



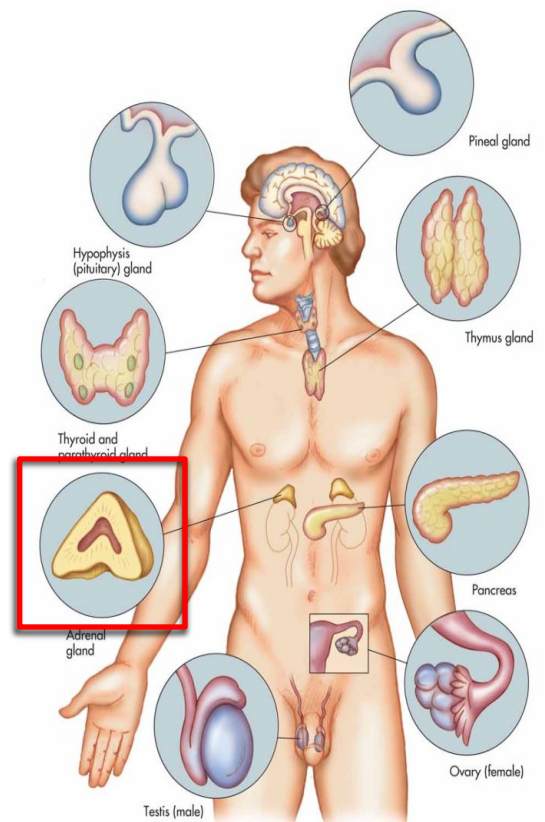
Adrenal Gland

Endocrine Block

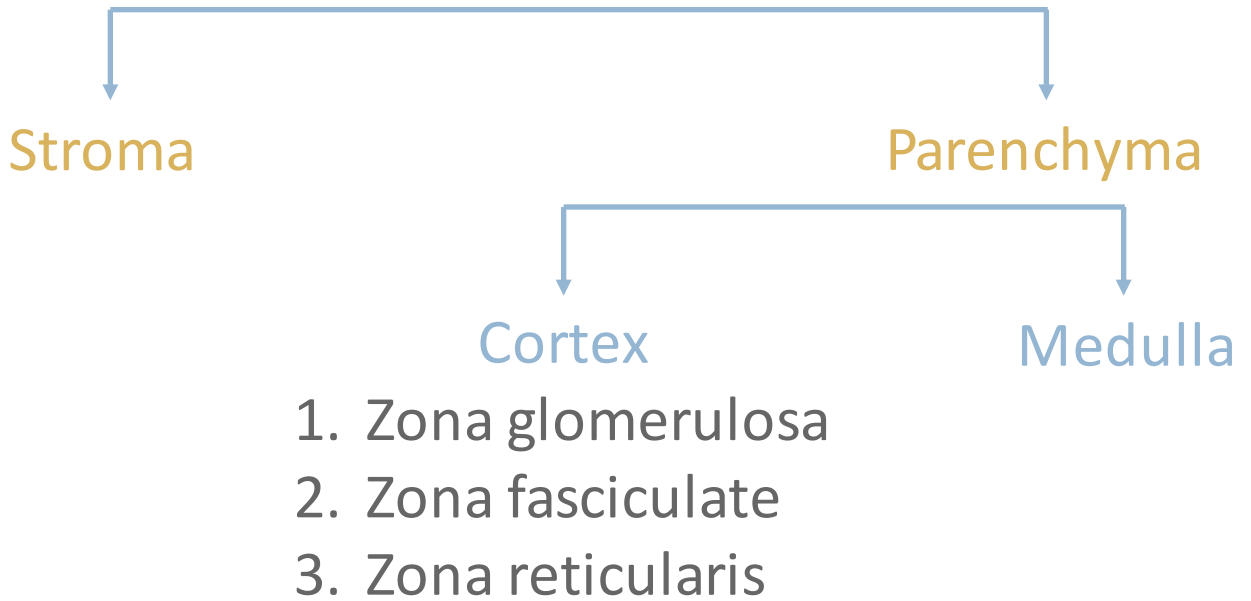
Objectives:

The students should be able to:

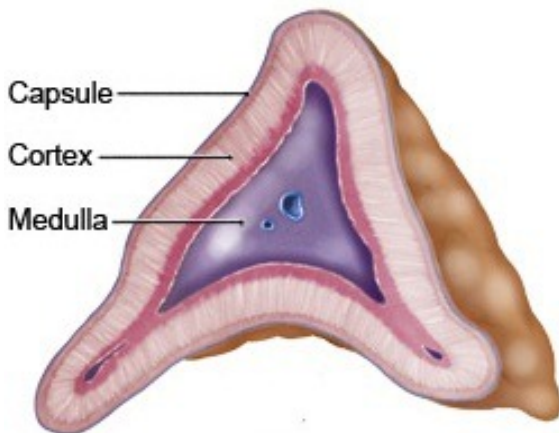
1. Differentiate between adrenal cortex and medulla.
2. Identify the histological features of each cortical zone and its cells.
3. Identify the histological features of the medullary cells.



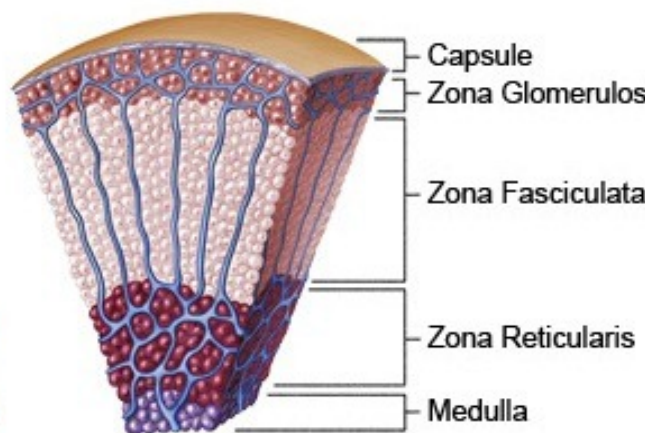
Adrenal Gland



Transverse Section



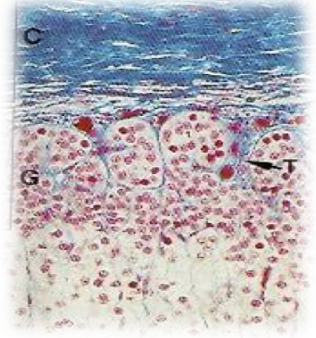
Microscopic Section



Adrenal Cortex

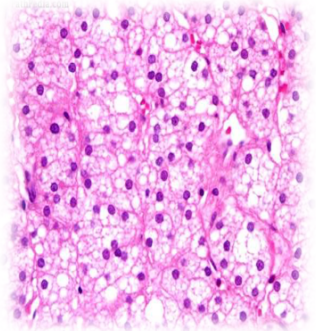
1-Zona glomerulosa

- Formed of clusters of small columnar cells
 - Rich in SER and mitochondria
- Produces mineralocorticoids e.g: Aldosterone hormone
 - Reabsorb all the remaining sodium and passively the chloride from the lumen of the distal renal tubules in to the renal interstitium
 - Potassium and hydrogen ions are actively secreted into the lumen



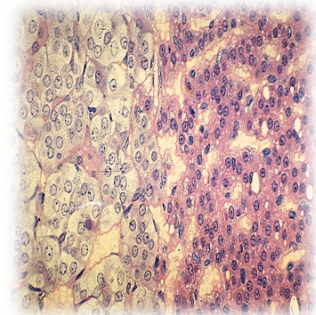
2-Zona fasciculata

- It is the intermediate and the largest layer of the cortex
- It is formed of columns of large polyhedral cells that are separated by longitudinal sinusoidal capillaries
- It's cells are rich :
 - lipids so they appear empty in sections (spongiocytes)
 - Mitochondria
- It's cells secrete glucocorticoids
- It is regulated by ACTH of pituitary



3-Zona reticularis

- It is the innermost layer of adrenal cortex
- It is formed of anastomosing cords of deep acidophilic cells
- It's cells contains few :
 - Lipofuscin
 - Lipid droplets
- The cell secrete androgens



Adrenal Medulla

- ❖ It is the central portion of adrenal gland
- ❖ It is completely invested with adrenal cortex
(not separated from it by CT. septa)

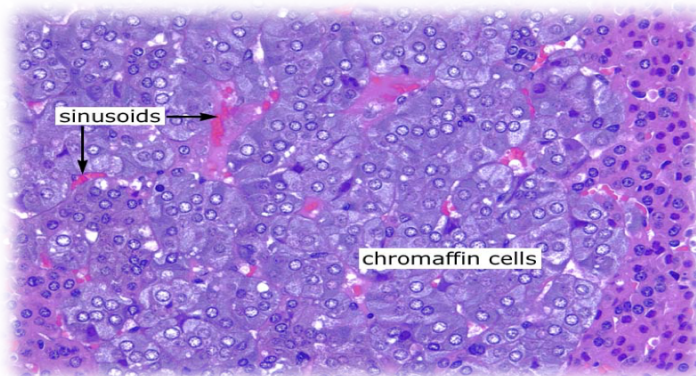
contains

Chromaffin cells (Pheochromocytos)

- Contains granules of catecholamine as that of sympathetic nervous system.
(they produce epinephrine and norepinephrine)
- They stain deep brown with chromic salts.

Sympathetic ganglion cells

- Relay on chromaffin cells



MCQs

➤ **1- Which of the following is true about zona glomerulosa:**

- A. Clusters of small cuboidal cells & rich in SER
- B. Clusters of small columnar cells & rich SER
- C. Clusters of small cuboidal cells & rich in RER
- D. Clusters of small columnar cells & rich in RER

➤ **2-which of the following structure SEPARATES spingiocyts from each others?**

- A. Adrenal capsule
- B. Dense connective tissue
- C. It's not separated
- D. Sinusoidal capillaries

➤ **3-Which of the following does stain brown with chromic salt**

- A. Sympathetic ganglion cells
- B. Zona reticularis
- C. Chromaffin cells
- D. Spongiocytes

Answers

1- B

2- D

3- C

Motivation Corner

*BE WHO YOU ARE AND SAY WHAT YOU FEEL,
BECAUSE THOSE WHO MIND DON'T MATTER
AND THOSE WHO MATTER DON'T MIND.*



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Thank you for checking our
work

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