



Motivational Corner:

"Patience, persistence and perspiration make an unbeatable combination for success."



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HISTOLOGY GNT PARTICAL



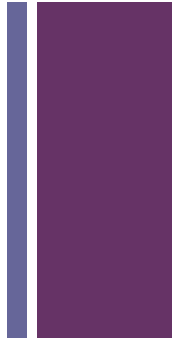
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Thanks you for checking
our work, Good luck.
-Team histology.



HISTOLOGY
435

+ Identify : Esophagus



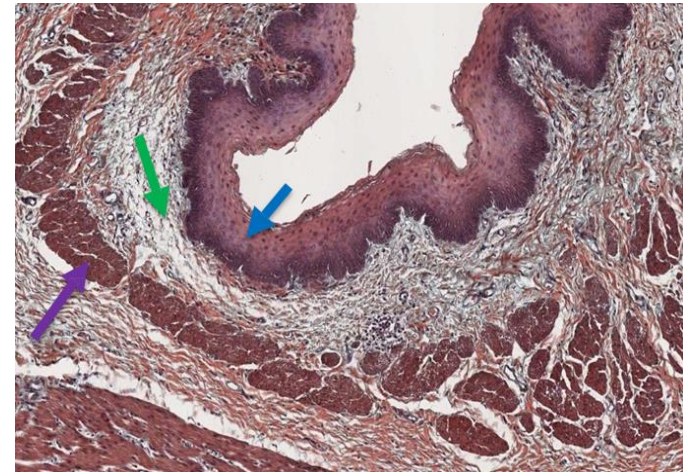
1. Mucosa:

A) Epithelial Lining:

Non-Keratinized Stratified Squamous Epithelium.

B) Lamina propria.

C) Muscularis mucosae.



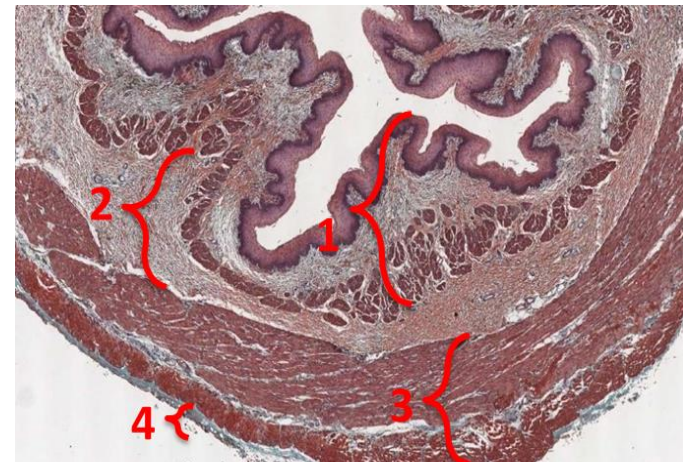
2. Submucosa: Contain glands , Meissner's plexus.

3. Muscularis Externa: (2 layers) :

(upper 1/3 skeletal, middle 1/3 mixed, lower 1/3 smooth)

- Inner circular layer.
- Outer longitudinal layer.
- Auerbach's (myenteric) plexus in between the 2 layers.

4. Serosa (in abdominal part) or adventitia (in cervical and thoracic part)





Identify : Fundus of stomach



parietal cells: which acidophilic

chief cells: which basophilic



1. Mucosa:

- A. **Epithelial Lining:** Simple columnar mucus-secreting cells.
- B. **Lamina propria:**
- C. **Fundic Glands:** Short pits with simple branched glands .It is rich in parietal and chief cells. (Fundic glands are found in the lamina propria)
- D. **Muscularis mucosae**

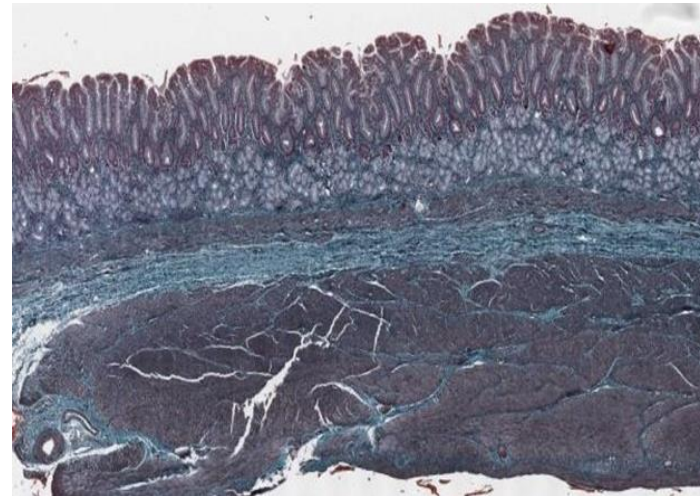
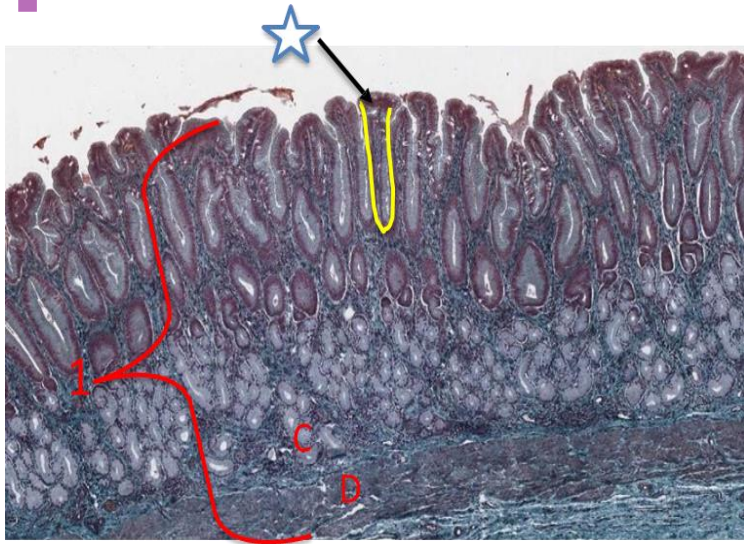
2. Submucosa.

3. Muscularis Externa: (3 layers) :

- Inner oblique layer.
- Middle circular layer.
- Outer longitudinal layer.
- Auerbach's(myenteric) plexus.

4. Serosa ONLY

Identify : Pylorus of stomach



1. Mucosa:

A. Epithelial Lining: Simple columnar mucus-secreting cells.

B. Pyloric Glands: ☆

Deep pits with branched and convoluted glands.

C. Lamina propria: Loose C.T contains pyloric gland.

mucous-neck cells

D. Muscularis mucosae

2. Submucosa.

3. Muscularis Externa: (2 layers) :

Inner circular layer.

Outer longitudinal layer.

Auerbach's(myenteric) plexus

4. Serosa ONLY

+ Identify : Duodenum

1. Mucosa:

(Crypts and villi)

A) Epithelial Lining:

1. Villi : Simple columnar epithelium absorptive cells with goblet cells.
2. Crypts of lieberkuhn : Simple columnar epith. With goblet cells, stem cells, enteroendocrine cells, and Paneth cells(Paneth cells located in base of crypt).

B) Lamina propria

D) Muscularis mucosae

2. Submucosa:

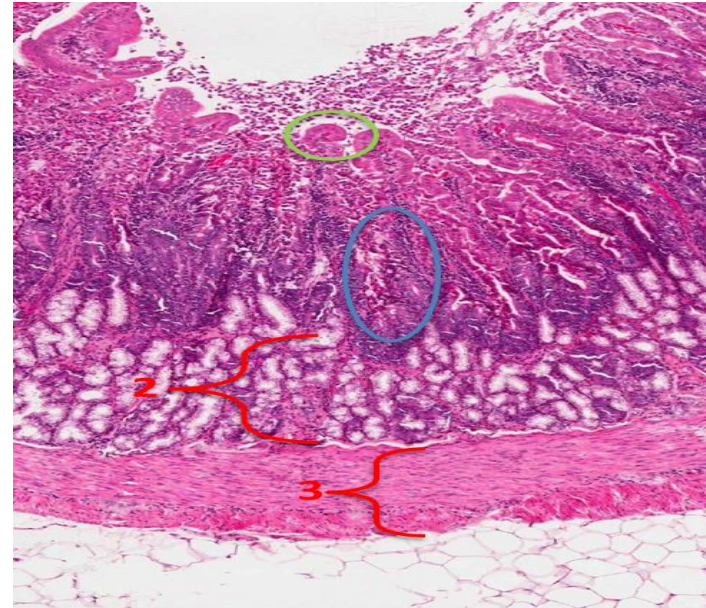
Contains **Brunner's glands** which secrete mucus.

3. Muscularis Externa: (2 layers)

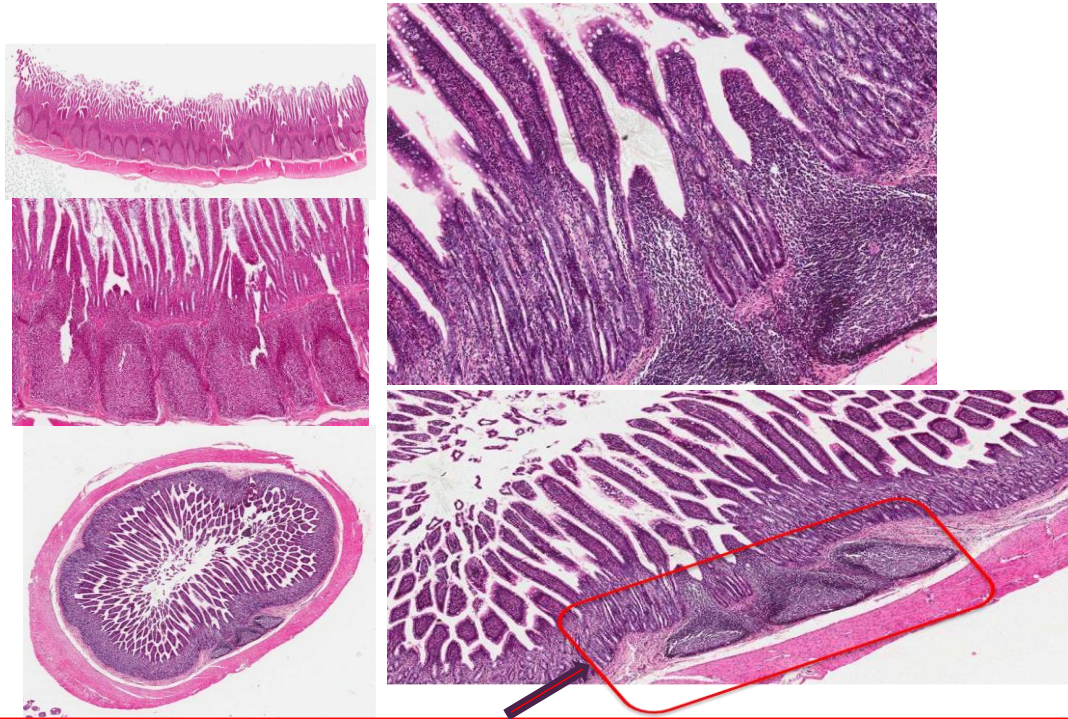
Inner circular layer.

Outer longitudinal layer.

4. Serosa: in upper part and Adventitia in 2nd & 3rd parts.



Identify : Ileum



Peyer's Patches is in front of mesentery attachment

1. Mucosa: (Crypts and villi)

A) **Epithelial Lining:** Similar to the duodenum, Simple columnar epithelium with goblet cells.

B) **Lamina propria:** Has lymphoid nodules (**Peyer's patches**).

that extend to the submucosa.

C) **Muscularis mucosae**

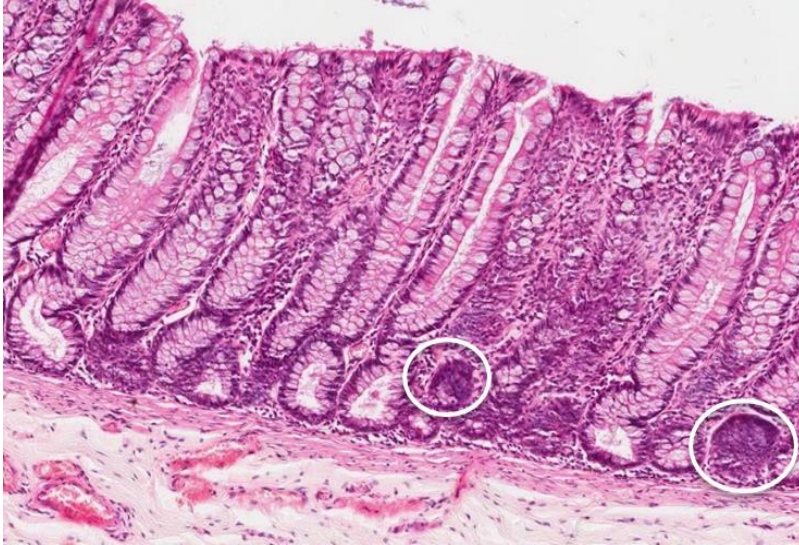
2. Submucosa

2. Muscularis Externa: (2 layers)

- Inner circular layer.
- Outer longitudinal layer.

4. Serosa

Identify : Colon



1. Mucosa: (Crypts ONLY)

A) Epithelial Lining:

Simple columnar epithelium with goblet cells.

B) Lamina propria:

Contains frequent lymphatic nodules (White circle)

D) Muscularis mucosae.

2. Submucosa.

3. Muscularis Externa: (2 layers)

- Inner circular layer.
- Outer longitudinal layer. (has Teniae coli).

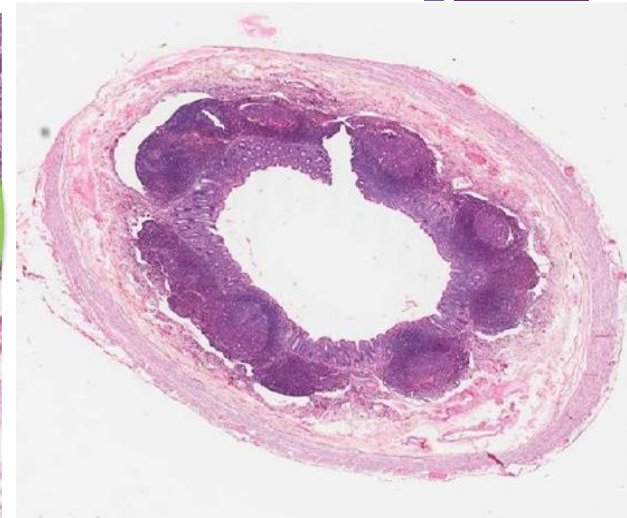
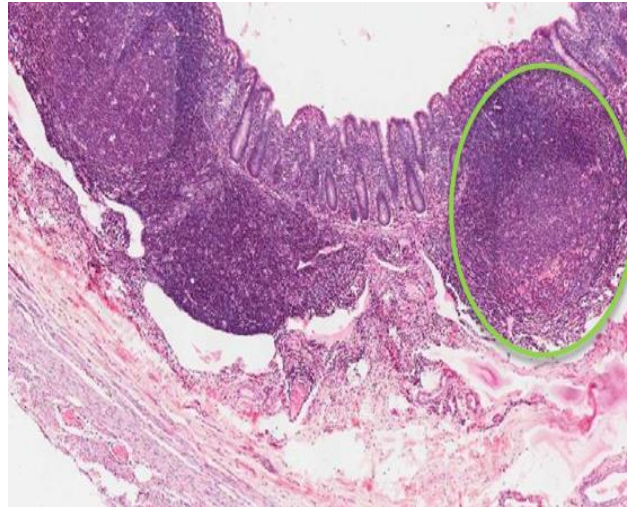
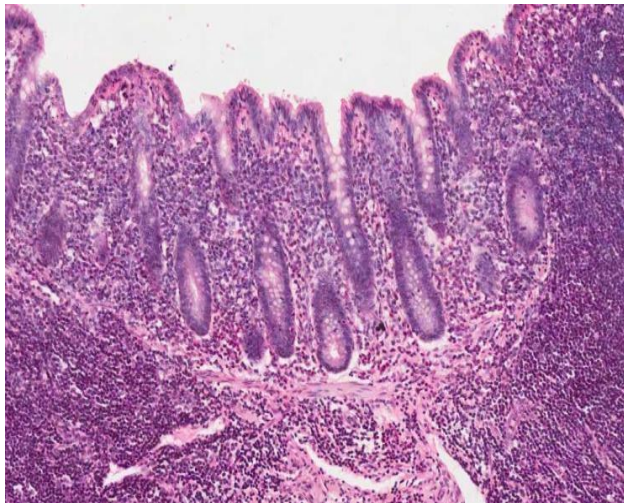
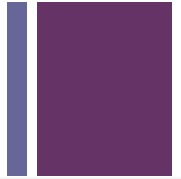
4. Serosa (has appendices epiploicae).

Cells lining the crypts are:

1. Surface columnar absorptive cells.
2. Goblet cells.
3. Enteroendocrine cells.
4. Stem cells.
5. M-cells.



Identify : Appendix



1. Mucosa: (shallow Crypts ONLY)

A) Epithelial Lining:

Similar to the colon,
Simple columnar epithelium
with **goblet cells**.

B) Lamina propria:

Contains lymphatic nodules.

D) Muscularis mucosae.

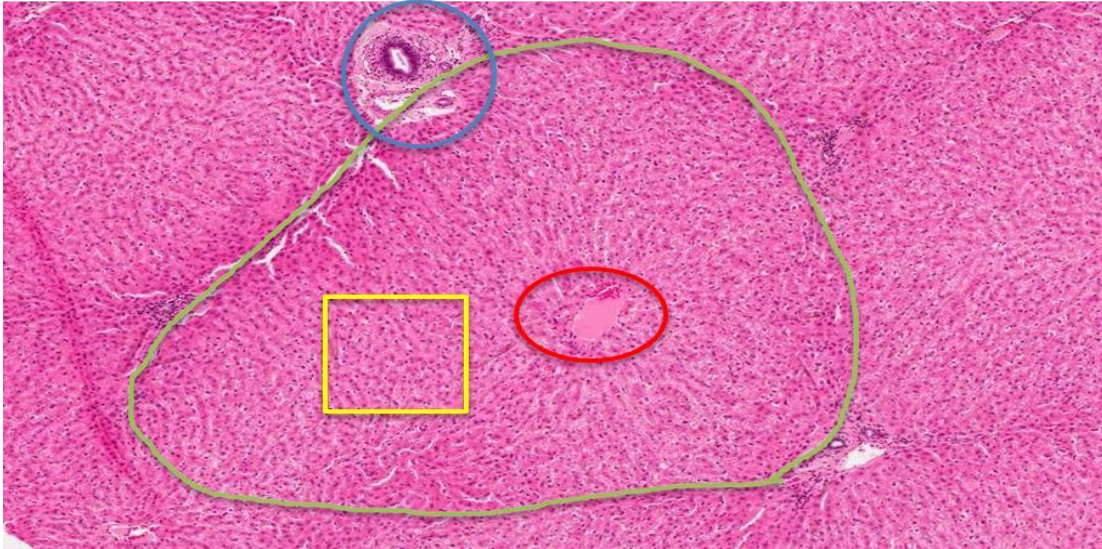
2. Submucosa

3. Muscularis Externa: (2 layers)

- Inner circular layer.
- Outer longitudinal layer.

4. Serosa

Identify : Liver



Features:

- 1-Classical hepatic lobule.
- 2-Central hepatic vein.
- 3-Portal area.
- 4- C.T.

Mention four cells in the square:

- HEPATOCTYES.
- ITO CELLS
- KUPFFER CELLS
- CELLS OF ENDOLTHELIAL

Identify : Portal Area



Features:

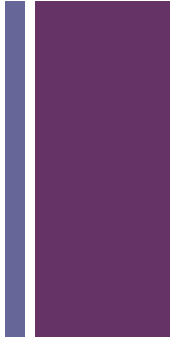
- 1-Bile Duct.
- 2-Branch of hepatic artery.
- 3-Branch of portal vein.

Mention four cells in the square:

- HEPATOCTYES.
- ITO CELLS
- KUPFFER CELLS
- CELLS OF ENDOLTHELIAL



Identify : GallBladder



1. Mucosa: (highly folded)

A) Epithelial Lining:

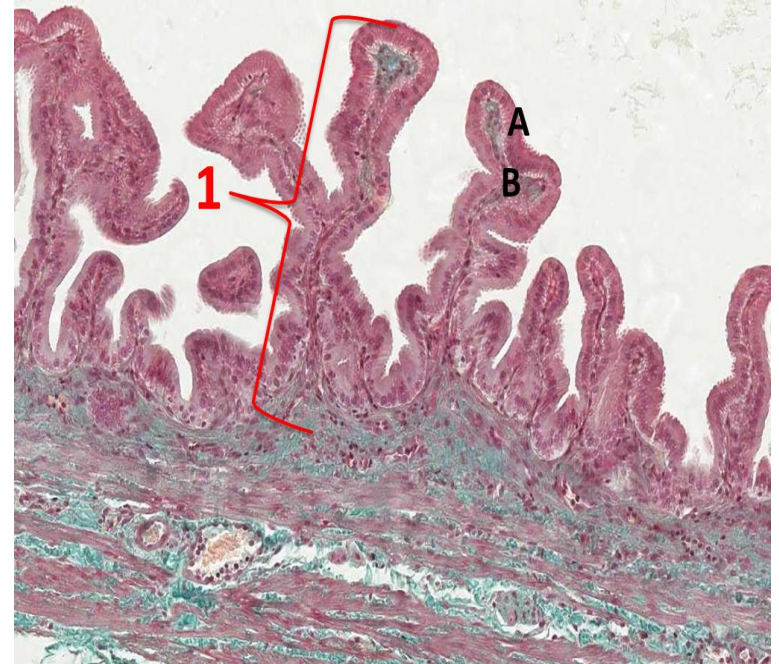
Simple columnar epithelium.

B) Lamina propria:

contains **mucous glands** in the **neck** of gall bladder.

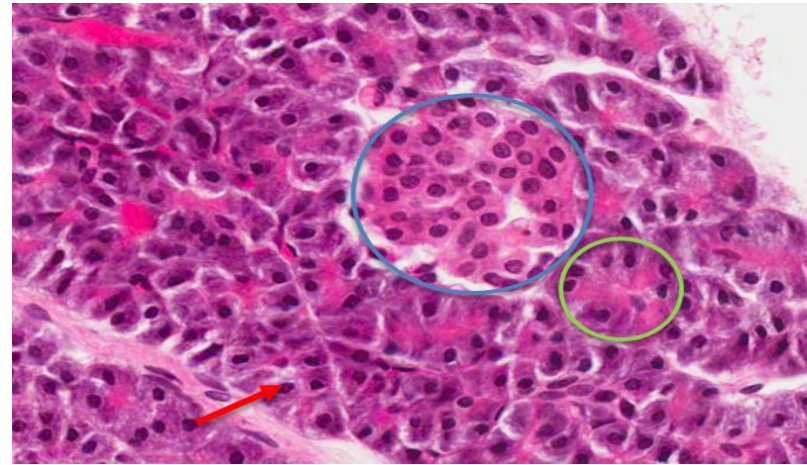
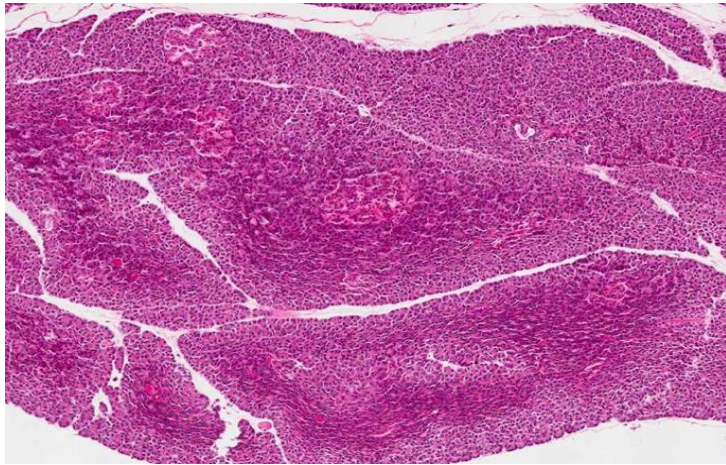
2. Muscularis.

3. Srosa or adventitia.





Identify : Pancreas



Features:

1-Islets of Langerhans

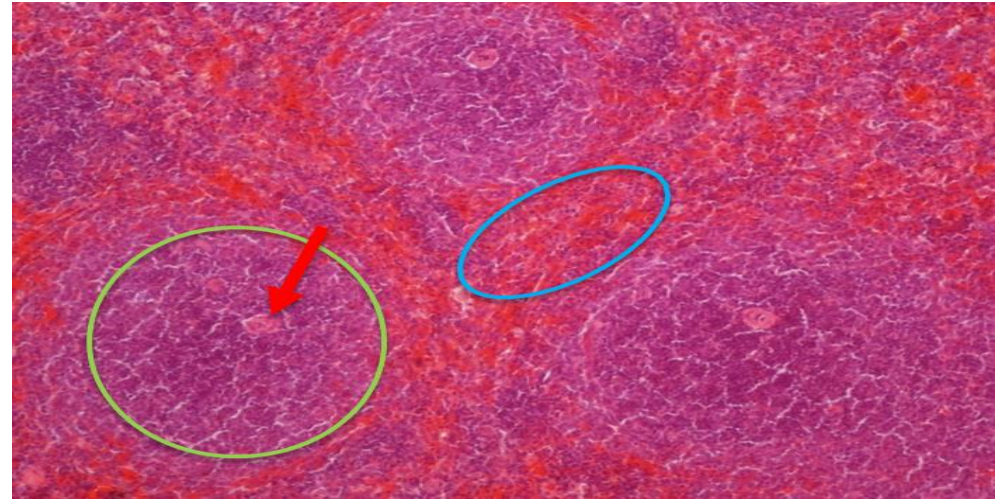
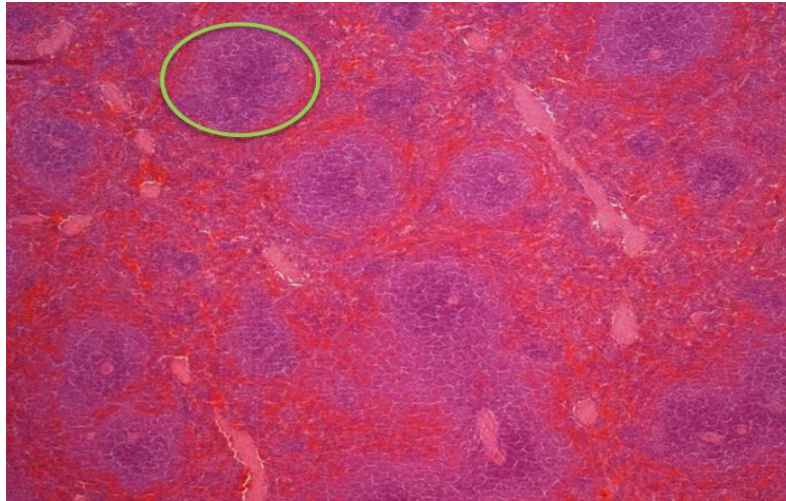
2-Pancreatic acini

3-Centroacinar cells:

- Basal part basophilic due to abundant rER (Rough endoplasmic reticulum)
- Apical part acidophilic due to granules



Identify : Spleen



Features:

1-White pulp

1-Periarterial lymphatic sheaths (PALS):

housing T lymphocytes.

2-Lymphoid follicles (with germinal centers):

housing B lymphocytes **and macrophages**.

2-Central artery

3-Red pulp:

A- Splenic (pulp) cords (Bilroth's cord):

Extravasated blood cells, plasma cells, macrophages & reticular cells and fibers.

B- Splenic blood sinusoids.