

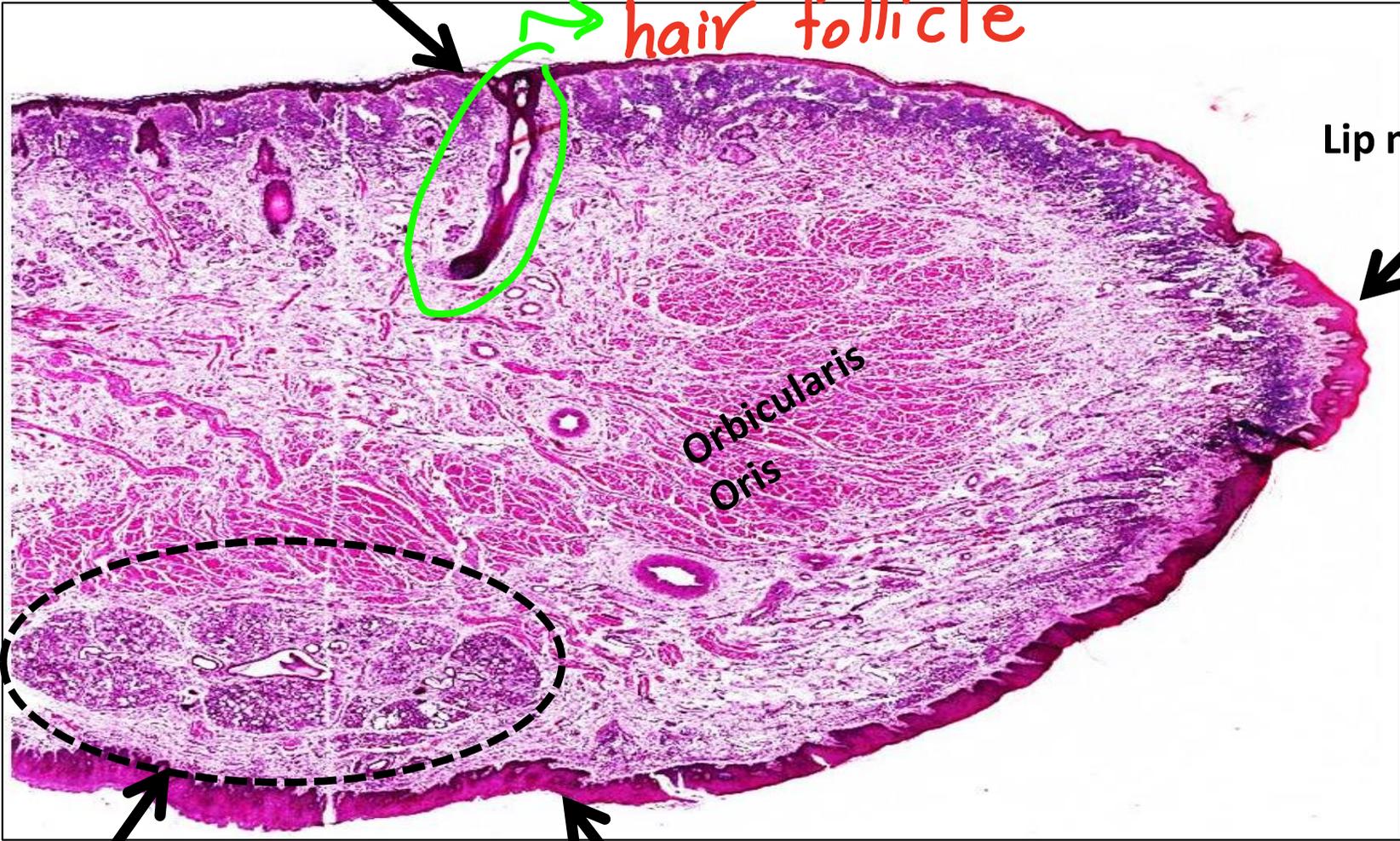
بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

GIT practical slides
2nd year 2024

- **The assigned slides:**
 1. **Lip**
 2. **Tongue x 2**
 3. **Parotid gland**
 4. **submandibular**
 5. **Esophagus (dog)**
 6. **Stomach (fundus)**
 7. **Gastro-esophageal junction**
 8. **Pyloro-duodenal junction**
 9. **Recto-anal junction**
 10. **Duodenum**
 11. **Ileum**
 12. **appendix**
 13. **Colon (large intestine)**
 14. **Liver**
 15. **Pancreas**

Lip

Skin : keratinized stratified squamous epithelium



Lip margin

Orbicularis
Oris

Labial glands

Structure of lip:

A- **Internal surface:** covered by m. m.

• **Epith:** Non-keratinized stratified squamous

• **Lamina propria:** loose C.T., contains B.V., lymphatics, nerves, **labial glands** *



Mucous membrane:

Non-keratinized stratified squamous epithelium

السؤال في الامتحان النظري
قد يكون عن:

site, function, characteristics

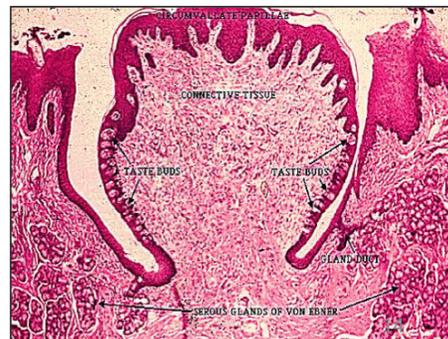
Tongue



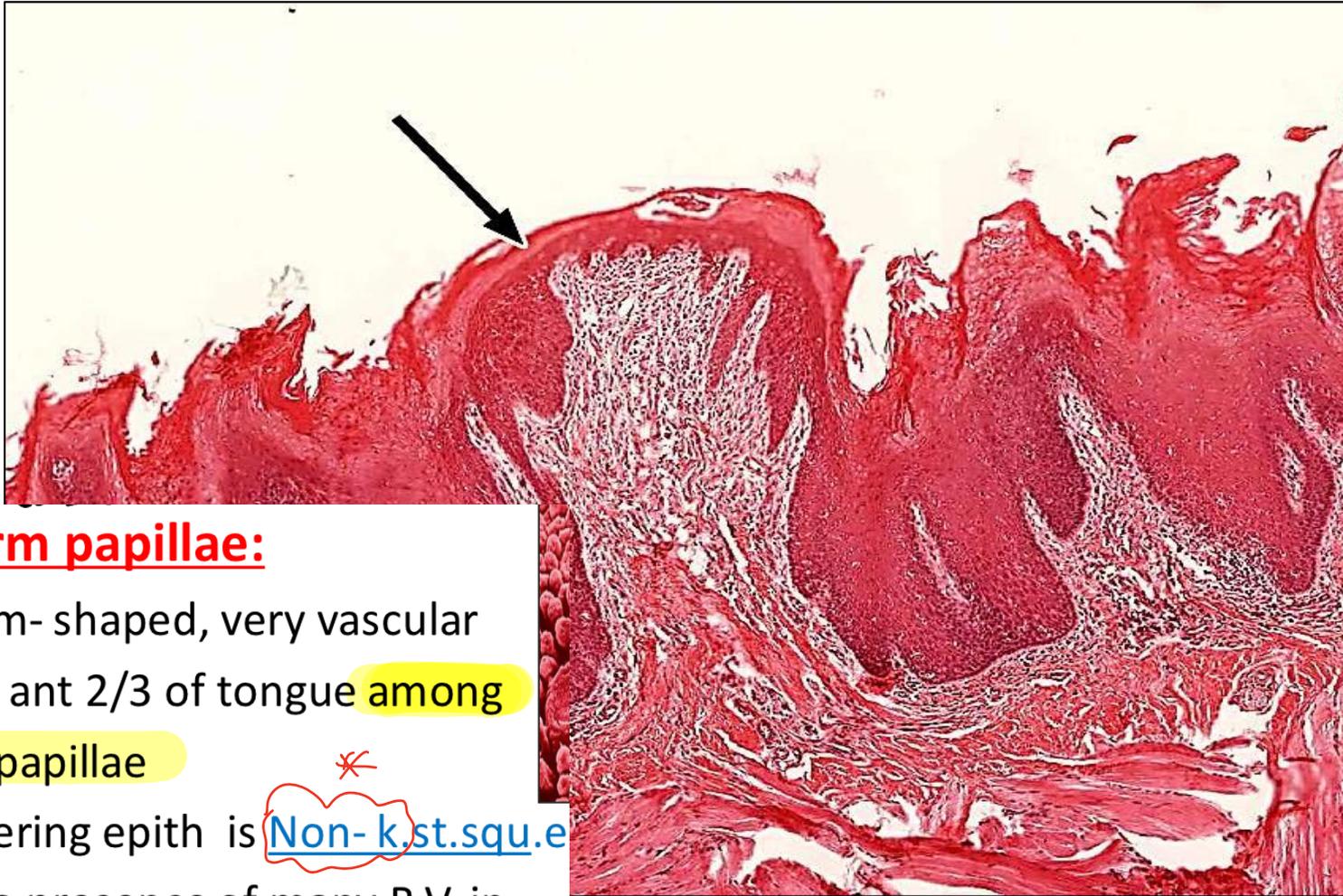
Circumvallate papillae



- They contain **Von Ebner's glands** (serous, begin lipid hydrolysis) in lamina propria
- They covered e **Non- k.st.squ.epith**
- Taste buds present on **the lateral sides of these papillae**



Fungiform papillae

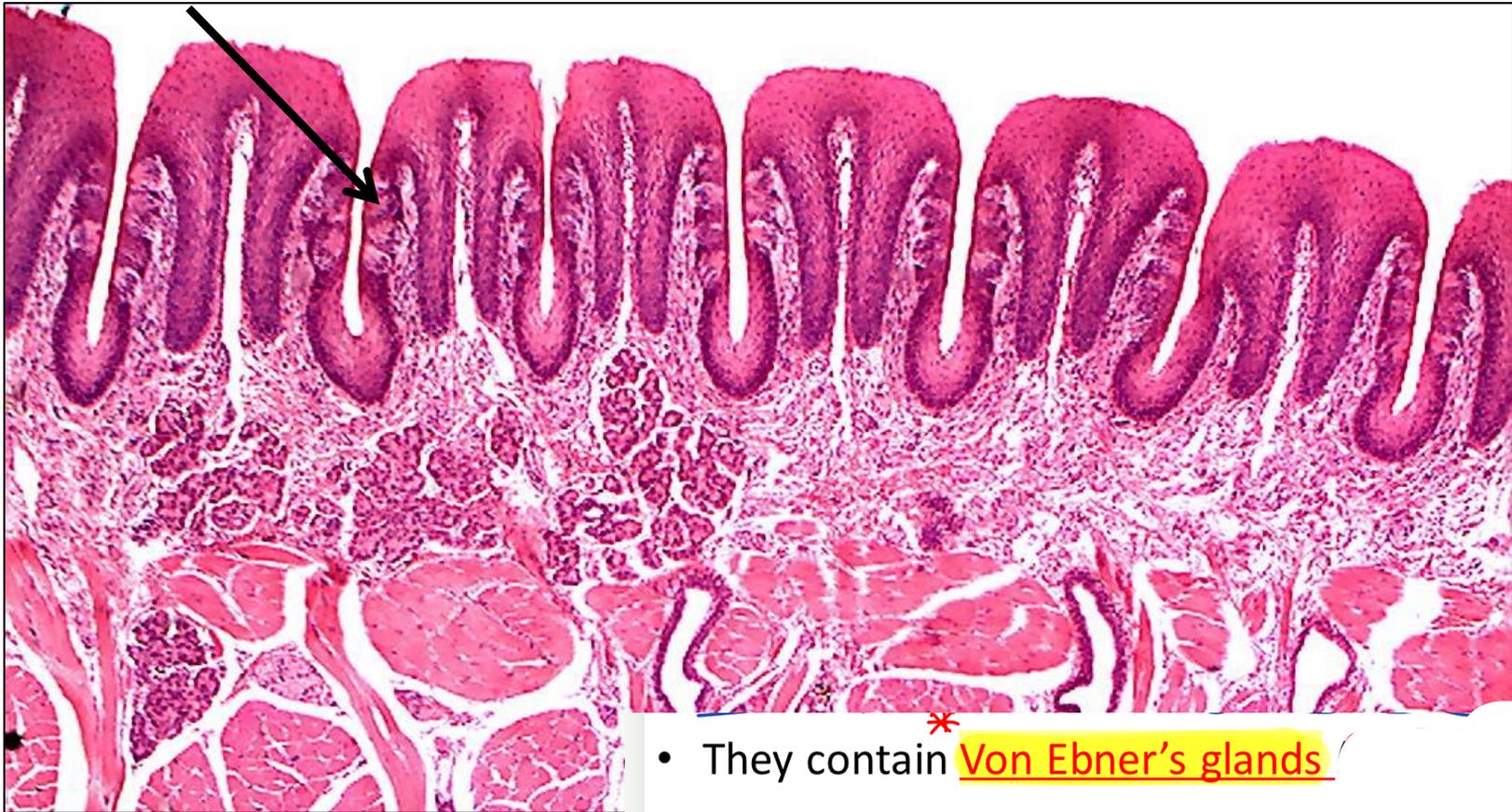


○ Fungiform papillae:

- Mushroom- shaped, very vascular found on ant 2/3 of tongue among Filiform papillae
- Their covering epith is Non-kerat. squ. e red due to presence of many B.V. in underlying C.T.
- Contain taste buds on superior surface

Foliate papillae

Taste buds



- They contain ^{*} Von Ebner's glands
- Taste buds present on the lateral sides of these papillae

Filiform papillae

Epithelium : keratinized stratified squamous epithelium, No taste buds



○ Filiform papillae:

- Conical shape, contain **NO taste buds**

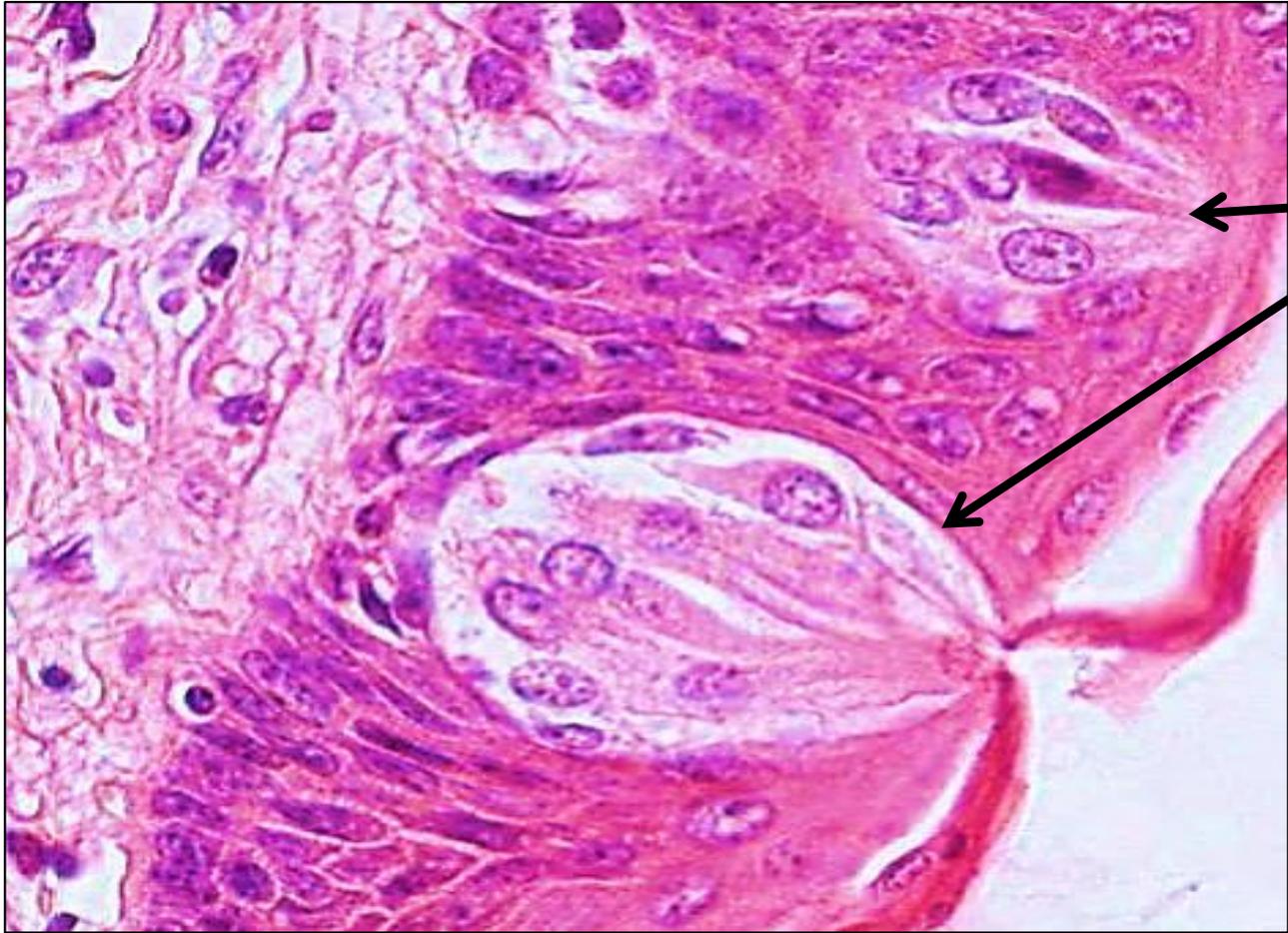
- Formed of C.T. core covered e

- keratinized stratified squ. epithelium

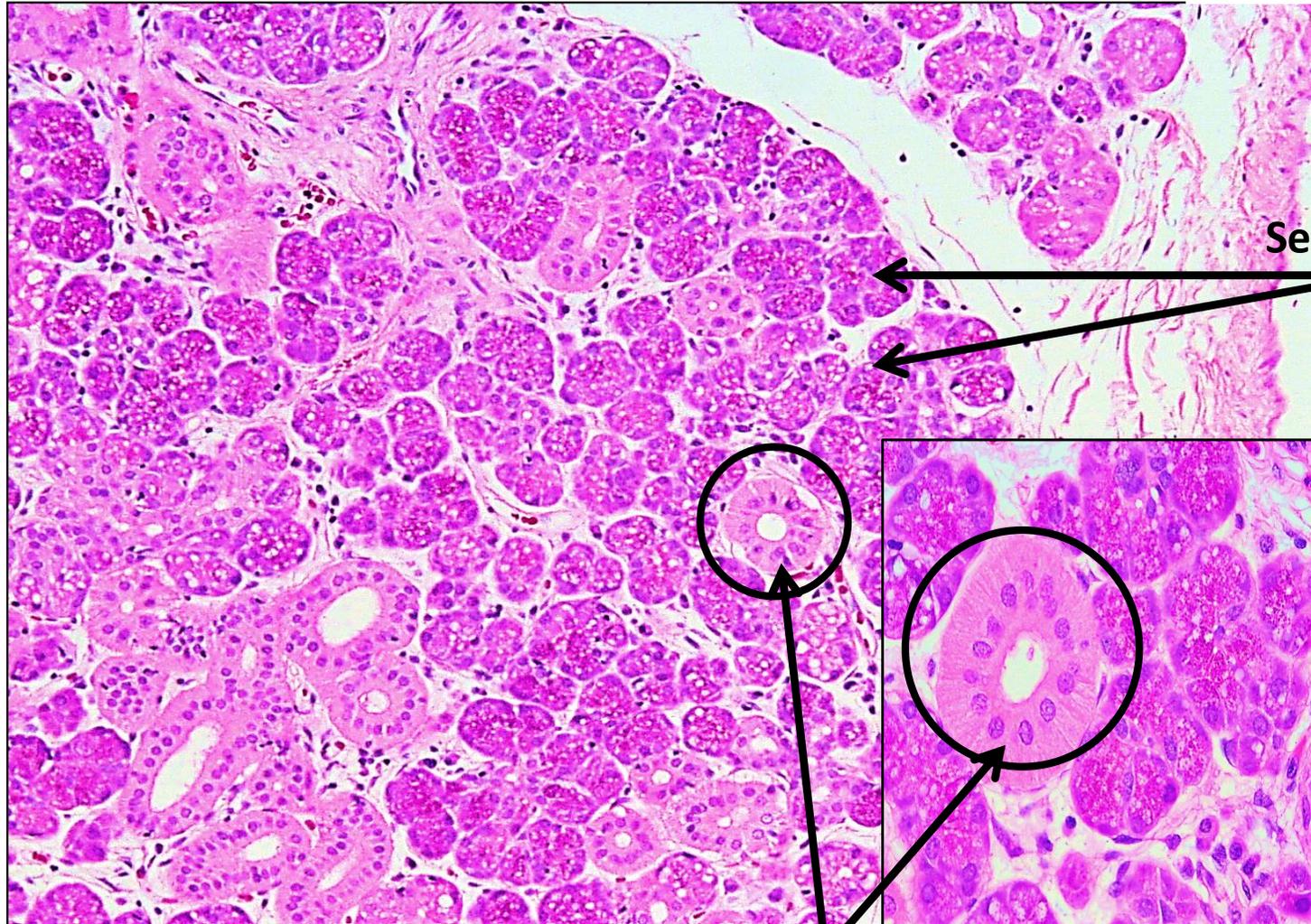
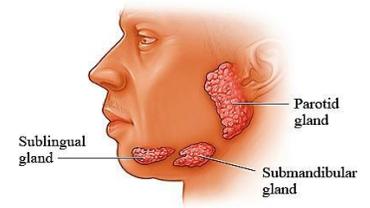
☆ فقط هذه
↳ to make it rough.

☆ Called : Mechanical papillae → because it has no taste buds.

Taste buds

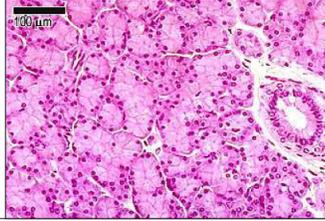
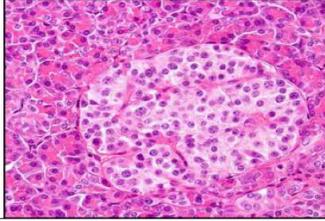


Parotid salivary gland



سلايدات ذكرتها الدكتور مهمة جدًا ←

Pancreas vs. Parotid



Pancreas

- **Capsule:** thin
- **Trabeculae:** thin, loose
- **Ducts:** few, **NO striated** secretory ducts inside the lobules
- **Acini:** larger
Centroacinar cells in lumen
- **Islets of Langerhans:** present

Parotid

- Thick
 - Thick
 - **Abundant, striated secretory** ducts are prominent inside the lobules
 - **Absent**
- Smaller
No centroacinar cells

Main duct: lined with **columnar** epithelium + goblet cells + enteroendocrine cells

• **the main duct** ^{of all salivary glands} drains secretion in oral cavity, lined 1st with stratified **columnar** → **stratified squamous** near its opening in mouth cavity

• Striated (secretory) ducts:

1. present inside the lobule
2. *take part in the secretion of saliva*
3. lined with low columnar cells
4. Their apical and basolateral membranes contain **ion channels to transport ions** as Na⁺, & K⁺ (**ion transporting cells**)

Has acidophilic cytoplasm e basal acidophilic striations
* (infolded basal lamina e ↑ mitochondria) *
/ (ion transporting cell) *

Centroacinar cells:

- Flat squamous cells found lining the **lumen of the acini**
- They represent **the beginning** of the **cells o intercalated duct** into
- They secrete **bicarbonate rich fluid** in response to **secretin**

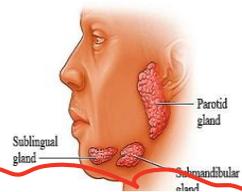
★ Note : in salivary glands

[striated ducts]

هي التي تفرز bicarbonate

معلومة ذكرتها
الدكتور بأخر
الرياستور

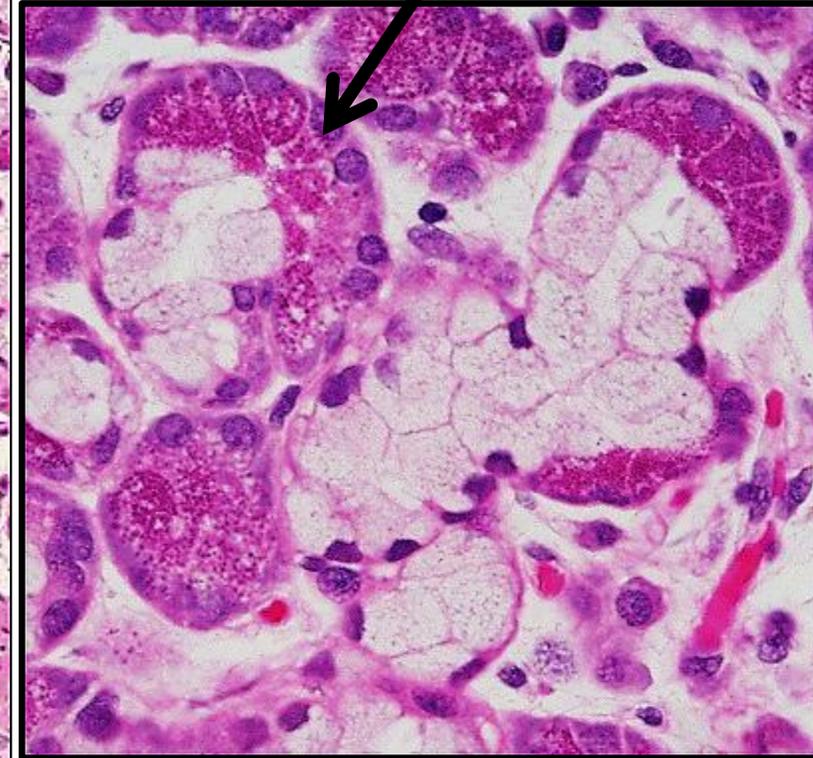
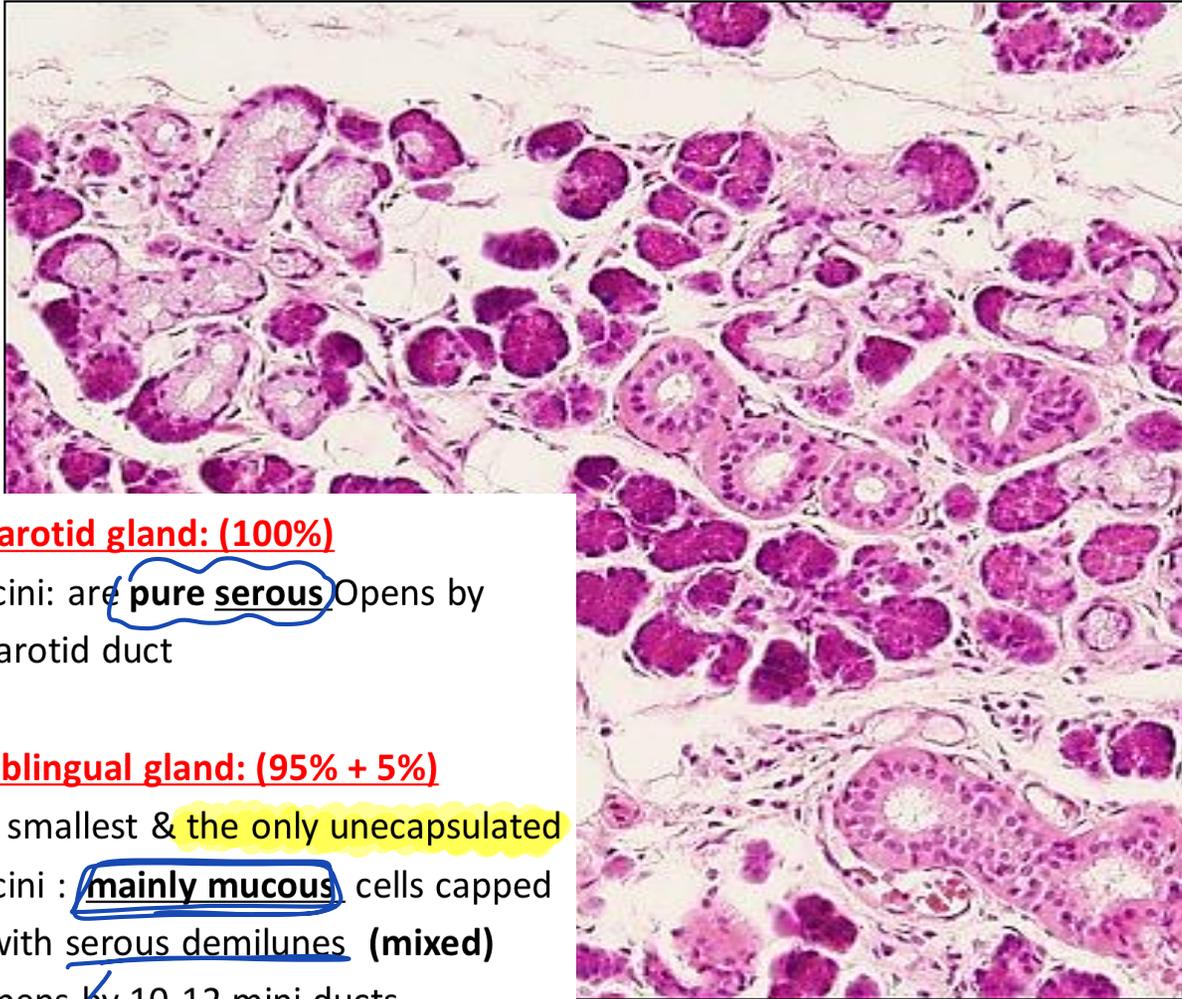
Submandibular salivary gland



Mixed muco-serous acini

* group of **serous cells** form a **crescent** at one side of a mucous acinus.

Serous demilune (Crescent of Gianuzzi)



- **Parotid gland: (100%)**

- Acini: are **pure serous** Opens by parotid duct

- **Sublingual gland: (95% + 5%)**

The smallest & the only unencapsulated

- Acini : **mainly mucous** cells capped with **serous demilunes (mixed)**

- Opens by 10-12 mini ducts

↳ *No complete serous acini only crescent.

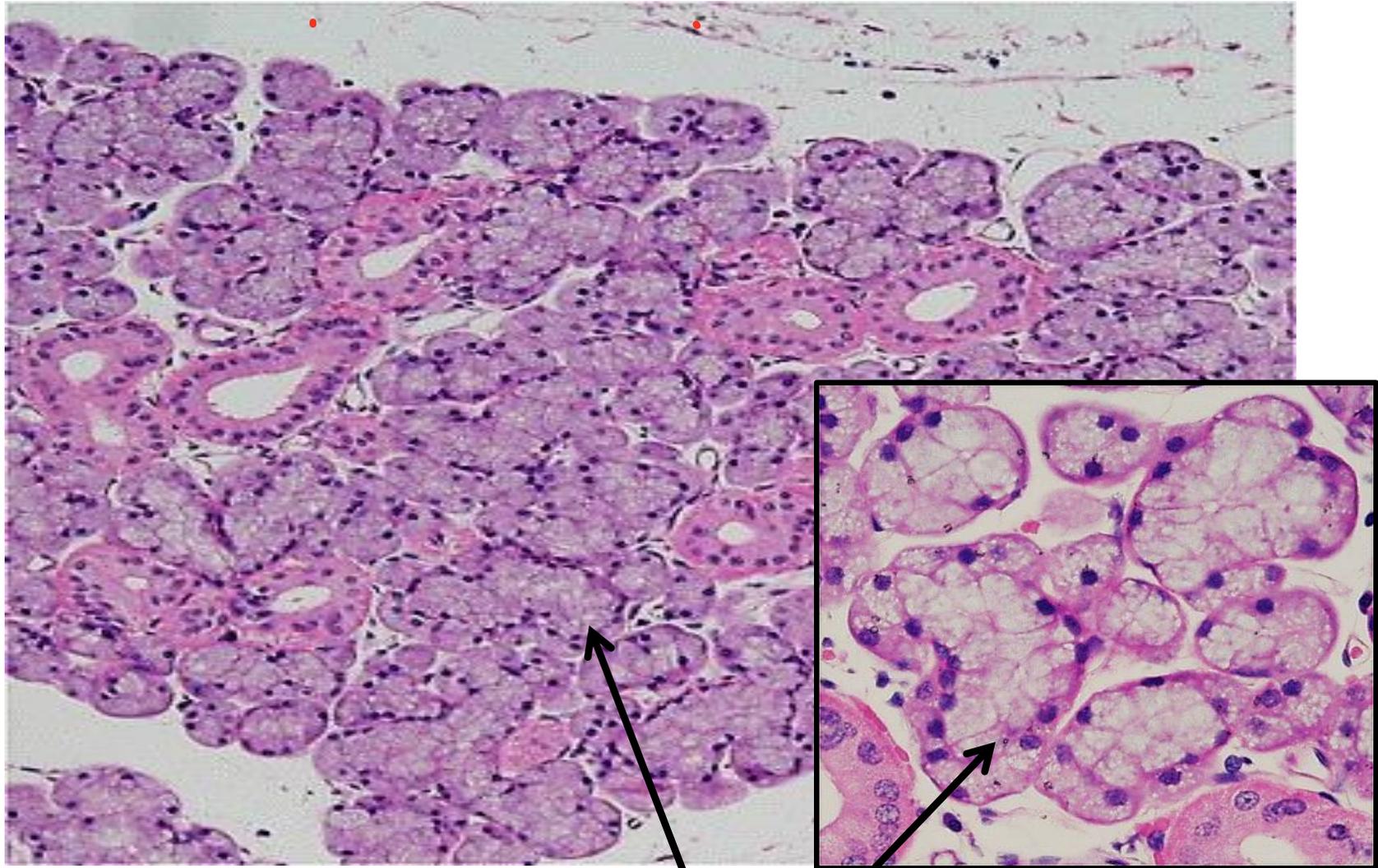
- **Submandibular gland: (80% + 20%)**

- Acini: **mixed serous & mucous acini**

- Opens by Wharton's duct

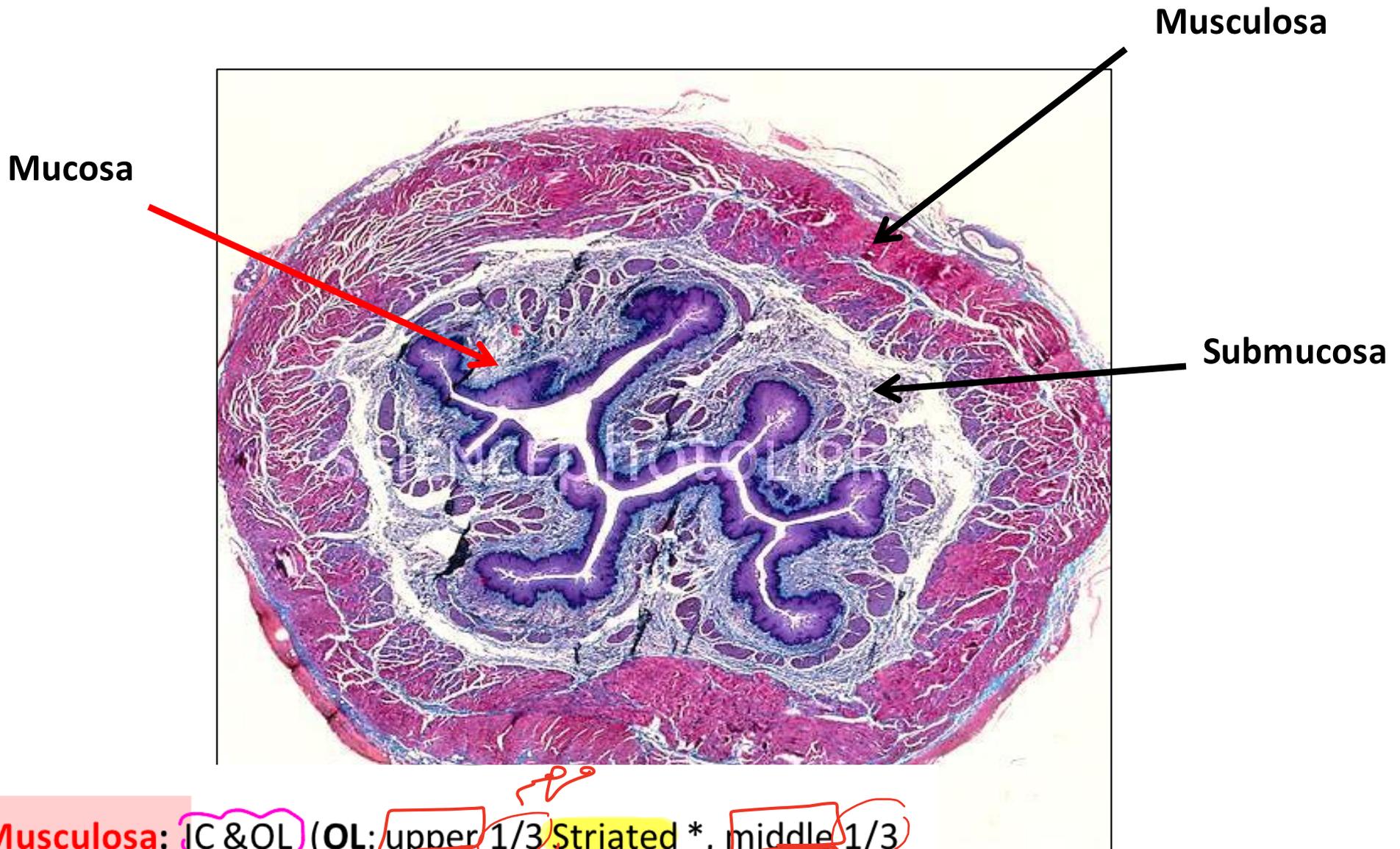
* الكرزت على الفرق

Sublingual salivary gland



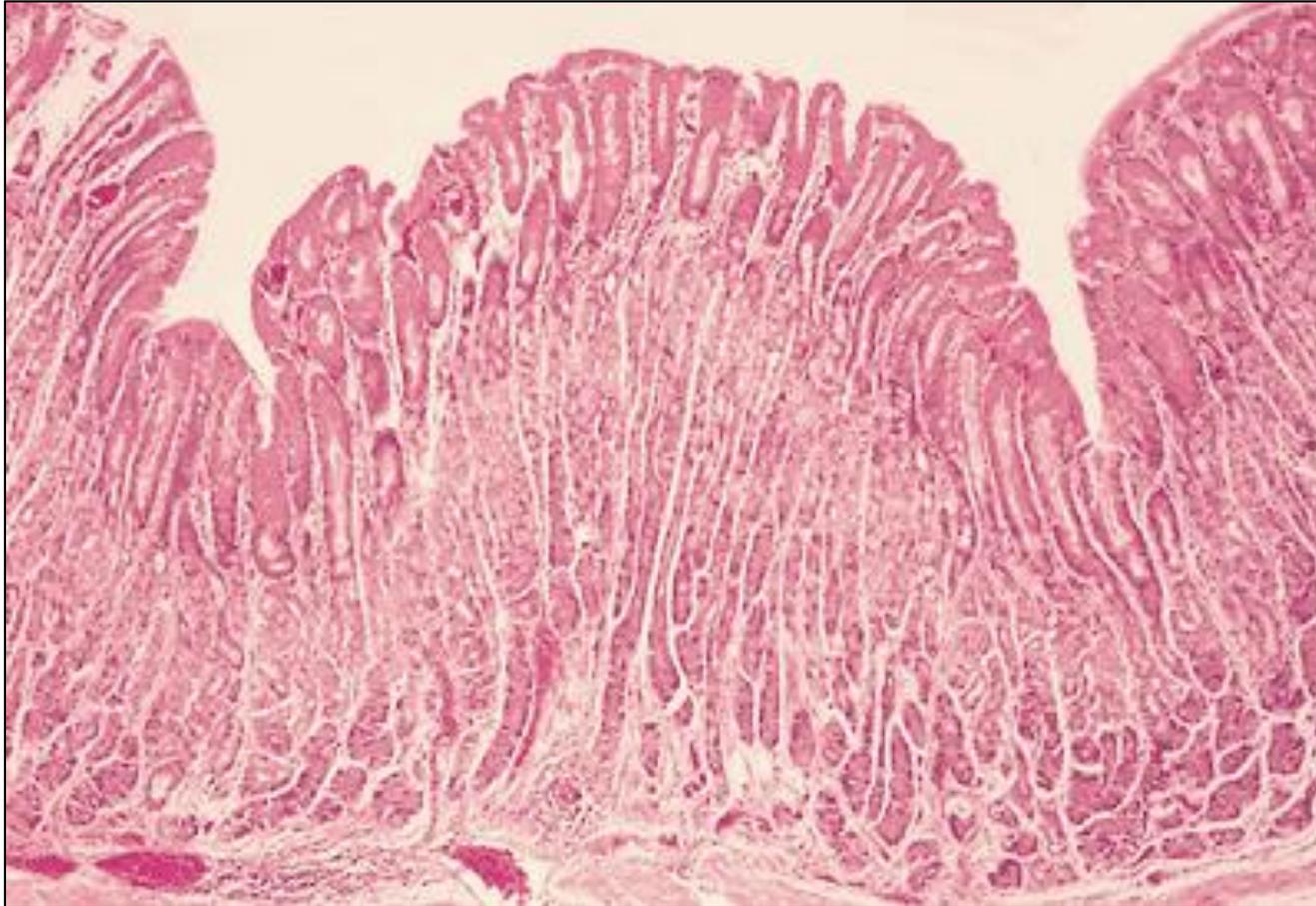
Mucous acini

Esophagus



- **Musculosa:** IC & OL (OL: upper 1/3 Striated *, middle 1/3 mixed & lower 1/3 smooth ms.) NB: swallowing start with controllable motion but finishes with involuntary peristalsis

Stomach (fundus)



Mucosa
contains
fundic glands

- 1- Long simple branched tubular gastric glands
- 2- short gastric pits

1- The mucosa:

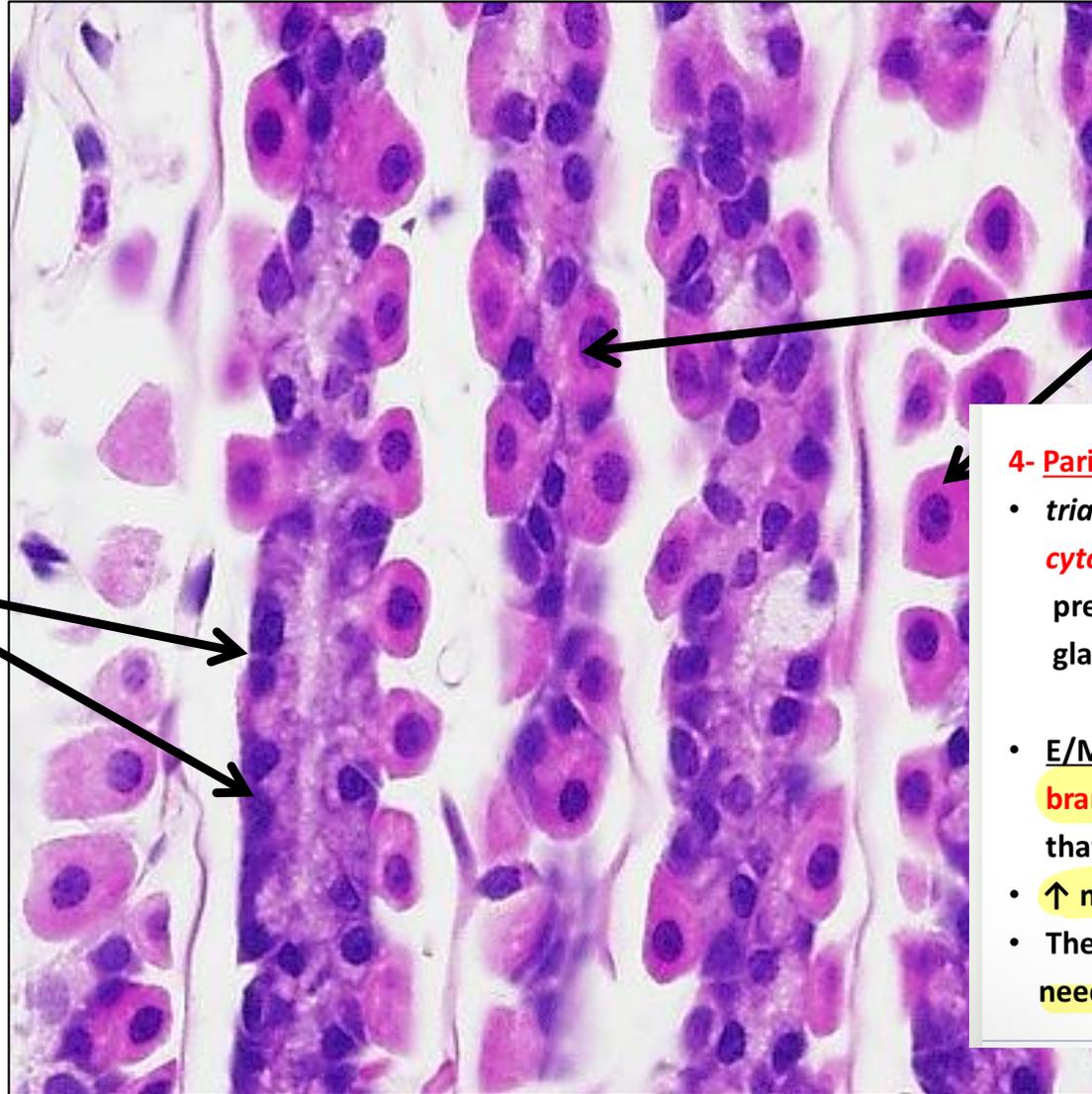
- **epithelium:** simple columnar cells, these cells secrete **neutral mucus** for lubrication & protection*
- **lamina propria:** contains **gastric glands** & C.T. fills the spaces between the glands . It also contains B.V., lymphatics, nerves

رکزتے علی موقعہا :

Prof Dr H Elmazar

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Stomach (fundic glands)



Chief (peptic) cells

Parietal (oxyntic) cells

- 4- Parietal (oxyntic) cells: تفاسيل الخلية
موتة حبة
- **triangular** in shape e **acidophilic cytoplasm** & **rounded central nucleus**. present mainly in the upper half of the glands – fewer in the base
 - **E/M** : their apical surfaces show **branching intracellular canaliculi** that open at the apex. *
 - **↑ mitochondria**, **↑ SER**, **NO sec. granules**
 - They **secrete HCl & intrinsic factor** (glycoprotein) needed for vit. B12 absorption

Prof Dr H Elmazar

Gastro- esophageal junction



Gastro- duodenal junction

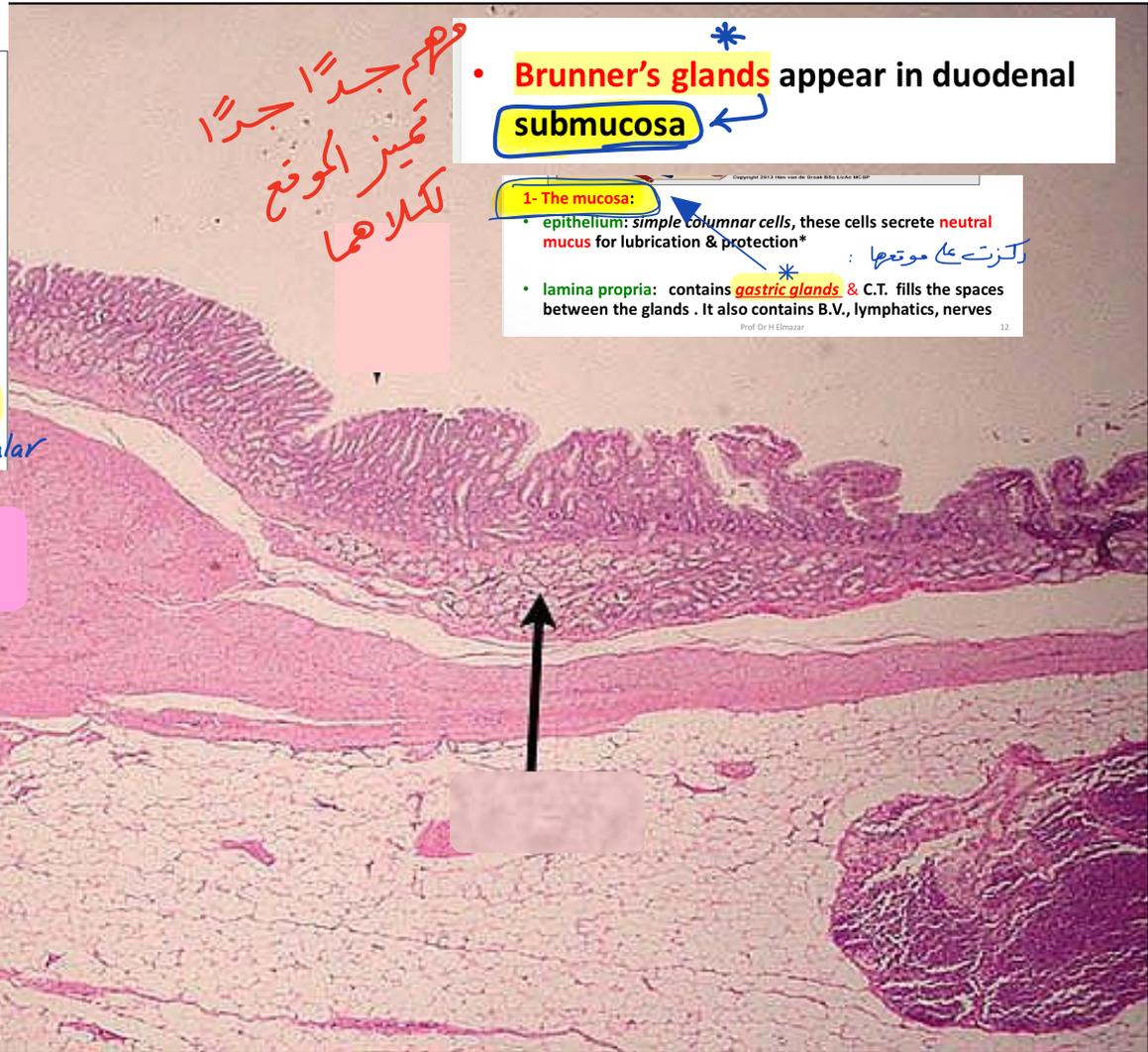
The difference between fundus & pylorus

Fundus

- Thick **mucosa**
- **Pits** are narrow & short
- F. Glands are simple **branched tubular & long**
- occupy most of mucosal thickness
- **Lined e 6 types of cells**
- **Musculosa**: thinner formed of **3 layers** of ms. (IO, MC,OL)

Pylorus

- Thin mucosa
- **Pits** are wide & long
- P. Glands are **coiled** branched tubular & short
- Occupy 1/2 of mucosal thickness
- **Lined e all cell types Except No oxyntic, No peptic cells**
- **Thicker**, formed of **2 layers** of muscles. **Thick C** to form the **p. sphincter** & OL **inner circular**



MCA: if the antibiotics affect the GIT, the most common epi

will be affected ? **Simple columnar epithelium**

Recto anal junction

Anal side
showing **non
keratinized
stratified
squamous
epith**



Rectum
side
showing
**intestinal
glands**

سلايد مهم نظريه :

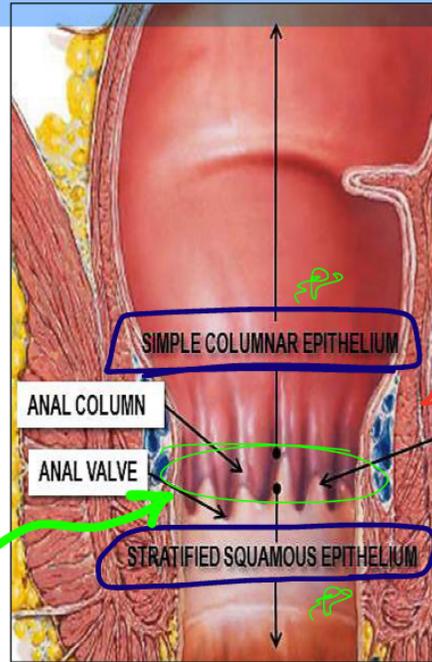
The anal canal

The mucosa of the anal canal shows permanent vertical folds called **columns of Morgagni**

The ends of Morgagni columns connected together with transverse mucosal folds called **anal valves** **which mark the pectinate line**

The columns mark the **recto-anal junction**

The epithelium is **stratified columnar** on columns of Morgagni

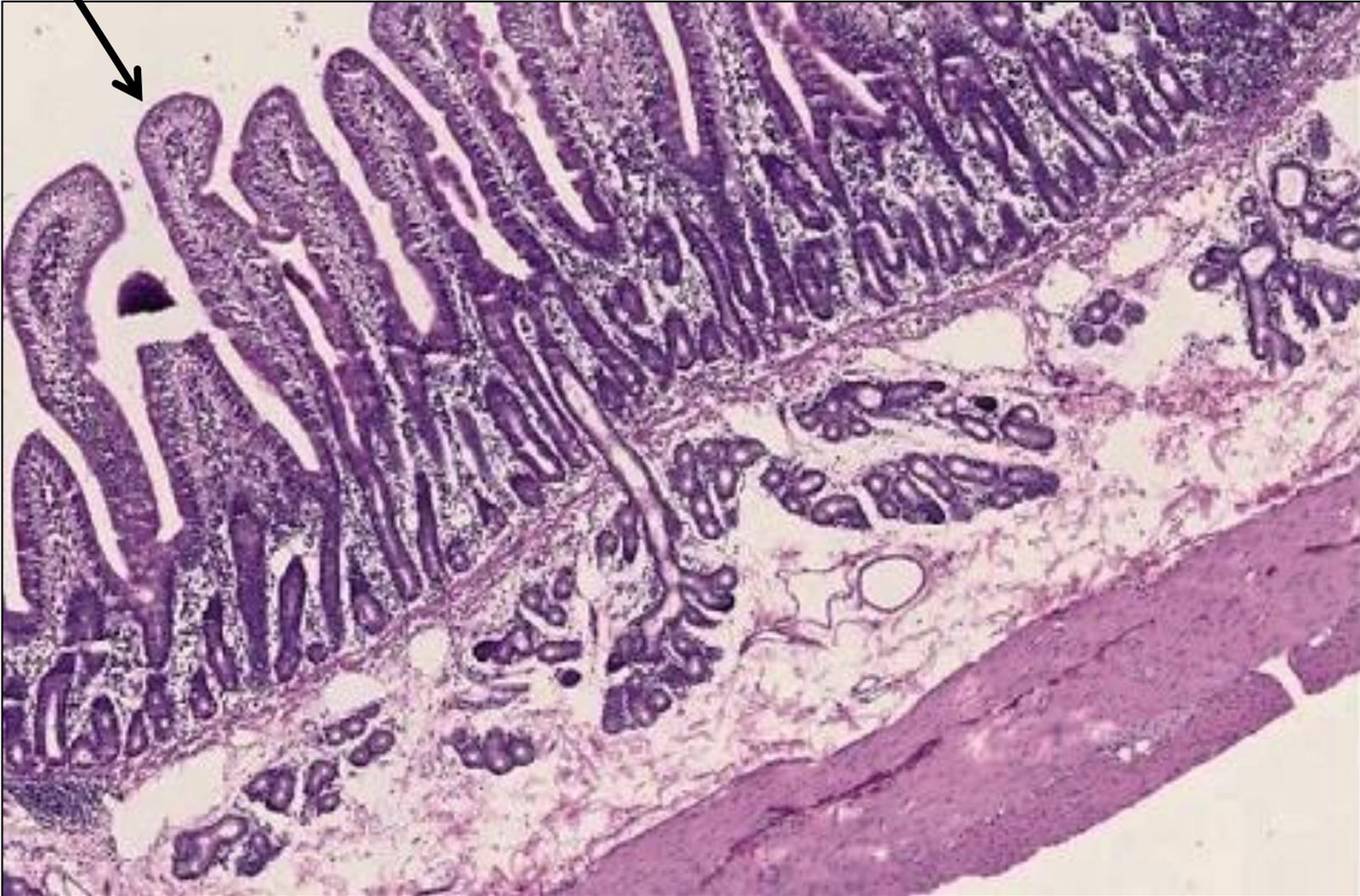


مهم جدا
تصنيف نوع
epithelium

جدا جدا

Intestinal villi

duodenum



Submucosa
showing
Brunner's
glands



Duodenum

Intestinal villi & crypts



Colon

No Villi



Intestinal crypts
contain numerous
goblet cells

بداية ظهور هذه
الخلايا هو
duodenum
مهم جداً

gastric glands →
have no goblet
cells.

ileum

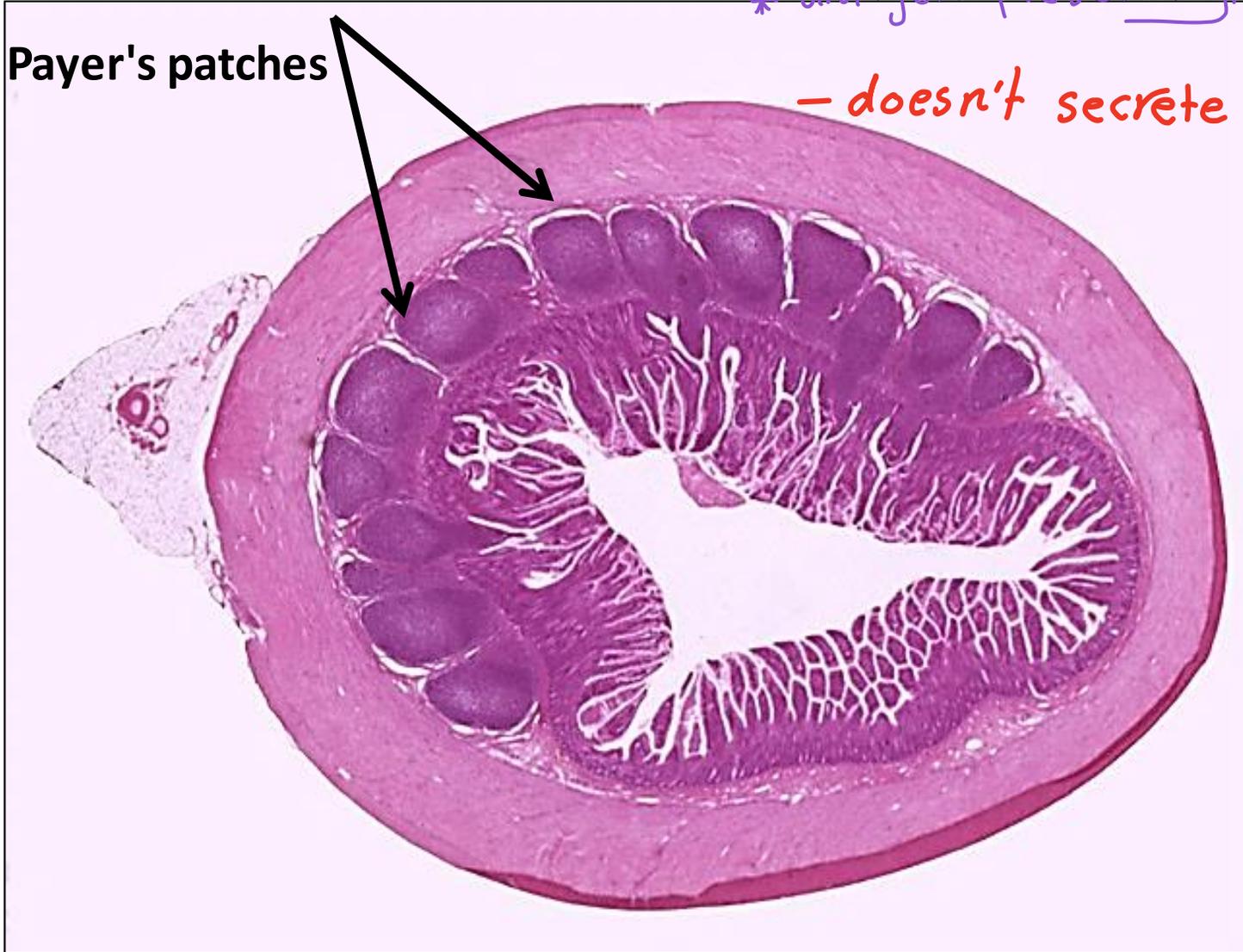
6- M (microfold) cells:

- Squamous - like cells present in between enterocytes of ileum in association with lymphoid nodules of Peyer's patches. Play a role in intestinal mucosal immunity

*
جسده

* antigen presenting cells.

Payer's patches



- doesn't secrete

intestinal
Lysozyme

Colon- Taenia coli

Taenia coli

- The **musculosa** of the large intestine 2 layers (IC & OL).
- IC is continuous but the **OL** breaks up into 3 longitudinal bands to forms the taenia coli (smooth muscles)

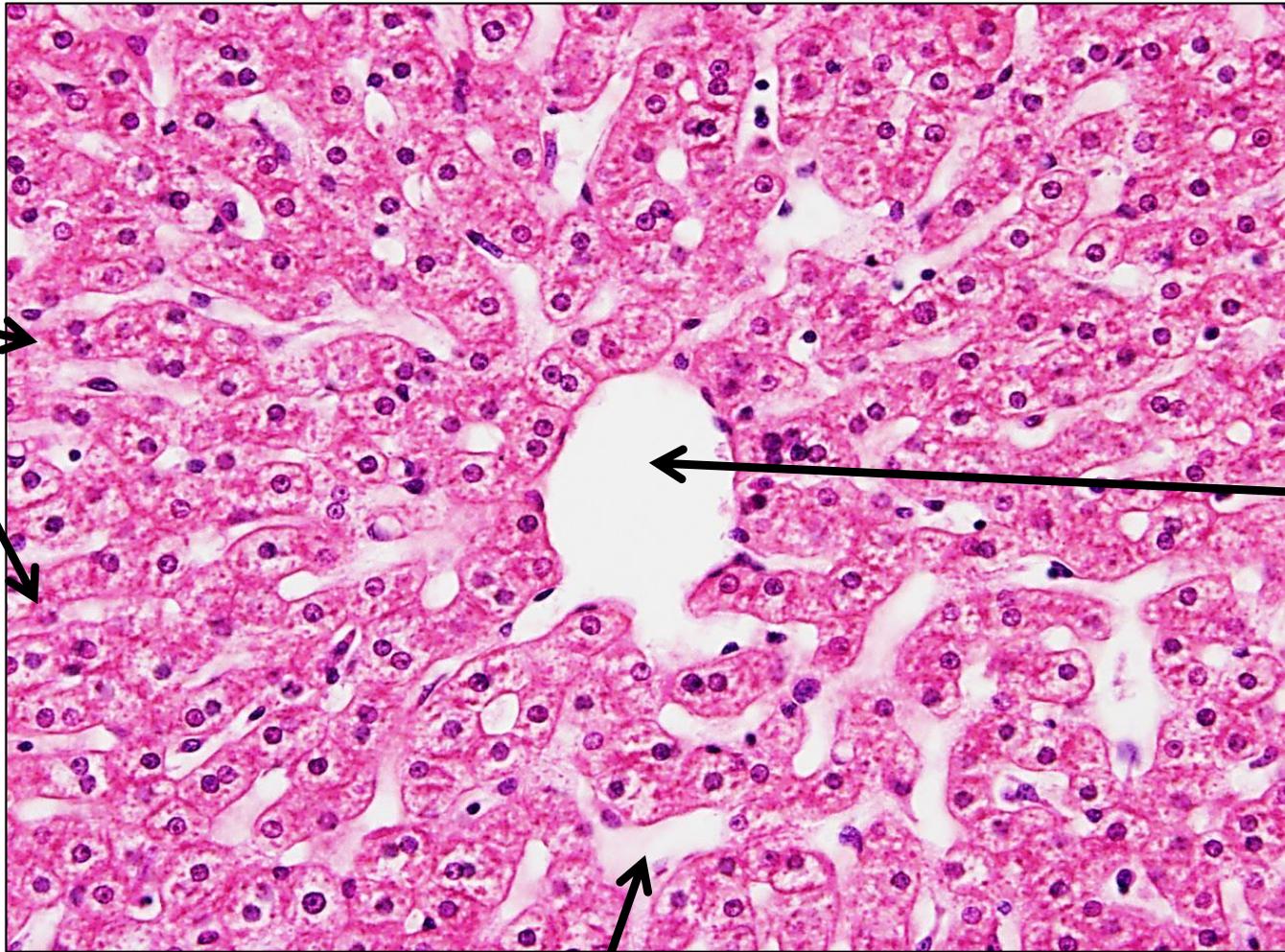


Appendix



Lymphoid follicles

Liver



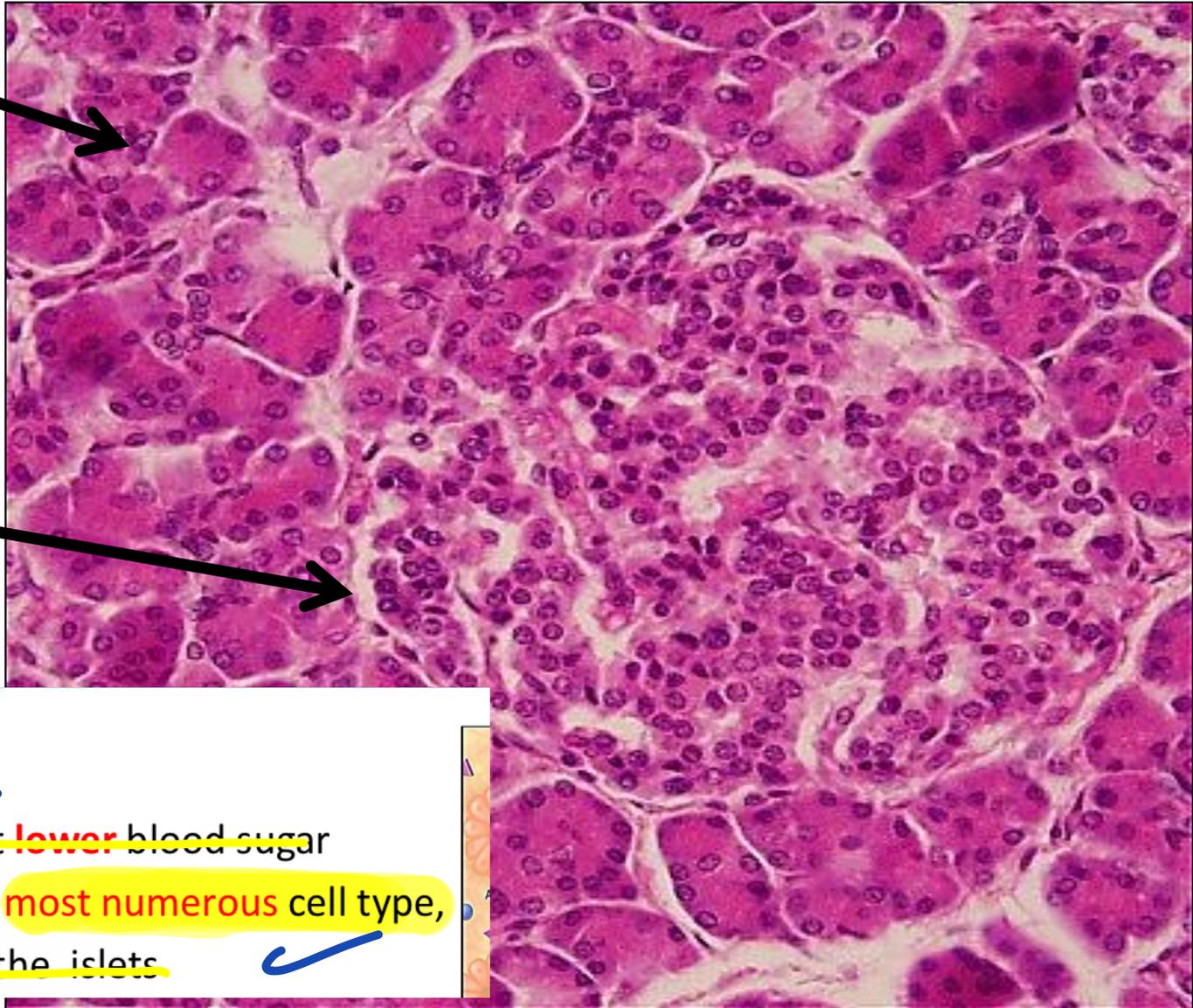
Cords of liver cells

Central vein

Liver sinusoids

Pancreas

Exocrine pancreas



Islets of Langerhans

most type



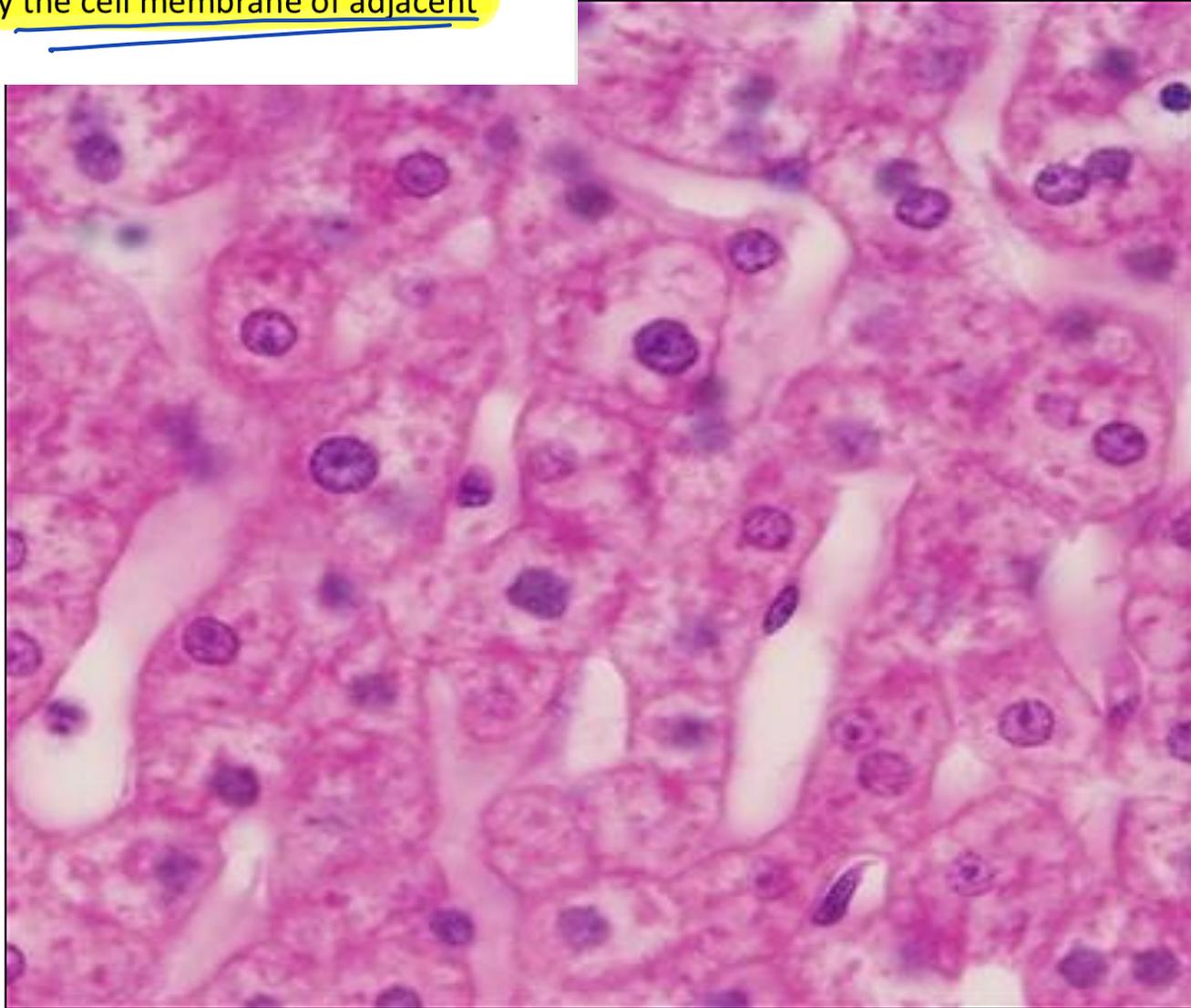
Beta (B) cells (70%):

- Produce **insulin** that **lower** blood sugar
- Cells are **small** in size, **most numerous** cell type, **central** in location in the islets.

Bile canaliculi and bile ducts

- Minute canals present **within** hepatic plates, in-between adjacent hepatocytes.
- They are bounded by the cell membrane of adjacent hepatocytes

حجرات
حجرات *



Hepatocytes

الحمد لله



Thank you

