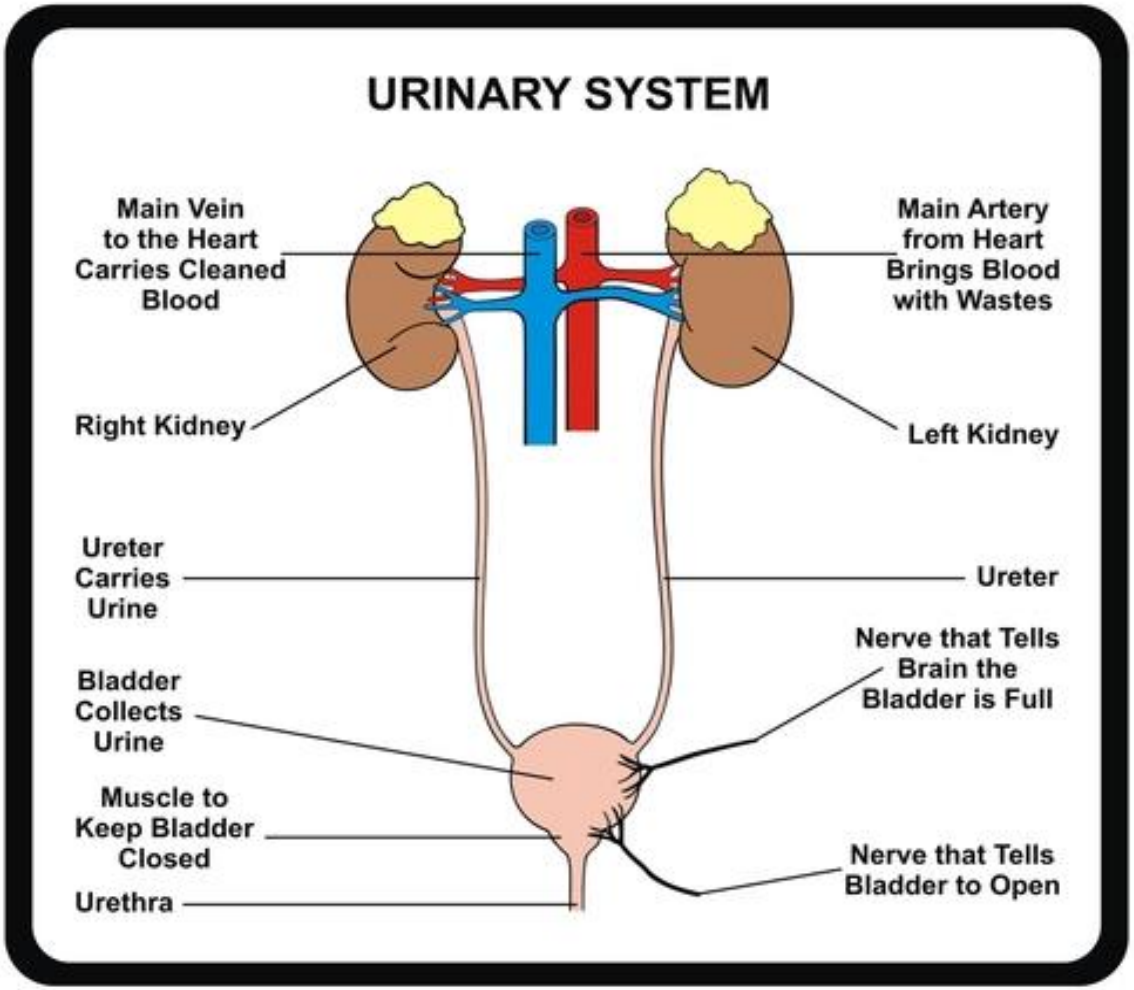
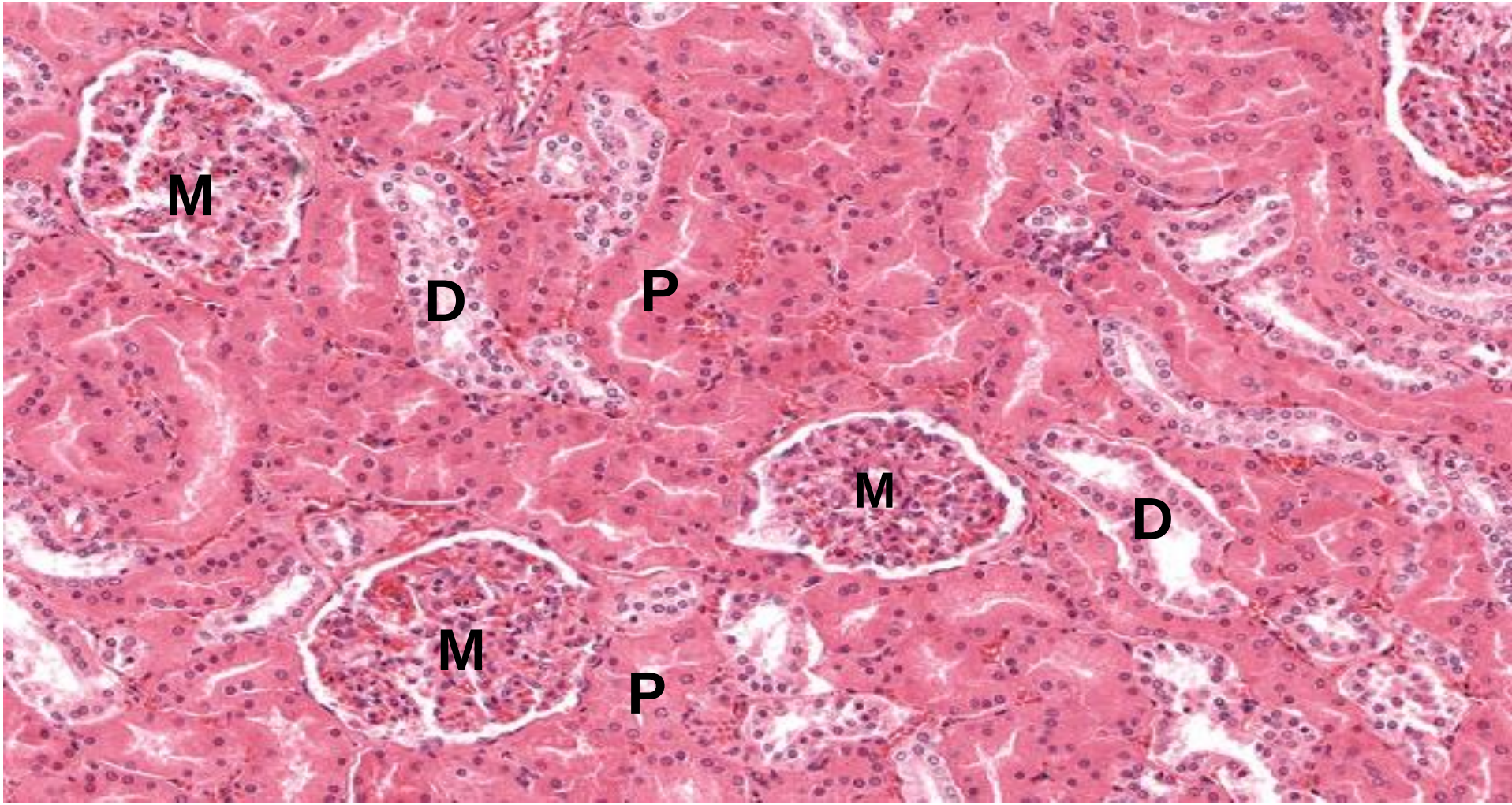
Urinary System

Second Year (Modular 2021)
Module DIG 206

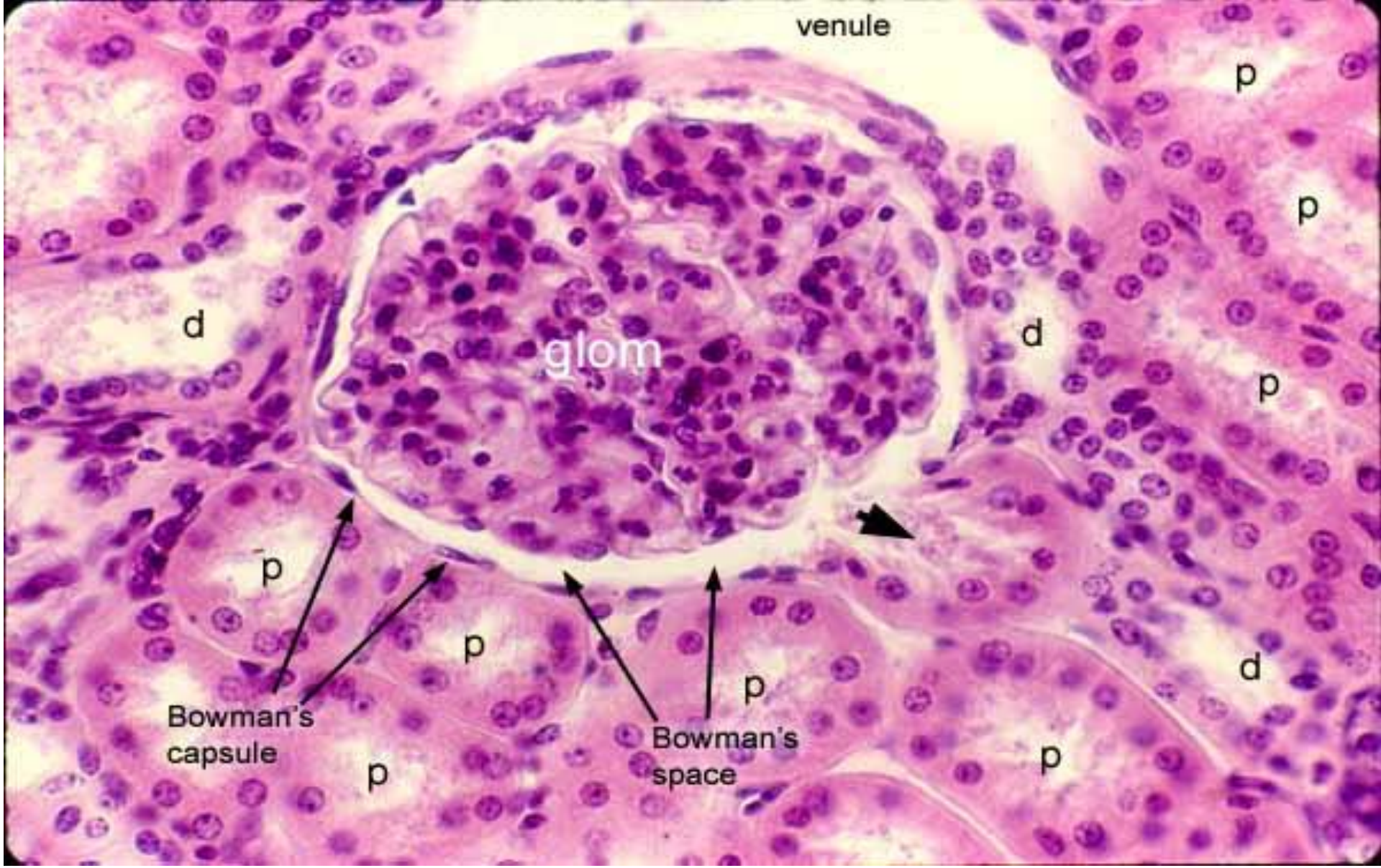


Cortex of the kidney



M: Malpighian renal corpuscle

P: Proximal convoluted tubule D: Distal convoluted tub.



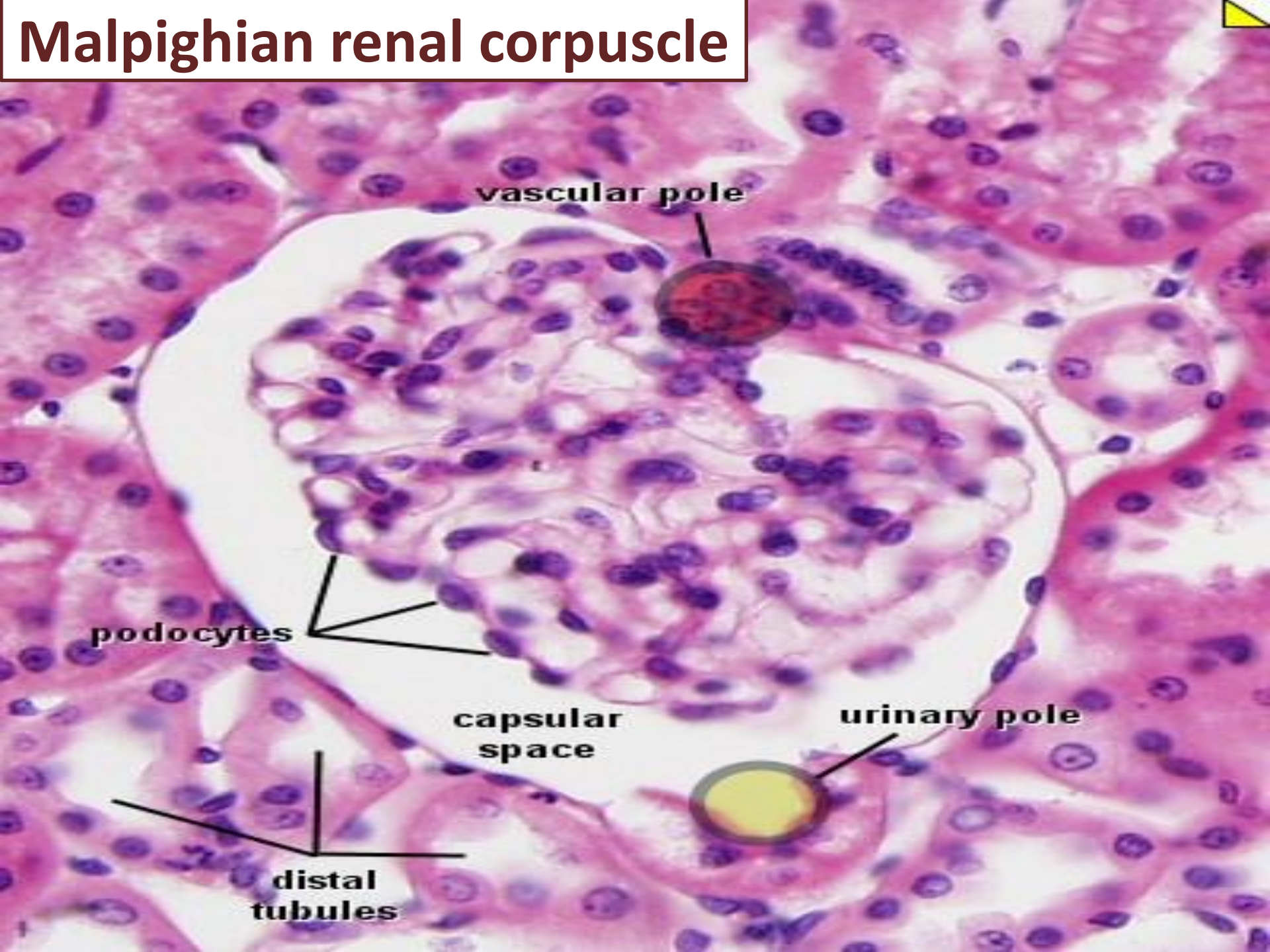
Cortex of the kidney

glom: glomerulus

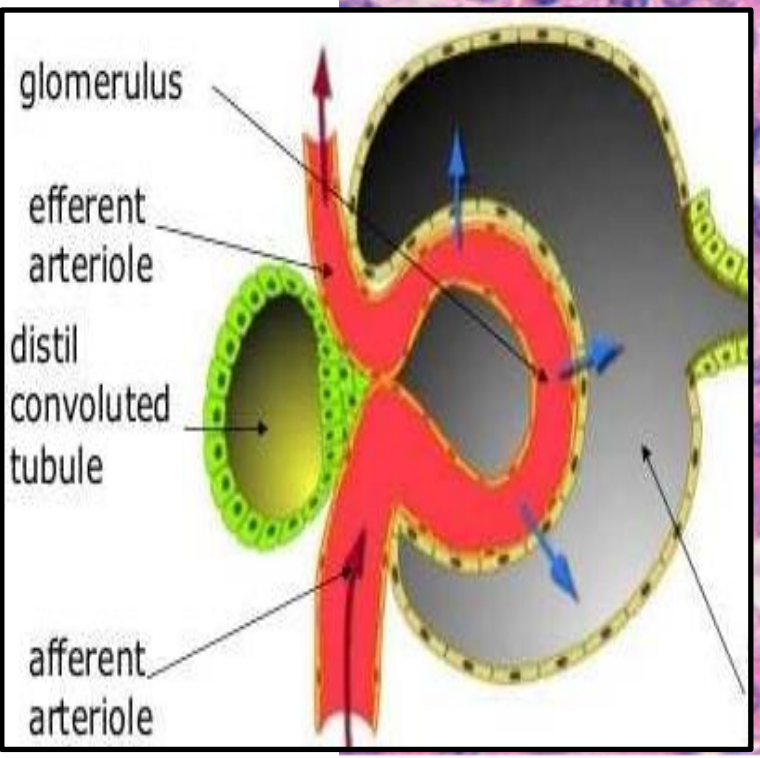
P: proximal convoluted tubule

d: distal convoluted tubule

Malpighian renal corpuscle



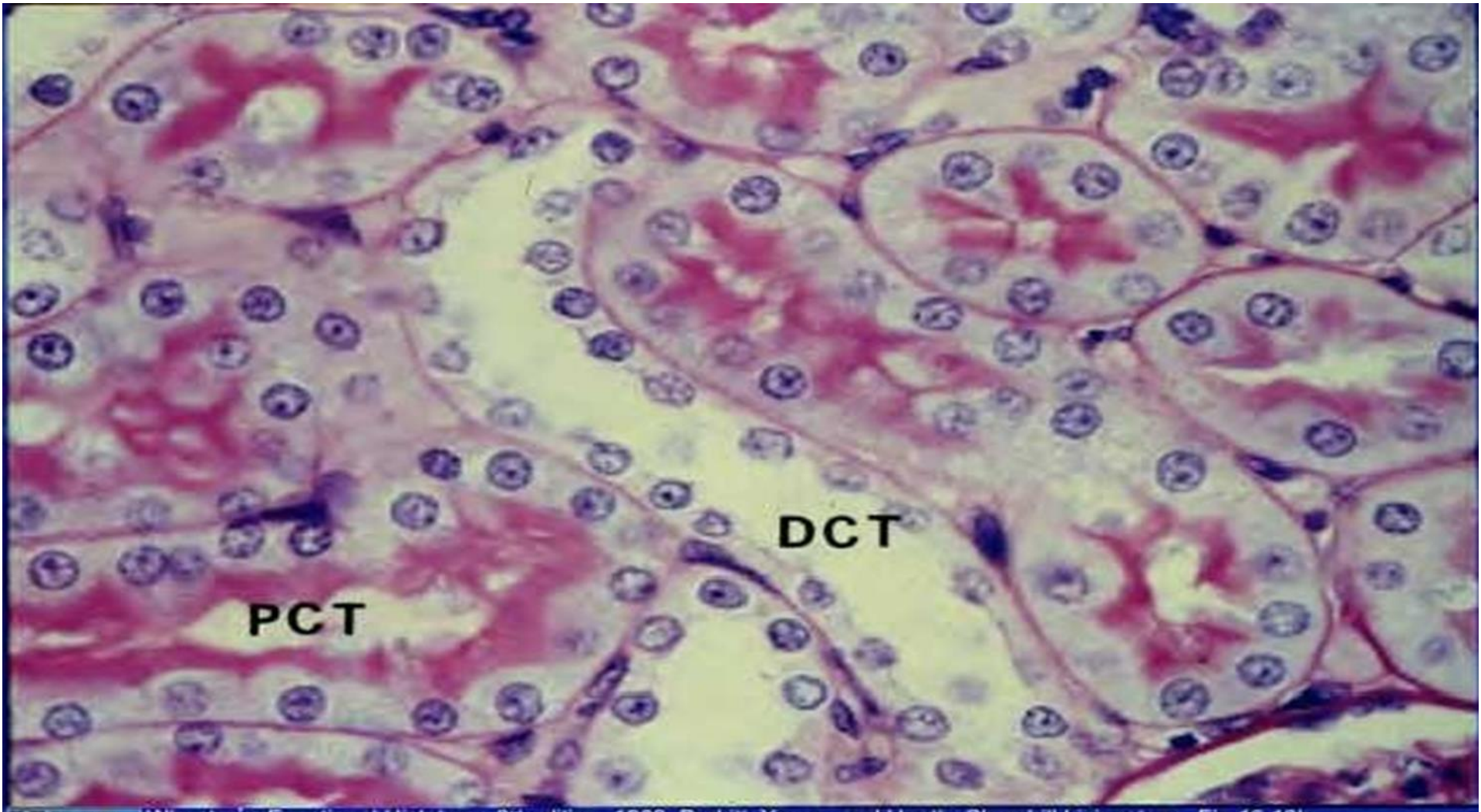
Malpighian R. Corpuscle & Juxtaglomerular Apparatus



BC
Pod
DC
MD
JG

BC - Bowman's capsule (parietal layer) Pod - podocyte (visceral layer of Bowman's capsule)
MD - macula densa JG - juxtaglomerular cells DC - distal convoluted tubule

Proximal & Distal Convoluted tubules

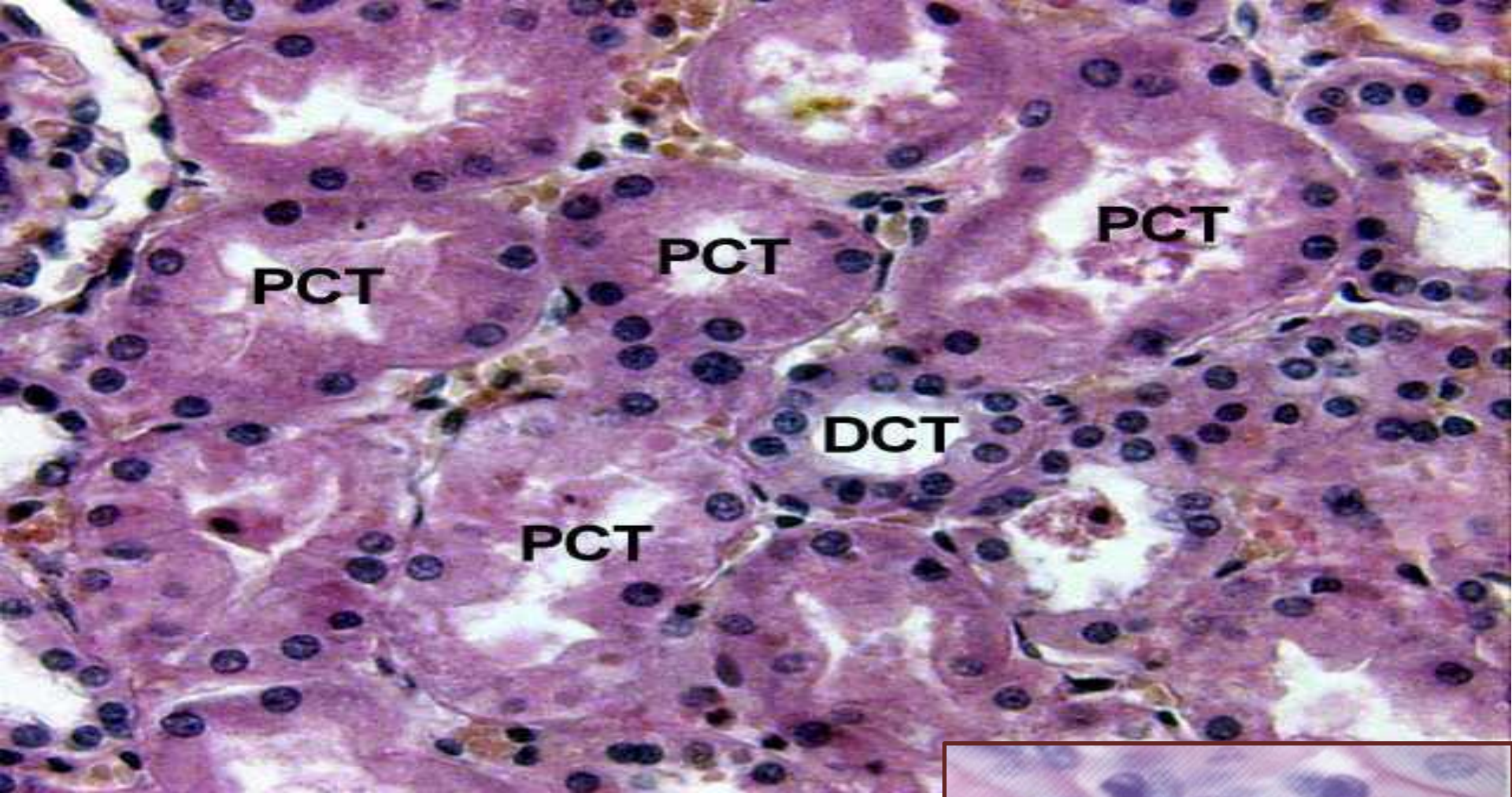


PD-INEL Wheater' s Functional Histology; 3rd edition, 1993, Burkitt, Young, and Heath; Churchill Livingstone, Fig 16.18b

PCT = Proximal Convoluted Tubule

DCT = Distal Convoluted Tubule

muhadharaty

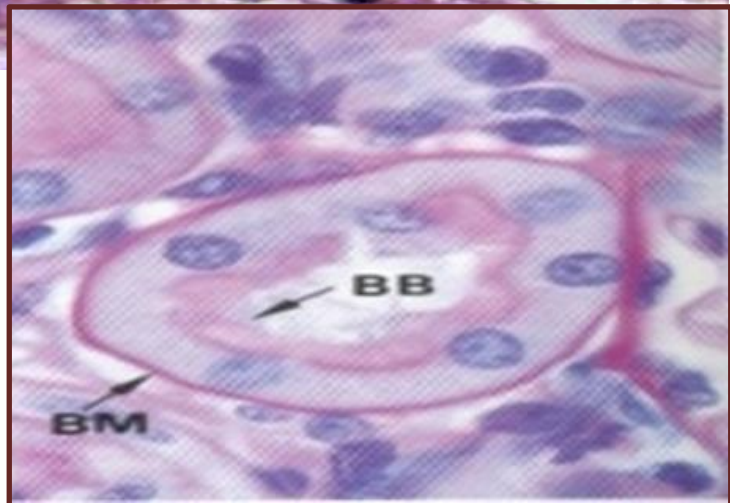


DCT: Distal Convoluted Tubule

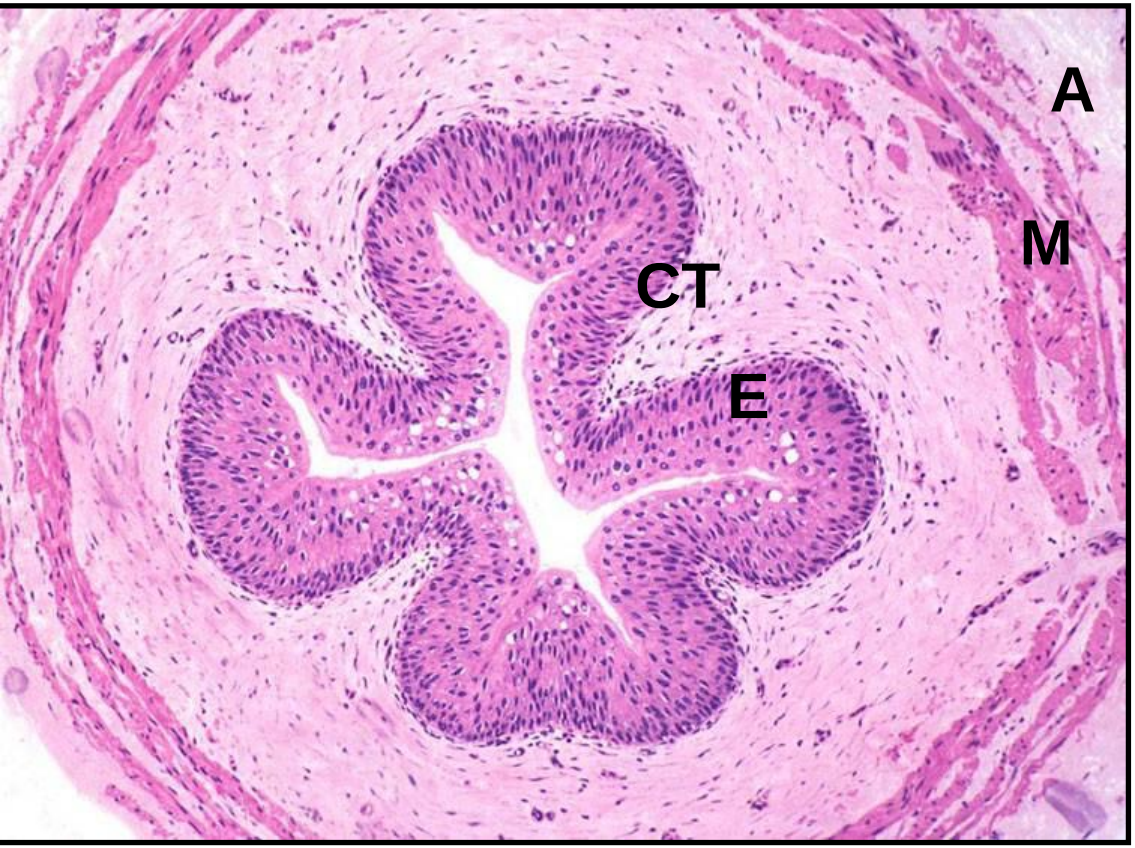
PCT: proximal Convoluted Tubule

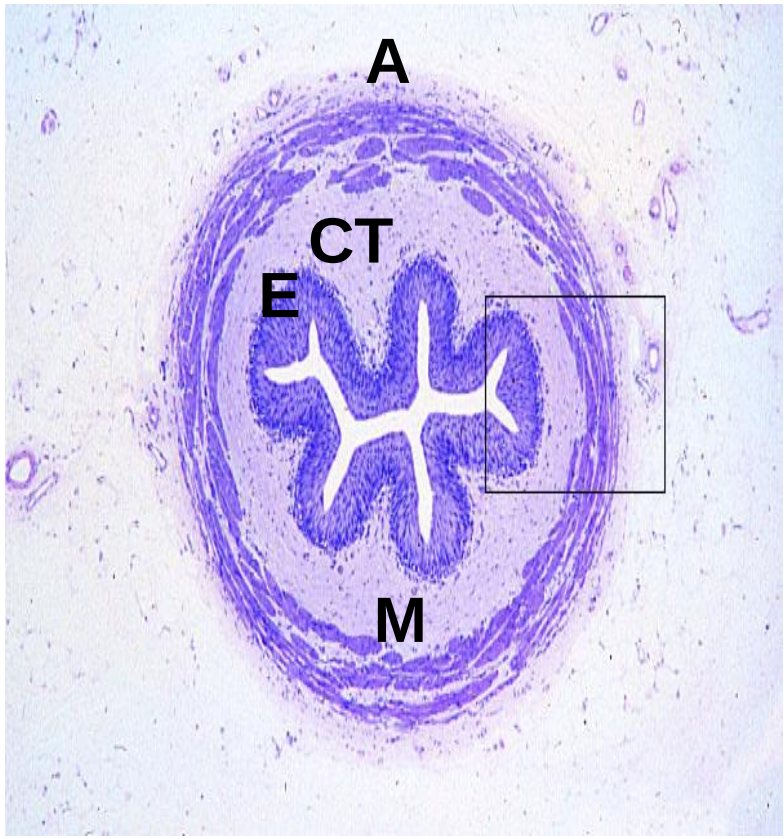
BB: Brush Border

BM: Basement Membrane



Ureter



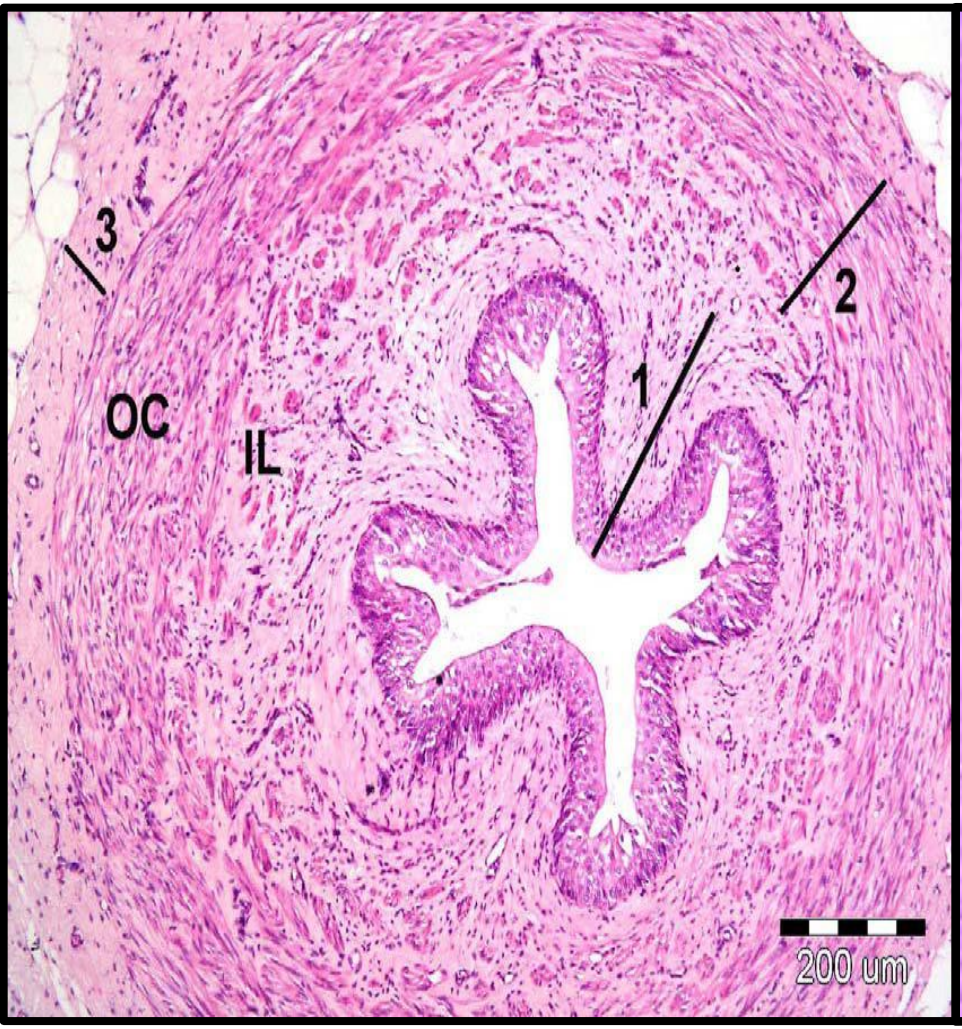


Mucosa: Folded, formed of transitional epithelium **(E)** and lamina propria **(CT)**

Musculosa (M): Thin, inner longitudinal & outer circular smooth muscle.

Adventitia (A).

Ureter



1. Mucosa 2. Musculosa 3. Adventitia

IL= Inner longitudinal OC = Outer circular

Urinary bladder

1- Mucosa:

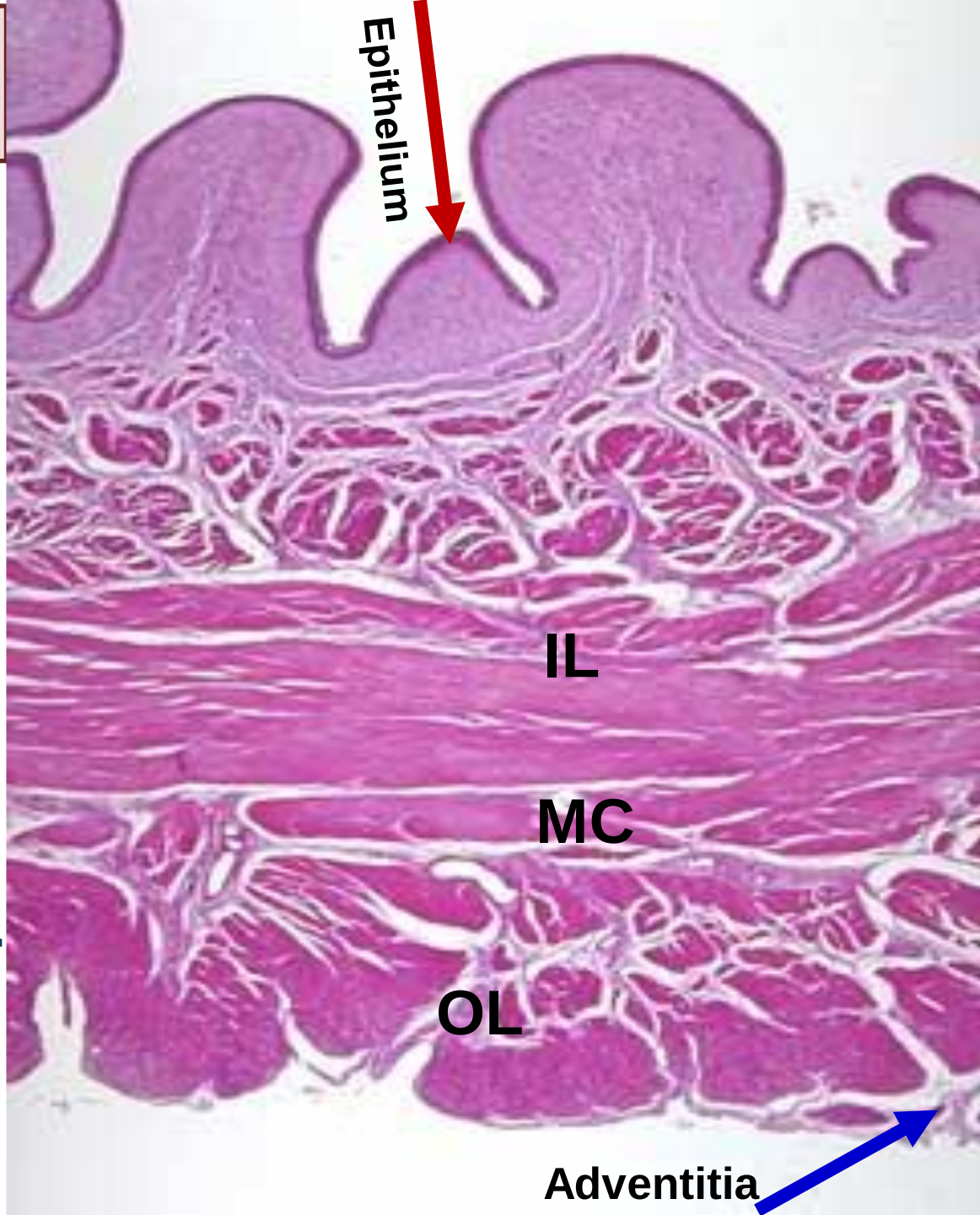
- **Folded**
- **Transitional epithelium.**
- **lamina propria**

2- Musculosa:

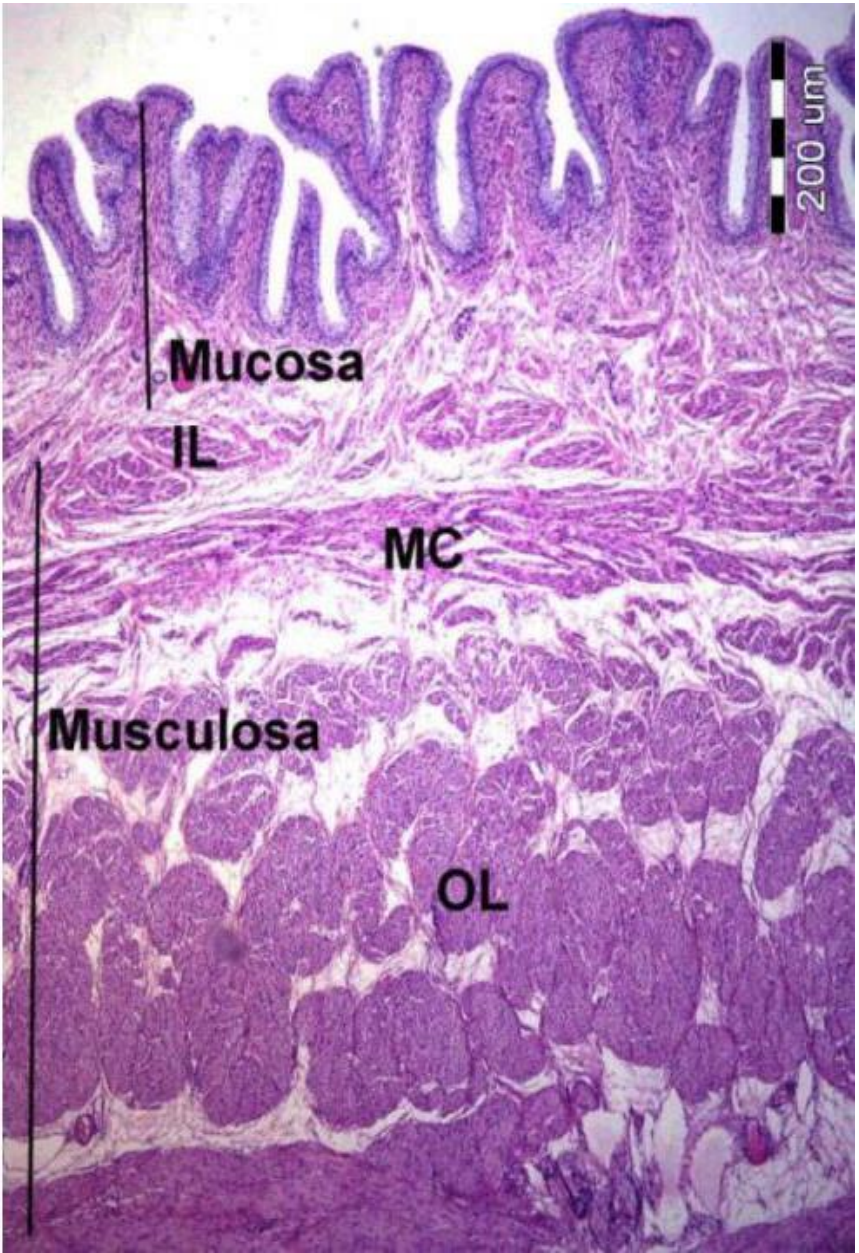
IL & OL: Inner & outer longitudinal

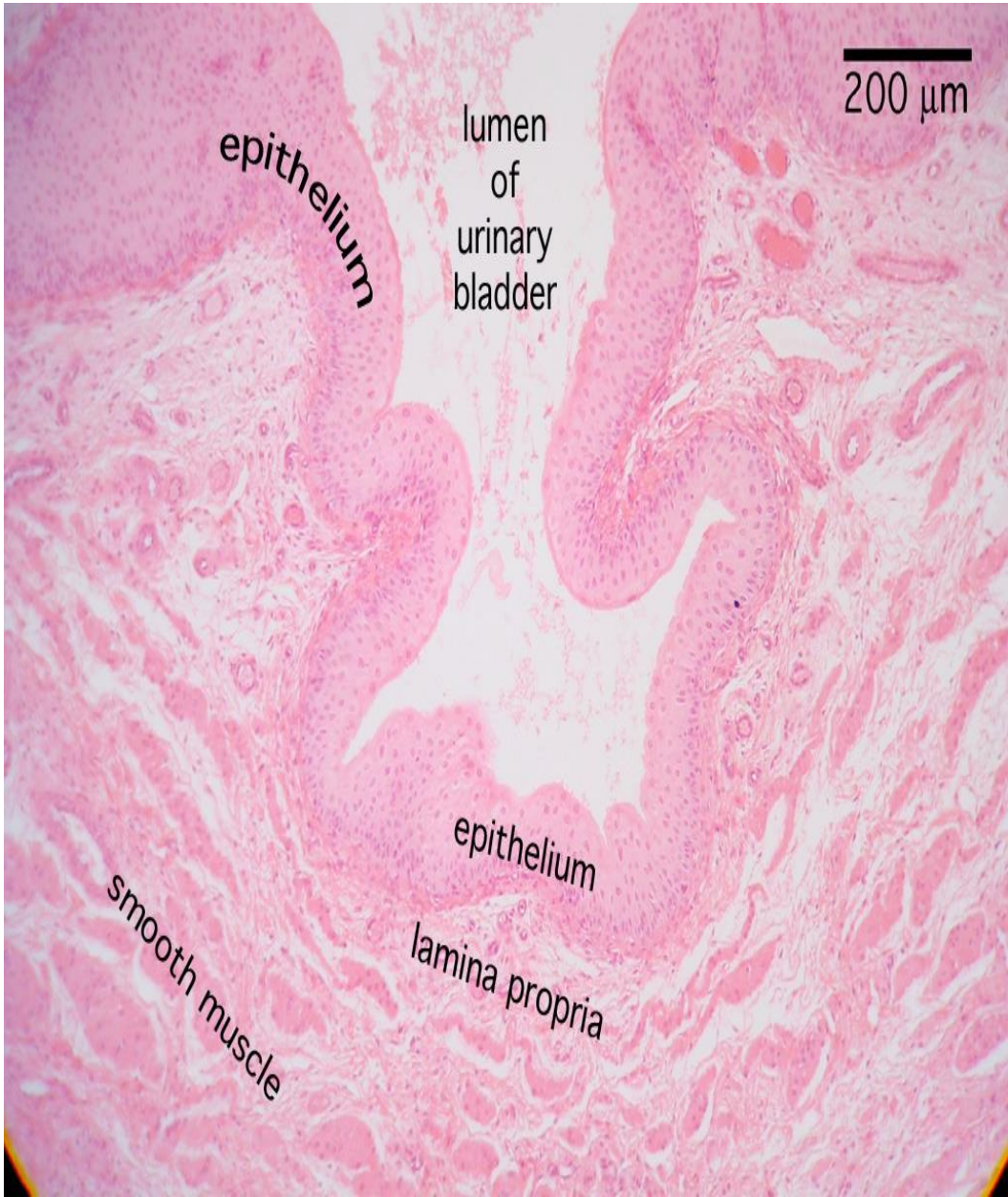
MC: Middle circular

3- Adventitia

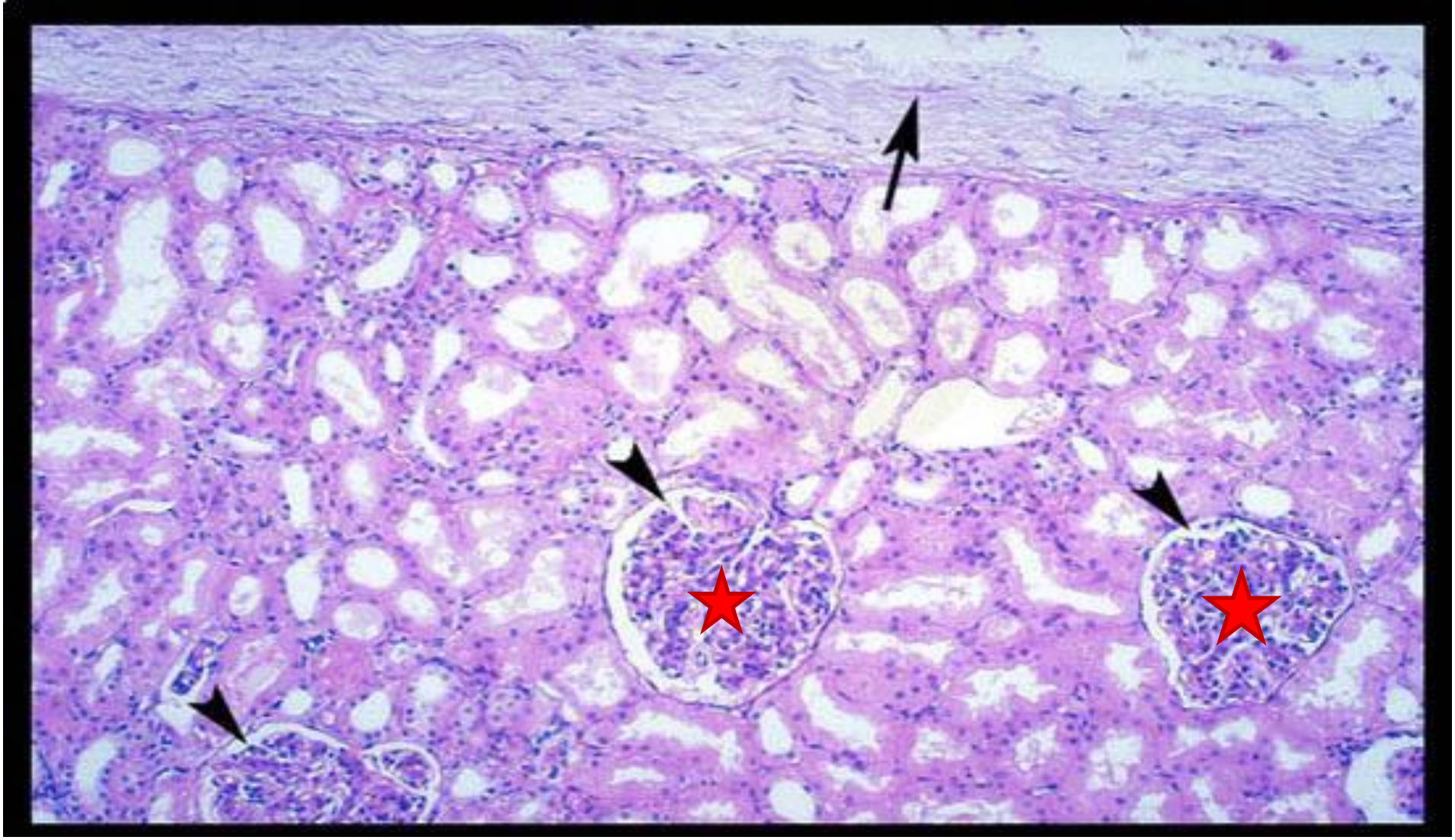


Urinary bladder





Trial Exam



1- Identify the organ

2- The arrow & the stars point to ..... & .....

3- The arrow heads point to.....which is lined with....

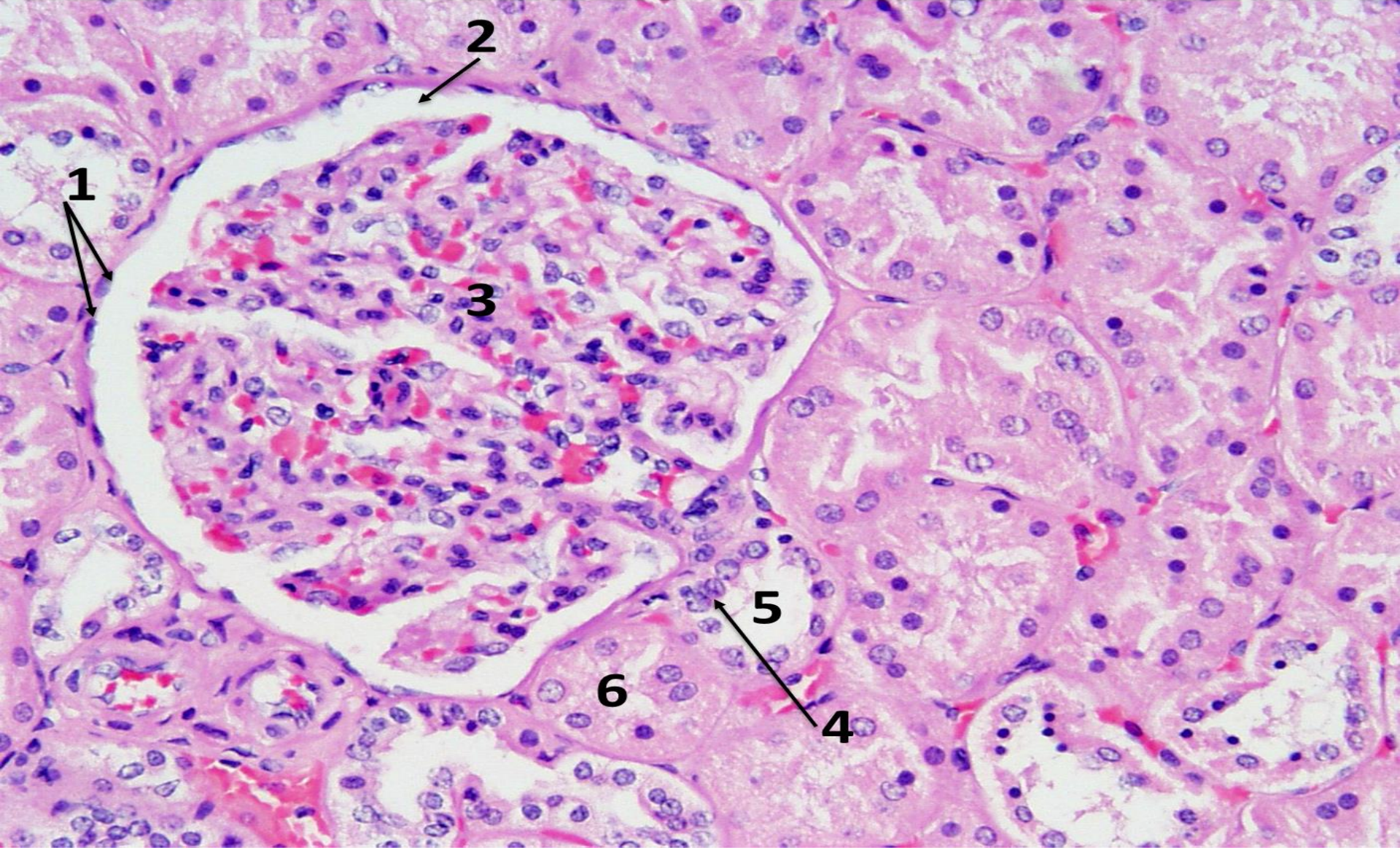
1- Kidney (cortex)

2- Arrow: capsule

Stars: Malpighian renal corpuscles /glomeruli

3- Arrowheads: Bowman’s (capsular) space

Lining: simple squamous epithelium



A - Identify the organ.

B - Identify 1, 2, 3, 4, 5, & 6

A- Kidney (cortex)

B-

1: Parietal Layer of Bowman’s Capsule

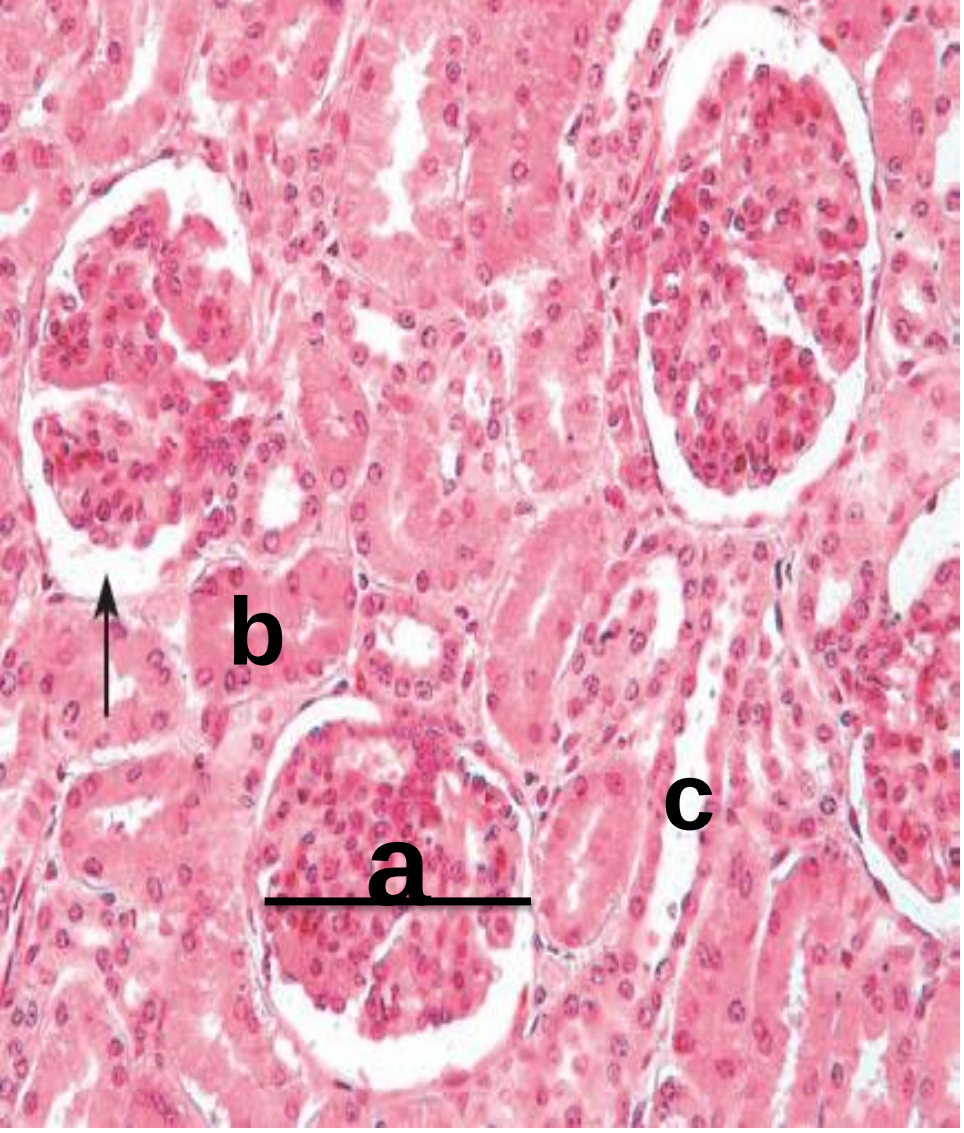
2: Bowman’s (Capsular) Space

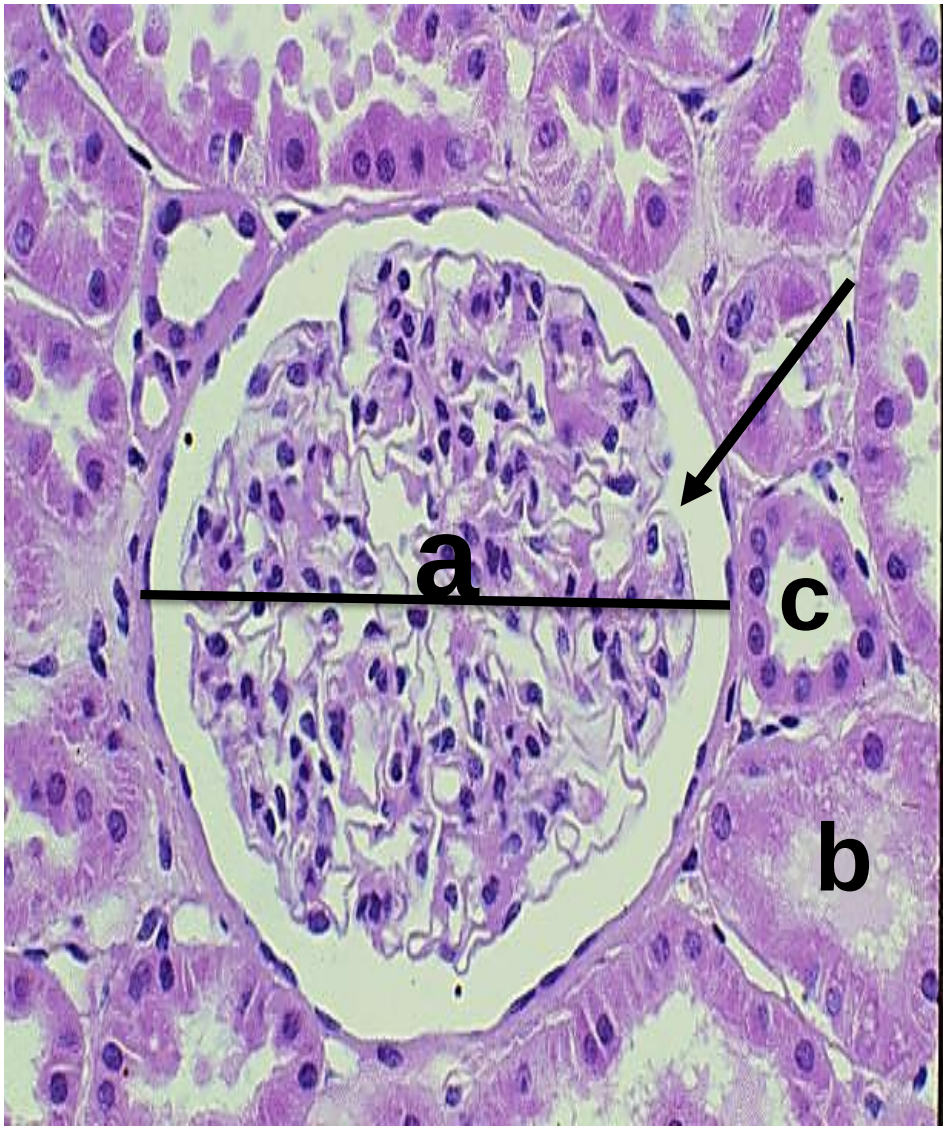
3: Renal Blood Glomerulus

4: Macula Densa

5: Distal Convoluted Tubule

6: Proximal convoluted tubule





1- Identify the organ (be specific).

2- Identify the structure a, b &c

3- The arrow points to ……

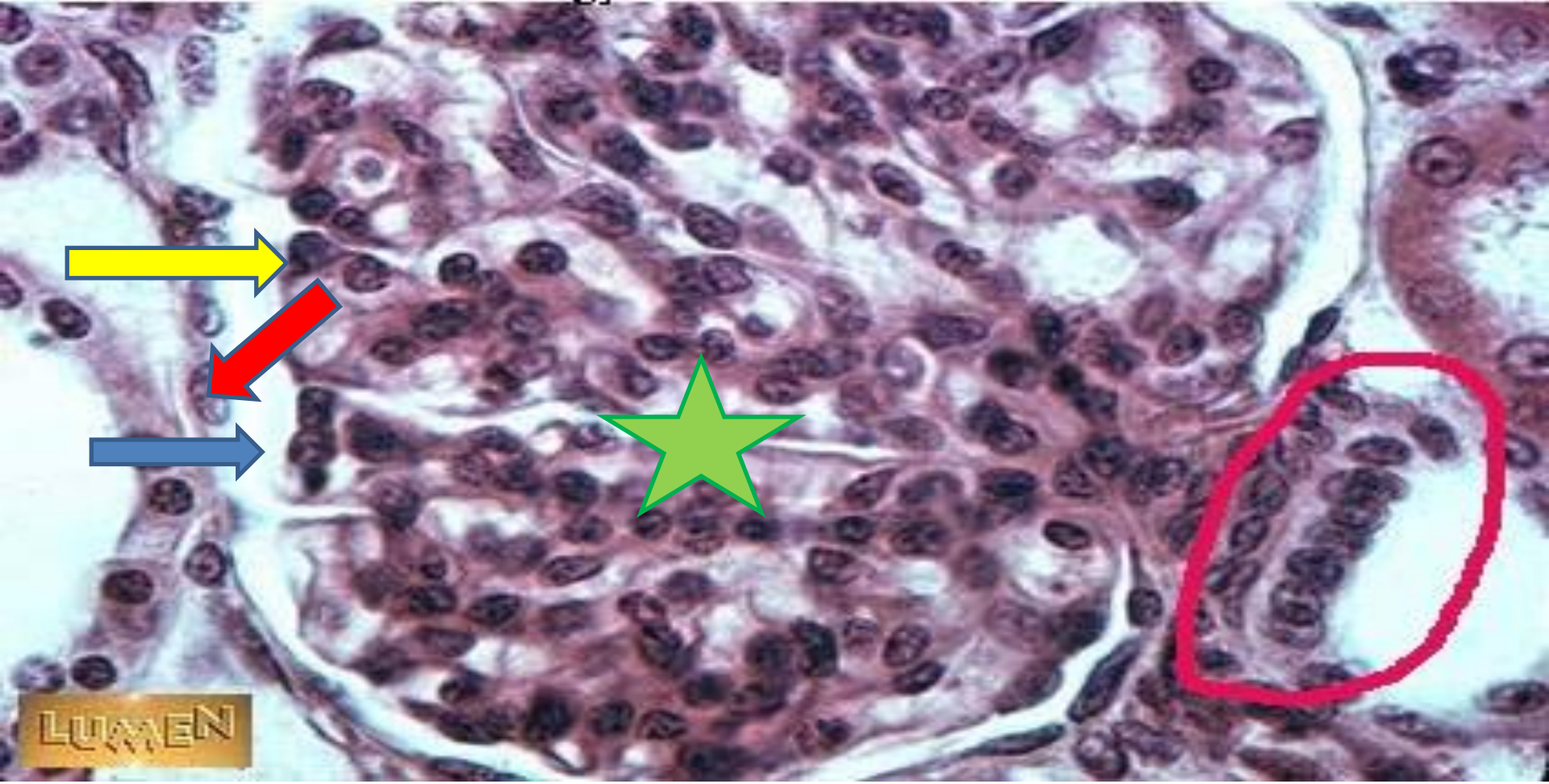
1- Kidney (cortex)

2- a: Malpighian renal corpuscle

b: Proximal convoluted tubules

c: Distal convoluted tubules

3- Bowman’s (capsular) space



This is a section in the cortex of the kidney

1-Identify the circled structure

2-The asterix lies in .....

3-The blue, yellow & red arrows point to…, …& …

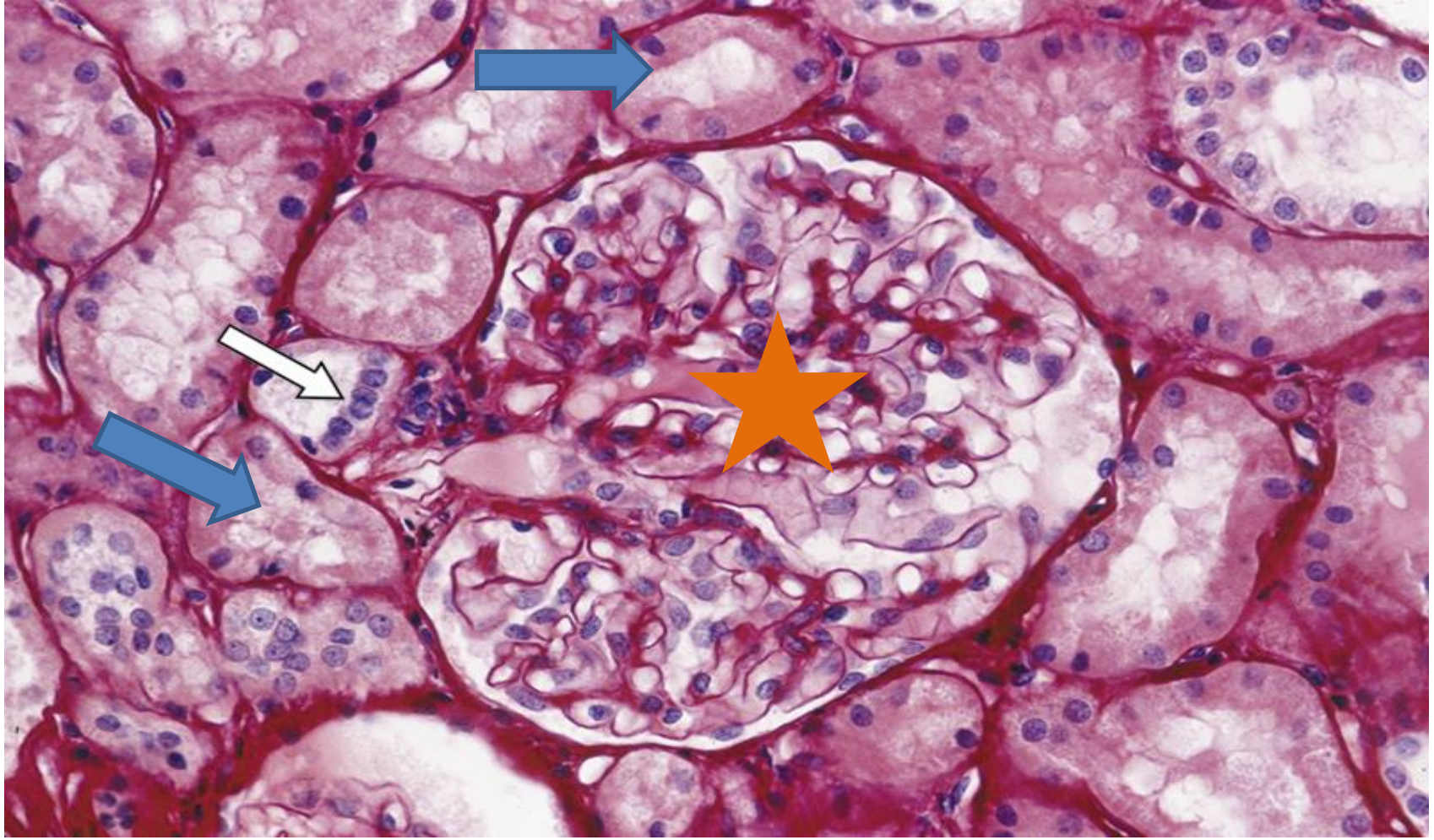
1- Circled structure: Juxta-glomerular apparatus

2- Asterix: Malpighian renal corpuscle

3- Blue arrow: Bowman’s space

Yellow arrow: Podocytes (OR visceral layer of Bowman’s capsule)

Red arrow : parietal layer of Bowman’s capsule



1- Identify the organ.

2- White arrow points to ……..

3- Asterix lies in ……...

4- Blue arrow points to ……& Mention 2 criteria….

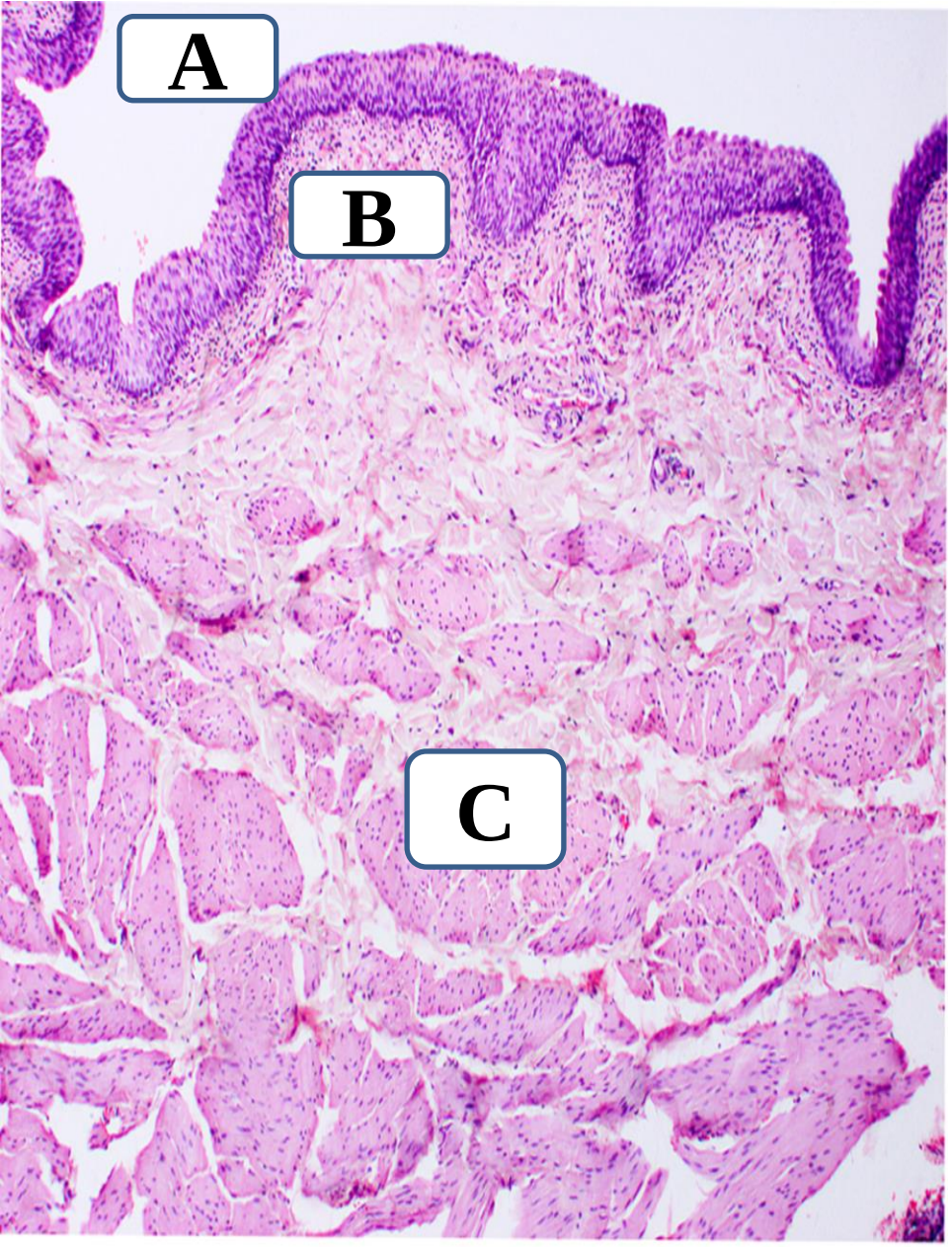
1- Kidney (cortex)

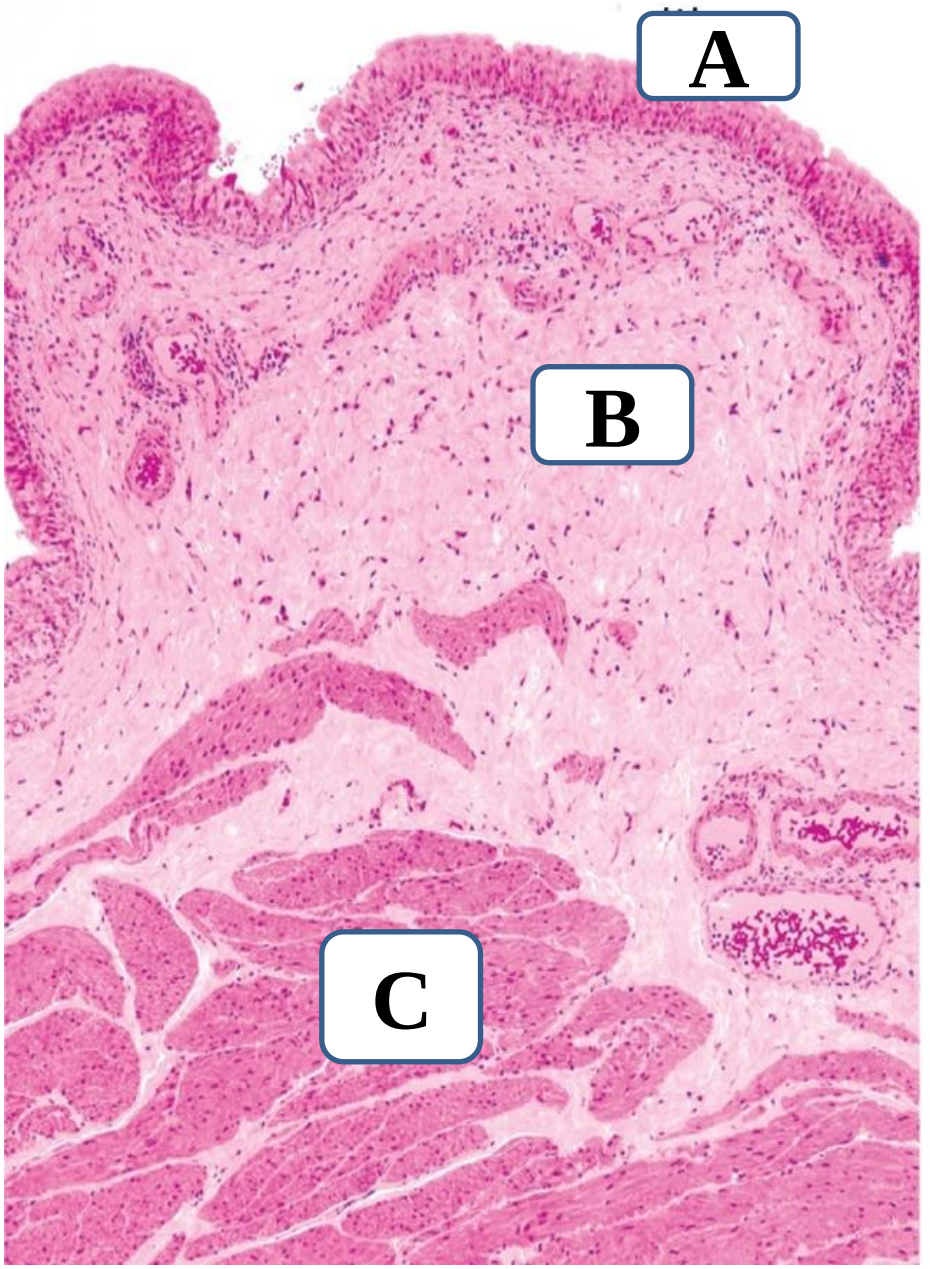
2- White arrow: Macula densa

3- Asterix: Malpighian renal corpuscle

4- Blue arrow: Proximal convoluted tubule

Criteria: Narrow lumen & indistinct cell boundaries, ……





1- Identify the organ.

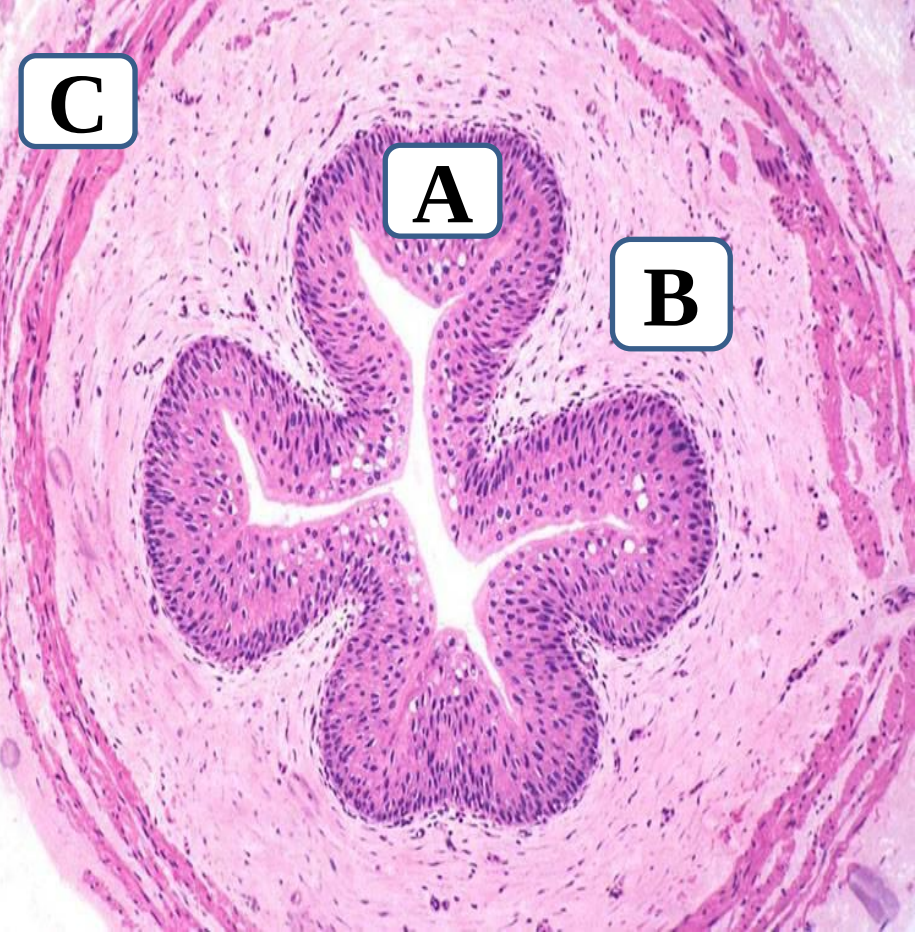
2- Identify A, B & C.

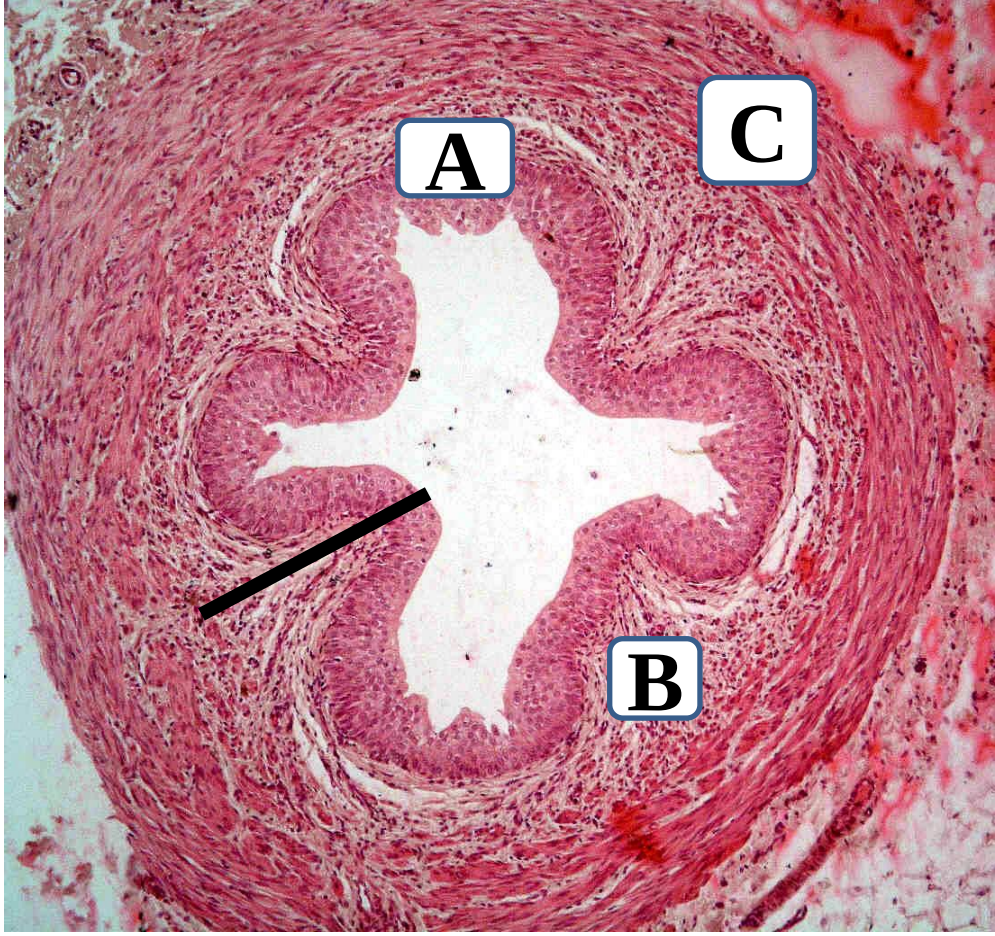
1- Urinary bladder

2- A: Uroepithelium (transitional epithelium)

B: C.T. corium

C: Musculosa





1- Identify the organ 2- The (B) indicate .....

3- Mention the type of lining epithelium in A.

4- Layer indicated by the black line is .....

5- Layer indicated by The (C) is .....

1- The ureter

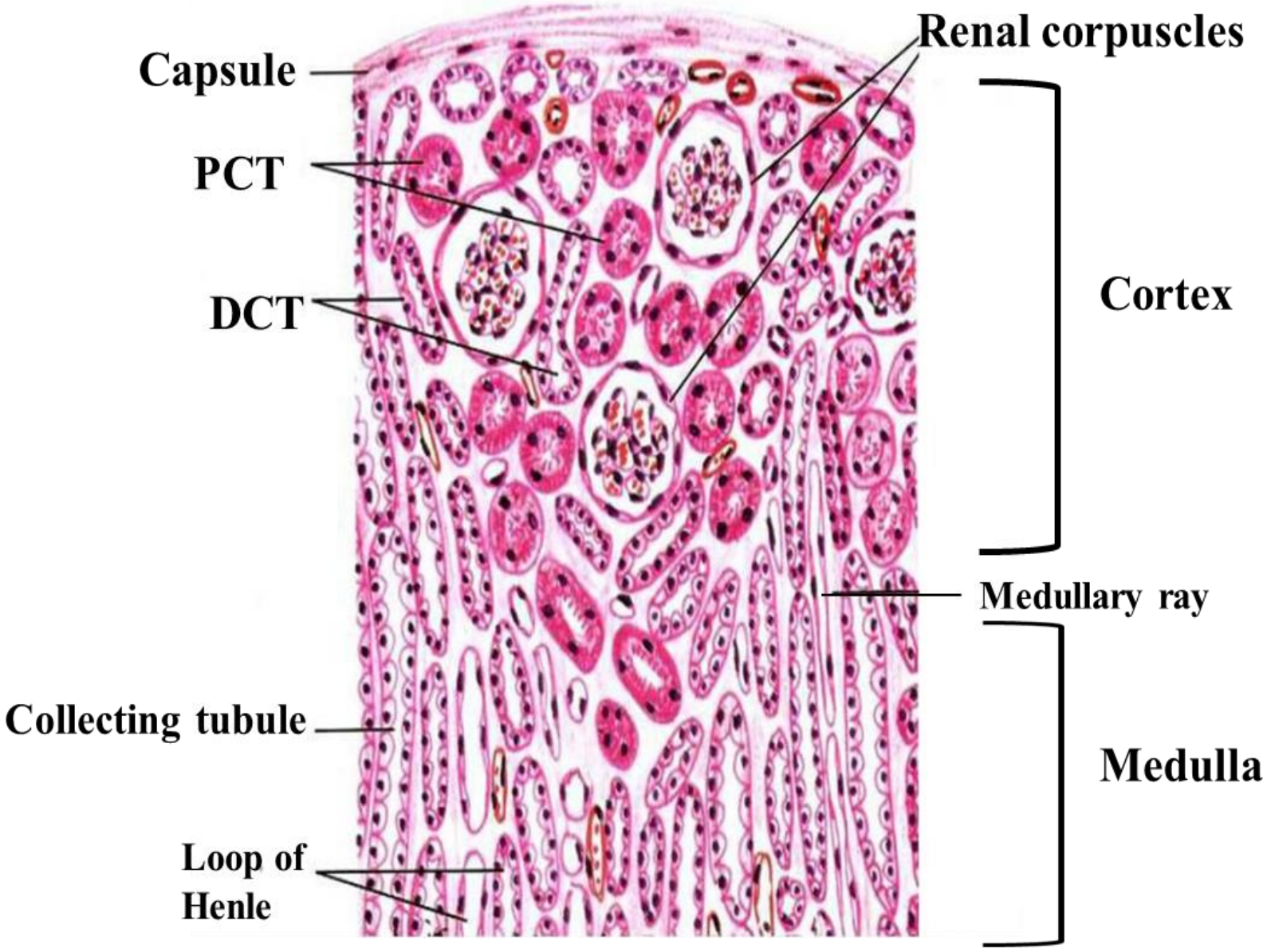
2- C.T. corium

3- Transitional epithelium (urothelium)

4- Black line: mucosa

5- (C): Musculosa

Labels


Capsule
PCT
DCT
Collecting tubule
Loop of Henle
Renal corpuscles
Cortex
Medullary ray
Medulla

KIDNEY