



Urinary tract diseases practical pathology revision

Photos

1-Hydronephrosis

2-Pyonephrosis and pyoureter

3-Solitary urate stone and pyonephrosis

1) Hydronephrosis

- **NE:**

Specimen: Section of kidney.

- **Description:**

- **Size:** Enlarged.
- **Outer surface:** Lobulated.
- **C/S:**

- **Renal calyces:** Are dilated to form thin-walled sacs

variable in size and shape

Communicate with each other and with the renal pelvis

- Renal tissue in between: Atrophied & appears as thin rim.

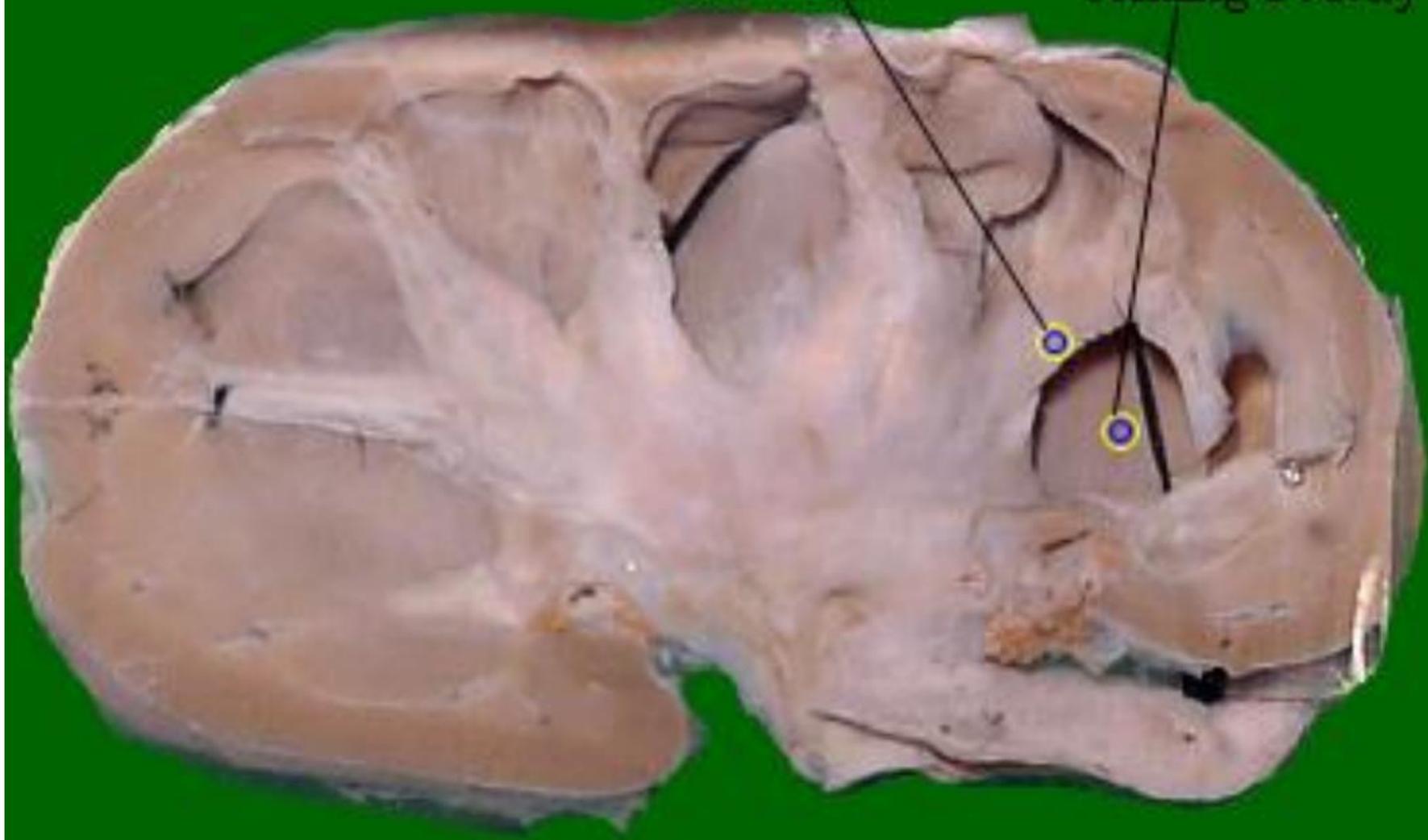
Dilated calyx forming
a cavity with thin wall



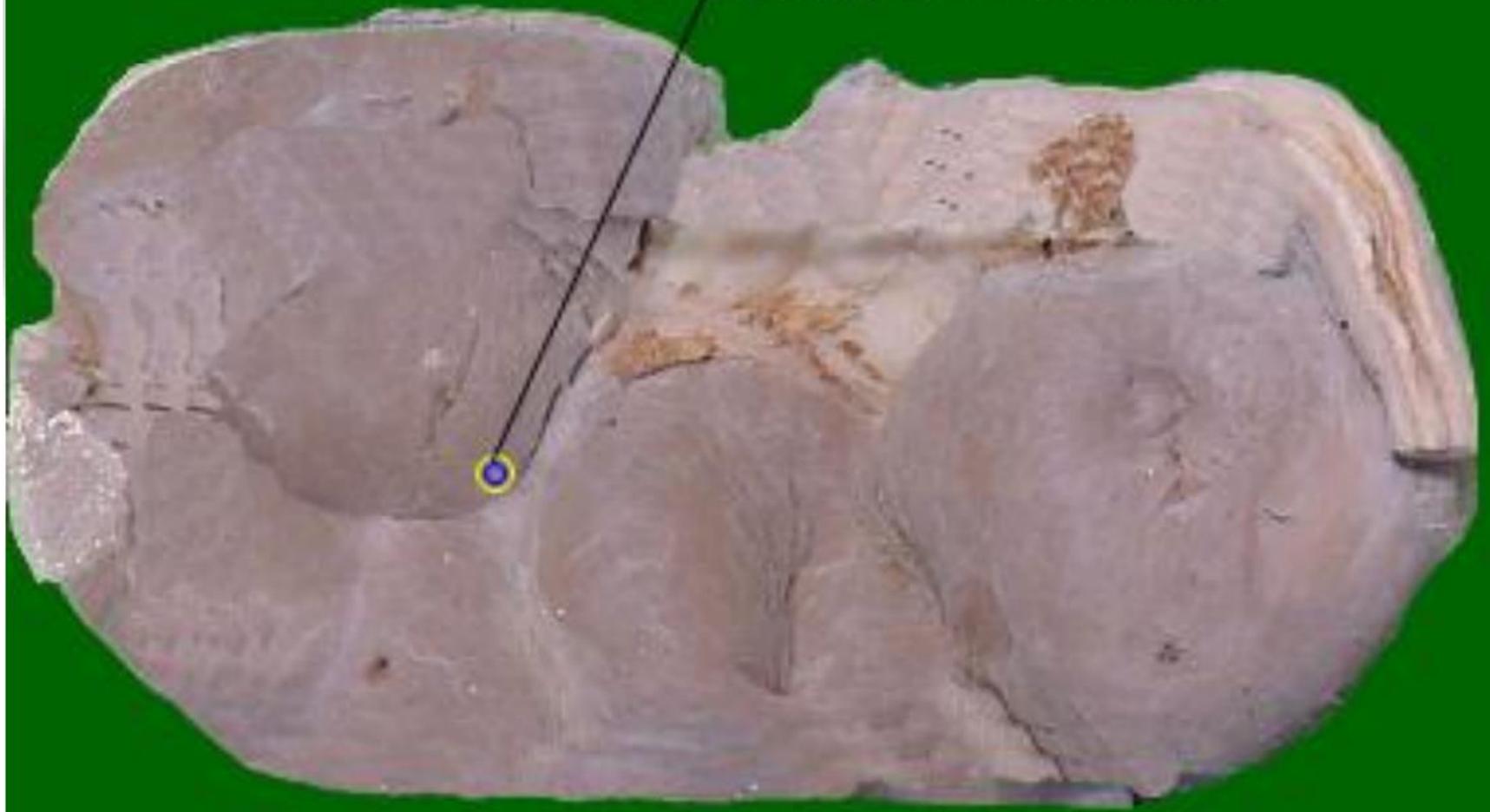
Compressed atrophic
renal tissue

Compressed renal tissue

Dilated calyx forming a cavity

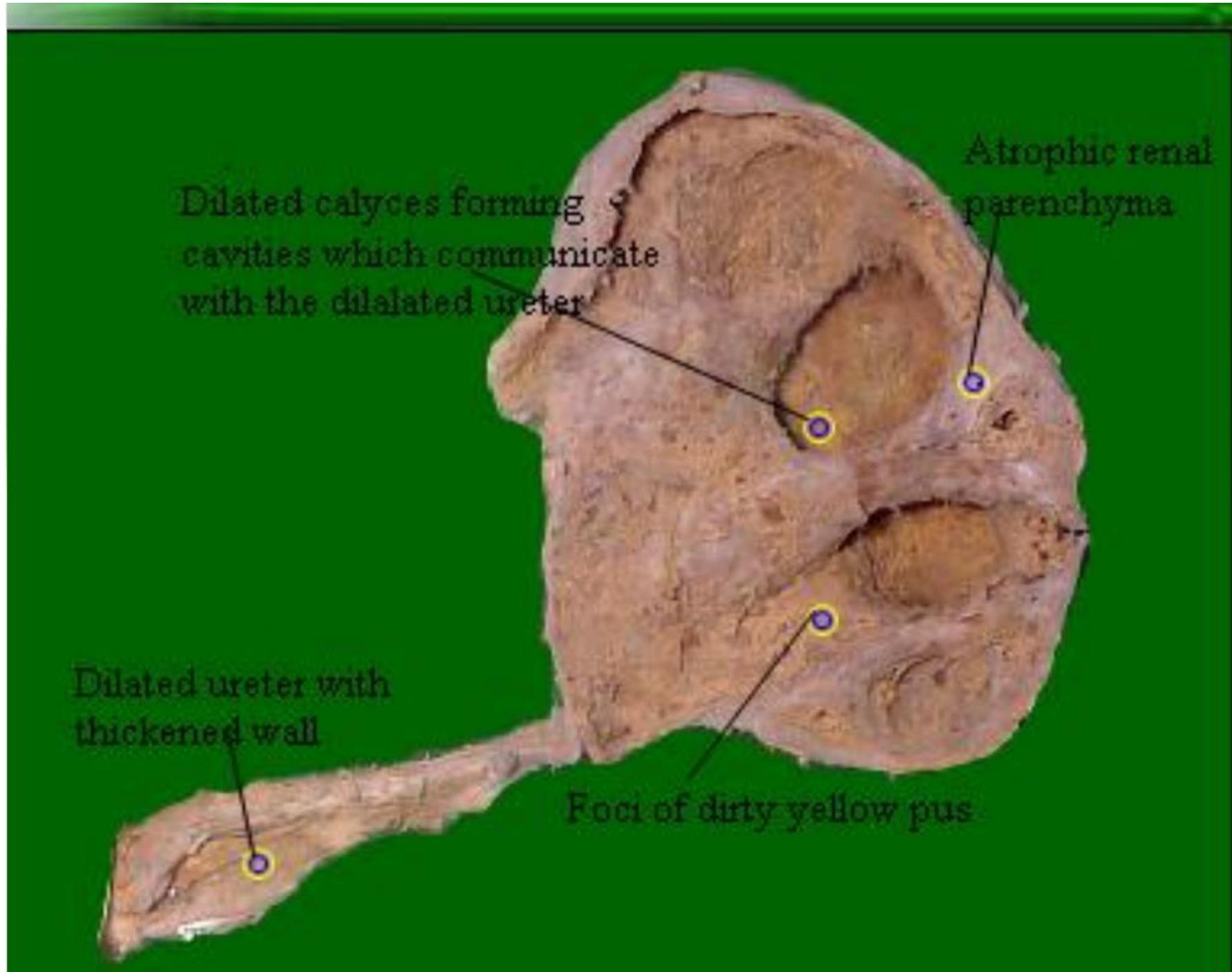


Bosselated outer surface



2) Pyonephrosis & Pyoureter

- **NE:**
- **Specimen:** Section of kidney & ureter.
- **Description:** **Kidney:**
 - **Size:** Enlarged.
 - **Outer surface:** Lobulated.
 - **Capsule:** Thick & fibrous & peri-nephric adhesions.
 - **C/S:** Renal calyces + Renal tissue:
 - **Renal calyces:** Are dilated to form
 - thin-walled sacs
 - variable in size and shape
 - communicate with each other and with the renal pelvis.
 - **Renal tissue:** Atrophied & appears as thin rim.
- Ureter:** Dilated & thick fibrous wall.
Mucosa: Deep red & covered by yellow exudate.

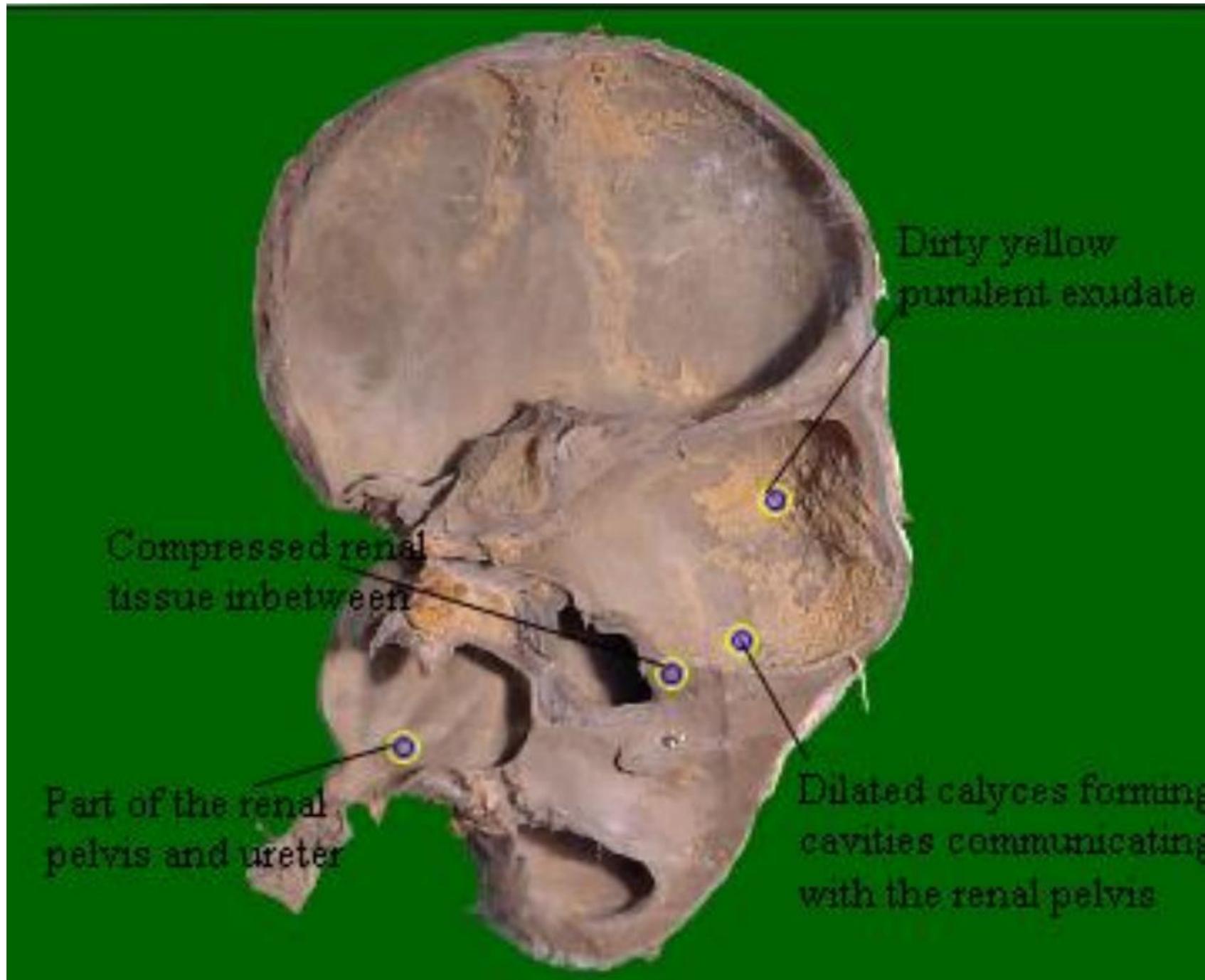


Dilated calyces forming cavities which communicate with the dilated ureter

Atrophic renal parenchyma

Dilated ureter with thickened wall

Foci of dirty yellow pus



Dirty yellow
purulent exudate

Compressed renal
tissue inbetween

Part of the renal
pelvis and ureter

Dilated calyces forming
cavities communicating
with the renal pelvis

Enlarged kidney with
bossy outer surface



3) Solitary urate stone and pyonephrosis

NE:

Specimen Half of a kidney

-Kidney is enlarged , the renal pelvis is occupied by a stone

Stone:

-**Site:** Occupying most of dilated pelvis

- **Size** : 5x2cm

- **Shape** : triangular

- **Outer surface:** smooth

- **Color** : yellowish with brownish tinge

- **Consistency** : firm

Kidney : Shows the picture of pyonephrosis

Atrophic renal
tissue in between

Dilated calyx with
yellow dots on its l

Urate stone



Outer surface
of the kidney



Slides

1-Chronic pyelonephritis

2-Wilms tumor (Nephroblastoma)

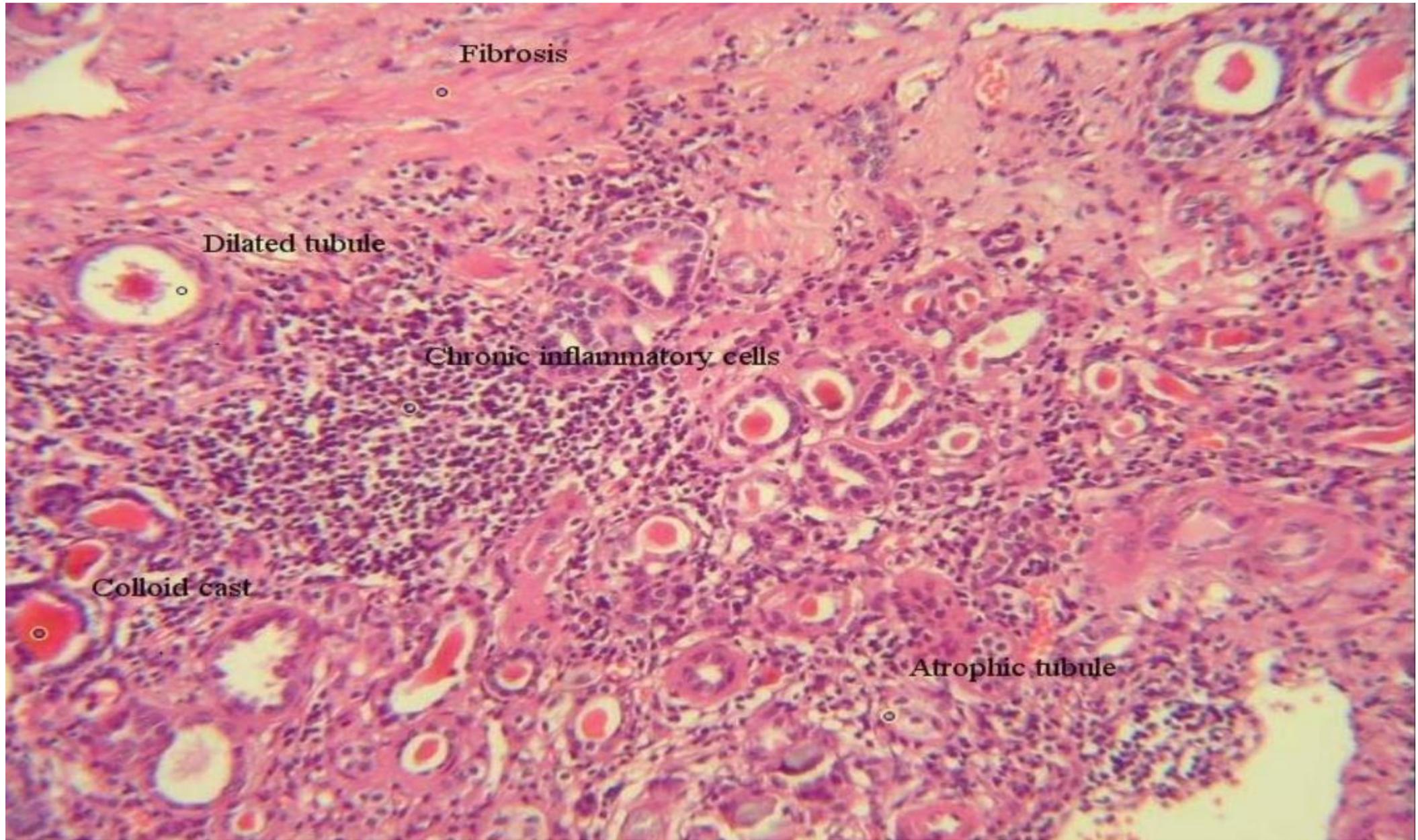
3-Renal cell carcinoma

1)Chronic pyelonephritis

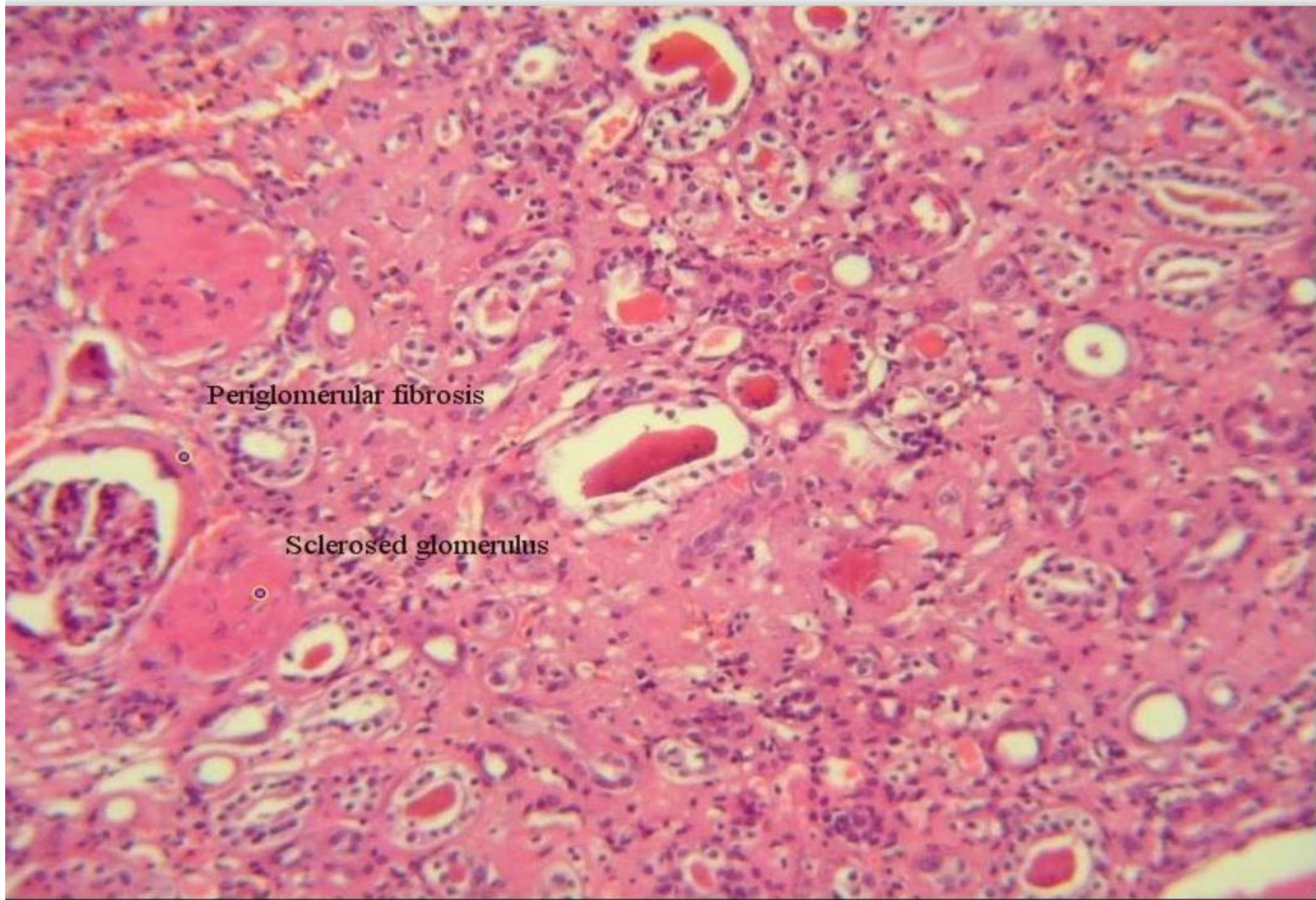
- **ME:**

Section in the kidney showing:

- Interstitial chronic inflammatory cellular infiltrate with fibrosis.
- Thick-walled blood vessels (endarteritis obliterans).
- Some tubules are fibrosed and others are distended with eosinophilic material (thyroidization).
- Some glomeruli are fibrosed and others appear normal







Periglomerular fibrosis

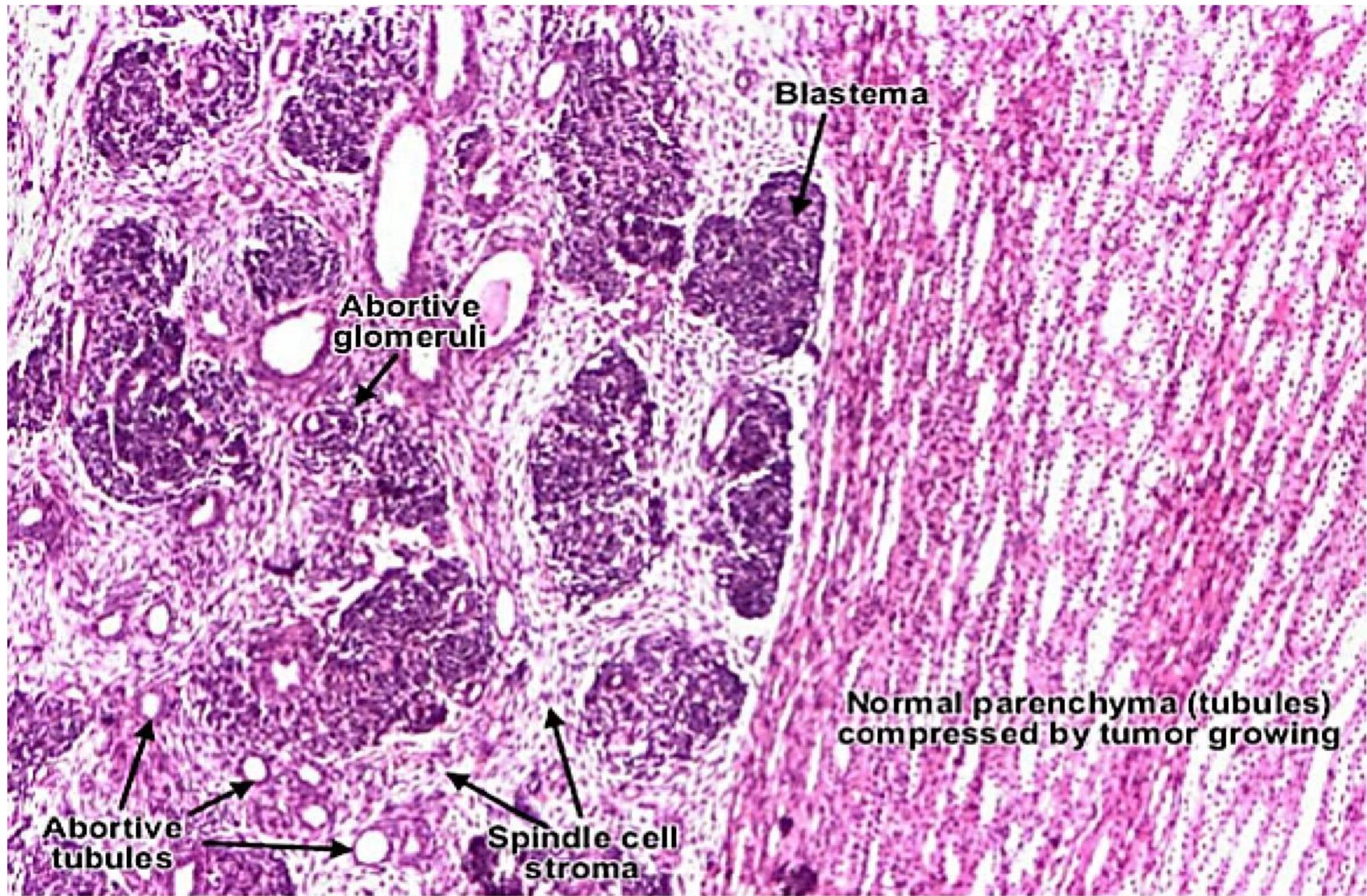
Sclerosed glomerulus

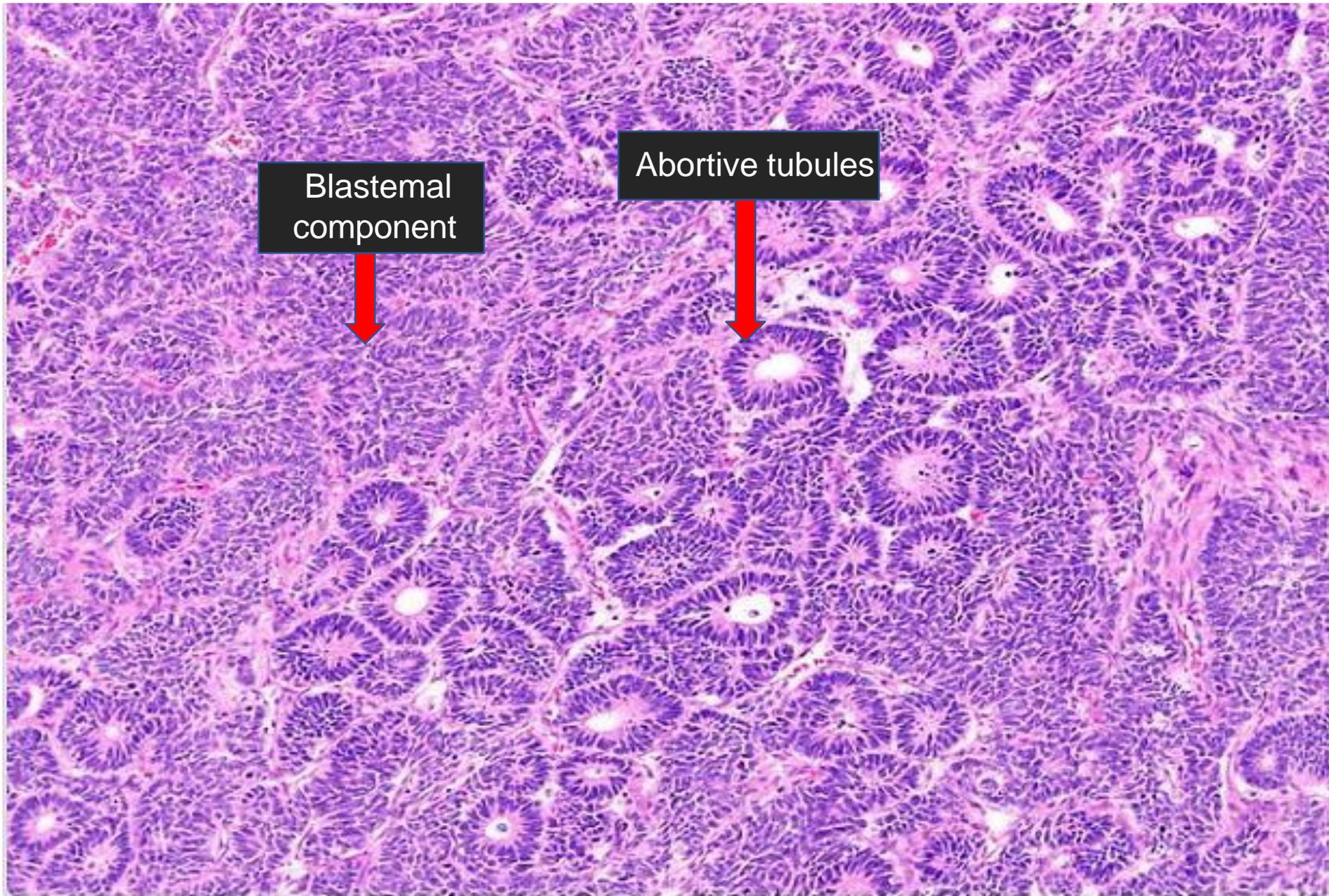
2)Wilm's tumor (Nephroblastoma)

ME:

Section in kidney showing malignant tumor formed of:

- **Abortive tubular and glomeruloid structures** lined by cuboidal malignant cells without no basement membrane.
- **Sarcomatous background** formed of oval to spindled cells with scanty cytoplasm.
- May be mixed **stromal elements** (Fibrous tissue, bone, cartilage or muscle)





Blastemal component

Abortive tubules



Abortive glomerulus

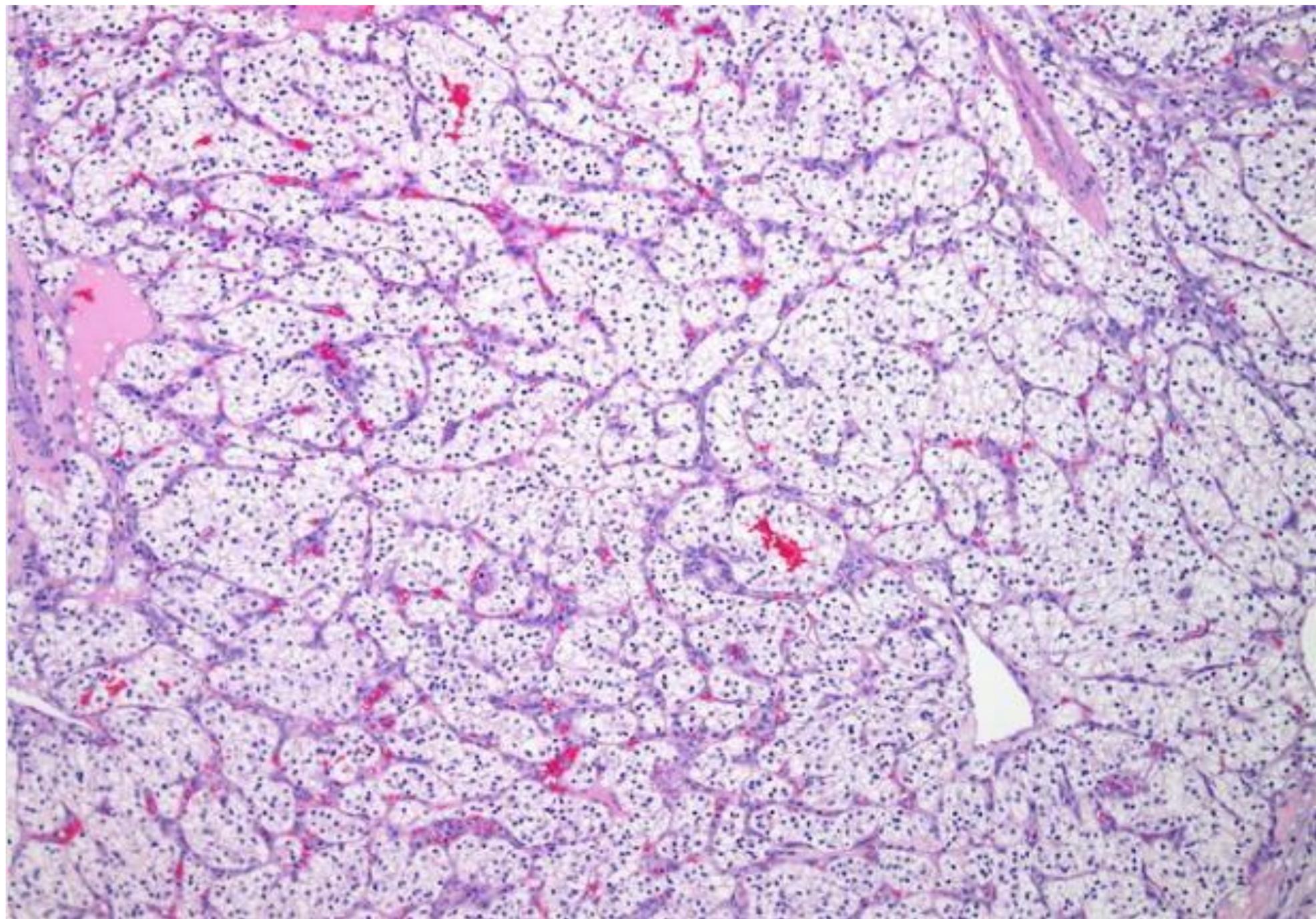


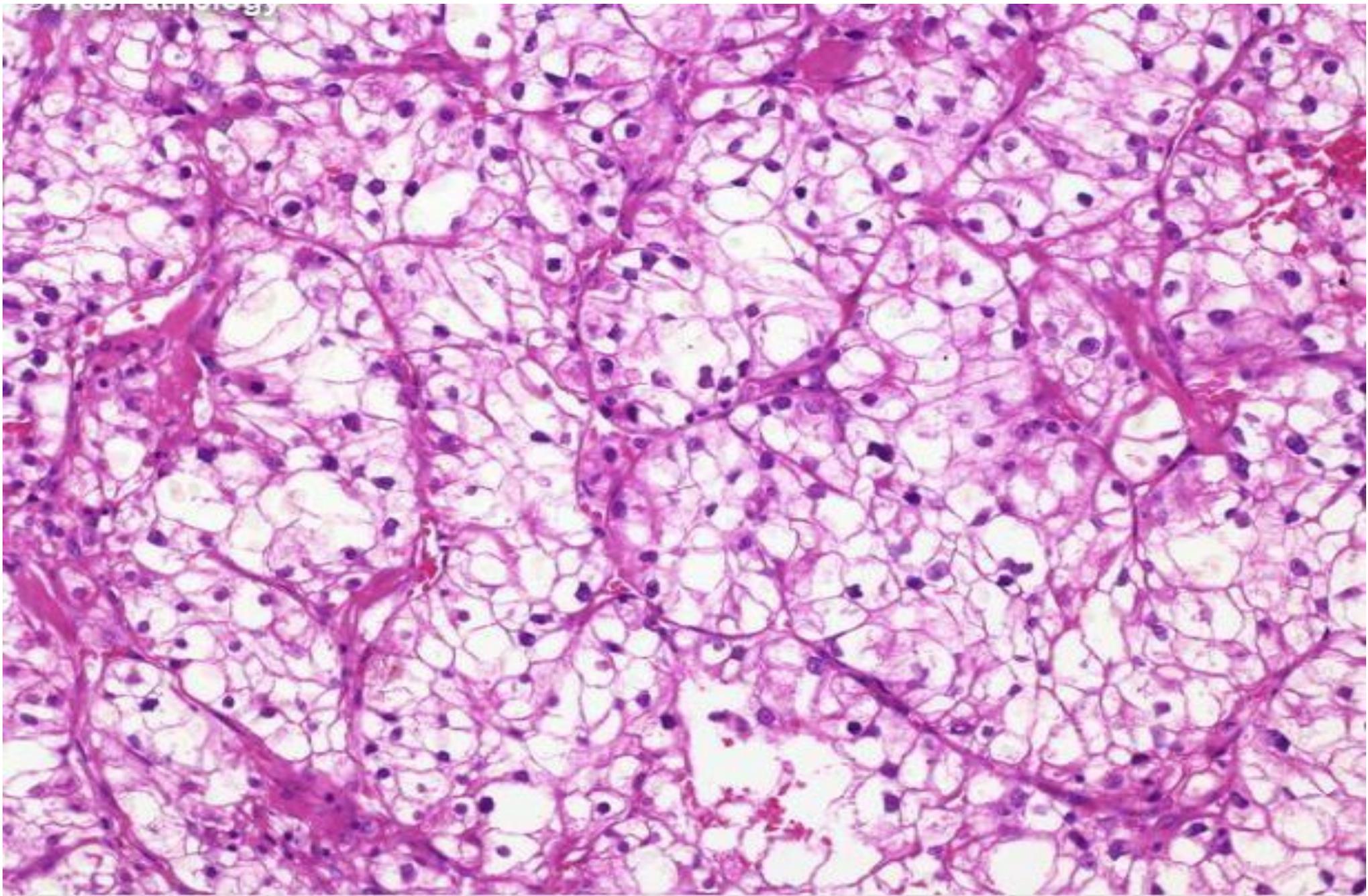
3)Renal cell carcinoma

ME:

Section in kidney showing malignant tumor formed of:

- Sheets, groups & cords of malignant cells separated by delicate fibrovascular stroma.
- The cells are polyhedral with clear or granular cytoplasm due to high content of lipid and glycogen. The nuclei are small dark & hyperchromatic.
- Areas of hemorrhage and necrosis.

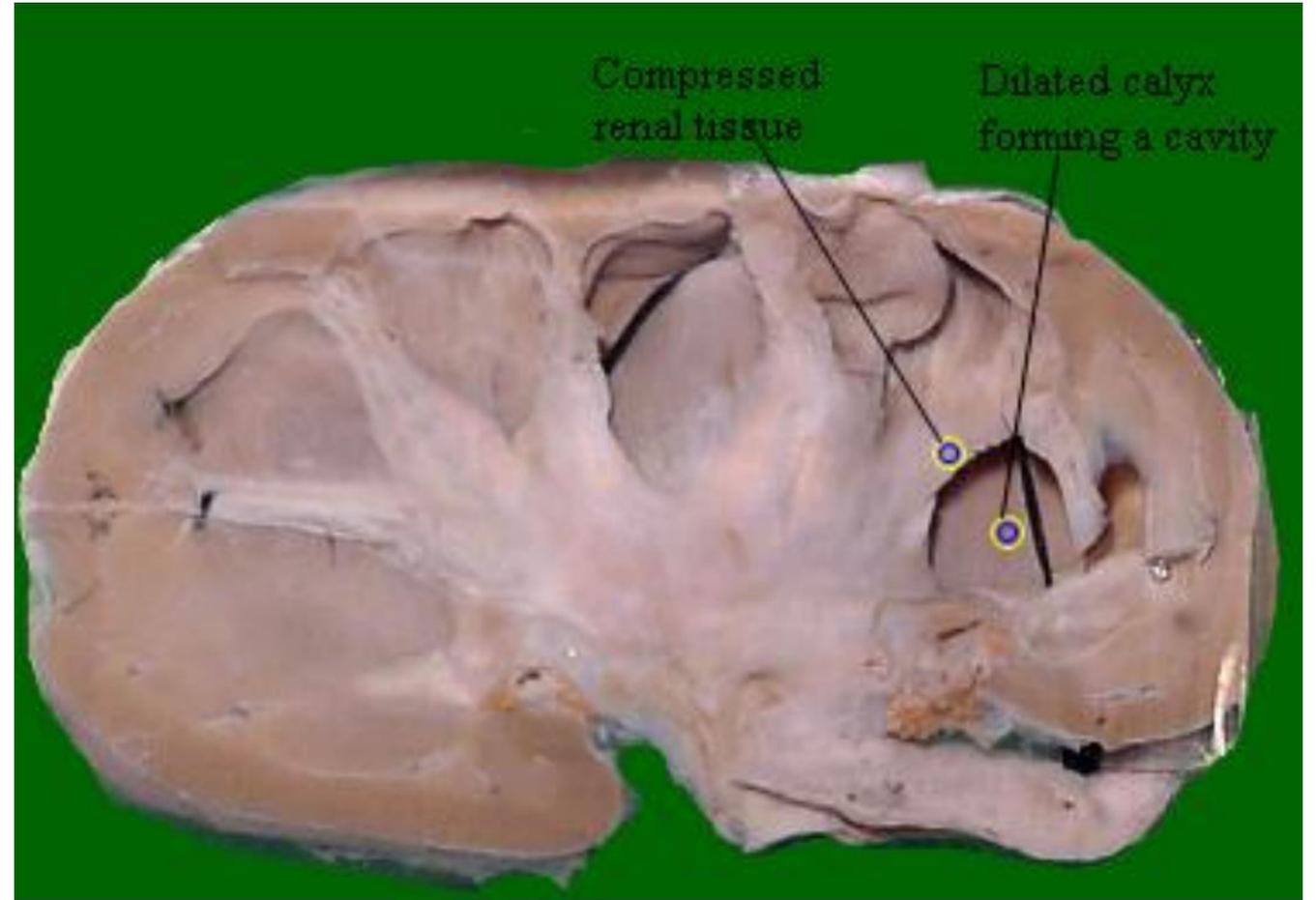




Questions

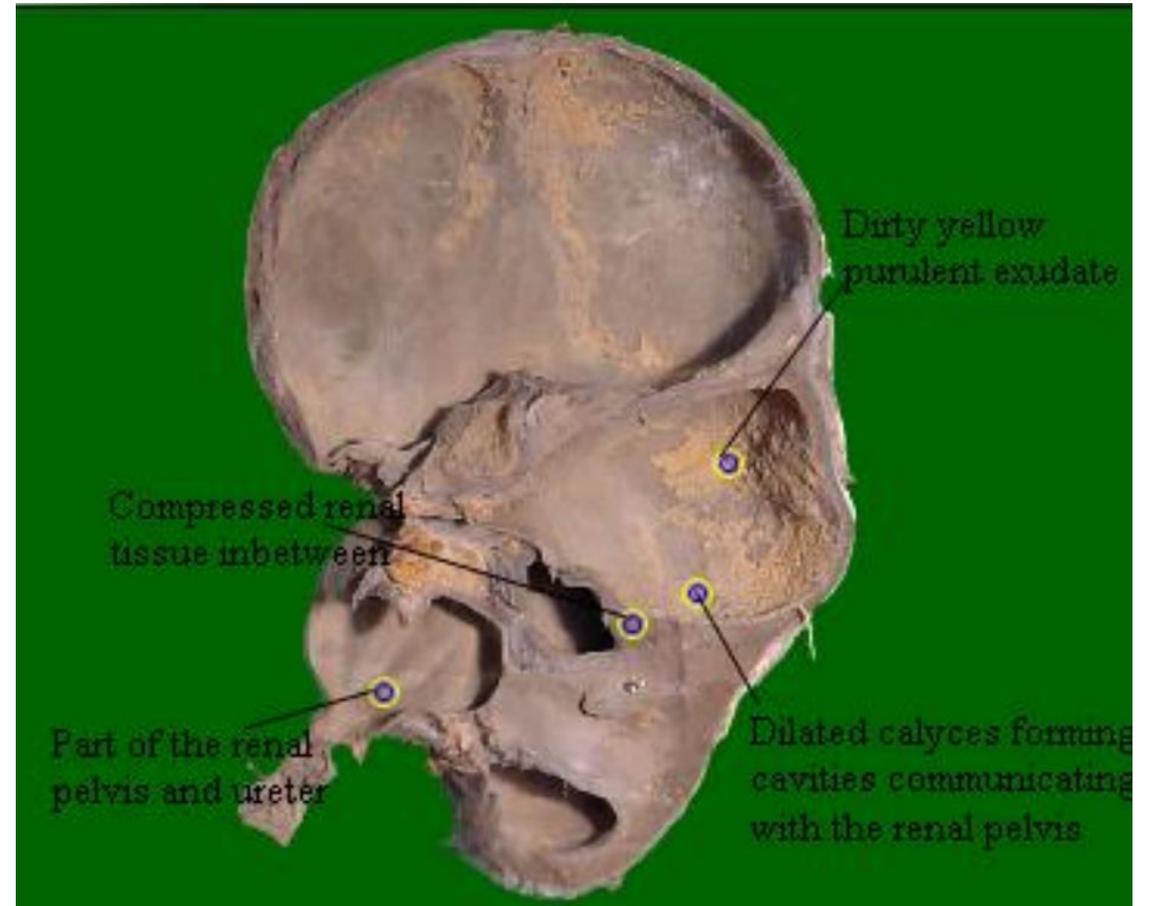
1-Identify this lesion

2-Describe the outer surface



1-Identify this lesion

2-Describe the capsule



1-Identify this lesion

2-Enumerate the components of this lesion

