SALIVARY GLANDS

OBJECTIVES:

Describe the microscopic structure of the major salivary glands in correlation with funct

Please be sure to check **Histology Edits** before you start, to know about any additions/changes.

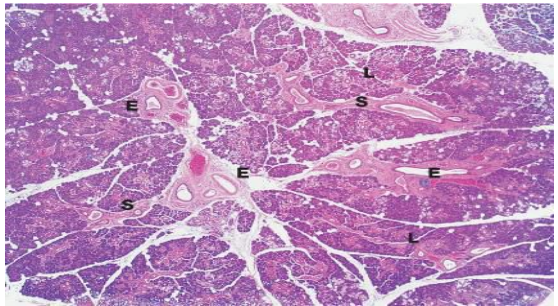
SALIVARY GLANDS

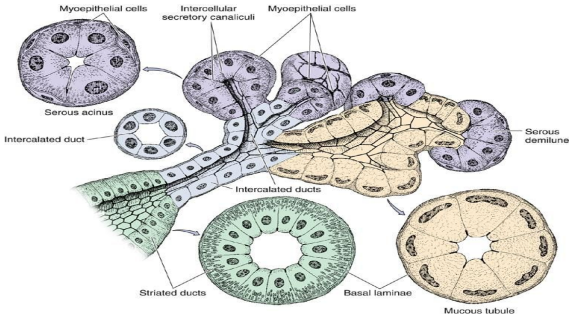
(A) Major Salivary Glands:
1-Parotid.
2-Submandibular.
3-Sublingual.

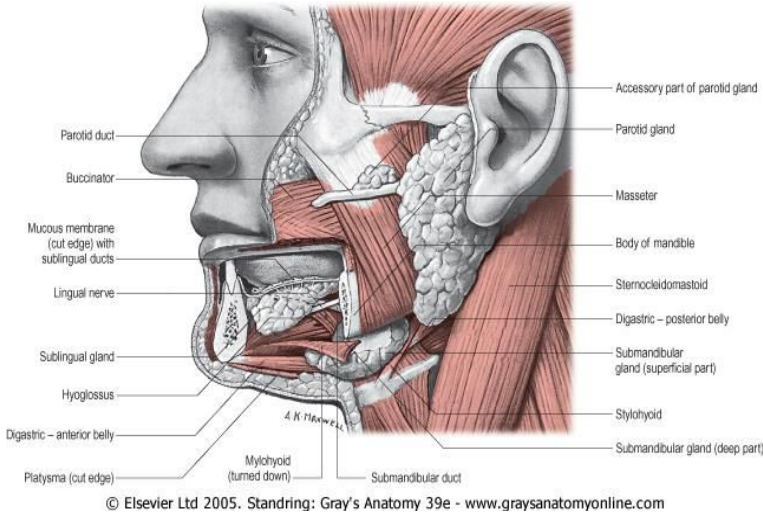
(B) Minor Salivary Glands:
– Labial, Lingual, Buccal, Palatine.
–Produce 5% of salivary output

Stroma:
–C.T. capsule.
–C.T. septa dividing the glands into lobes and lobules.

Parenchyma:
–Acini.
–Duct system.







Types of Salivary Acini

1.**Serous Acini**:

–Contain only serous cells.

–Small, spherical, and with a narrow lumen.

Secrete serous secretion rich in enzymes, such as amylase and lysozyme.

2.**Mucous Acini**:

–Contain only mucous cells.

–Larger, more tubular, and with a wider lumen.

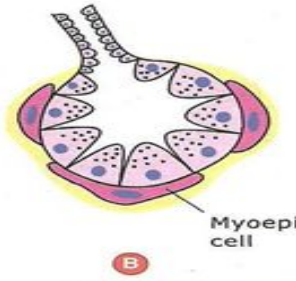
–Secrete mucous secretion.

3.**Mucoserous (Mixed) Acini**:

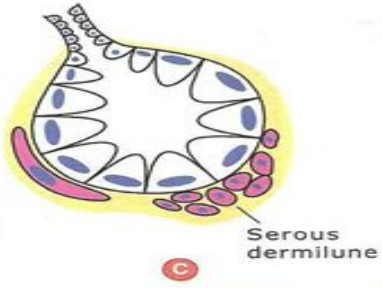
–Mucous acini with a cap of serous cells (serous demilunes).

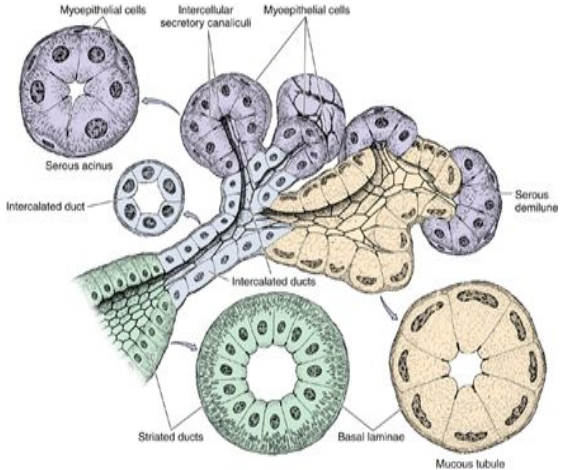
Mucous

Serous



Mixed





Cells of Salivary Acini

1. Serous cells

- Pyramidal in shape.
- Nuclei are round and basal.
- Cytoplasm:

Deeply basophilic (due to numerous RER), with apical acidophilic secretory granules (rich in salivary amylase).

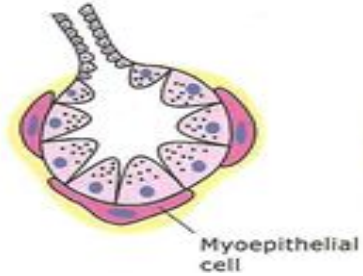
2. Mucous cells

- Pyramidal or cuboidal.
- Nuclei are flattened and basal.
- Cytoplasm:

Pale basophilic and vacuolated (foamy) (due to dissolved mucinogen secretory granules).

3. Myoepithelial cells (basket cells):

- Contractile cells that embrace the basal aspect of the acini.
- Their contraction releases the secretion into the duct system.



Duct System of Salivary Glands

Intralobular Ducts

1) Interclated Ducts

lined by small Cuboidal cells

2) Striated Ducts

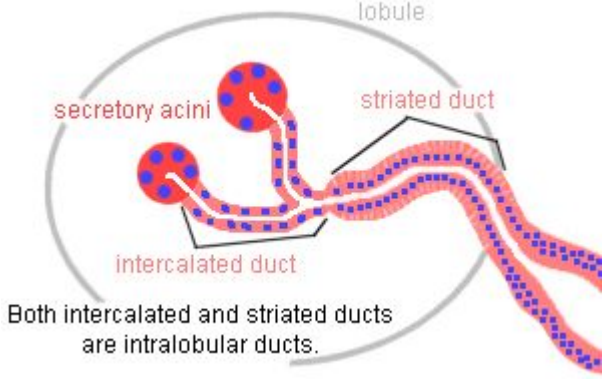
lined by low Columnar cells

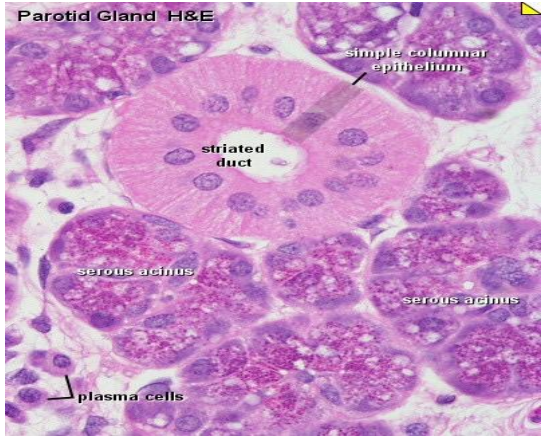
Interlobular Ducts

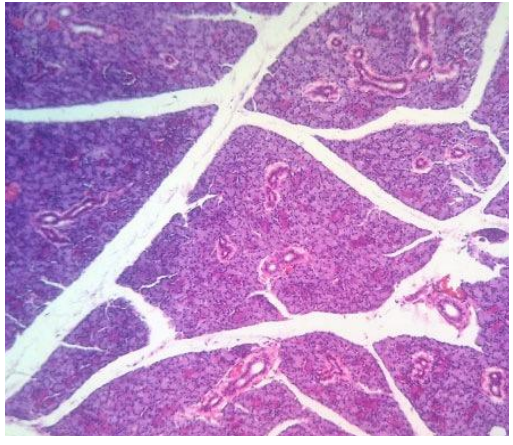
lined by Simple Columnar epithelium

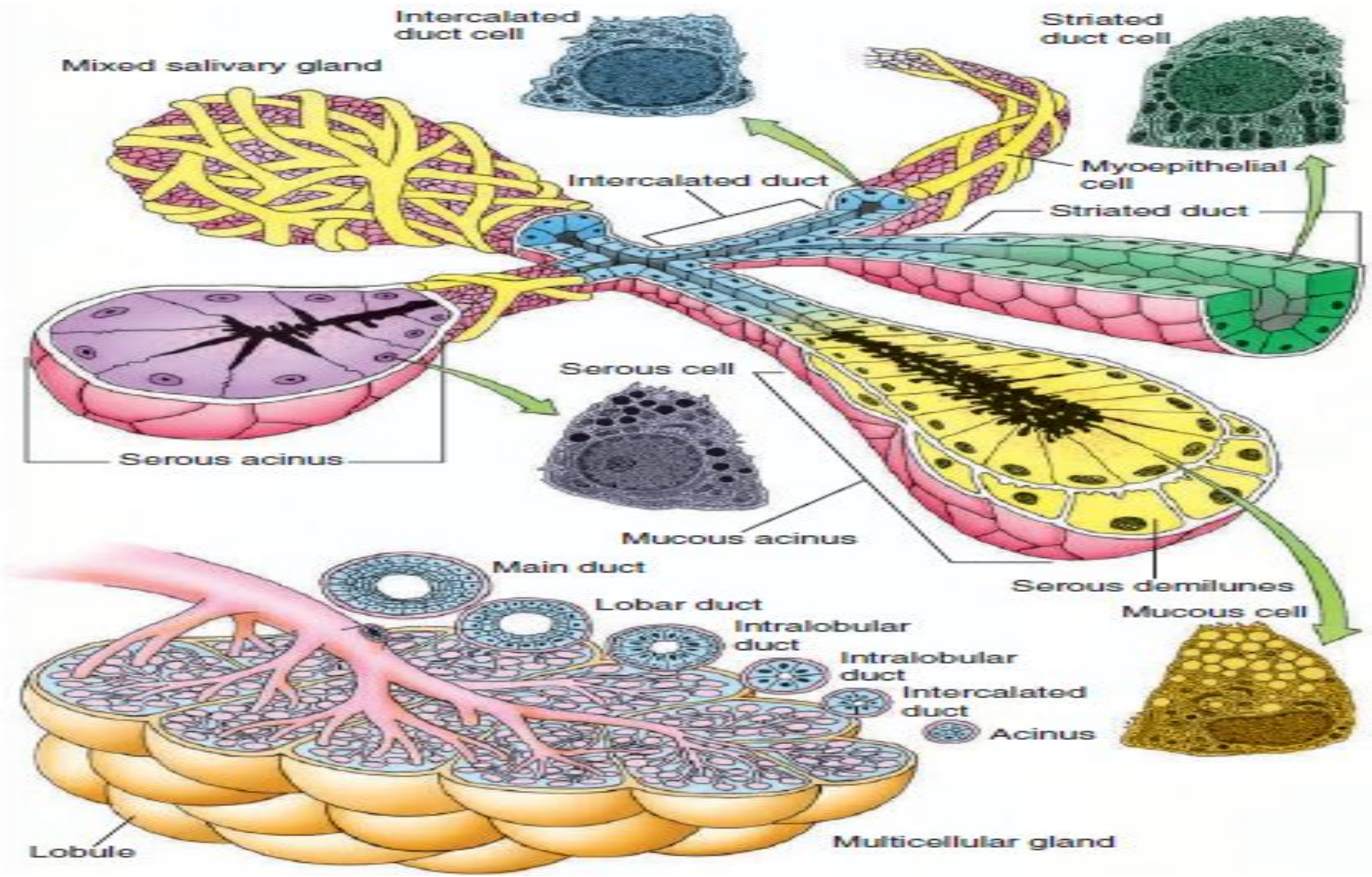
Main Duct

lined by Stratified Columnar epithelium which becomes stratified squamous (nonkeratinized) in the distal end.

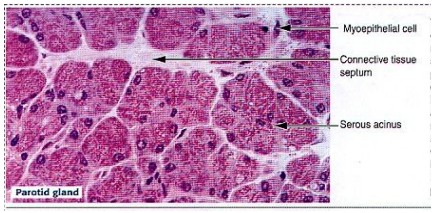
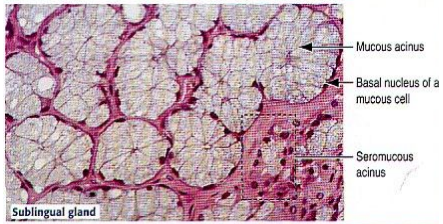
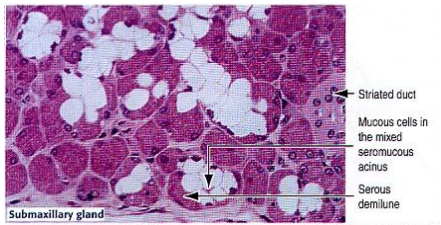







Intercalated duct cell
Striated duct cell
Mixed salivary gland
Myoepithelial cell
Intercalated duct
Striated duct
Serous cell
Serous acinus
Mucous acinus
Serous demilunes
Mucous cell
Main duct
Lobar duct
Intralobular duct
Intralobular duct
Intercalated duct
Acinus
Lobule
Multicellular gland

Types of Salivary Glands

Parotid Gland	Submandibular Gland	Sublignal Gland
Produces **30%** of salivary output.	Produce **60%** of salivary output	Produce **5%** of salivary output
Largest salivary gland.	Intermediate salivary gland	Smallest salivary gland
Purely **Serous**	Mixed but mostly **Serous**	Mixed but mostly **Mucous**
Prominent interlobular ducts **Secretions rich in:** ➔ Amylase. ➔ Lactoferrin. ➔ Lysozyme. ➔ Secretory IgA	Mucous acini are capped by **Serous Demilunes** ” a cap in the shape of a half-moon”	
		

Summary

Salivary gland:	Major:			Minor:
	Parotid:	**Submandibular:**	**Sublingual:**	**Labial, Lingual, Buccal, Palatine**
Size:	Largest	----	Smallest	----
produce of salivary output:	30%	60%	5%	5%
Type:	purely serous -Amylase. –Lactoferrin. –Lysozyme. –Secretory IgA.	Mixed “but mostly serous 90%”	Mixed “but mostly Mucous”	----
Mucous acini are capped by :		Serous demilunes.		

Summary

<table>
<tr><th colspan="8">Structure Major Salivary Glands</th></tr>
<tr><td><u>Stroma</u>:</td><td colspan="7"><u>Parenchyma</u>:</td></tr>
<tr><td rowspan="3">_C.T. capsule.
–C.T. septa</td><td colspan="4">Salivary Acini.</td><td colspan="3">Duct system.</td></tr>
<tr><td>Type:</td><td>1.<u>Serous Acini</u>:</td><td>2-<u>Mucous Acini</u>:</td><td>3.<u>Mucoserous (Mixed) Acini</u>:</td><td colspan="2">1.Intralobular ducts (prominent):</td><td>2.Interlobular ducts:</td><td>3.Main duct:</td></tr>
<tr><td>Cells:</td><td>1-Serous cells:
Deeply basophilic with apical acidophilic</td><td>2. Mucous cells
Pale basophilic and vacuolated</td><td>3. Myoepithelial cells (basket cells): Contractile cells</td><td>a.Intercalated ducts:</td><td>b.Striated ducts:</td><td colspan="2"></td></tr>
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MCQs

Q1: which of the following is minor salivary gland:

A. Parotid.
B. Submandibular.
C. Lingual
D. Sublingual.

Q2: which one of the following Pale basophilic and vacuolated:

A. basket cells
B. Mucous cells
C. Serous cells

Q3: Which one of the following lined by small Cuboidal cells :

A. Striated Ducts
B. Interlobular Ducts
C. Main Duct
D. Interclated Ducts

Q4: Submandibular Gland produces about …….of salivary output.

A. 60%
B. 5%
C. 30%
D. 90%

Ans: 1) C 2) B 3) D 4) A

SAQs

Q1: What are the types of salivary Acini?

1.Serous Acini

2. Mucous cells

3.Mucoserous (Mixed) Acini

Q2: Name the three Ducts of the Salivary Glands.

1. Intralobular Ducts: a.Intercalated ducts. b.Striated ducts.
2. Interlobular ducts.
3. Main duct.

Q3: Describe the Histology of the serous cells ..

_ Pyramidal in shape.

_ Nuclei are round and basal.

_ Cytoplasm:

Deeply basophilic (due to numerous RER), with apical acidophilic secretory granules (rich in salivary amylase).

Motivation Corner

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Thank you for checking our work

For any correction, suggestion or any useful information do not hesitate to contact us: **Histology434@gmail.com**