MED439
KING SAUD UNIVERSITY

Revised & Approved

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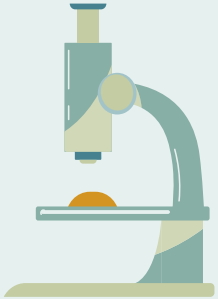
1957



Salivary Glands

Histology Team
439

Color index:

Slides

Important

Doctors notes

Extra

Editing file

Objectives:

- Describe the microscopic structure of the major salivary glands in correlation with function.

Salivary Glands

Types:

A- Major Salivary Glands:

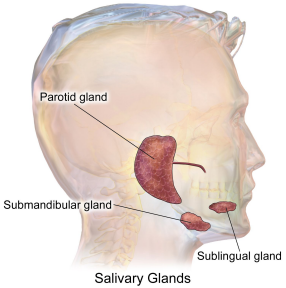
- Parotid.
- Submandibular.
- Sublingual.

B- Minor Salivary Glands:

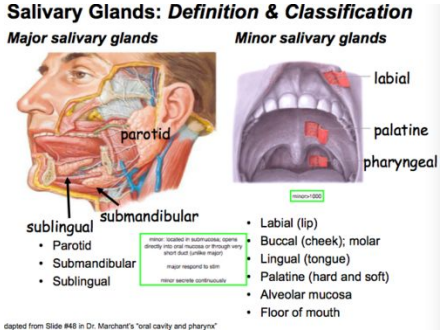
- Labial (lips)
- Lingual (tongue)
- Buccal (cheek)
- Palatine (Palate)

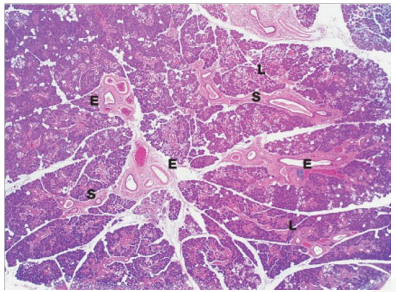
Produce 5% of salivary output. (It called salivary gland due to the production of saliva)

Most of them are pure mucous or seromucous glands.



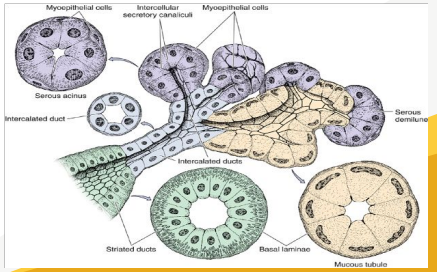
Salivary Glands

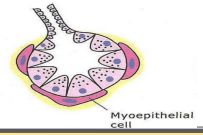
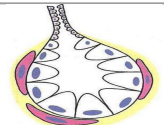
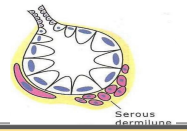


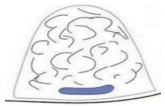


General structure of salivary glands

- **Stroma** (supporting element)
  - C.T. capsule.
  - C.T. septa dividing the glands into lobes and lobules. "Originate from C.T capsule"
  - Reticular C.T.
- **Parenchyma** (functional element)
  - Acini. "secretory unite"
  - Duct system (it called exocrine glands because it has its own duct system)



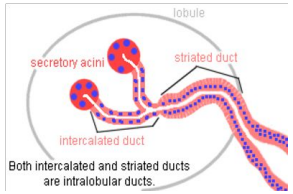
Types of Salivary Acini	Serous Acini	Mucous Acini	Mucoserous (Mixed) Acini
Description	• Contain only **serous cells.** • Small, spherical, and with a narrow lumen. • Secrete serous secretion(what're like but not watery secretion due to the presence of enzymes) thin fluid rich in enzymes, such as amylase and lysozyme (antibodies to pathogens).	• Contain only **mucous cells.** • Larger, more tubular, and with a wider lumen. • Secrete mucous secretion. Thick viscid secretion and rich in mucin (The parts that contain mucous acini needs to be wet to avoid getting injured	• Mucous acini with a cap of serous cells (serous demilunes). Half moon shape
Picture			

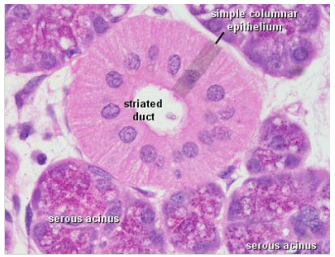
Cells of Salivary Acini	Serous cells	Mucous cells	Myoepithelial cells
Description	• Pyramidal in shape. • Nuclei are **round** and basal. • Cytoplasm: Deeply basophilic (due to numerous RER 'RER for proteins that is needed for the enzymes k), with apical acidophilic secretory granules (rich in salivary amylase).	• Pyramidal or cuboidal. • Nuclei are **flattened** "due to the compression by the mucus" and basal "peripherally" • Cytoplasm: Pale basophilic and vacuolated (foamy) (فراغ) (due to dissolved mucinogen secretory granules).	• Contractile cells that embrace the basal aspect of the acini. • Their contraction releases the secretion into the duct system. "Contract to squeeze the secretion out of acini" (زي عصارة الليمون)
Picture			

Duct system of Salivary Glands

Intralobular ducts (Prominent)

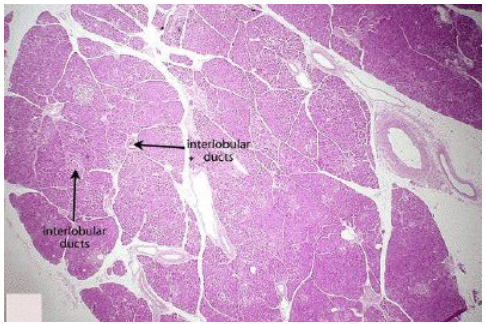
- intercalated ducts : lined by **small cuboidal cells.**
- Striated formed by union of 2 intercalated ducts (striated due to the mitochondria) ducts: lined by **low columnar cells.** also called secretory duct because it can change the ion conc. of saliva due to presence of ion transporters





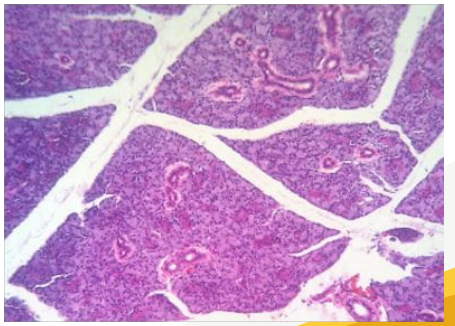
Interlobular ducts

- lined by **simple columnar epithelium.**



Main duct

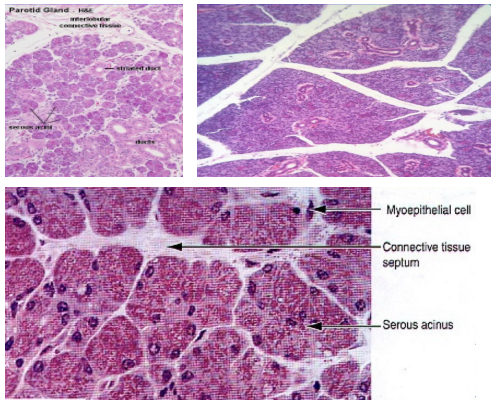
- lined by **stratified columnar epithelium** which becomes **stratified squamous (nonkeratinized)** in the distal end.



Major Salivary Glands

Parotid Gland

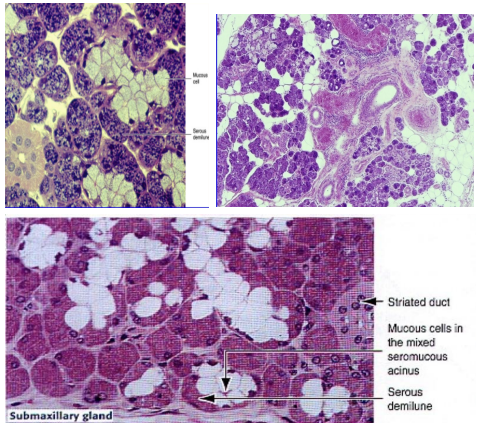
- The **largest** salivary gland .
- Produces **30%** of salivary output.
- **Purely serous .**
- Prominent intralobular ducts.
- Secretion rich in : Amylase, Lactoferrin, Lysozyme, secretory IgA.



Submandibular Gland

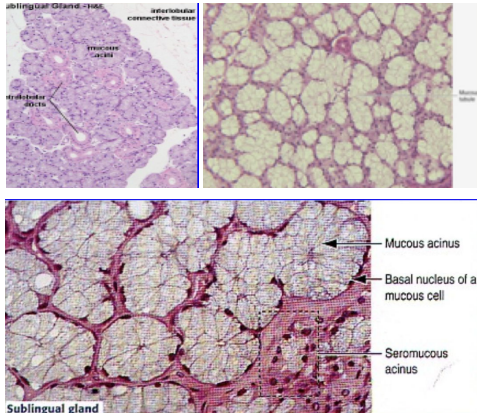
- Produces **60%** of salivary output.
- Mixed but **mostly serous** (90%).
- Mucous acini are capped by serous demilunes.

In the microscope (the the white it's not fat but it's mucus acini capped with serous acini)



Sublingual Gland

- The **smallest** salivary gland.
- Produces **5%** of salivary output.
- Mixed but **mostly mucous**.
- Mucous acini are capped by serous demilunes.



MCQs

Q1) Which of the following is a major salivary gland?
A- Lingual
B- Parotid
C- Palatine
D- Buccal

Q2) Which of the following secretion is rich in enzymes?
A- Mucous secretion
B- Serous secretion
C- Both
D- None of above

Q3) Which of the following Cell has flatten nucleus?
A- Mucous cell
B- Serous cell
C- Both
D- None of above

Q4) Which of the following ducts lined by simple columnar epithelium?
A- Intralobular duct
B- Interlobular duct
C- Main duct
D- None of above

Q5) Which of the following is MOSTLY serous?
A- Parotid gland
B- Sublingual gland
C- submandibular gland
D- All of above

Q6) Which has Mucous acini are capped by serous demilunes.?
A- Parotid gland
B- Sublingual gland
C- submandibular gland
D- All of above

Q1:B
Q2:B
Q3:A
Q4:B
Q5:C
Q6:B+C

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