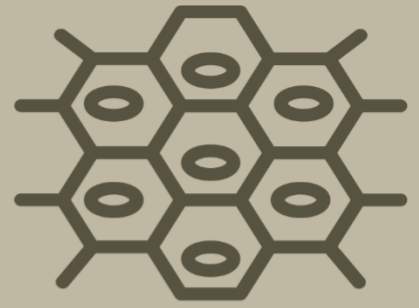
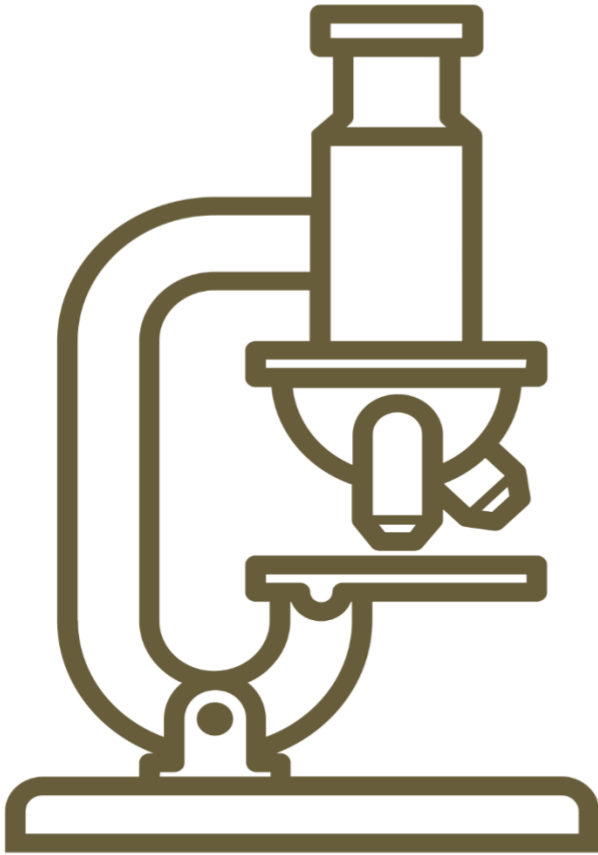




HISTOLOGY



SHEET NO.

WRITTEN BY: Asma'a Abu-Qtaish

EDITED BY: Malak Salameh

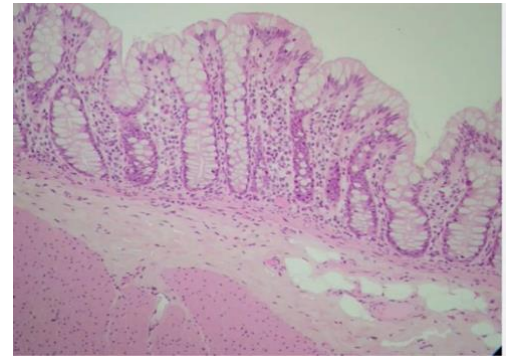
DOCTOR: Dr. Ghada Abu EL Ghanam



Glands Lab

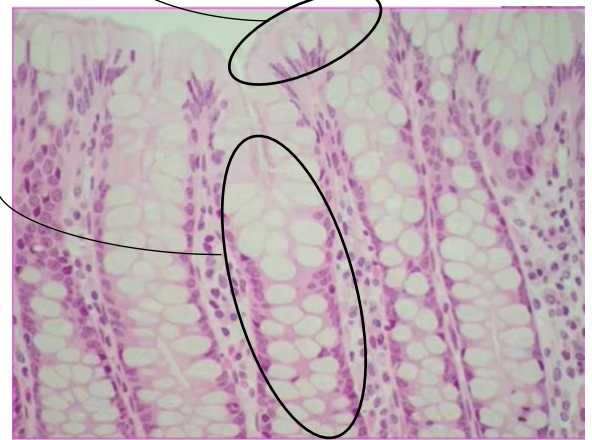
- **Simple tubular gland:**

We are looking at the GI tract and we are seeing the first example which is the simple tubular gland.



The epithelium surface decided to invaginate in the lamina propria and formed these glands which is the simple tubular cells.

Look at the cells they tend to stain less likely and usually filled with mucous, so these are mucous producing cells.



As you can see, they have one duct, that's why we call them "**Simple tubular gland**".

Simple → One duct.

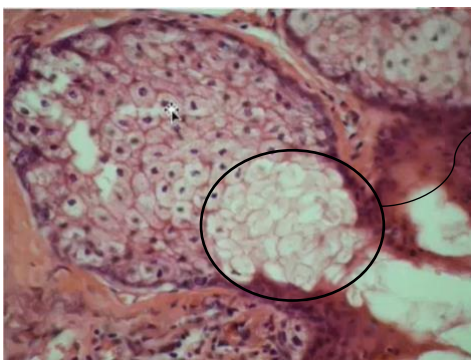
Tubular → Due to the nature of the cells that form the gland.

- **Sebaceous gland:**

The gland (**the cell which makes it**) accumulates the secretion, which is fats, then there will be an expelling of the mature fat that filled the cells to the outside.



It's usually open at the shaft of the hair and then it will be delivered via that mode.



Expelling for the mature fat filled cells.

● Parotid gland:

We have two types of salivary glands:

1. Major → big organized glands, the parotid glands is a member of it.
2. Minor → tiny embedded under the oral mucous inside the oral cavity.

We shall differentiate two regions:

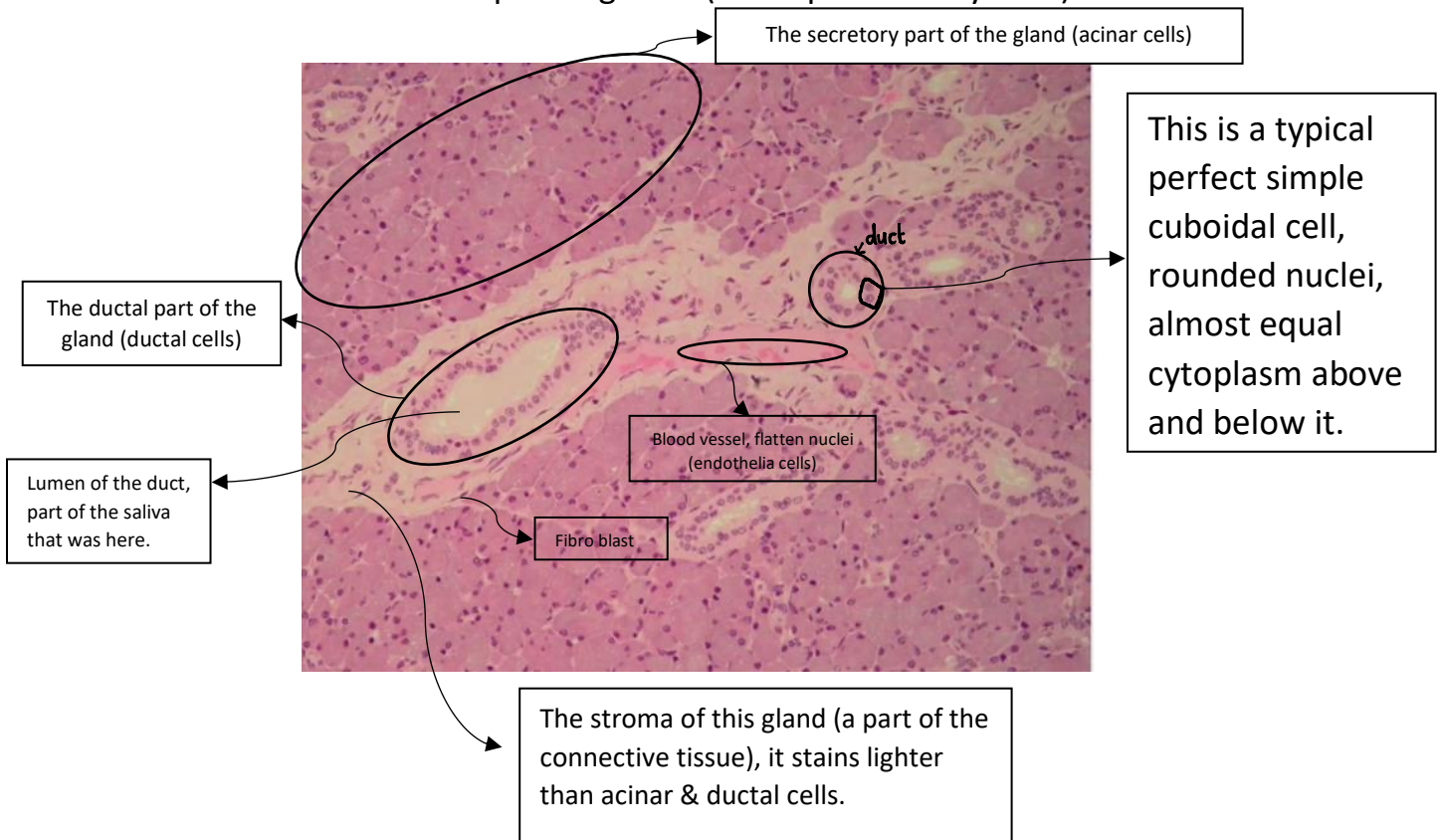
1. The secretory part: the region is occupied by secretory cells, these are the cells which make saliva in the parotid glands, we call them acinar cells.

The acinar cells: stained more eosinophilic.

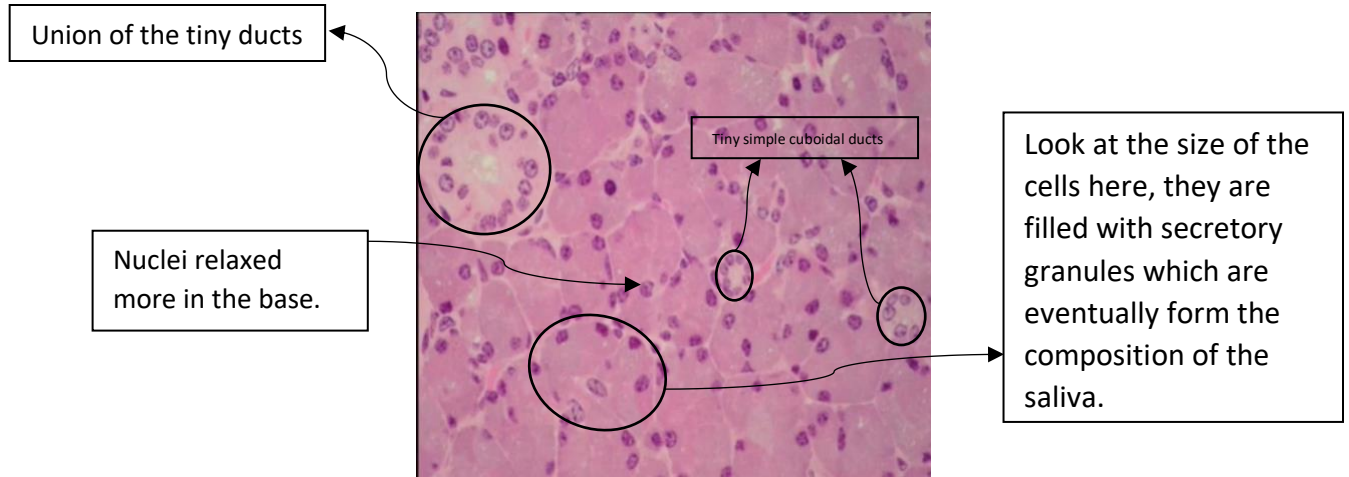
The ductal cells: lightly stained.

2. The ductal part: ductal cells lining the inside of the duct and epithelial cells lining the outside of it.

This is a section from compound glands (a complex duct system):



The final excretory duct represents the union of many smaller ones, so tiny ones will form bigger and much bigger ones until we reach the excretory form.

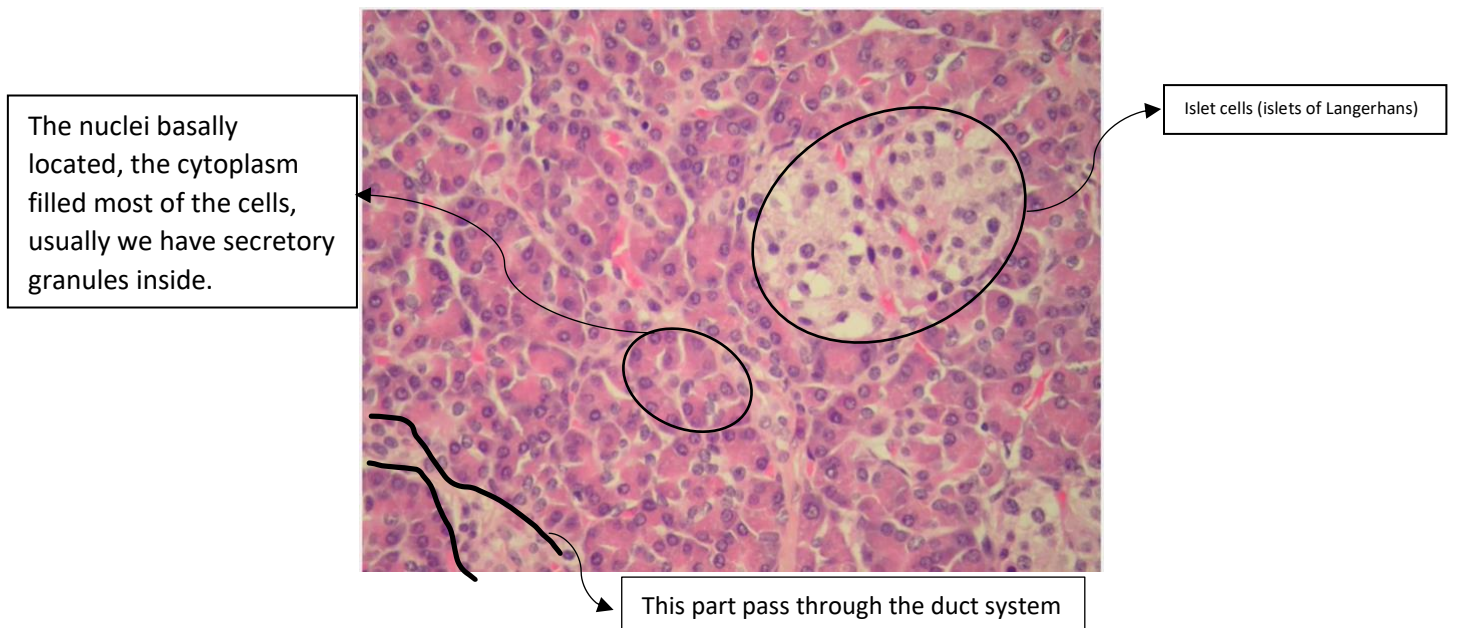


● Pancreas:

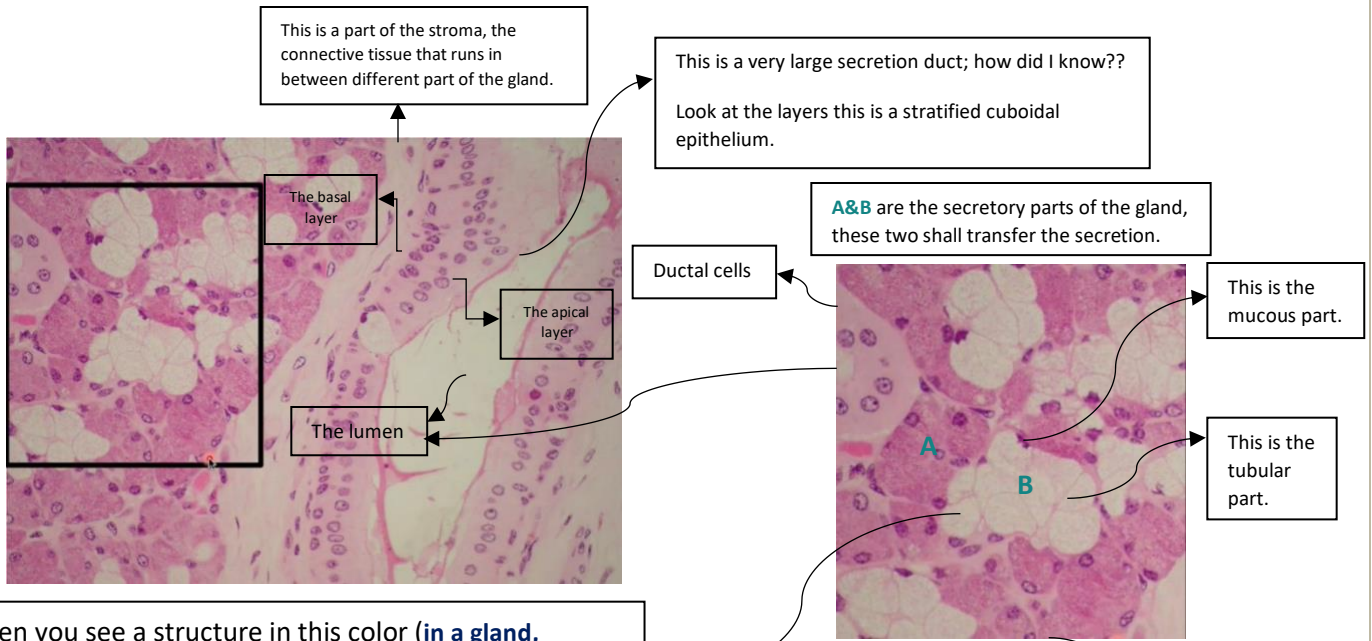
Pancreas is one of the unique glands inside our body, because it has both endocrine and exocrine portion.

The dark stain → the exocrine acinar cells.

The light stain → the endocrine acinar cells.

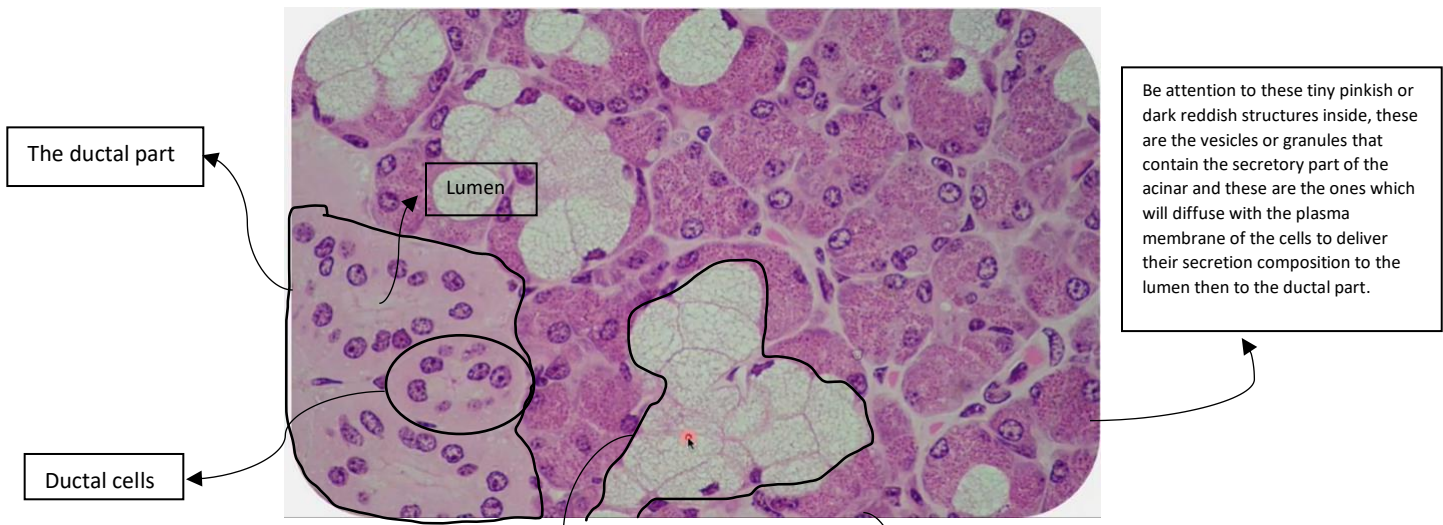


● **Compound tubuloalveolar:**



When you see a structure in this color (**in a gland, particularly salivary gland**) that's mean you are looking at tubular cells, usually these tubular cells tend to have more mucous nature or mucous type secretin.

The one in the around, which is more eosinophilic, is acinar or alveolar cells.



These are the tubular cells, which secrete something that more viscus (mucous).
The nuclei of the tubular cells tend to be smaller and more shrunken.

These are the alveolar part, produces more fluidity secretion.
Notice the location of the acinar nuclei, they are quite bigger than the nuclei of the tubular and they tend to be more rounded.

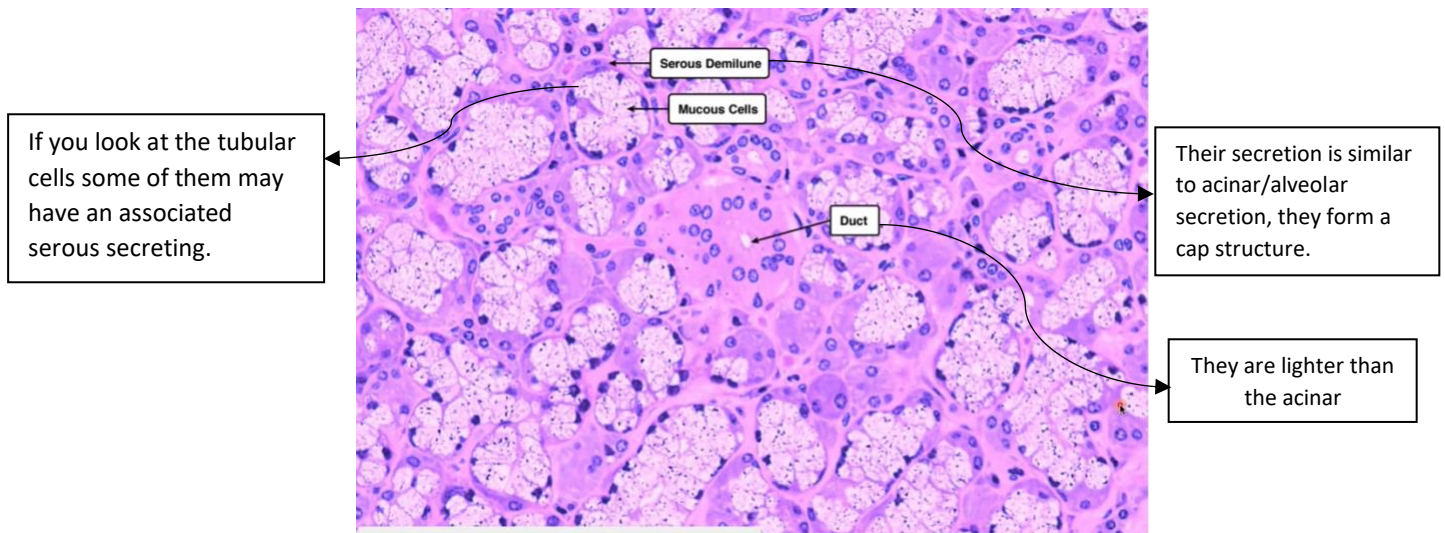
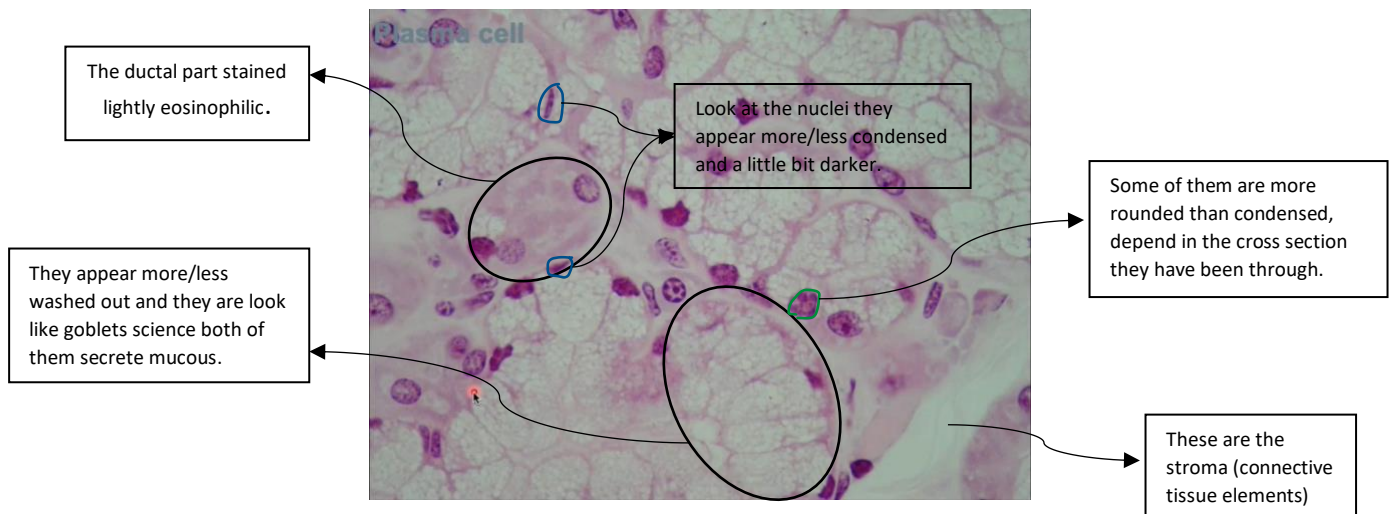
- **Compound tubular:**

- Why do we decide that this is a compound structure?

Because when you see many secretory elements, you are definitely looking at a major gland, something with a complex duct system.

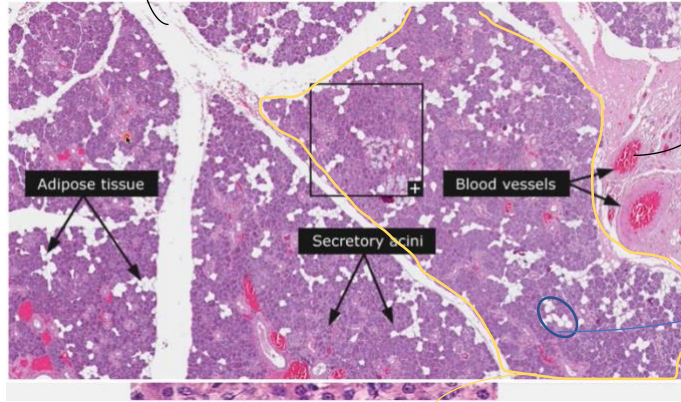
- Why tubular?

As you see, these are typical tubular mucous secretory cells, with their vacuoles that are filled with mucous type of secretion.



Tubular cells → lightly stained.
 Acinar cells → darkly stained.

● **Submandibular gland:**



The element of the stroma (the connective tissue surrounds the glands and separate them from the inside).

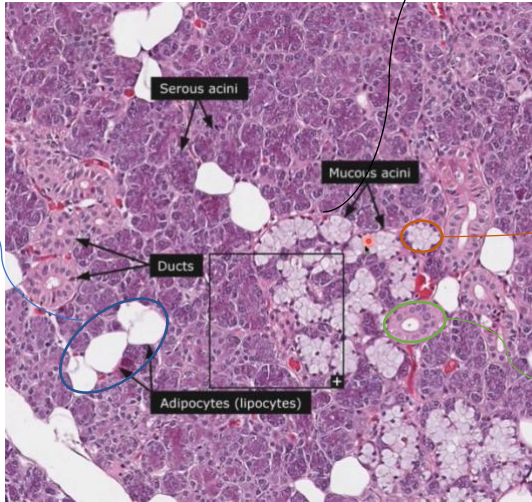
They usually come with the stroma and connective tissue, they break down into smaller ones.

These are fat cells.

This is parenchyma which is the secretory with duct part.

This is the secretory part

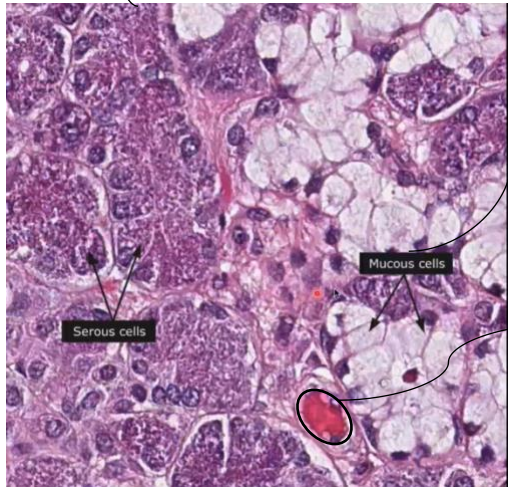
These are fats or adipocytes or lipocytes cells.



Tubular cells

Ductal part

This is the secretory part



They look washed out

This is a blood vessel