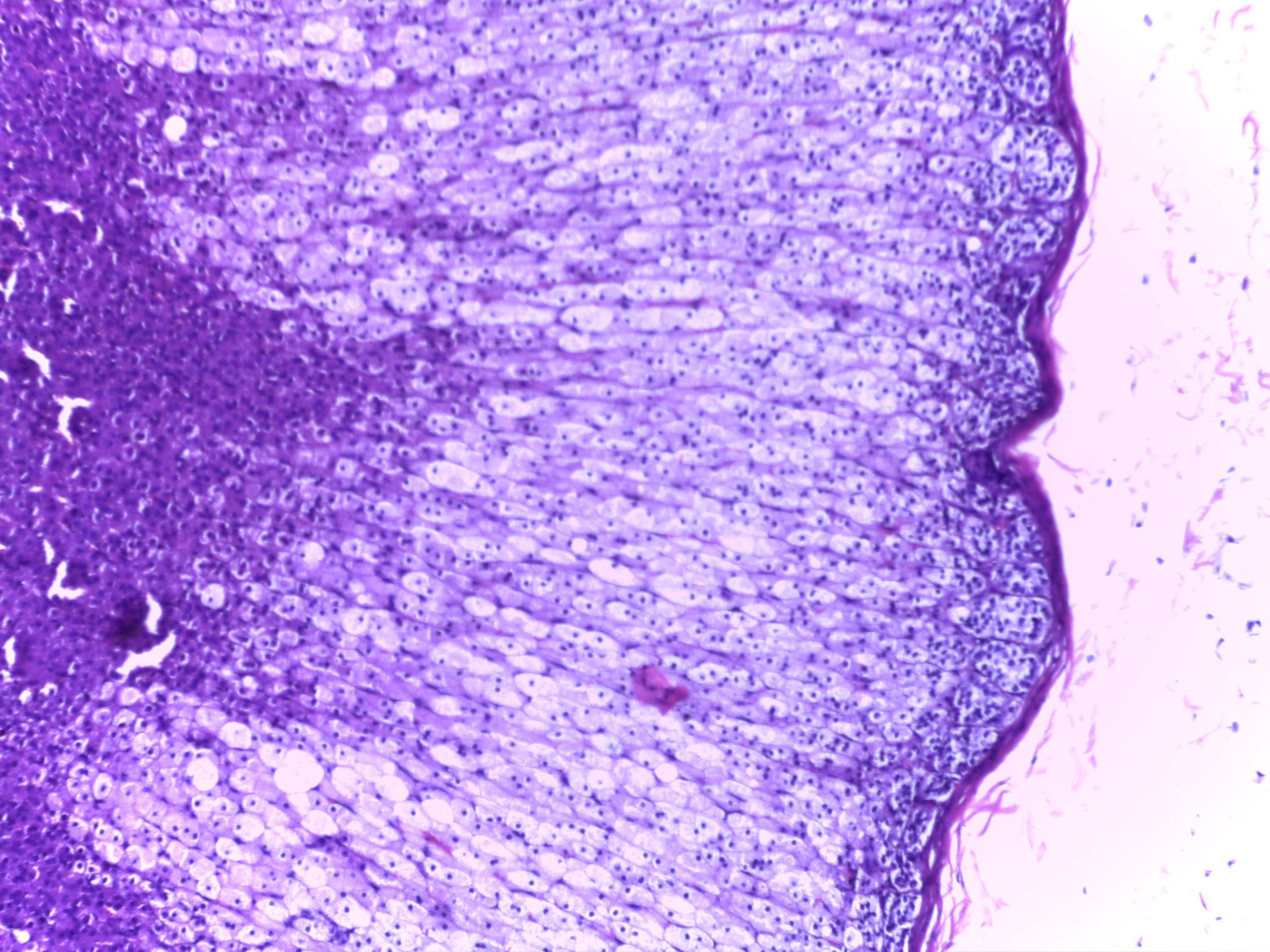
Wide zone formed of
Polyhedral cells

Arranged in narrow
Straight cords.

They have vacuolated
cytoplasm

(**spongiocytes**)

Fasiculata



Zona Reticularis

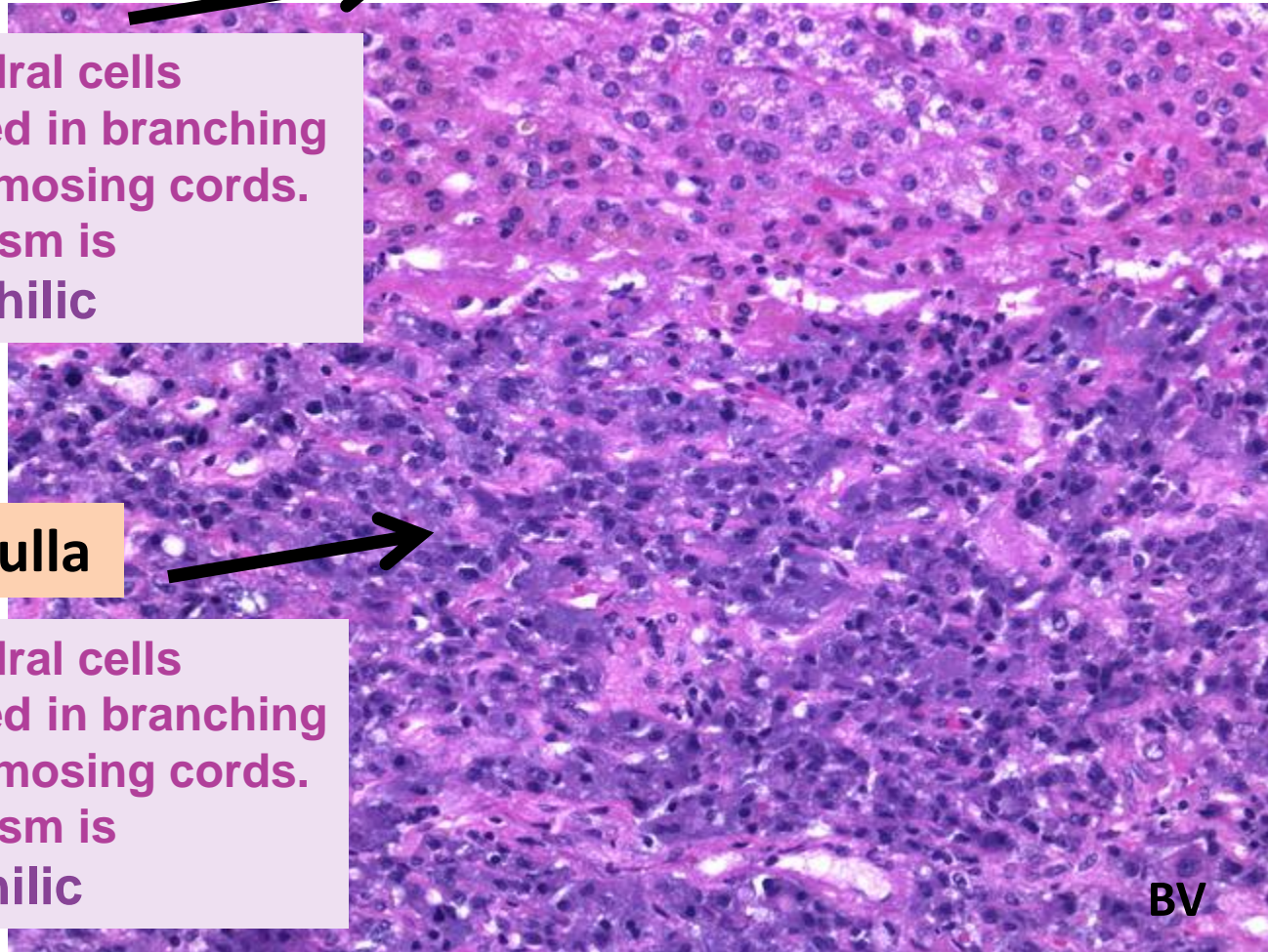


Polyhedral cells
Arranged in branching
anastomosing cords.
Cytoplasm is
acidophilic

Medulla

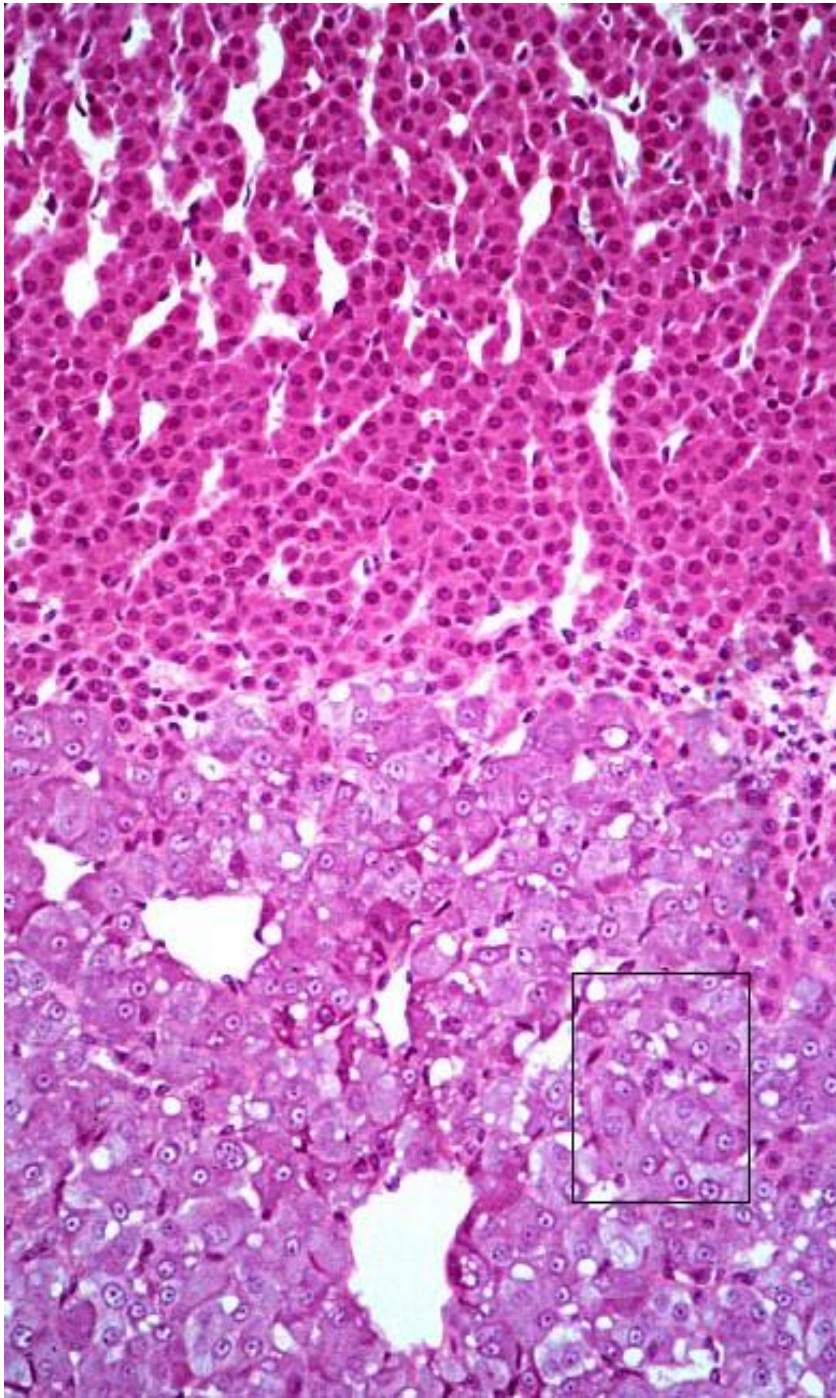


Polyhedral cells
Arranged in branching
anastomosing cords.
Cytoplasm is
basophilic

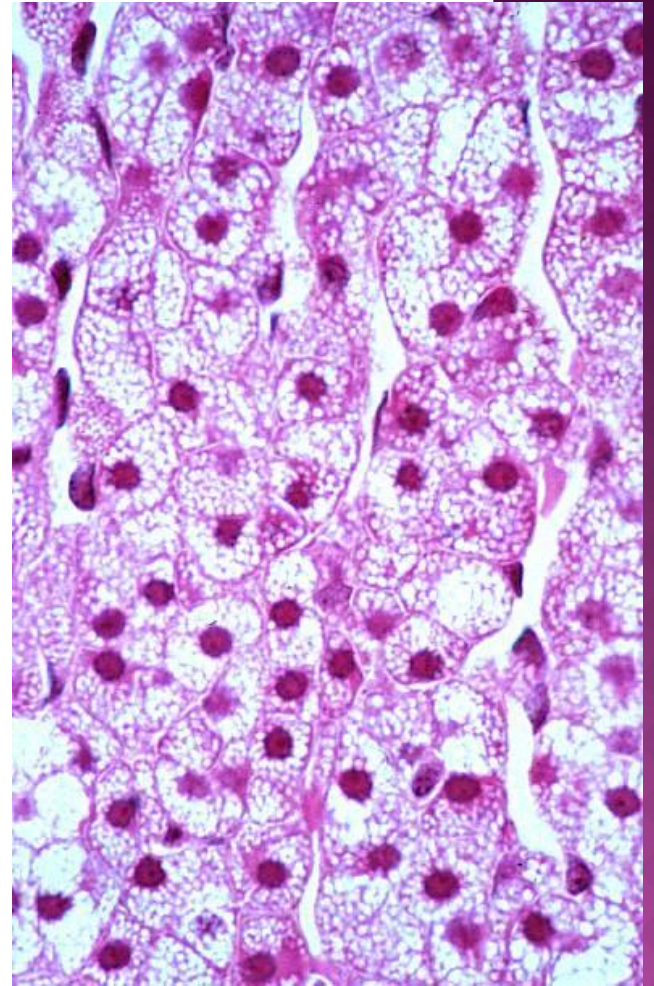


BV

**Zona
Reticularis**

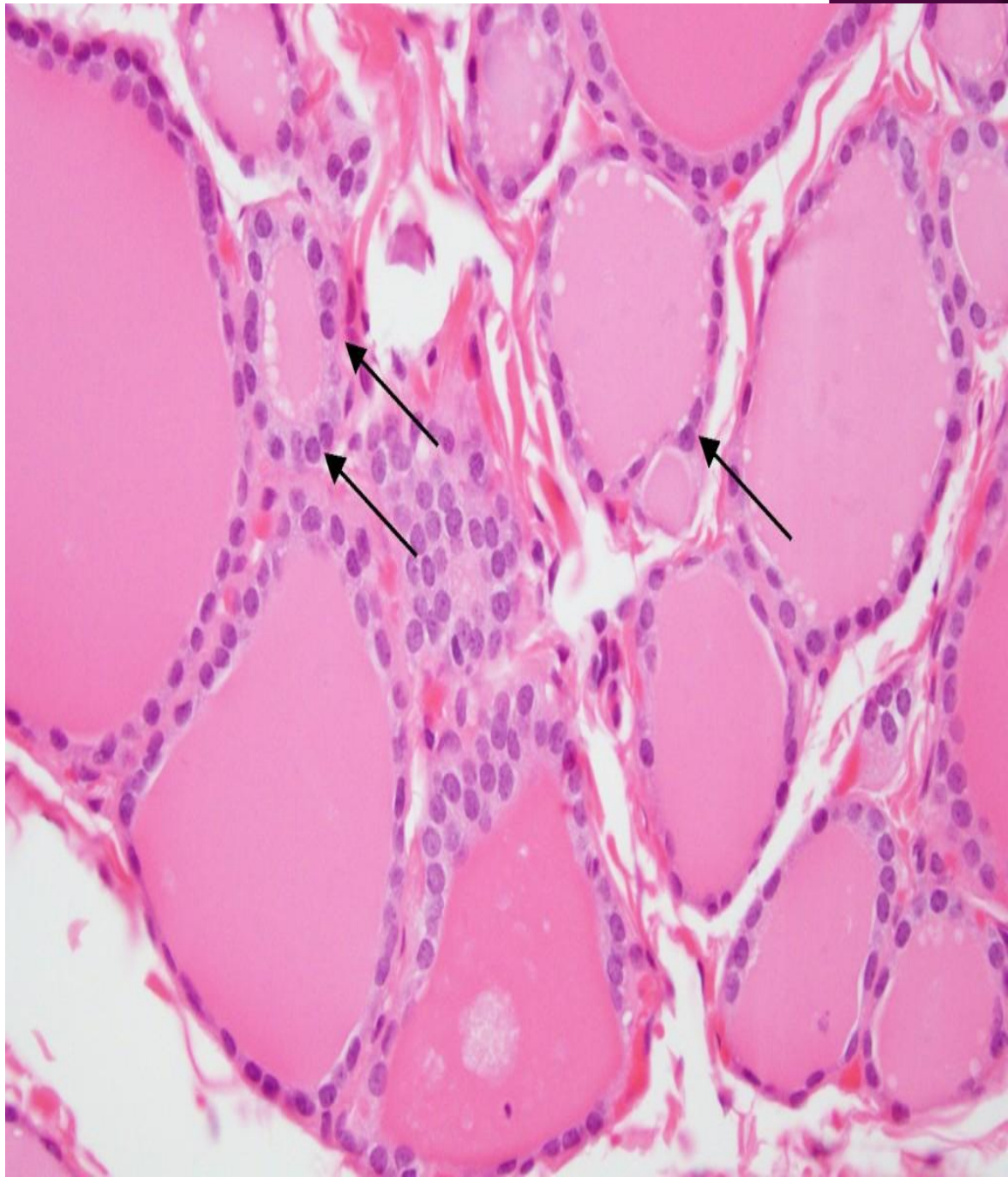


Medulla

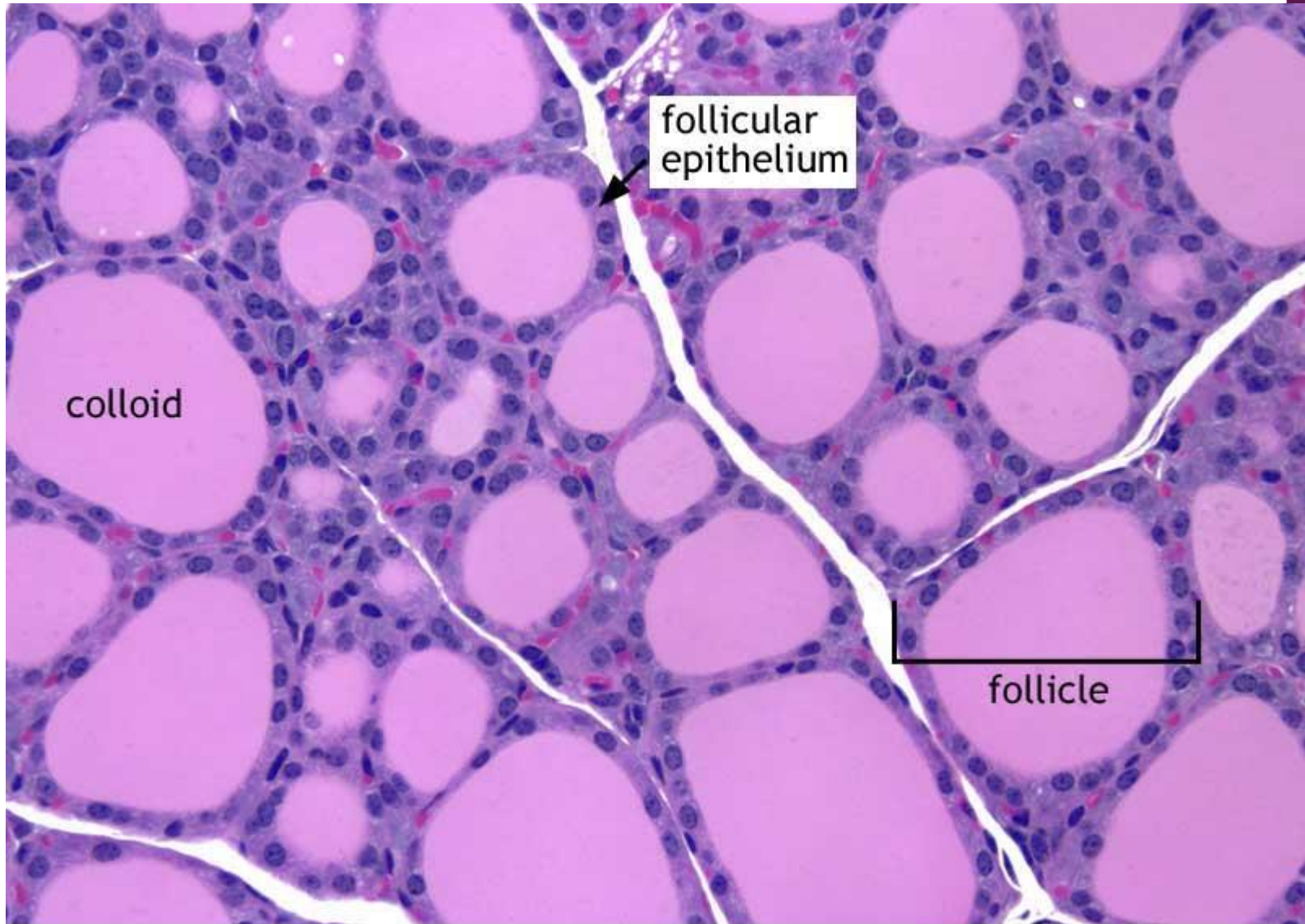


Zona Fasciculata

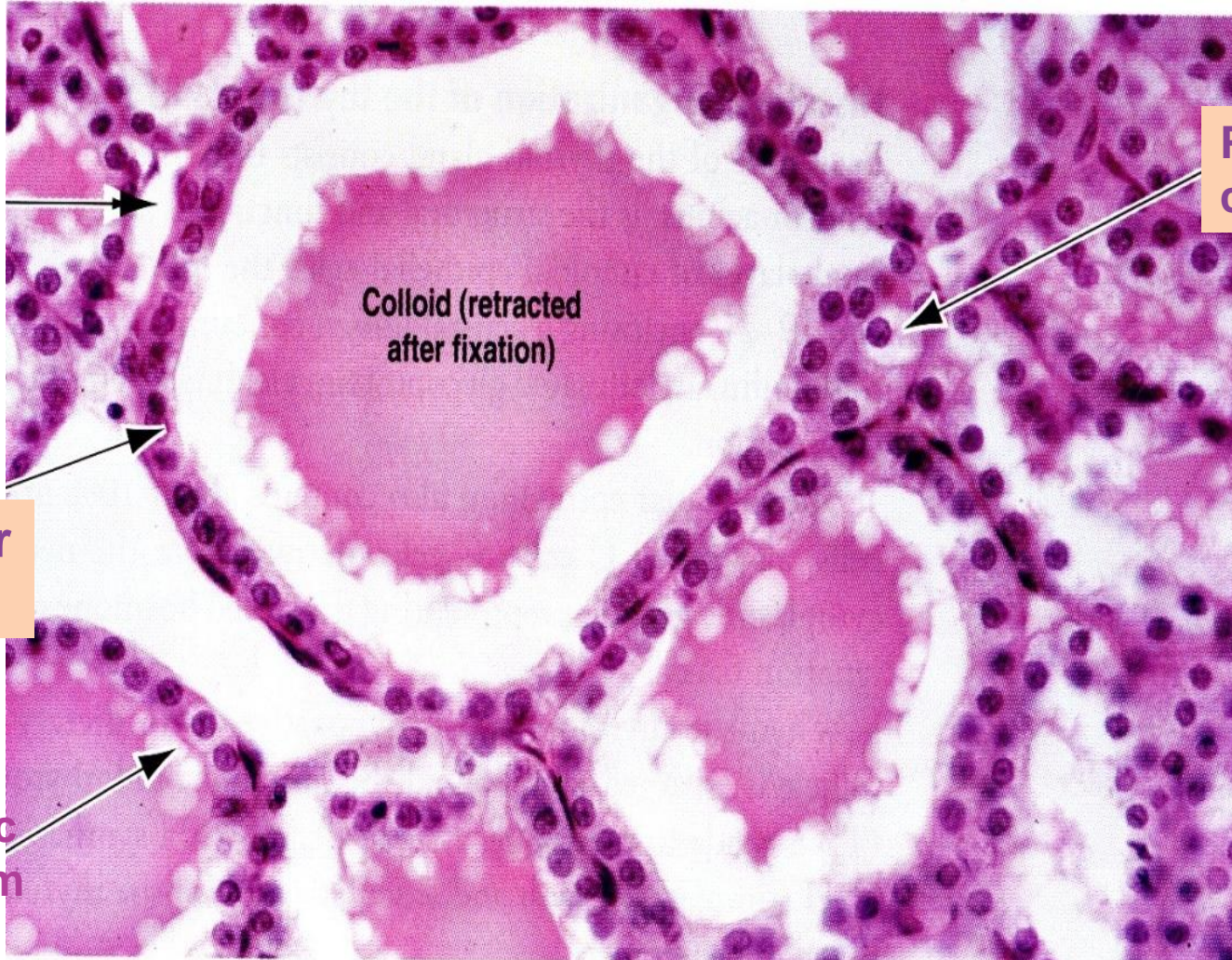
Thyroid & Parathyroid Gland



THYROID GLAND



Thyroid Gland



BV

Parafollicular cell

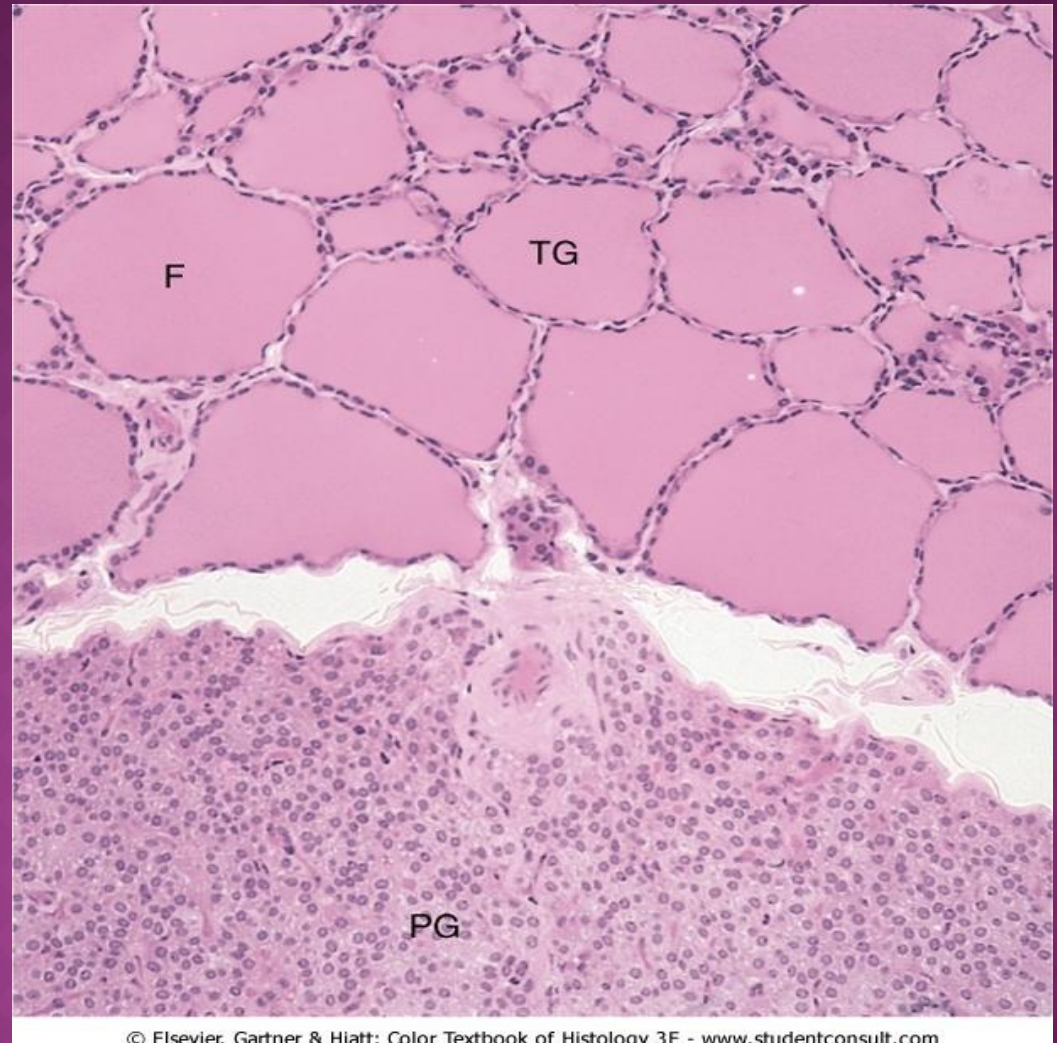
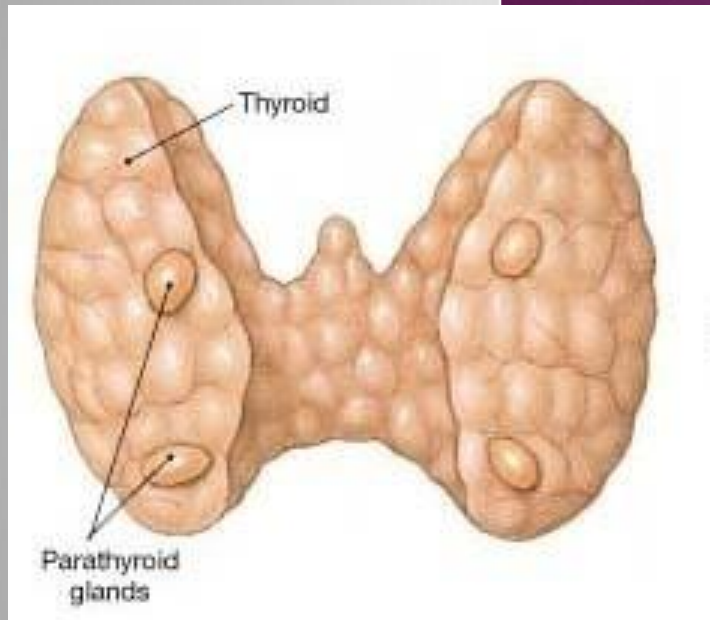
Colloid (retracted after fixation)

Large cells
Clear cytoplasm

Follicular cells

Cuboidal cells
Basophilic cytoplasm

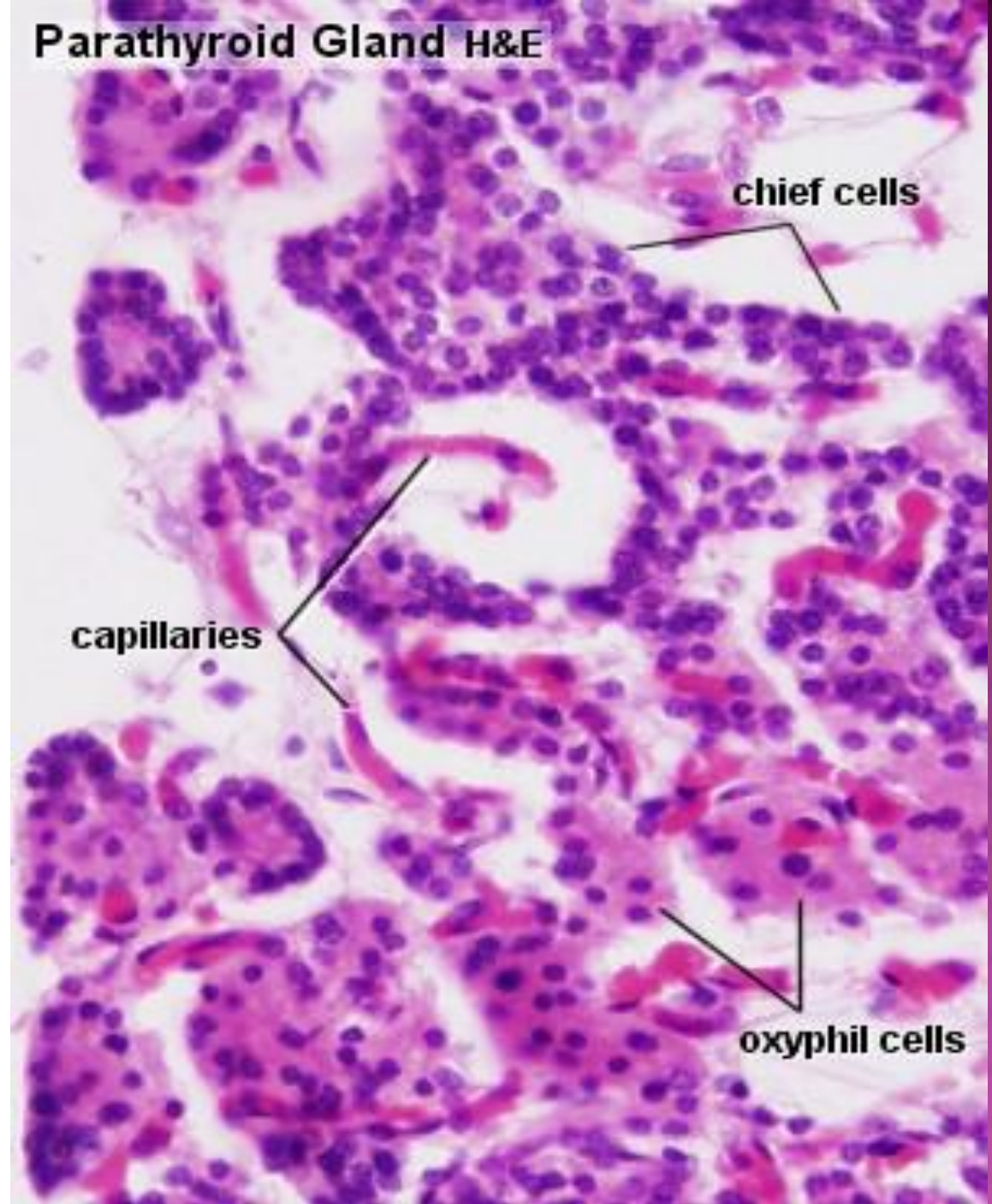
THE PARATHYROID GLANDS



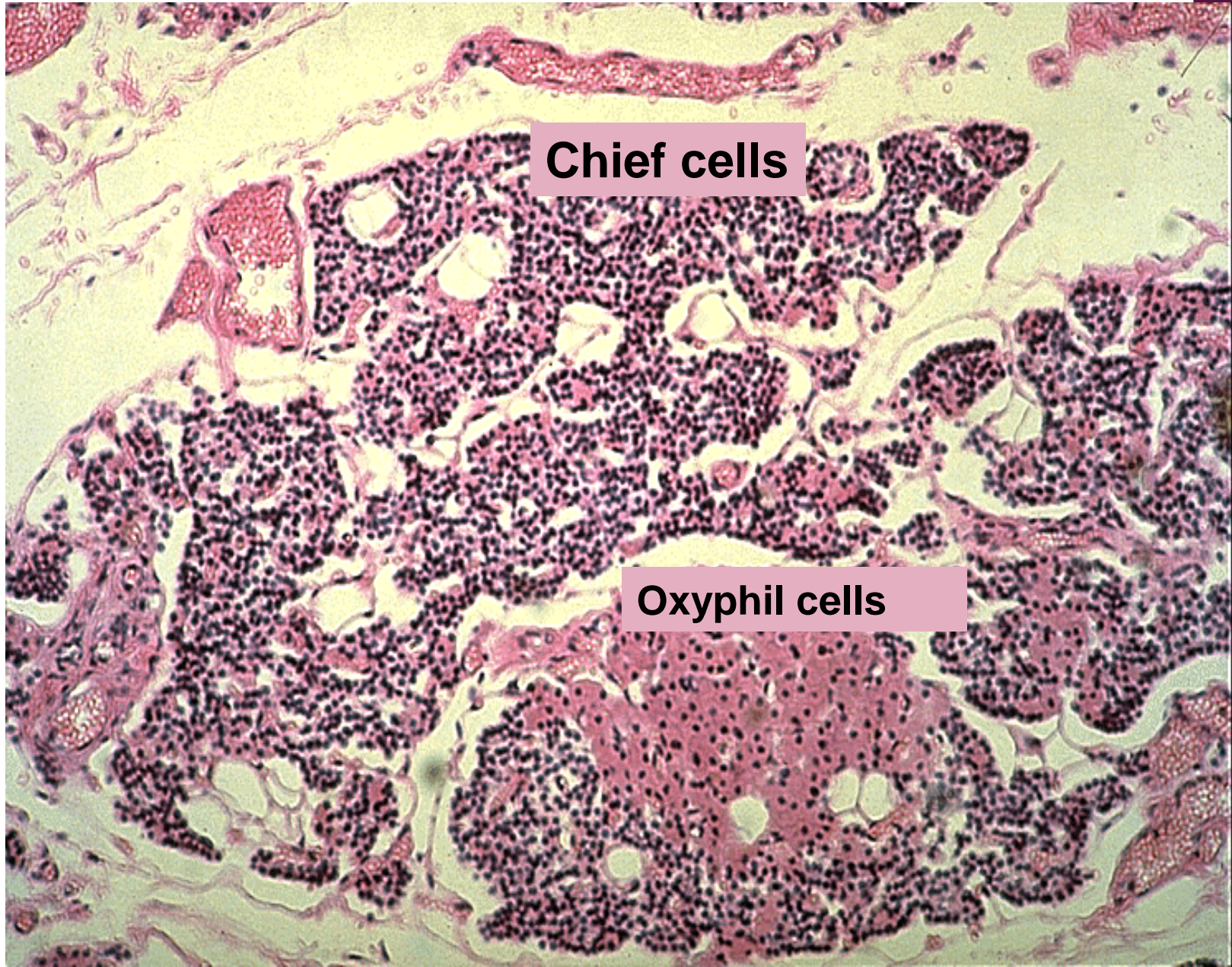
Chief cells:
Numerous
Small
polyhedral
basophilic

Oxyphil cells:
Less
numerous
Large
polygonal
Acidophilic
Form clumps

Parathyroid Gland H&E

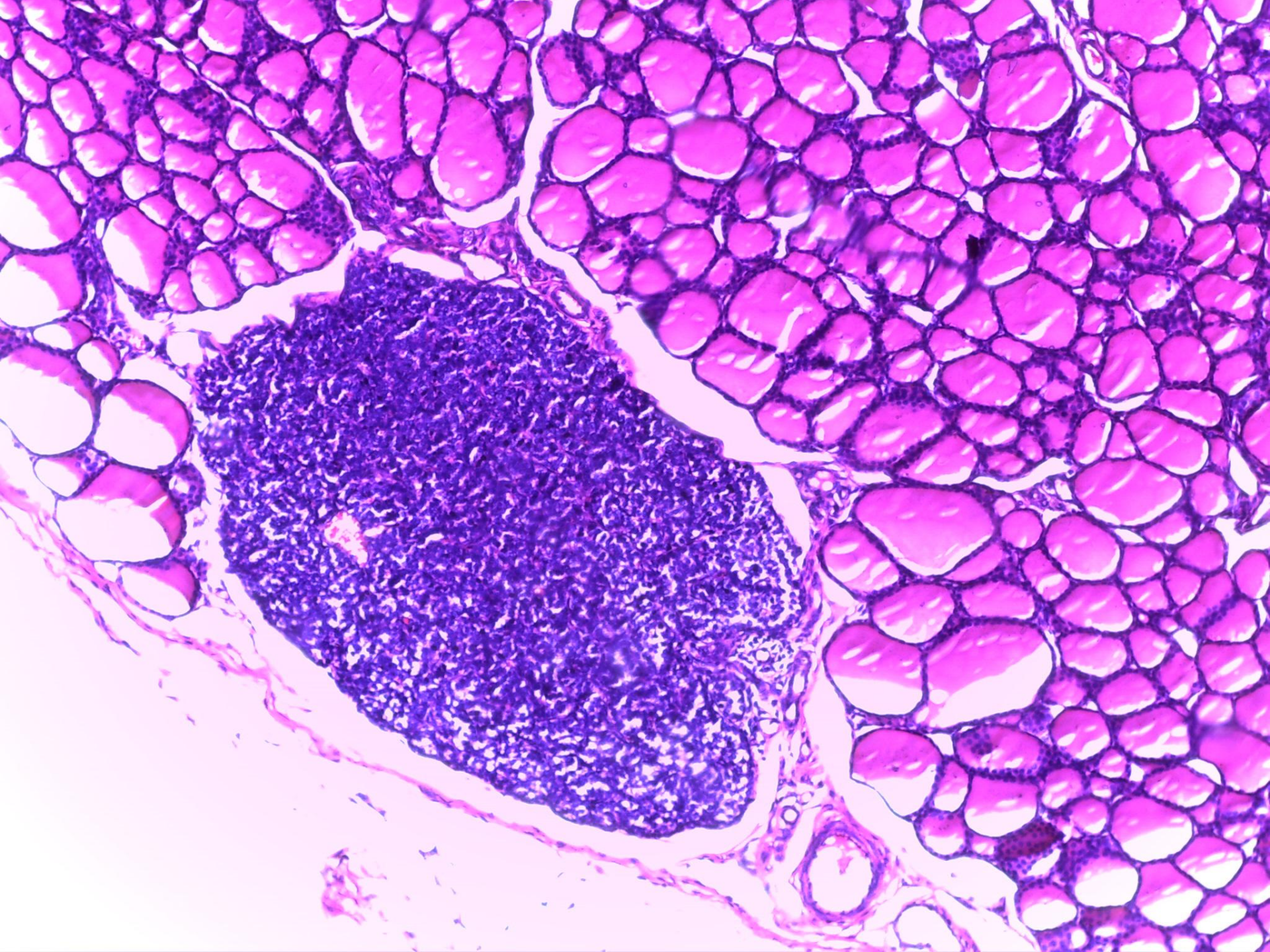


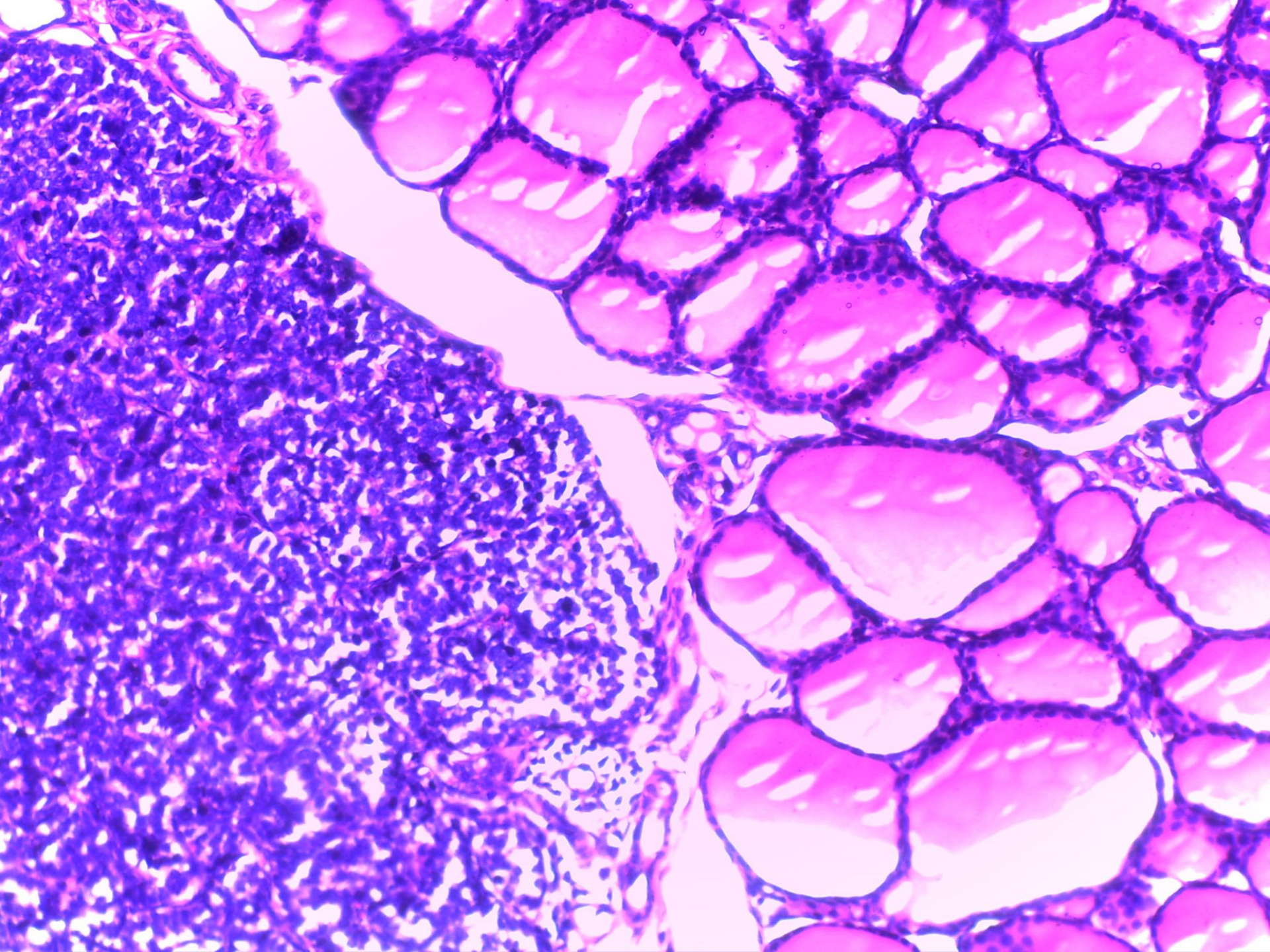
Parathyroid Gland



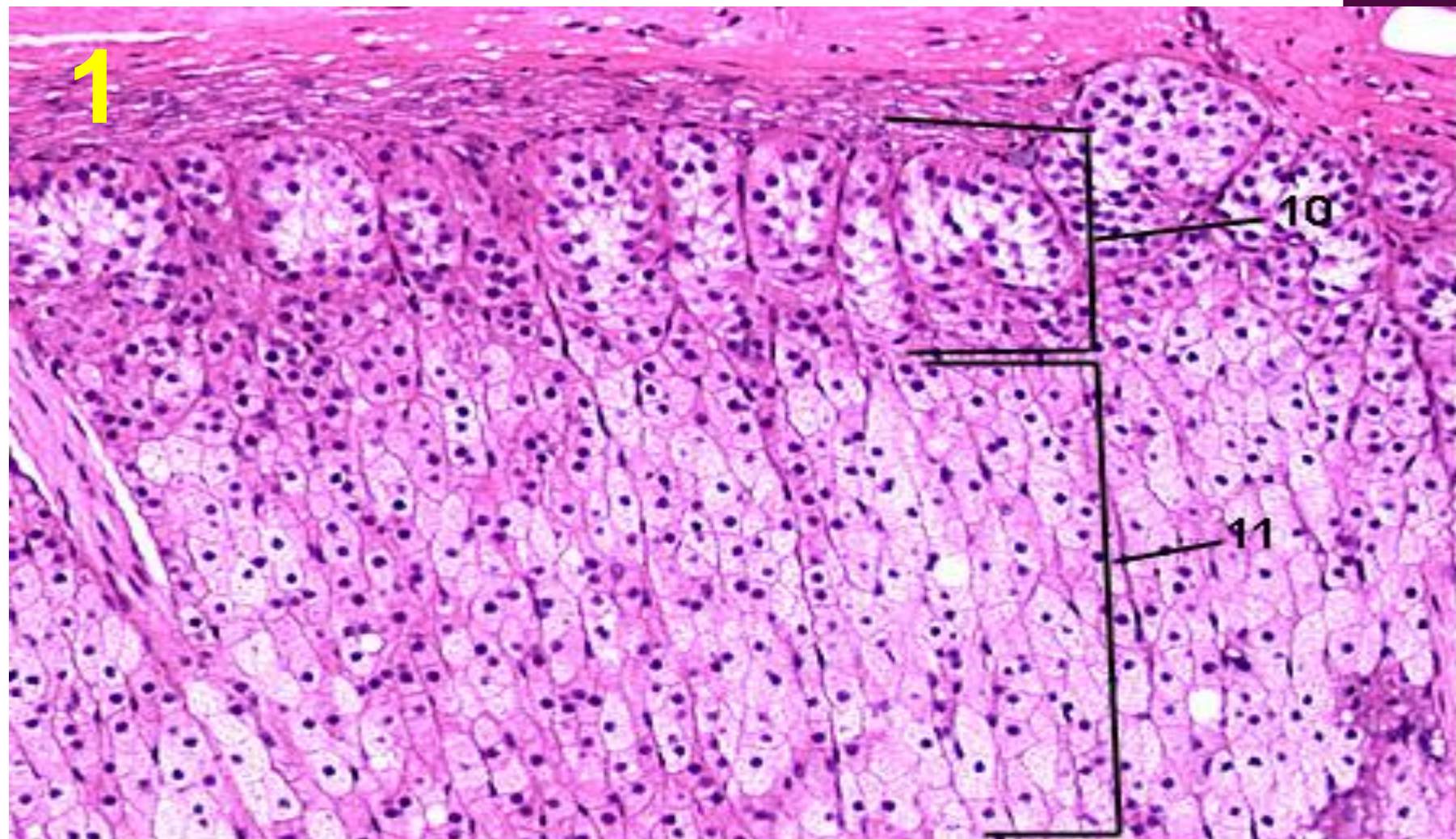
Chief cells

Oxyphil cells





TRIAL EXAM

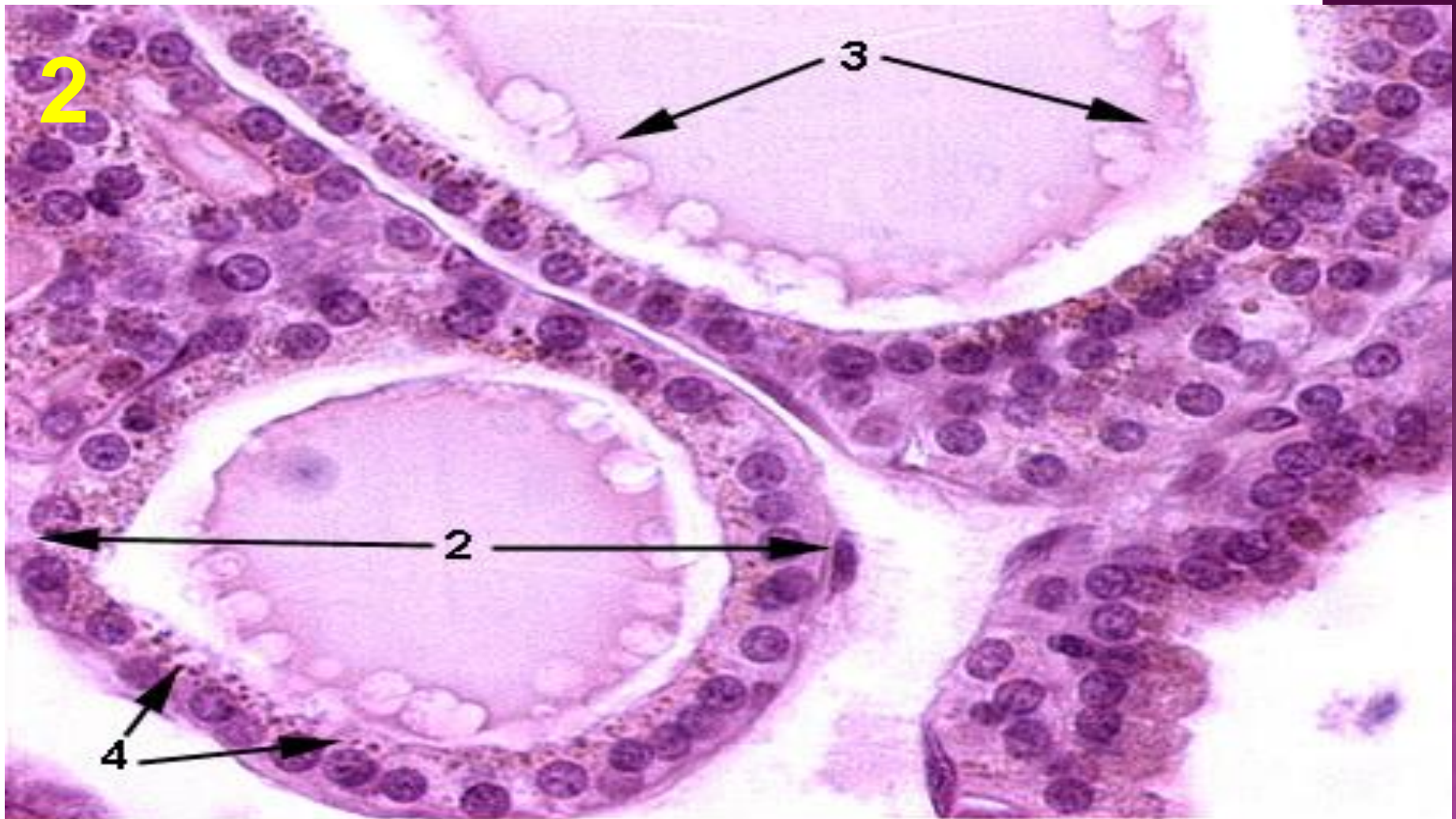


9. Identify this organ

10. Identify the region indicated by the arrow

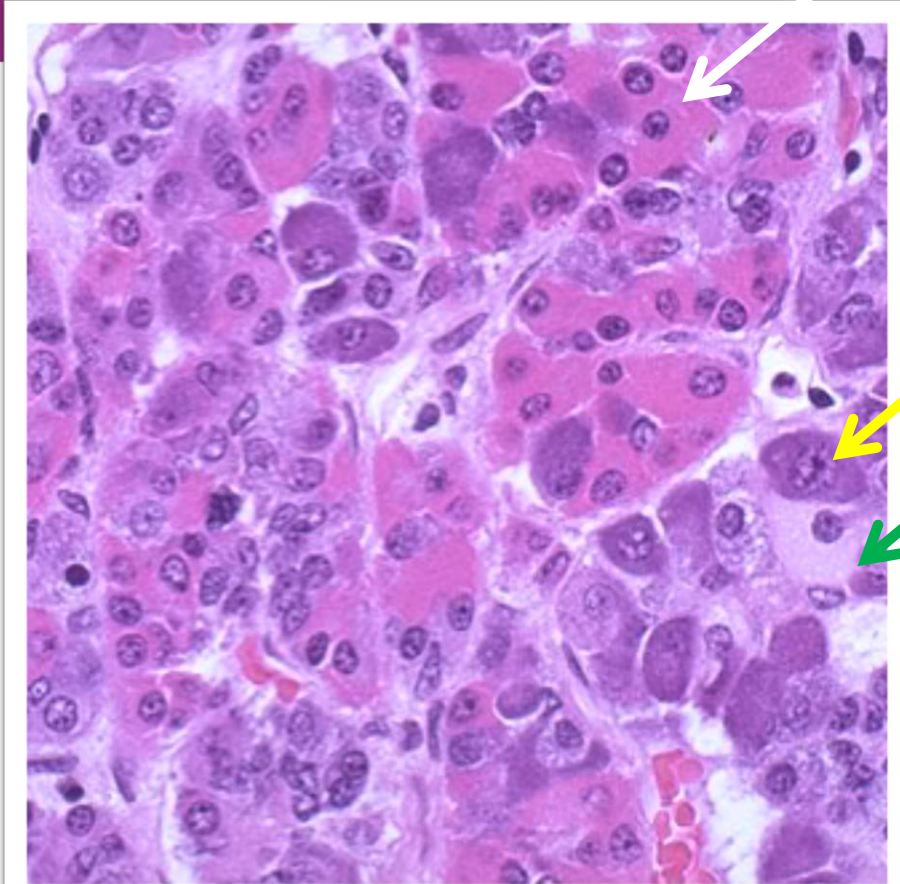
11. Identify the region indicated by the arrow

12. What does this region (#11) produce?



1. Identify this organ
2. Identify the entire structure indicated by the arrow
3. Identify the material indicated by the arrows
4. Identify the granules indicated by the pointer

3



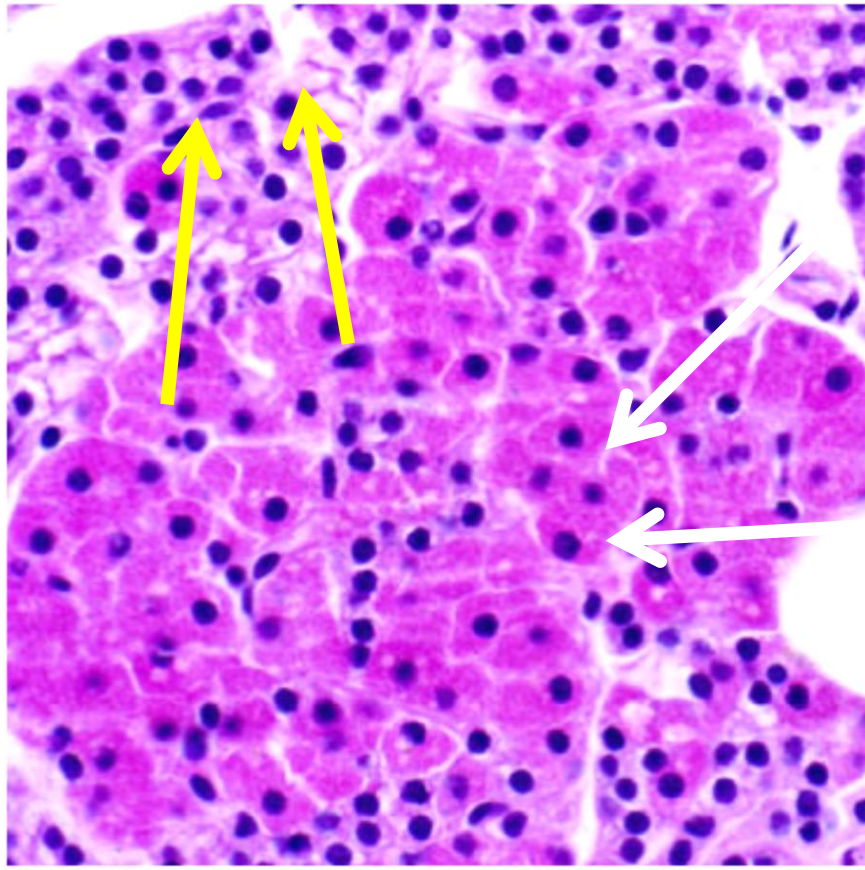
1- Identify this organ.

2-The black arrow points to.....cells, their percentage is....

3-The yellow arrow points to.... cells, their percentage is.....

4- The green arrow points to.....

4

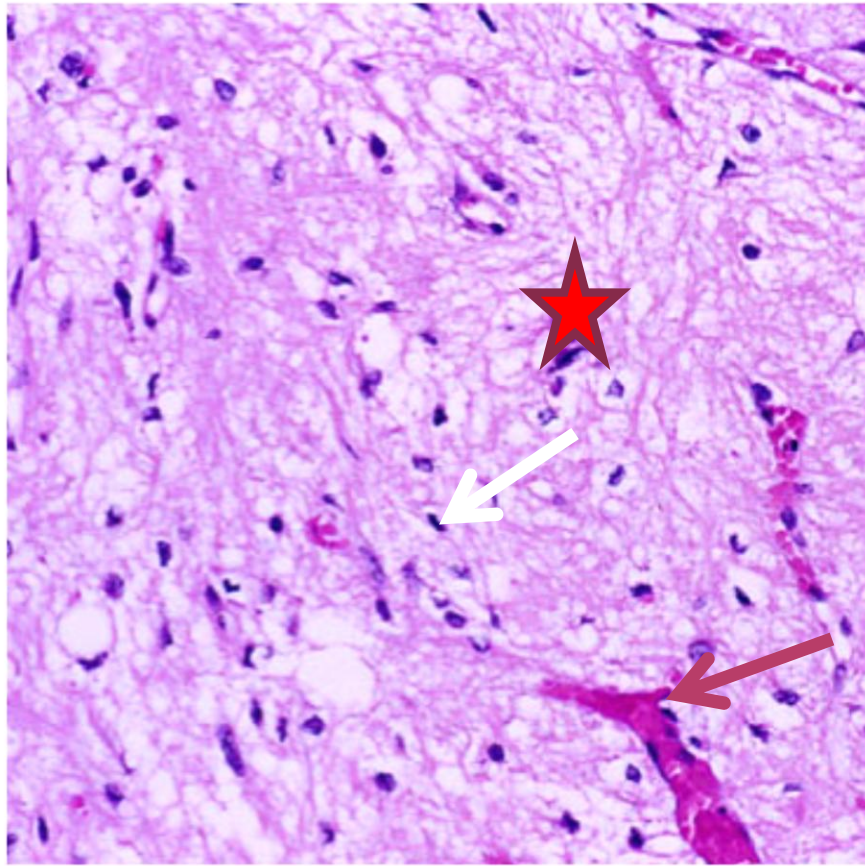


This is a section in the parathyroid gland .

1- Identify the cells indicated by the black arrows.

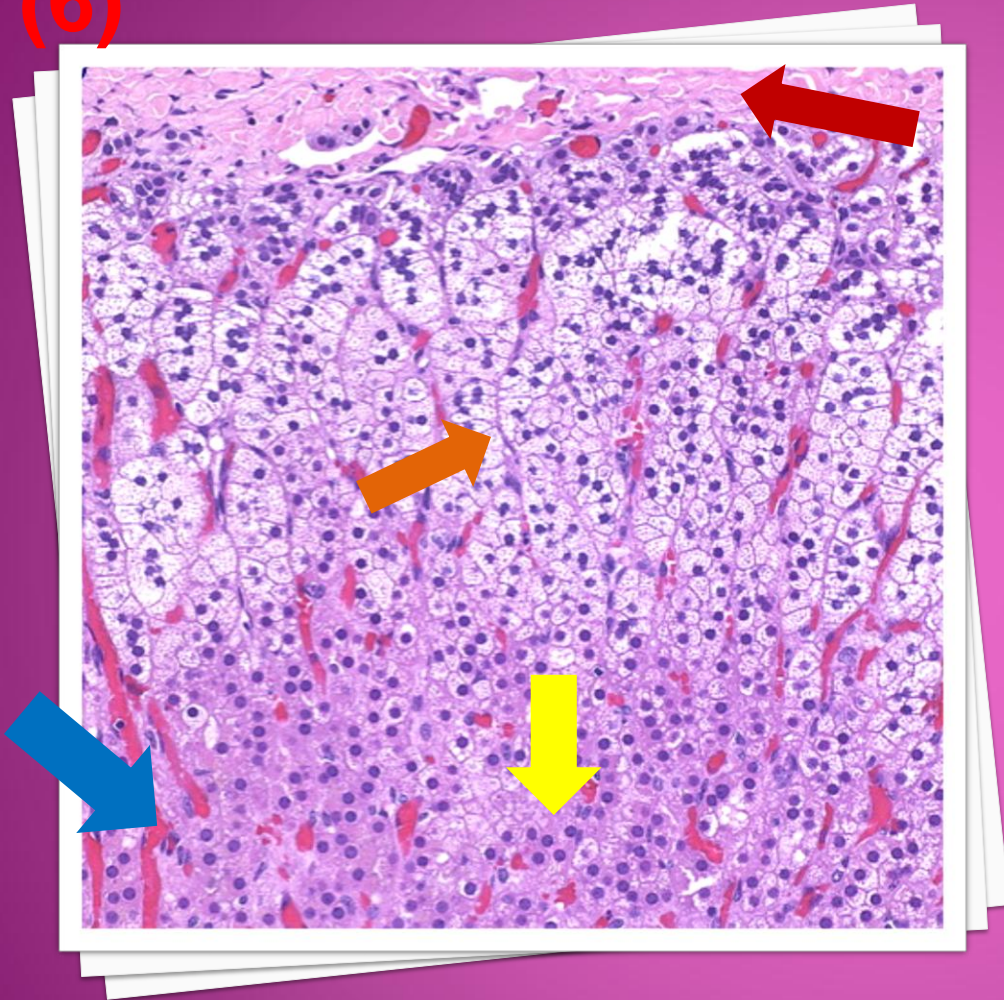
2- Identify the cells indicated by the yellow arrows.

5



- 1- This section is in theof the pituitary gland.
- 2- The black arrows point to.....
- 3- The blue arrow points to.....
- 4- The astrix points to.....

(6)

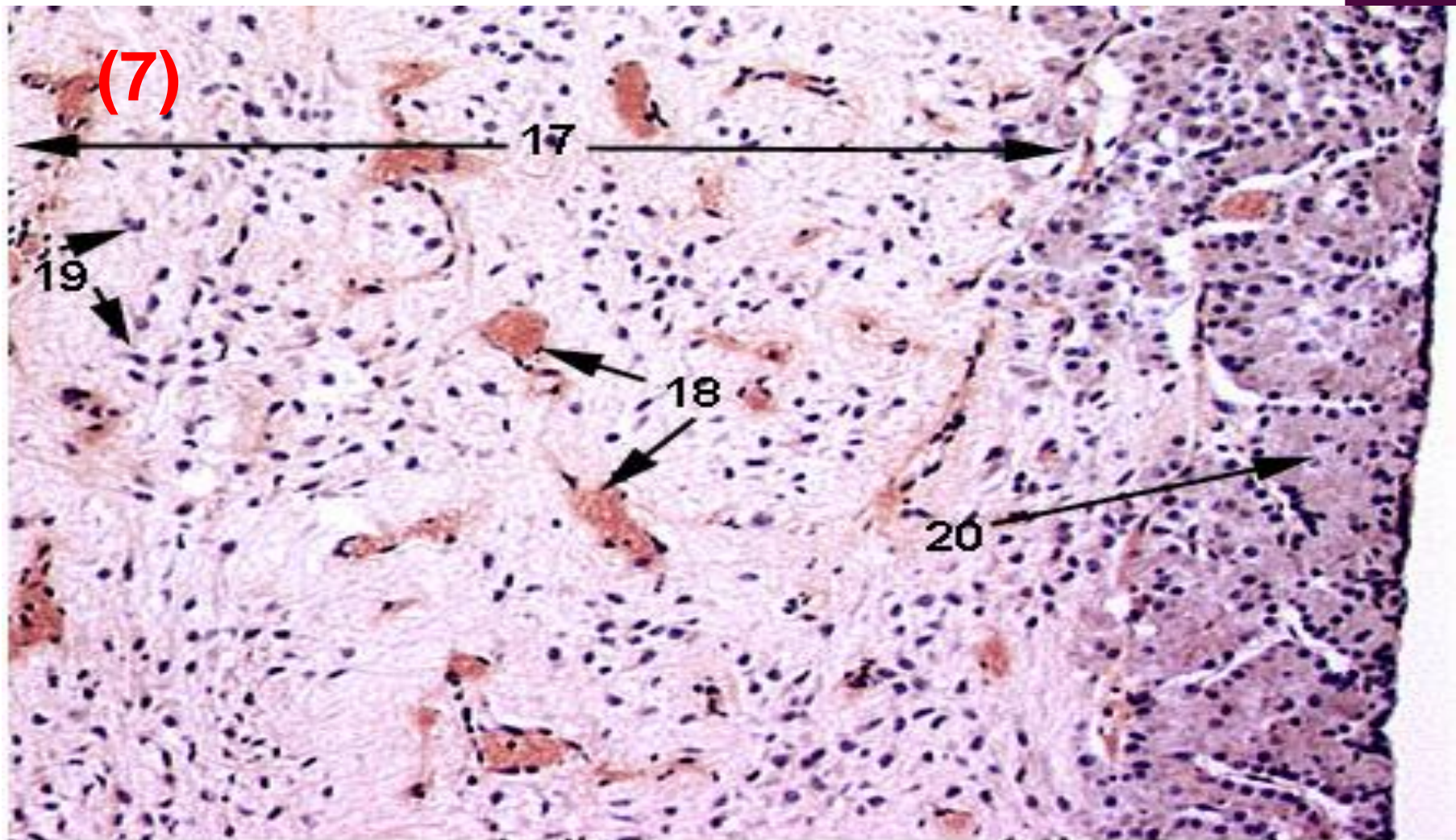


Identify the organ.

The red arrow points to....while the green one points to.....

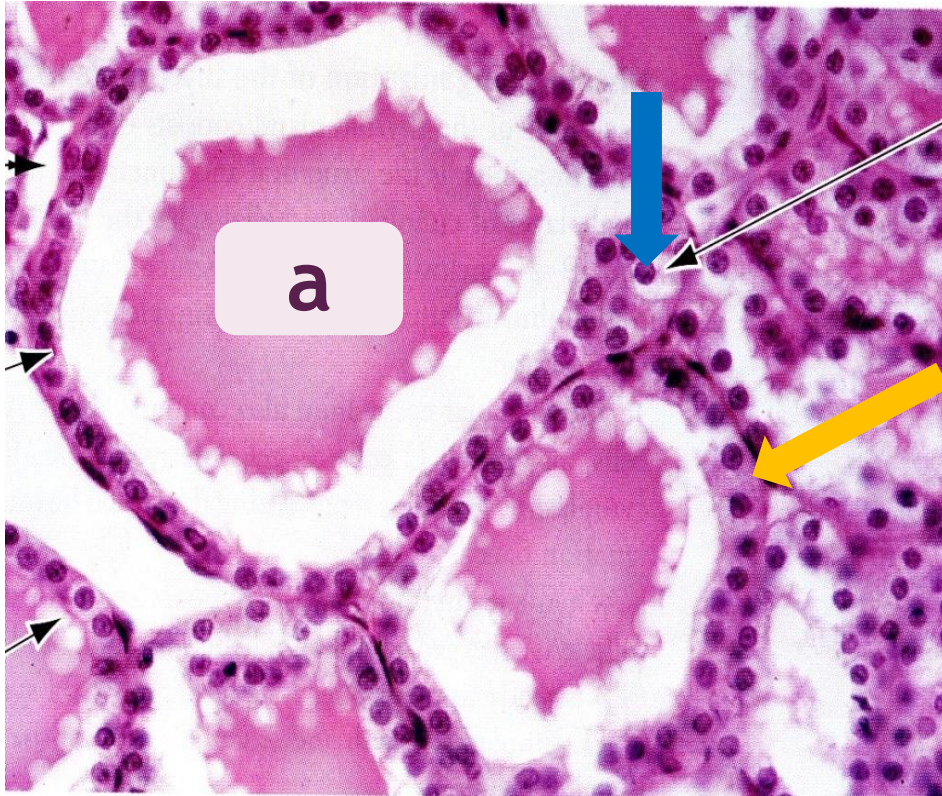
The blue arrow points towhich secrete

The yellow arrow points towhile the orange arrow points to....



17. Identify the region of the organ
18. Identify the structures indicated by the arrow
19. Identify the cells indicated by the arrows
20. Identify the region of the organ

(8)

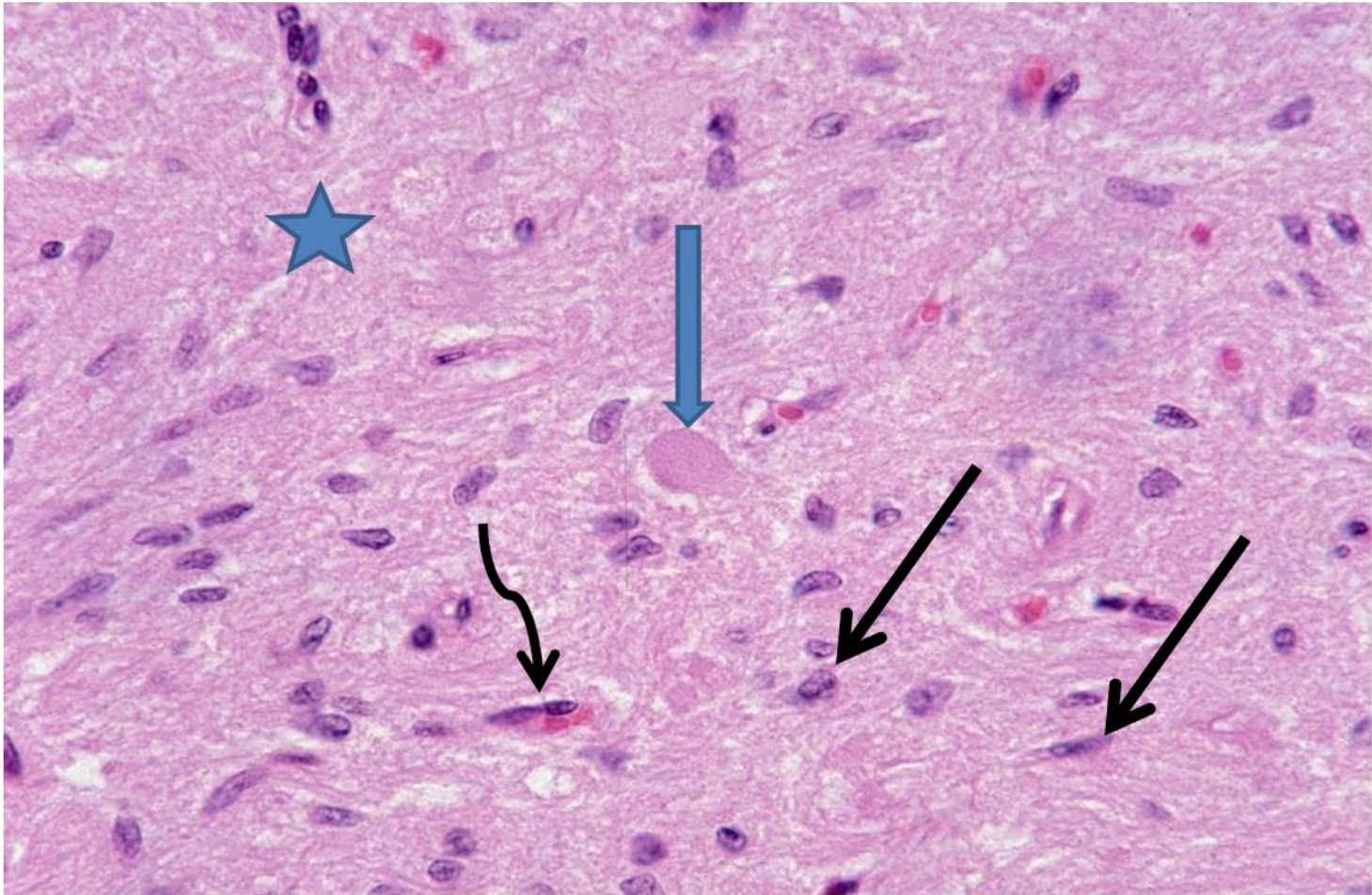


1- Identify the organ.

2- The material indicated by letter a is.....

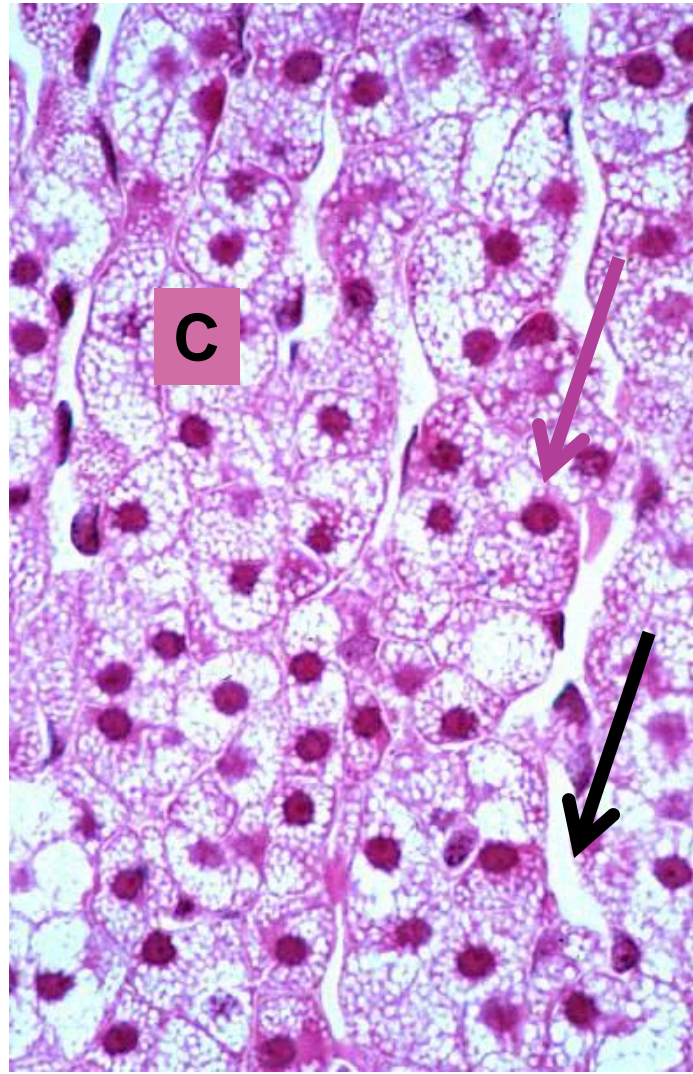
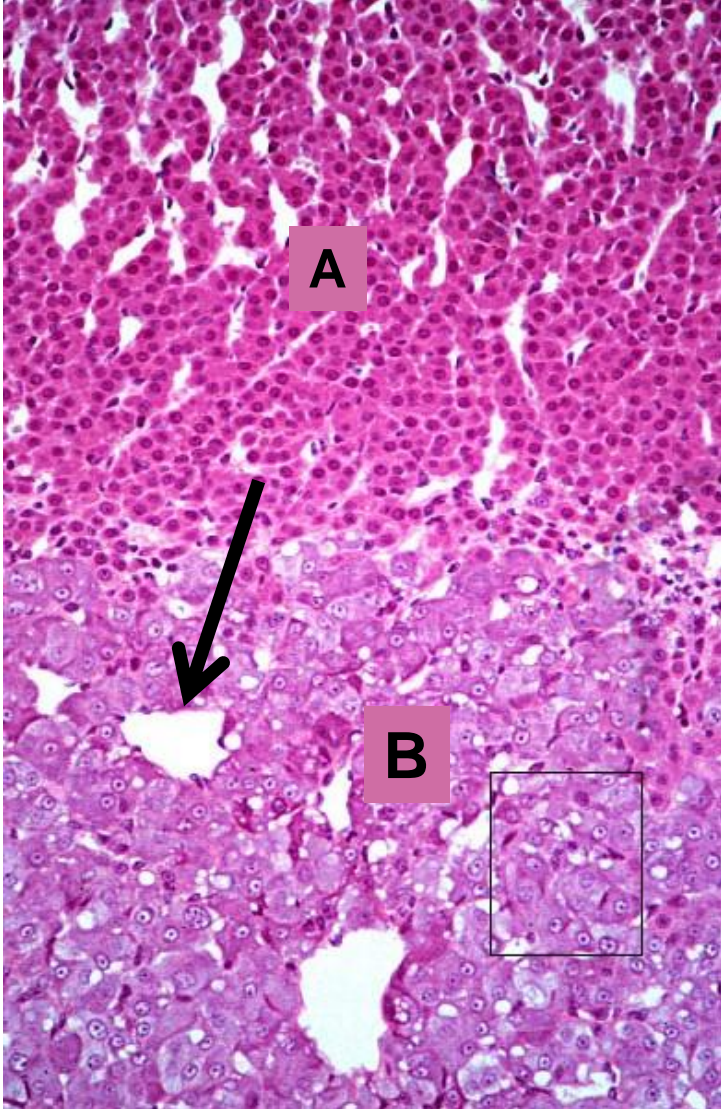
3- The yellow arrow points toand the blue arrow points to.....

(9)



- 1- Identify this part of the pituitary gland.
- 2- Black arrows point to.....while curved arrow points to.....
- 3-Blue arrow points to.....and the star indicates.....

(10)



- 1- Identify the gland.
- 2- Identify different regions A, B & C.
- 3- The blue arrow point to.....The black arrows points to.....