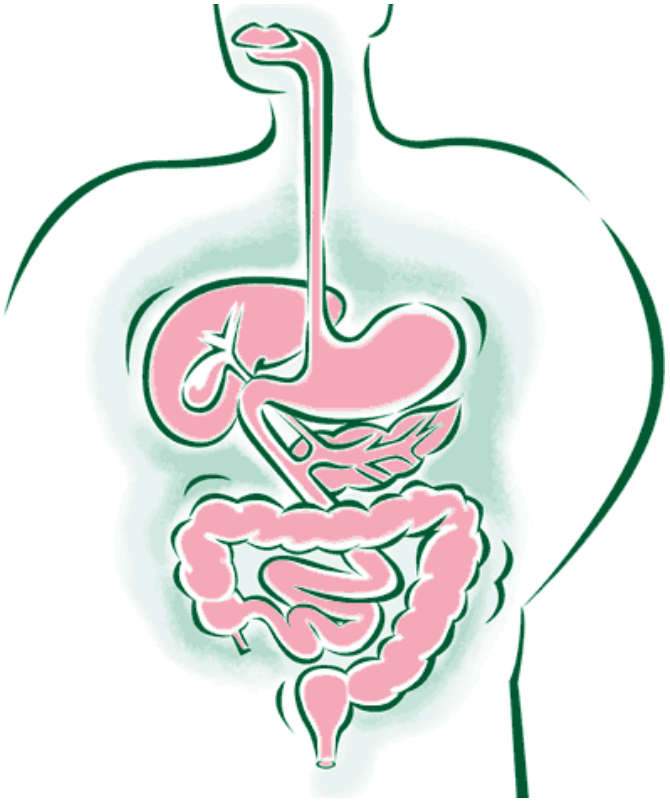
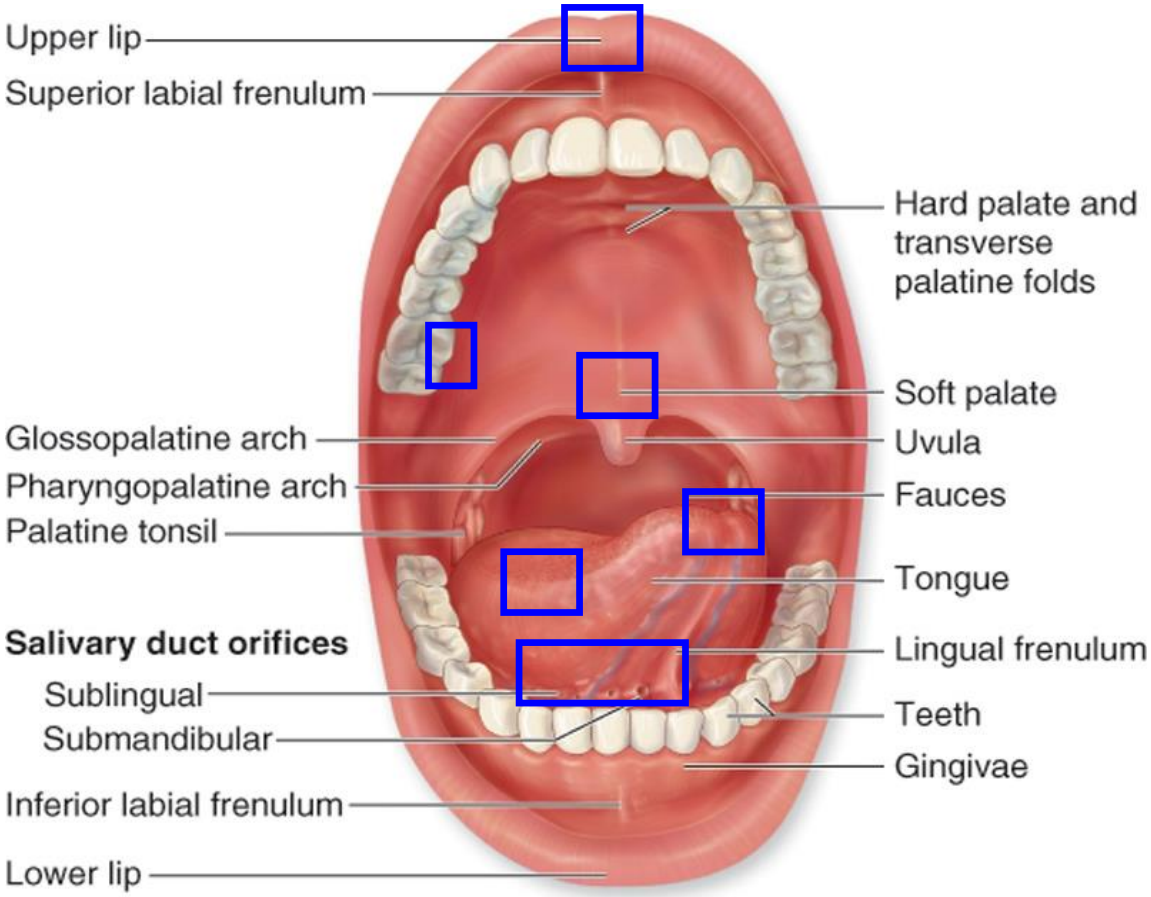
GIT I
oral cavity



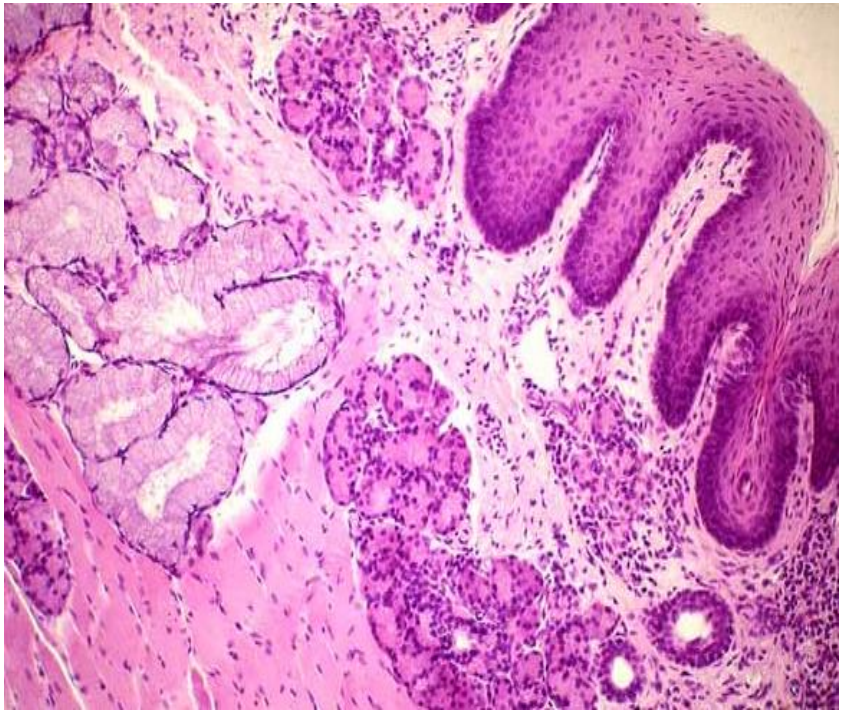
Oral cavity



Slides:

1. Labium oris
2. Apex linguae
3. Papilla circumvallata
5. Palatum molle
8. Glandula parotis
9. Glandula submandibularis
10. Glandula sublingualis

Oral mucosa



Lamina epithelialis mucosae (LAM)
stratified squamous epithelium

Lamina propria mucosae (LPM)
loose collagen connective tissue

3 functional types oforal mucosa:

- lining mucosa – submucosa, lips, oral cavity, pallatum
- masticatory – submucosa absent, mucosa directly attahed to periost, (gingiva, pallatum durum)
- specialised – papillae (dorsum linguae)

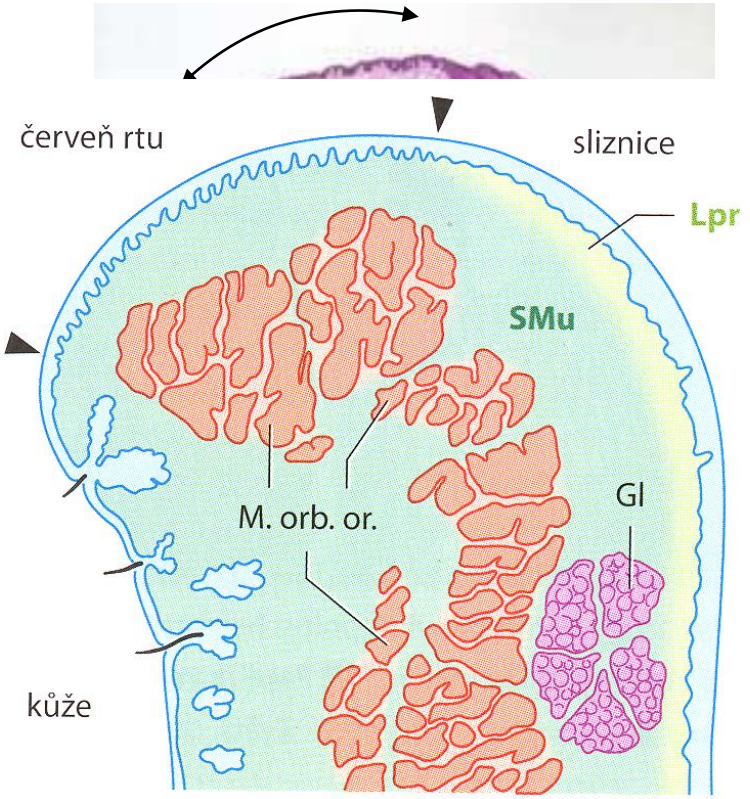
Lip - labium oris

Transition zone (vermillion border)

LEM SSE – eleidin

LPM loose c.t. - papillae

Dorsal
(ORAL, mucous)



Ventral (SKIN, external)

Thin skin

– epidermis (keratinized SSE)

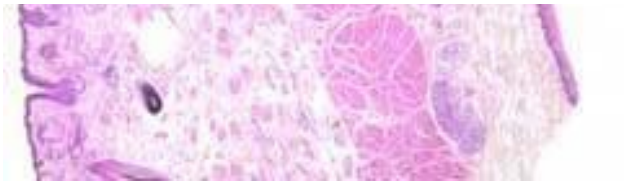
– dermis (hair follicles, sebaceous and sweat glands)

tunica mucosa

LAM – SSE

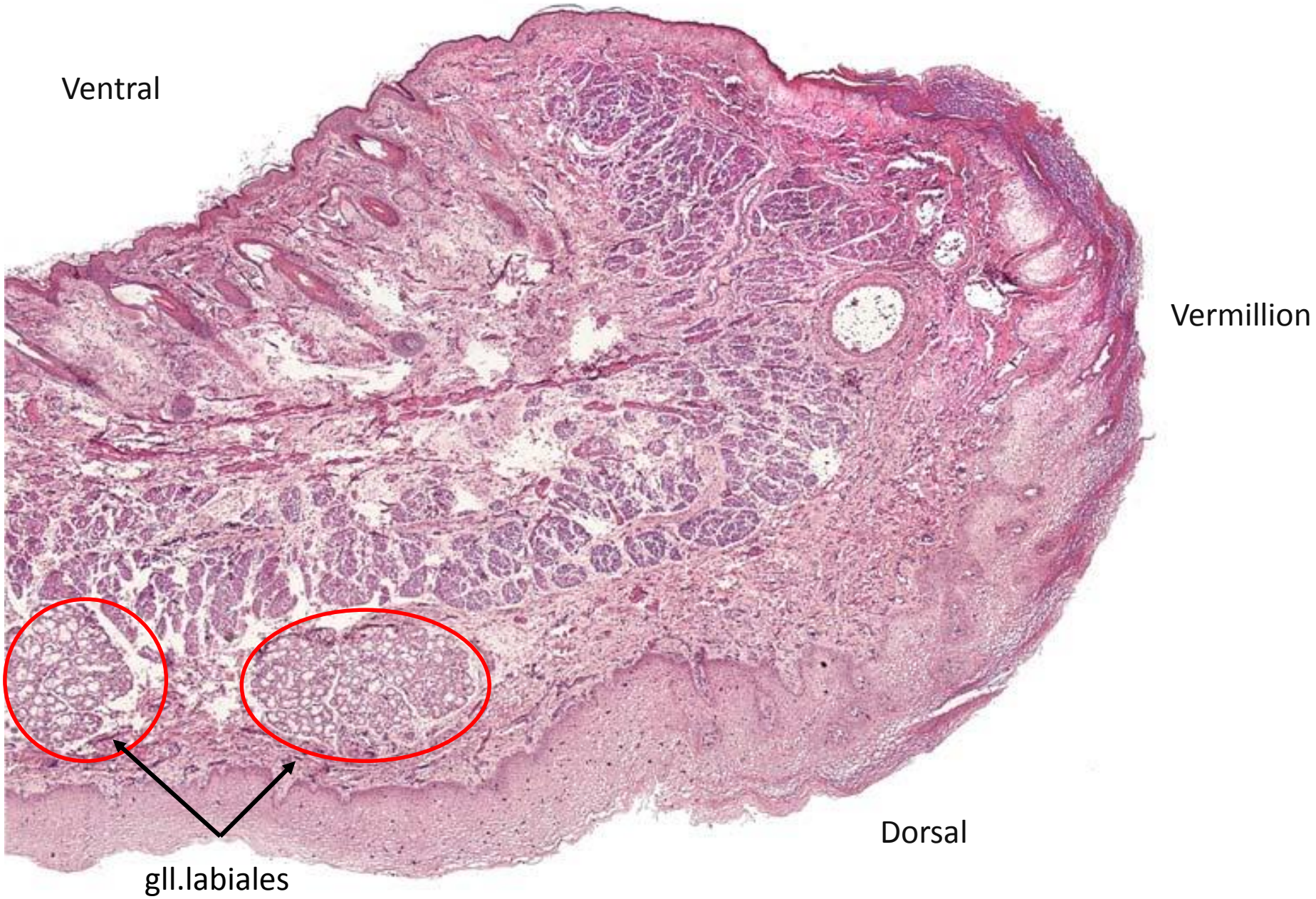
LPM – loose c.t.

tela submucosa – loose connective tissue + gll. labiales (mixed seromucinous salivary glands).

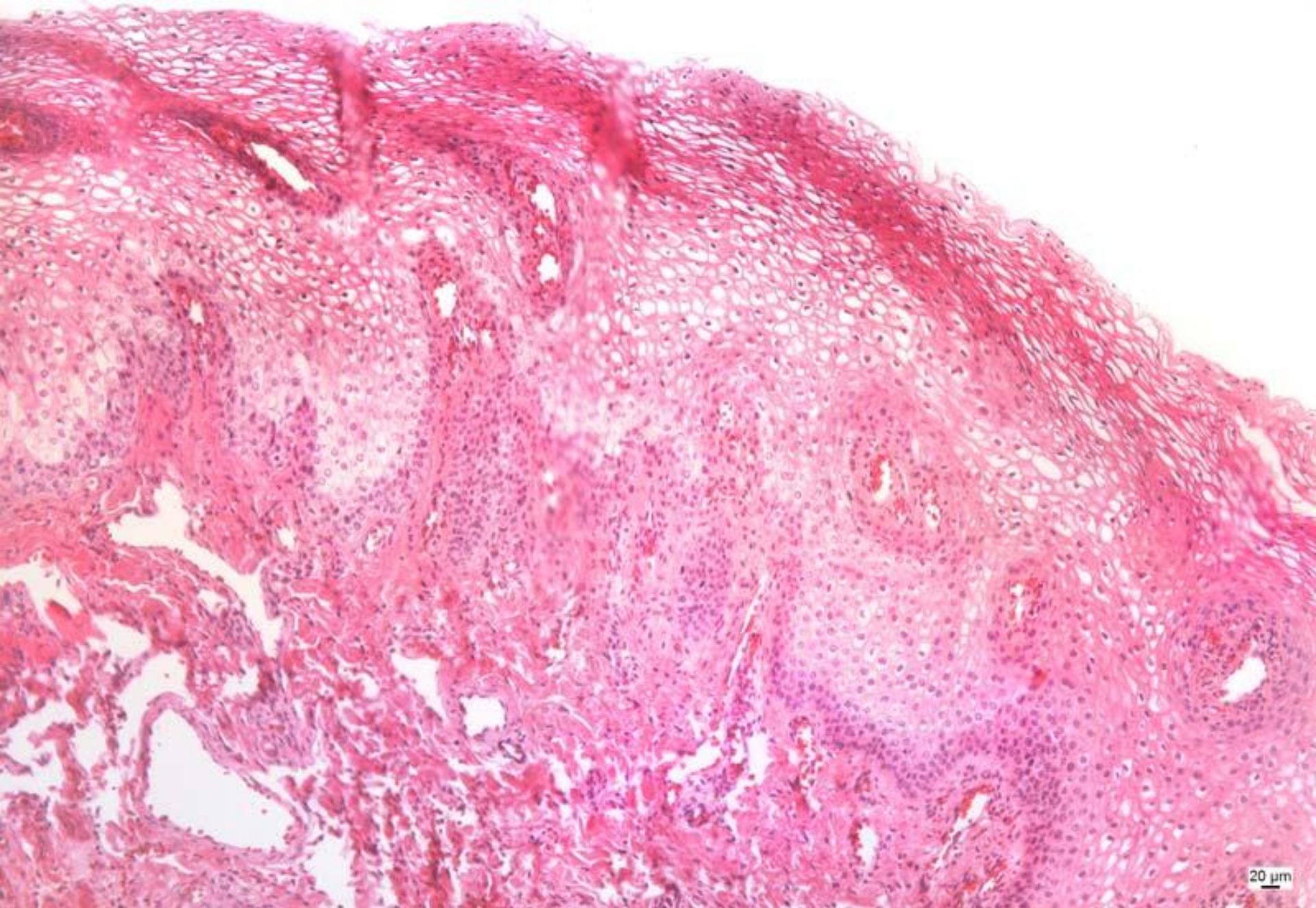


m. orbicularis oris

Labium oris

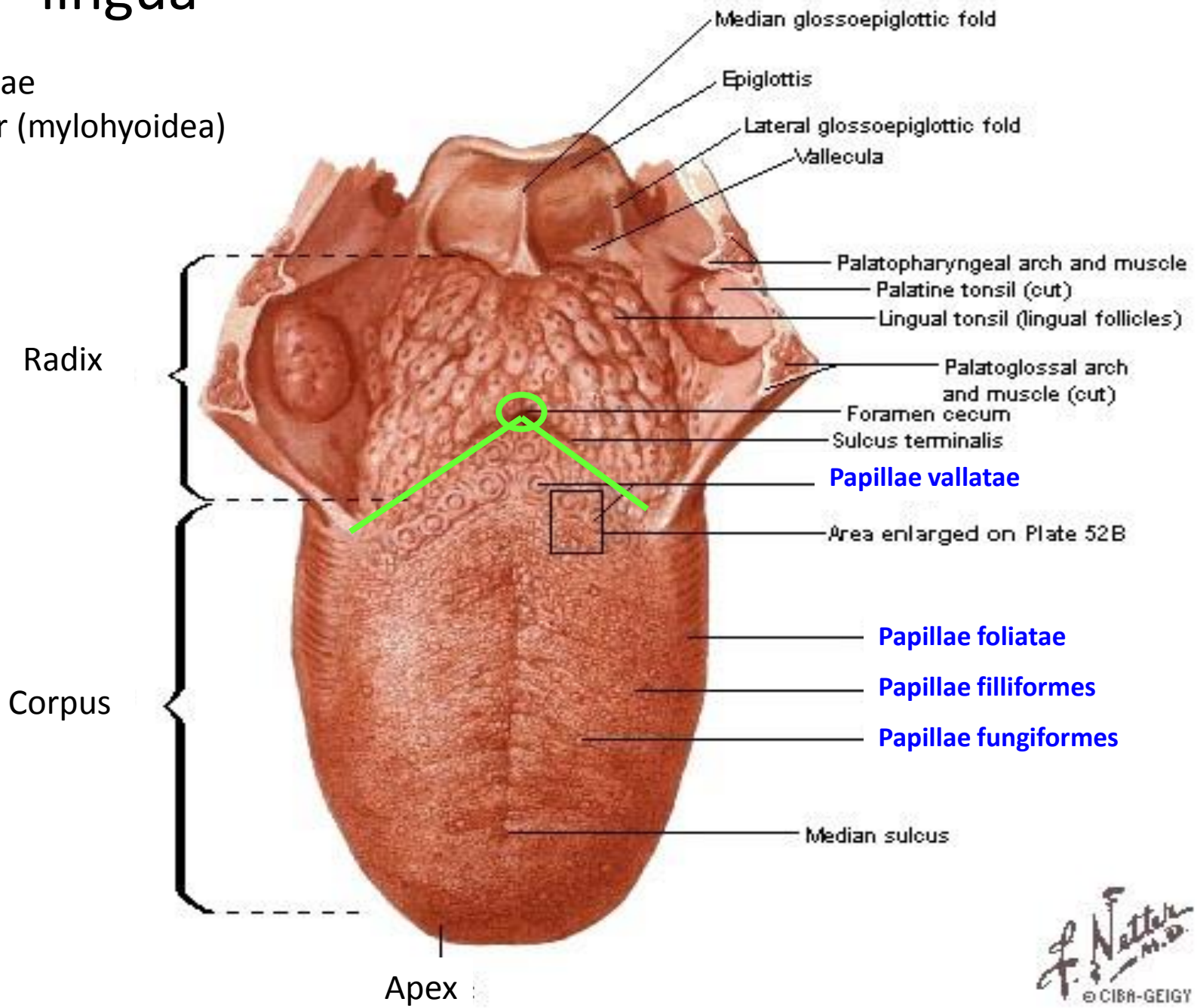


Labium oris – vermillion border



Tongue – lingua

- dorsum linguae
- facies inferior (mylohyoidea)



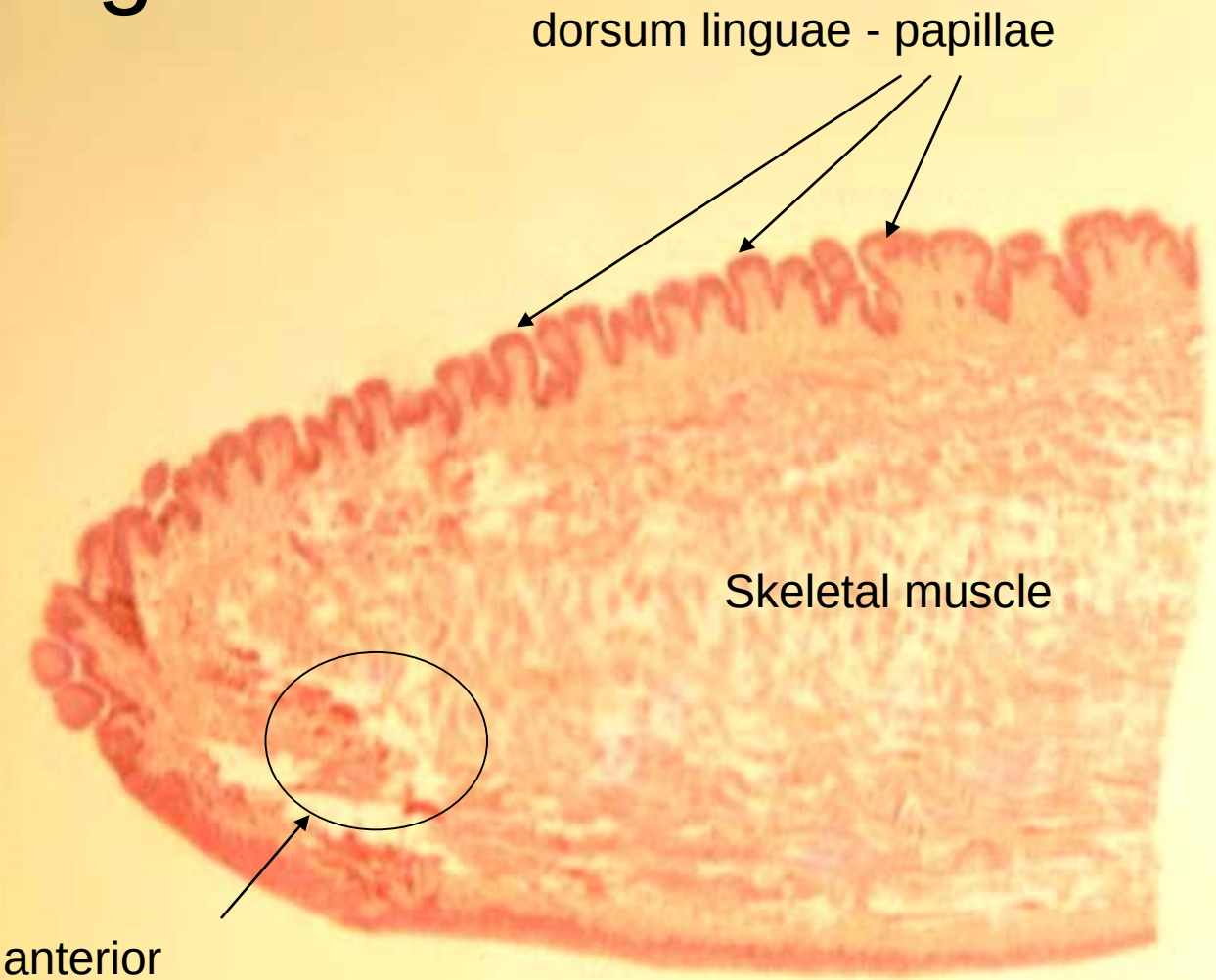
Tongue – lingua

- **Dorsum linguae**:
  - **tunica mucosa –** papillae filiformes, fungiformes, vallatae, foliatae
    - lamina epithelialis – SSE
    - lamina propria – loose connective tissue (papillae) + capilaries
  - **aponeurosis linguae;** (tela submucosa absent)

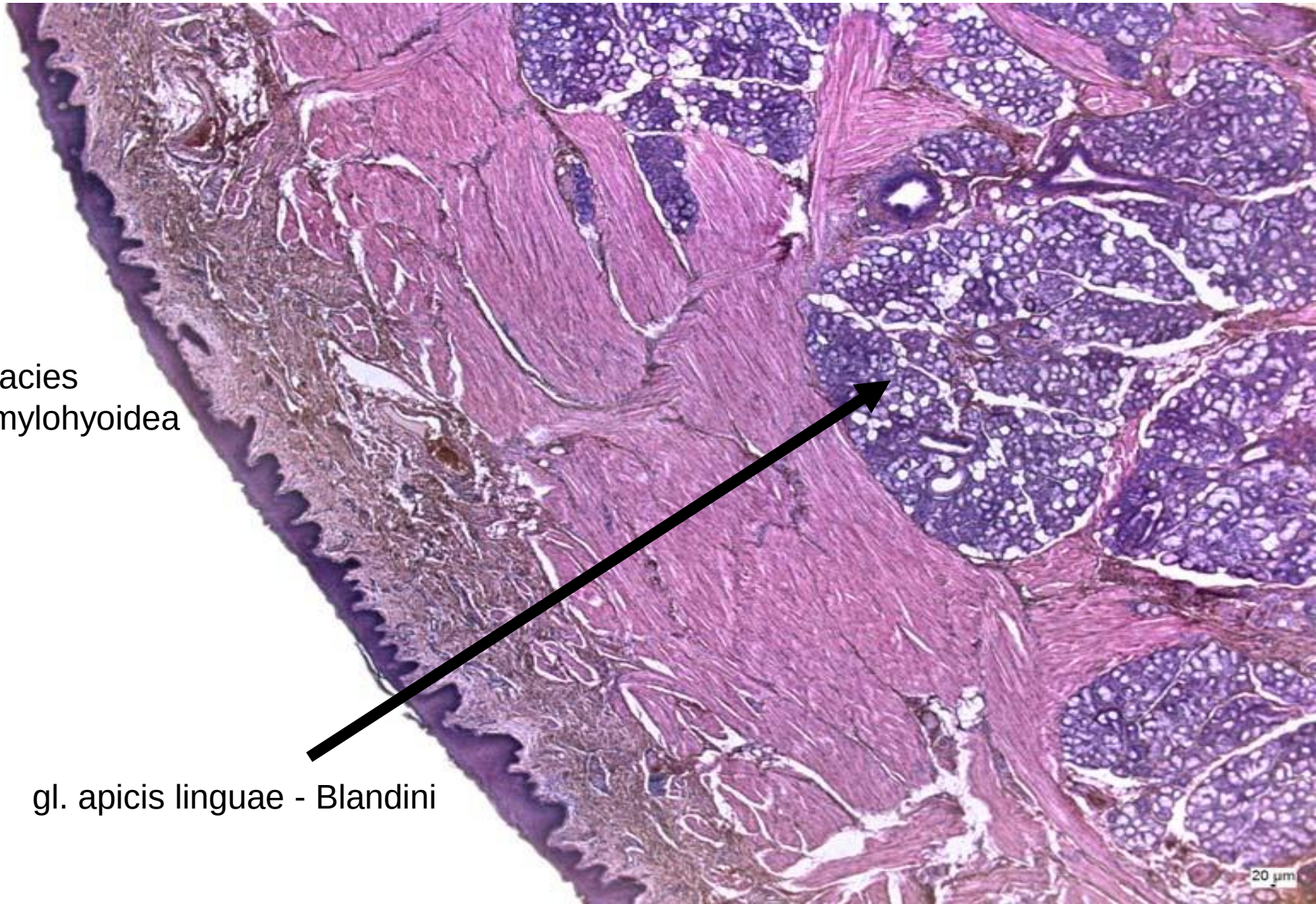
– skeletal muscle, collagen c.t., small salivary glands

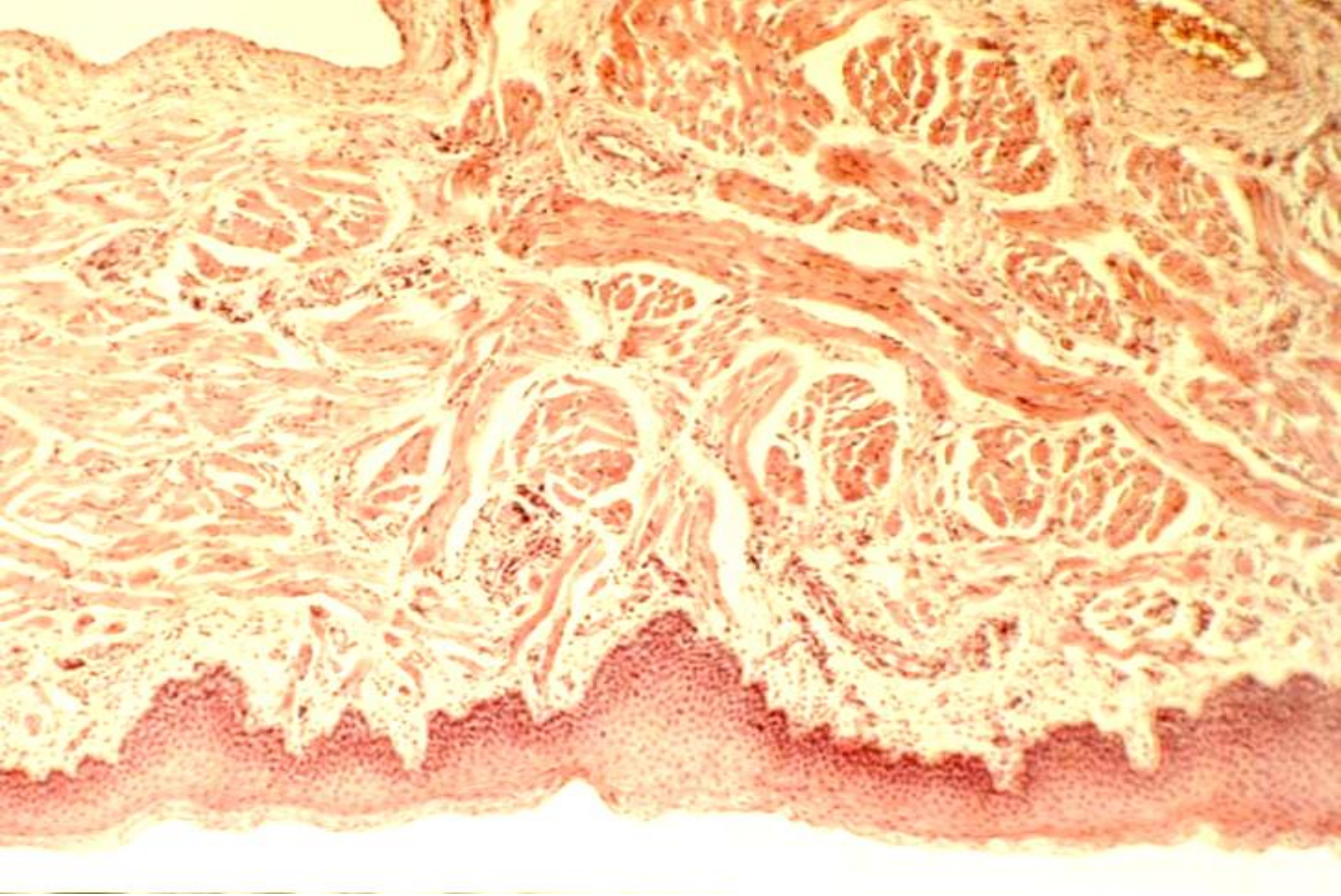
- **Facies ventralis, inferior (mylohyoidea)**:
  - **tunica mucosa –** smooth (papillae absent)
    - lamina epithelialis – SSE
    - lamina propria – loose connective tissue
  - **tela submucosa** – loose connective tissue

apex linguae



Apex linguae

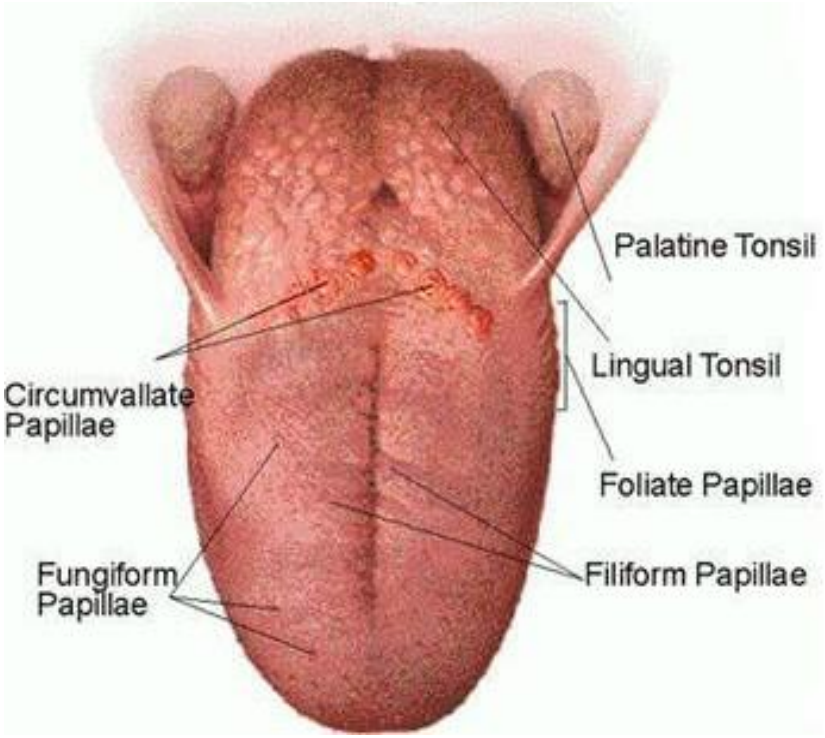




Facies mylohyoidea

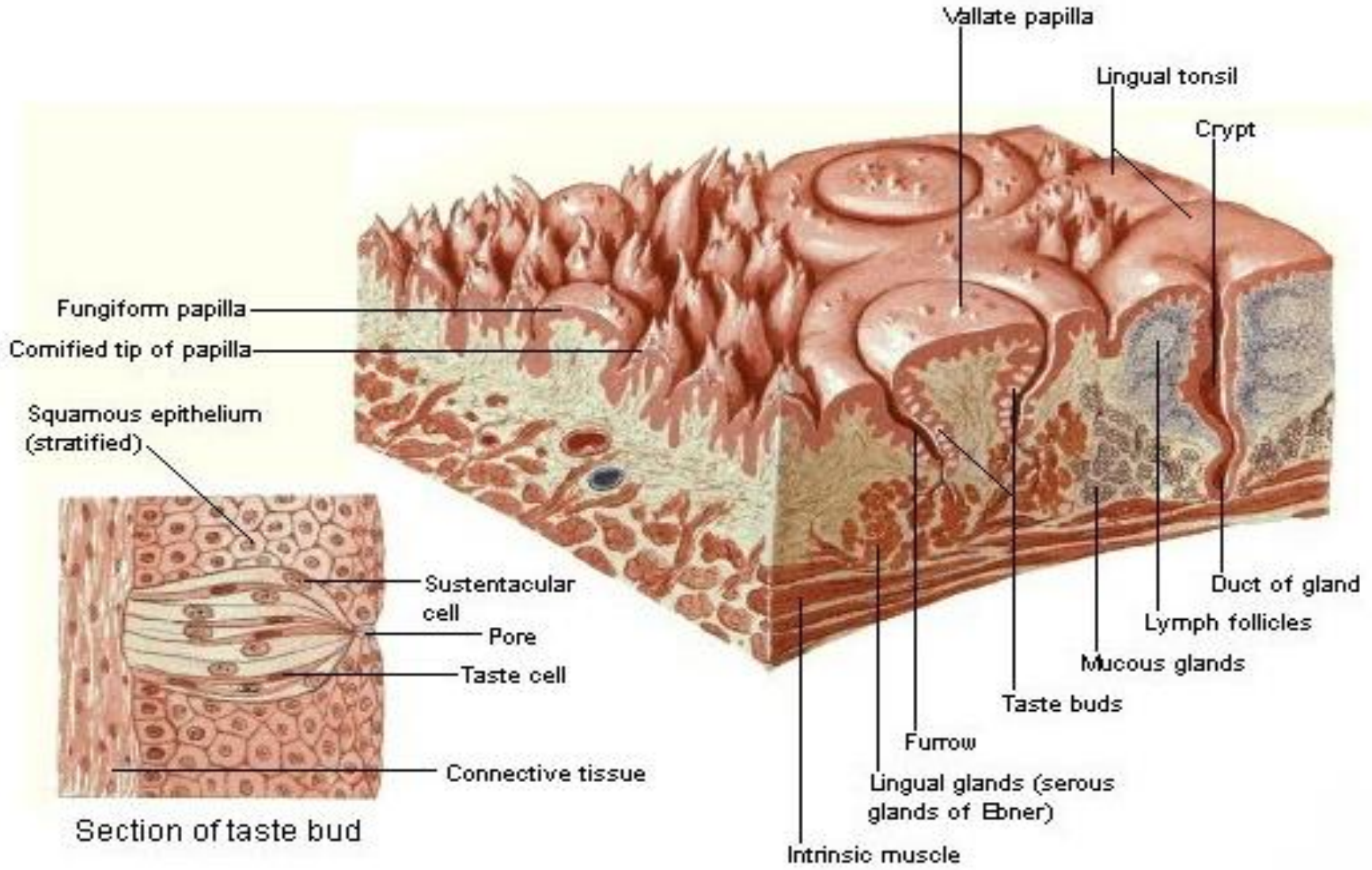
Papillae

Papillae filiformes
Papillae fungiformes
Papillae vallatae
Papillae foliatae

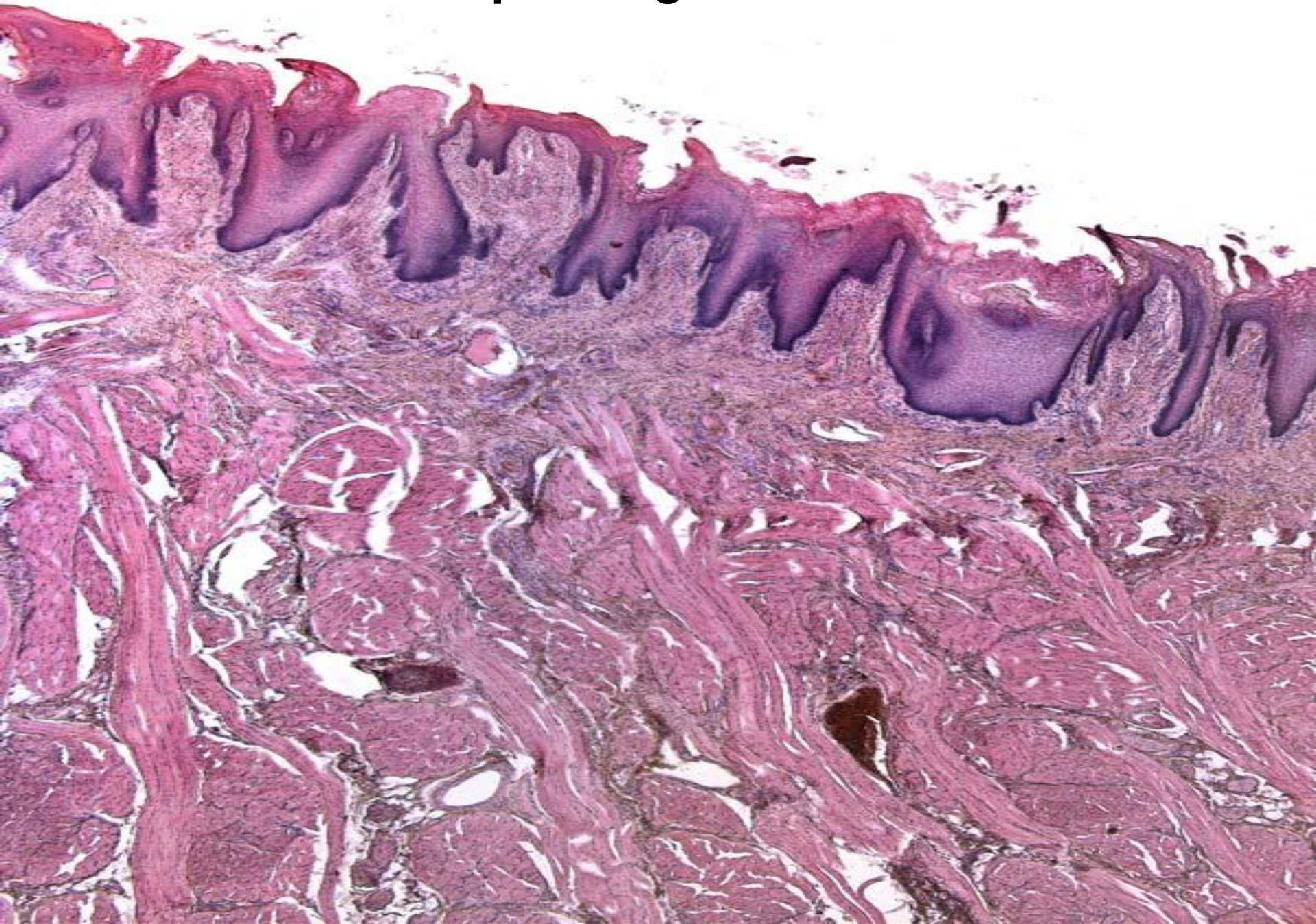


Papilla – outgrowth of mucosal connective tissue covered by epithelium

Primary and secondary papillae

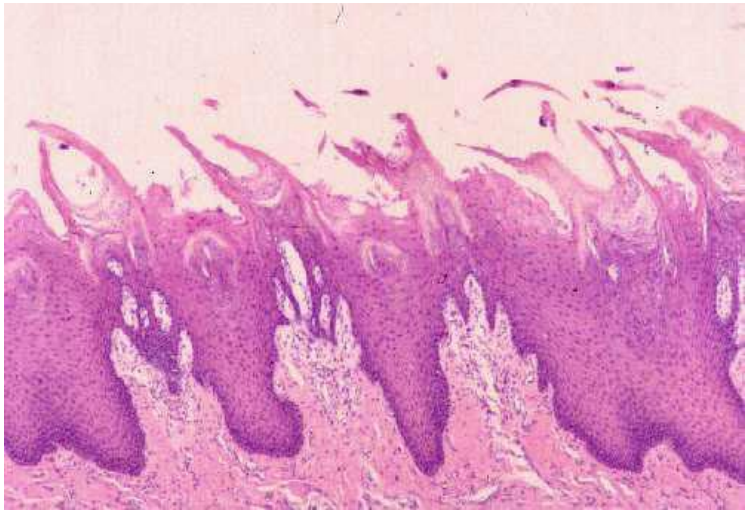

Vallate papilla
Lingual tonsil
Crypt
Fungiform papilla
Cornified tip of papilla
Squamous epithelium (stratified)
Sustentacular cell
Pore
Taste cell
Connective tissue
Section of taste bud
Duct of gland
Lymph follicles
Mucous glands
Taste buds
Furrow
Lingual glands (serous glands of Ebner)
Intrinsic muscle

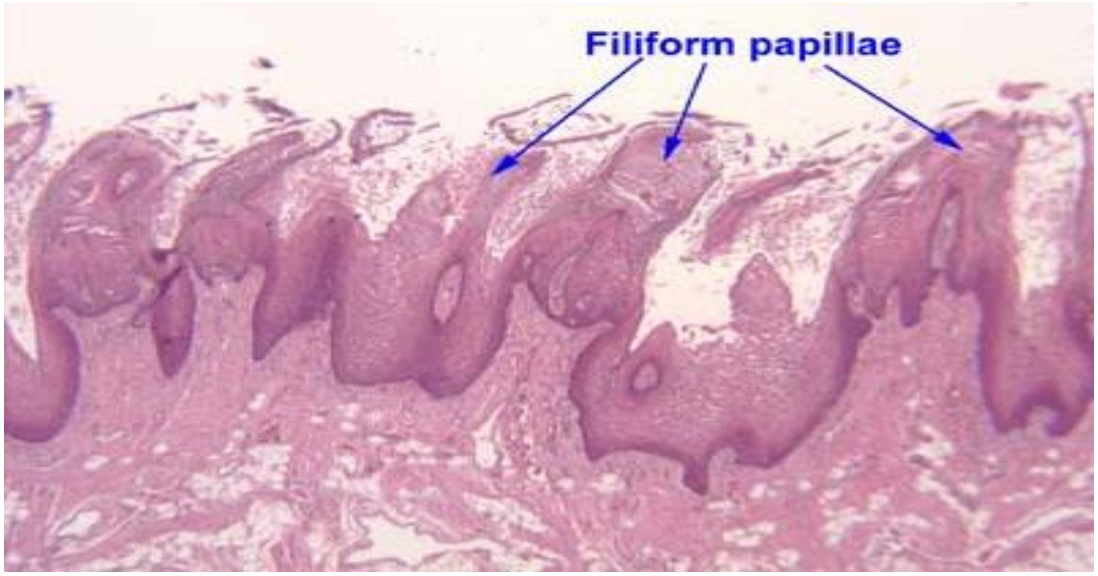
Apex linguae



papillae filiformes

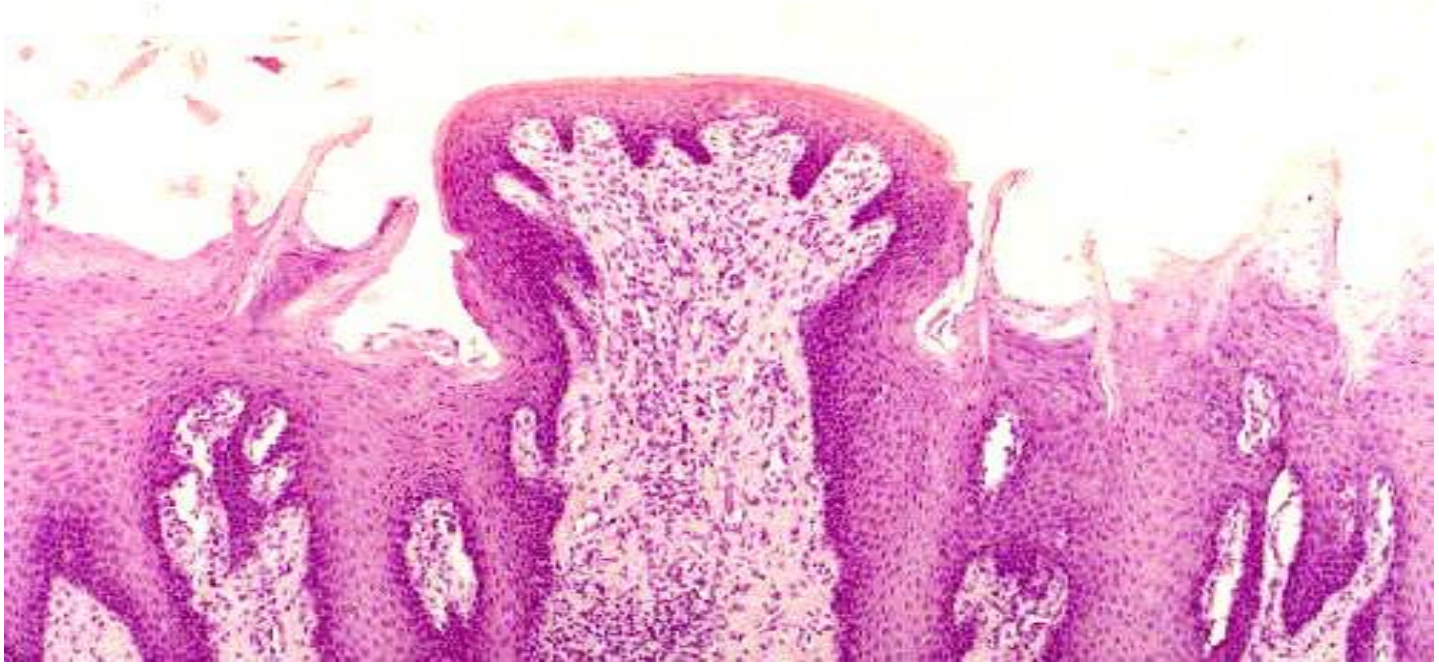
– most abundant
– keratinized epithelium
– mechanosensitive, rich innervations





pp. fungiformes

– apex et dorsum lingue
– keratinized epithelium
– taste buds
– mechano- and termoreceptors in c.t. stroma



pp. foliatae

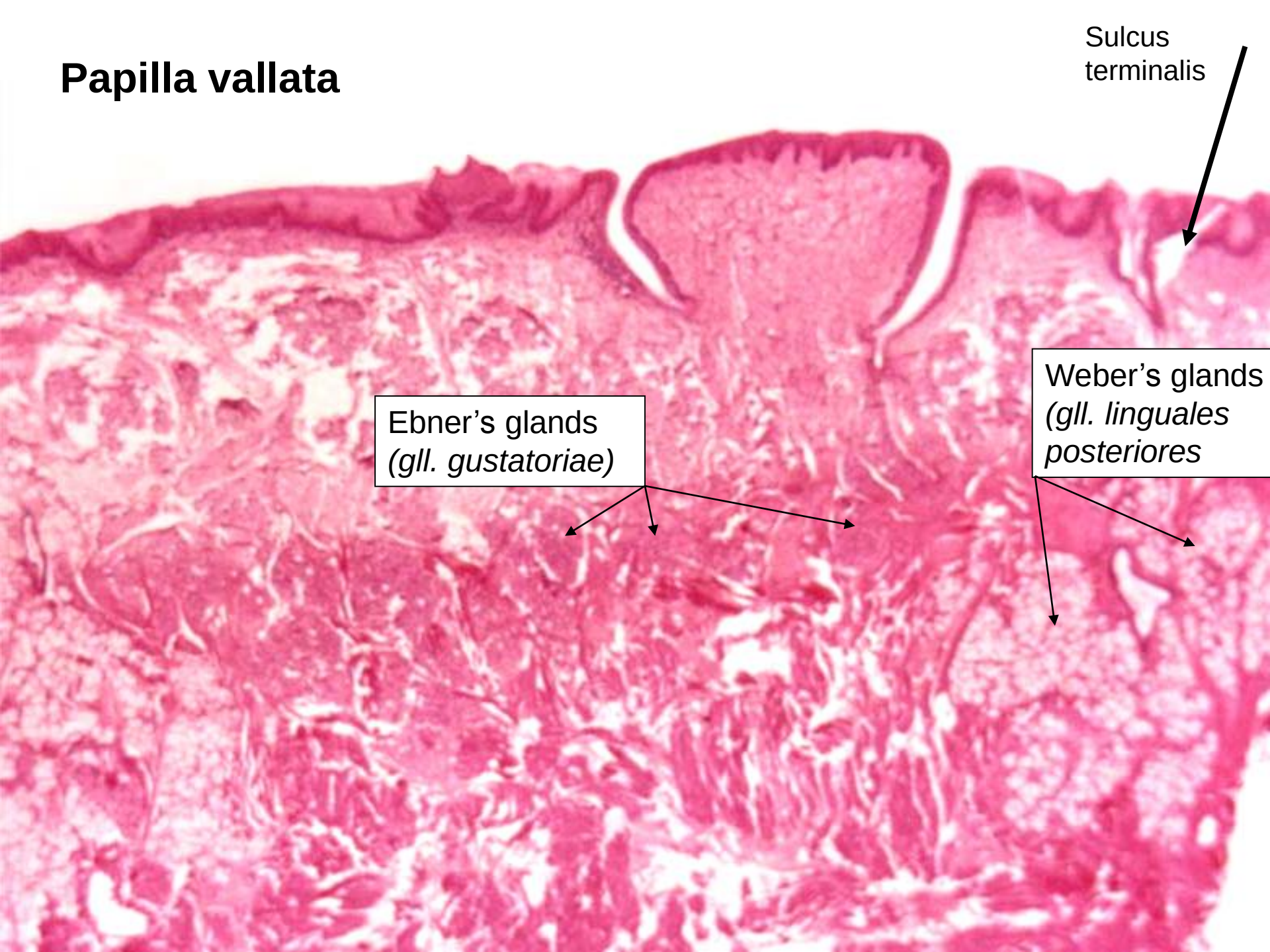
– taste buds
– distal-lateral parts of tongue

Papillae vallatae

- cca 2mm
- sulcus terminalis
- 10-12

- Lamina epithelialis mucosae
  - SSE, taste buds
- Lamina propria mucosae
  - loose c.t., serous tubular Ebner's glands, opens to a cleft surrounding papilla vallata

Papilla vallata

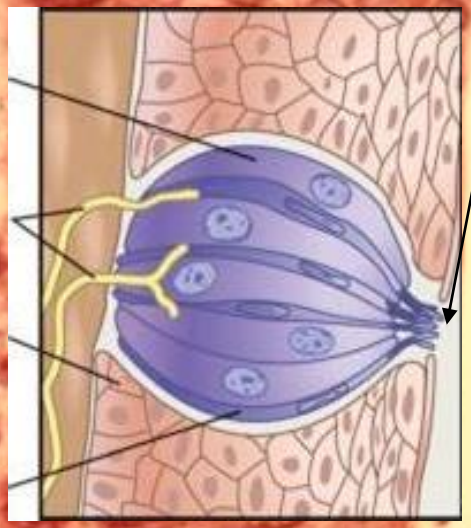


Papilla vallata (HE)

Taste buds

- Intraepithelial structure in surface epithelium laterally in papillae
- ca 50 cells
- stem and supportive cells
- secondary sensory epithelium
    - sensory cells – microvilli into porus gustatorius – receptors – depolarisation of membrane
    - nerve fibers – synapses to sensory cells

Porus gustatorius



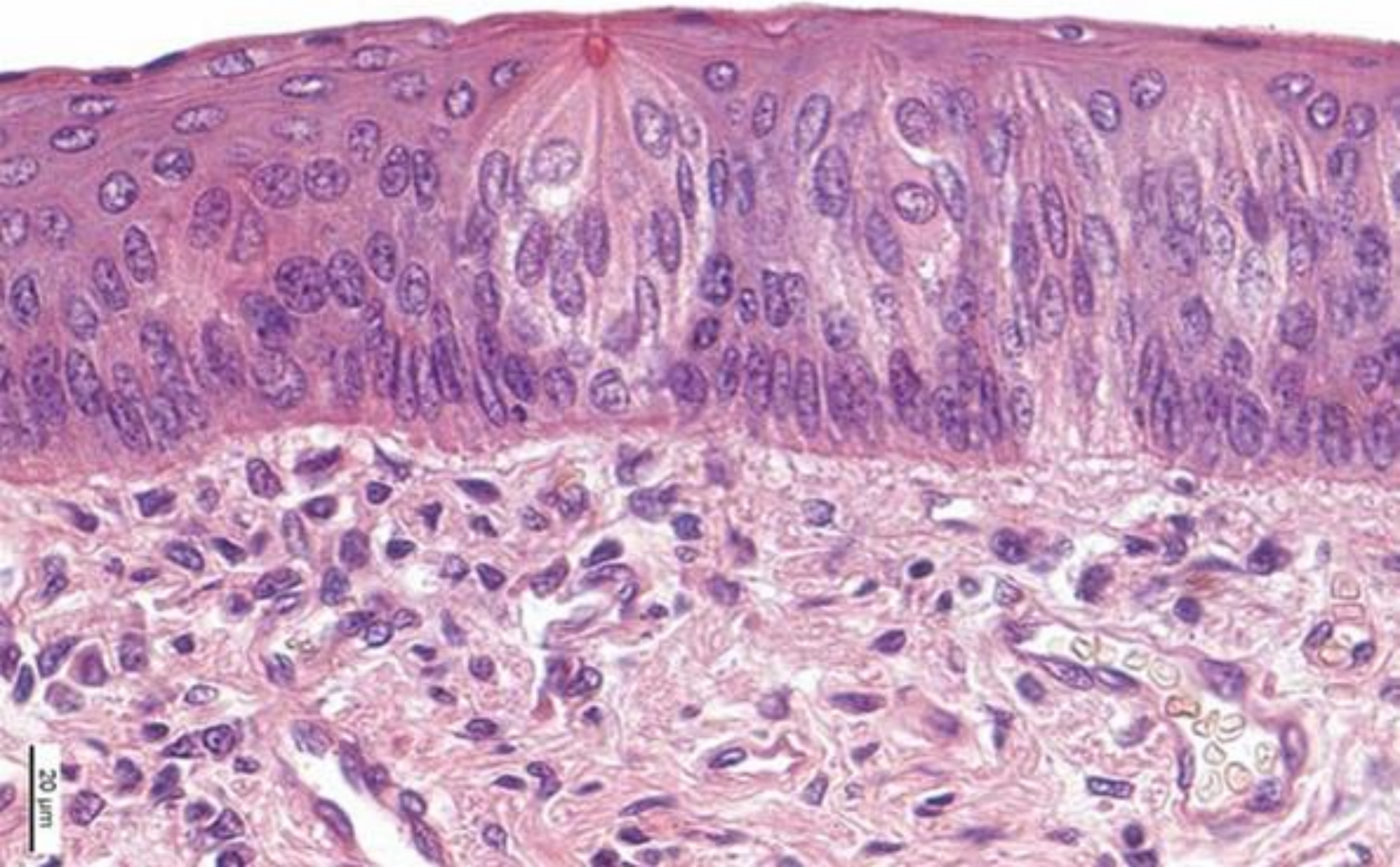
Supporting cells

Nerve fibers

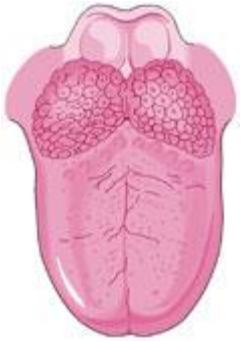
Surface epithelium

Sensory cells

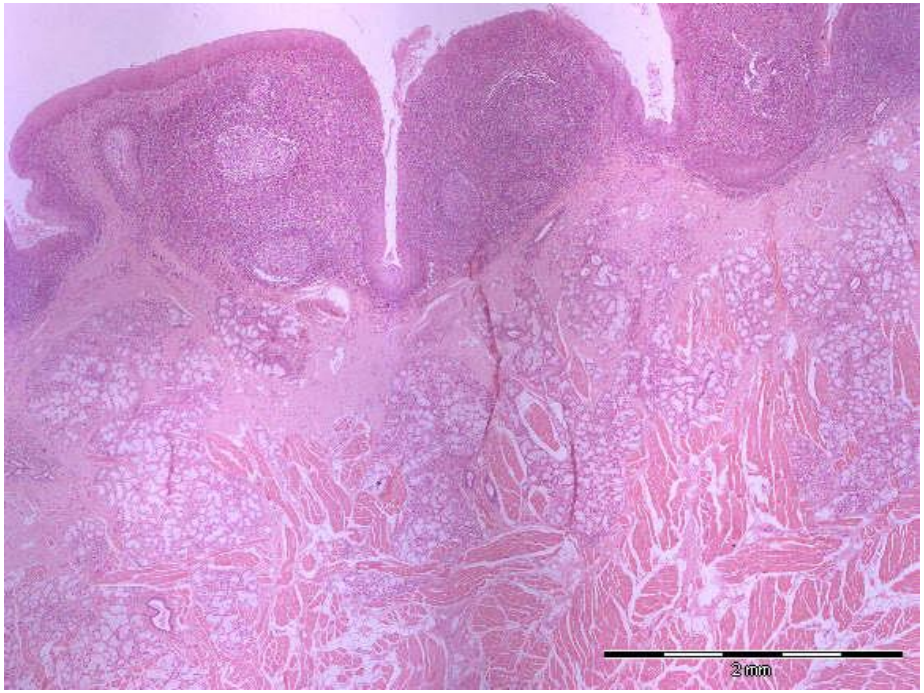
Taste bud



radix linguae – tonsilla lingualis

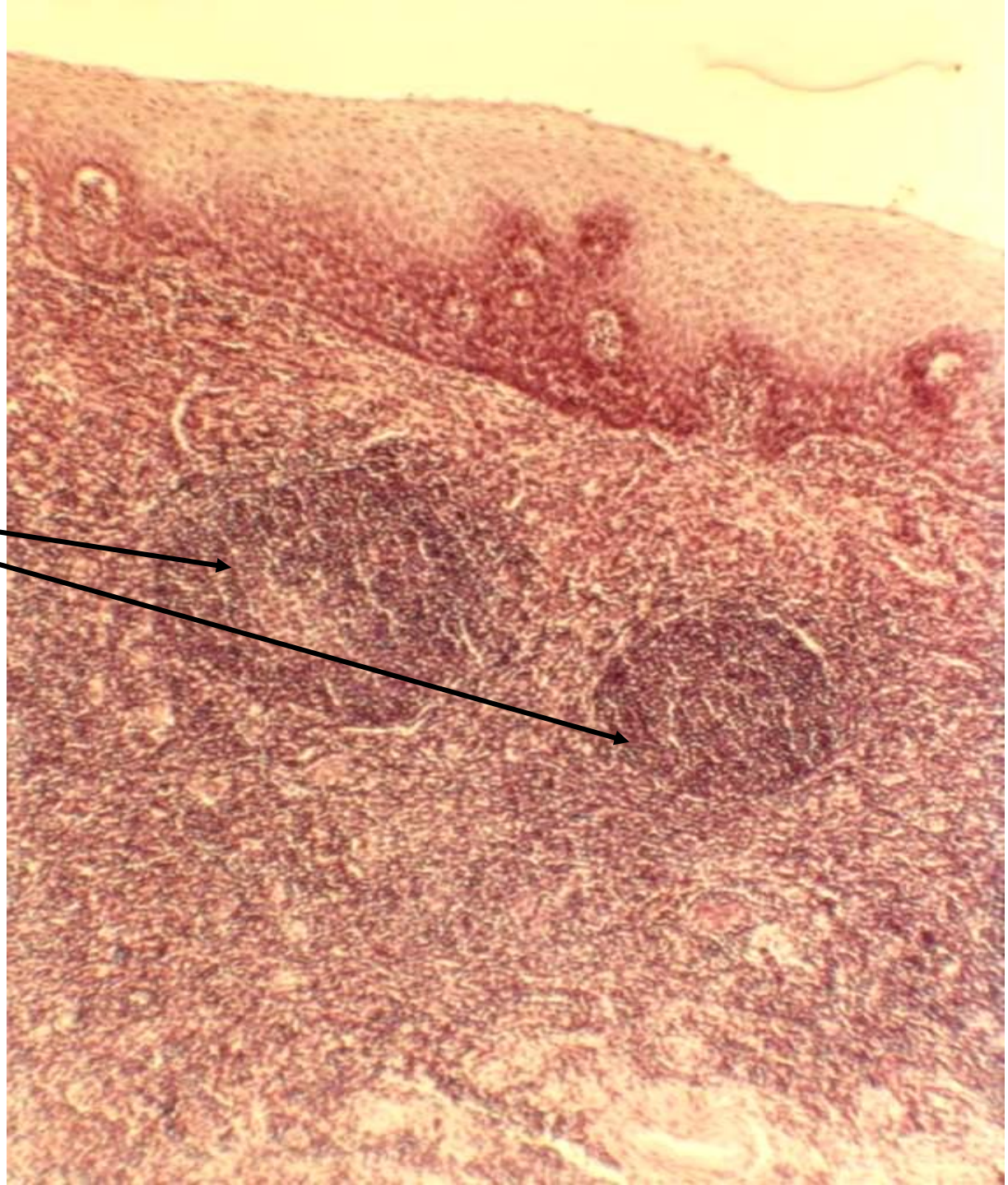


- Lymphatic tissue (folicles), crypts
- SSE
- Mucinous salivary glands of Weber (gl. linguales post.)
- Similar to pallate tonsil

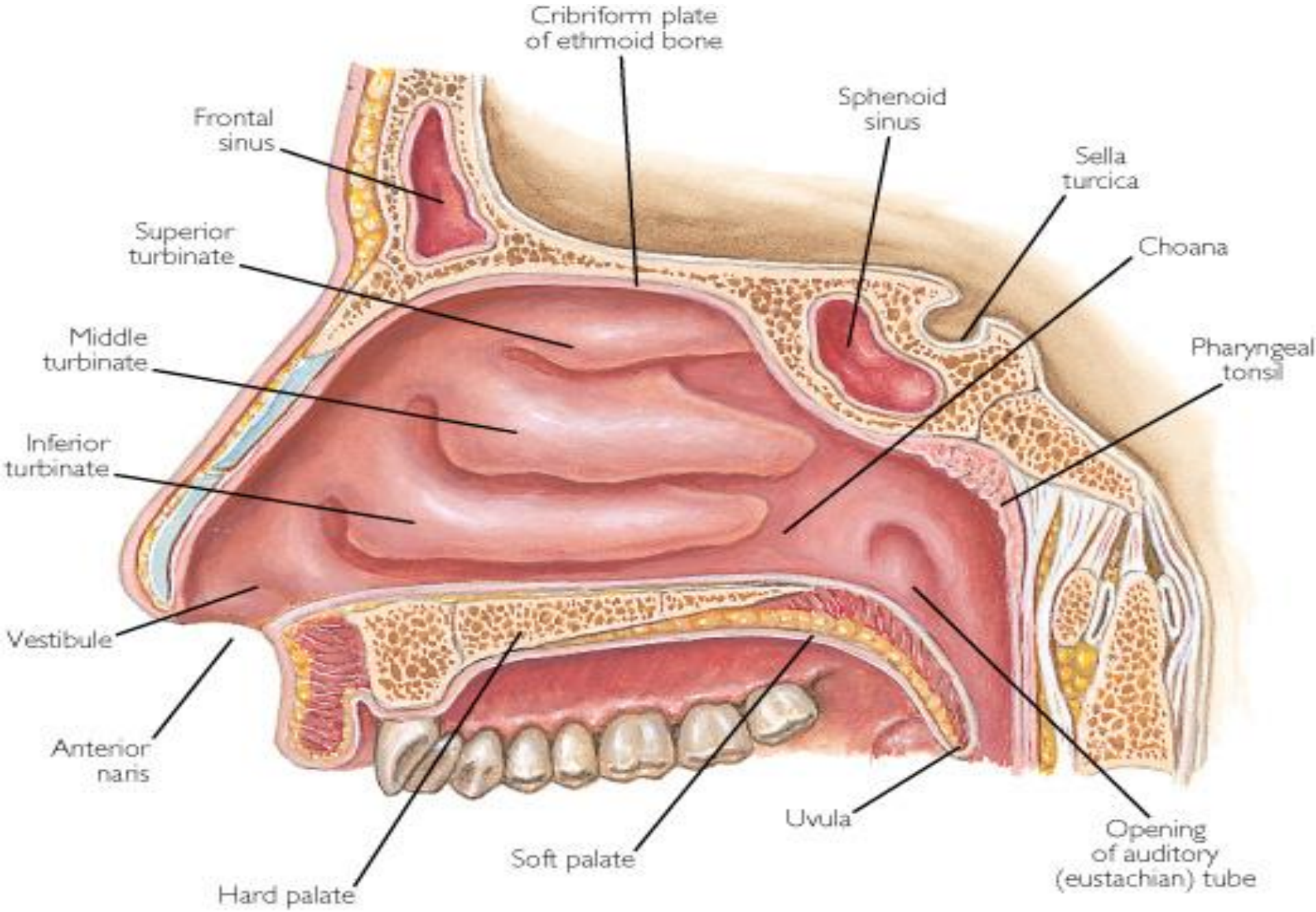


Tonsilla lingualis

folicles



Hard and soft pallate (palatum – durum et molle)



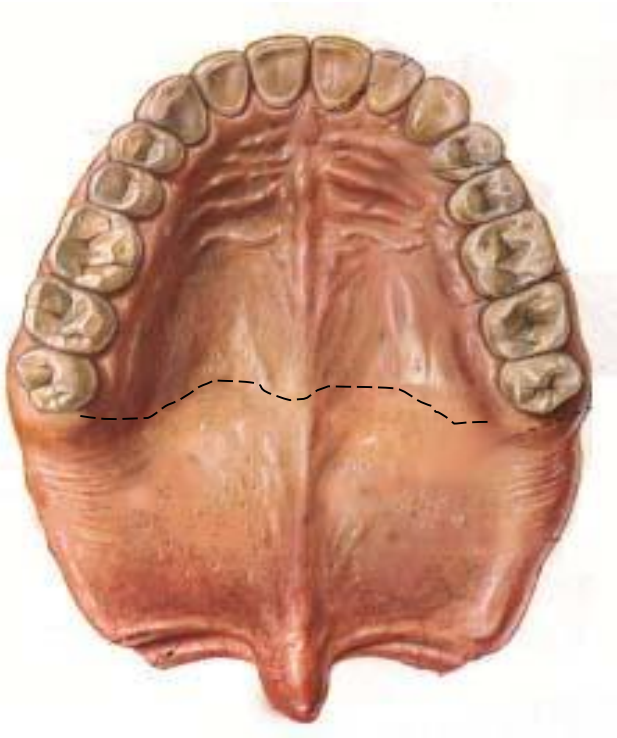
Hard pallate – palatum durum

- Skeletal basis
- Mucosa attached directly to periost, submucosa absent
- Raphe palati
- Adipose tissue + plicae palatinae transversae glandular tissue – gll. palatinae

Soft pallate – palatum molle

aponeurosis palatina + skeletal muscles of pallatum

uvula



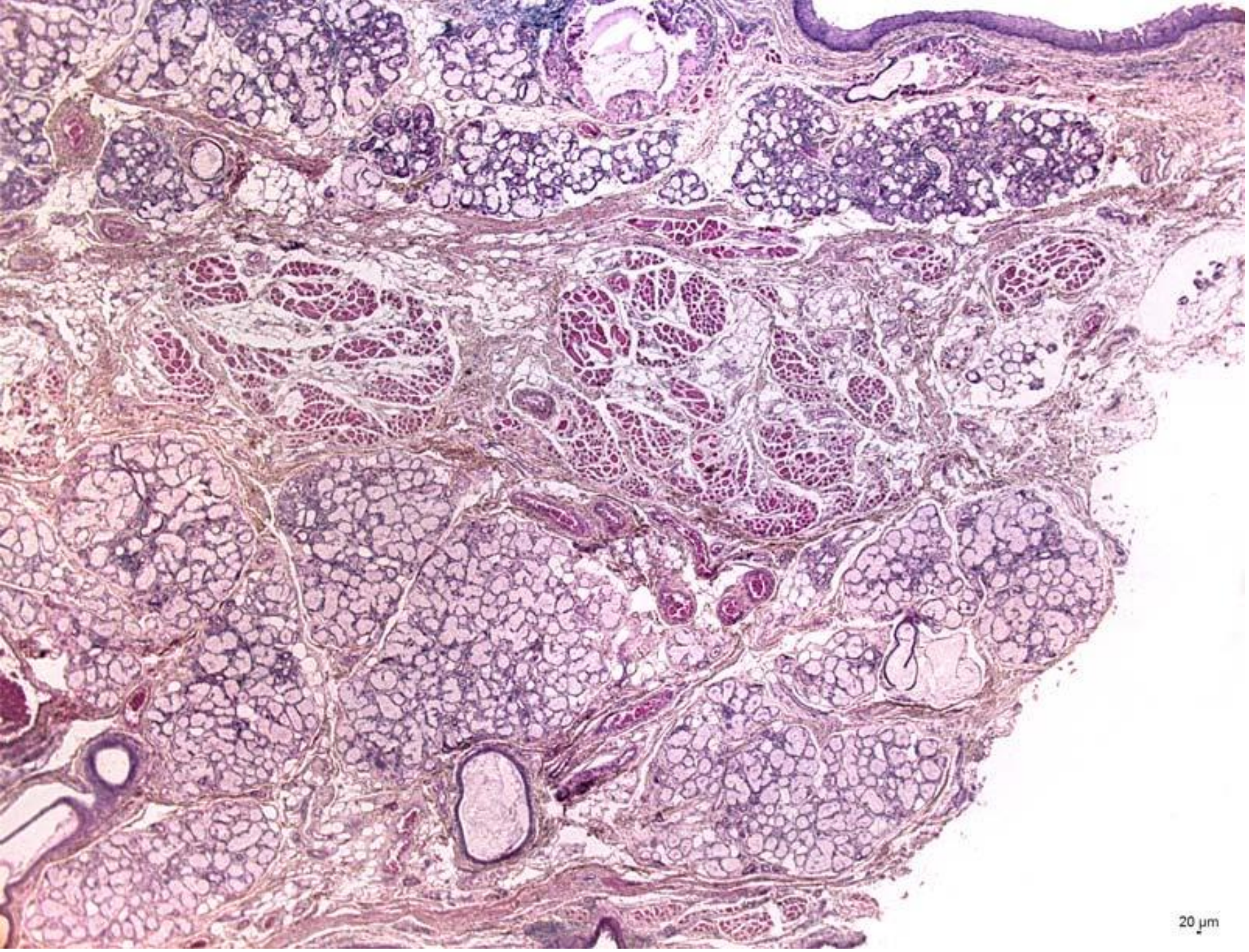
Palatum molle (velum palatinum)

Oral side – **tunica mucosa**:
Lamina epithelialis mucosae – SSE
Lamina propria mucsae – loose c.t.

Tela submucosa – loose c.t. + gll. palatinae (mucinous)

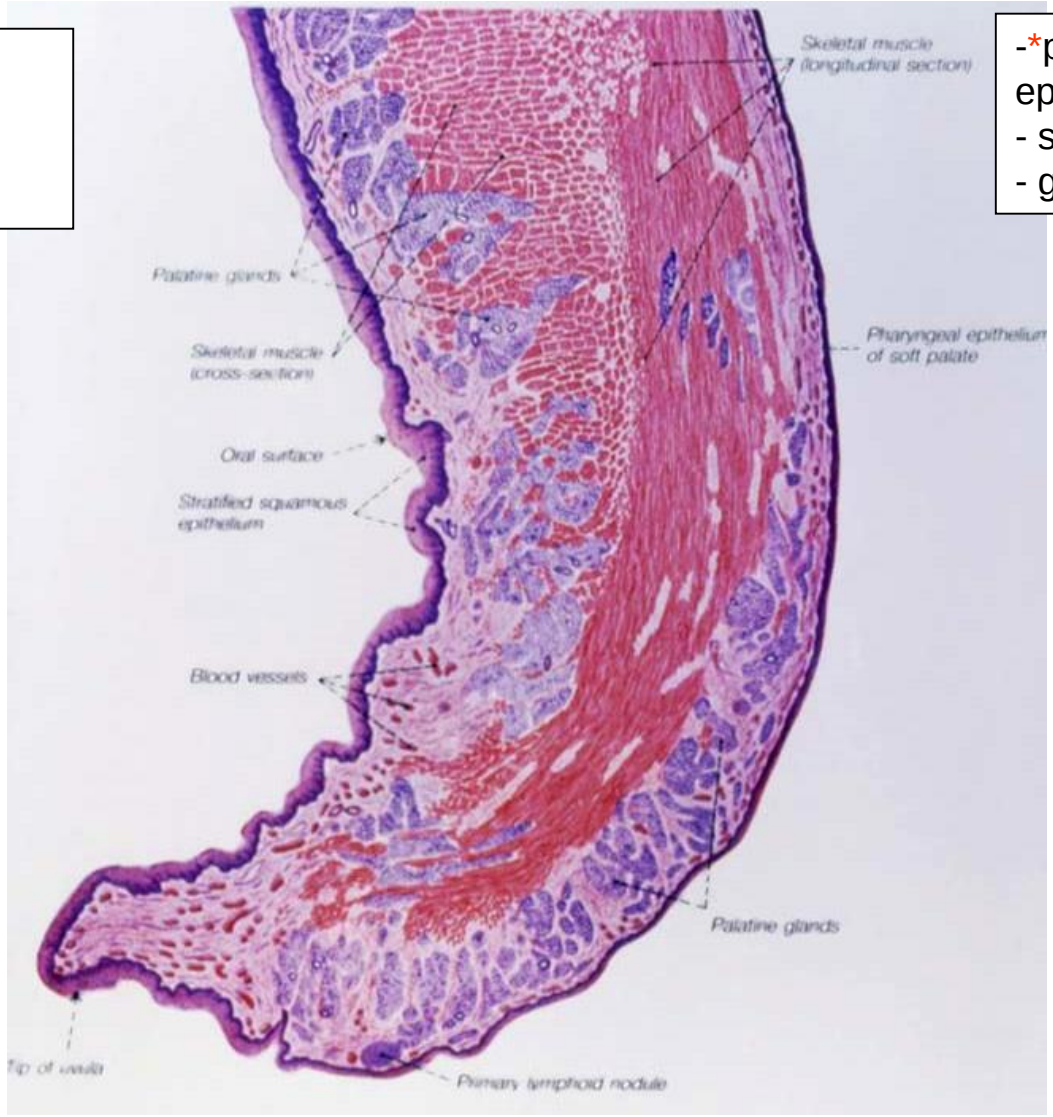
Nasal side – **tunica mucosa**:
Lamina epithelialis mucosae – pseudostratified columnar epithelium
Lamina propria mucosae – loose c.t. + gll. nasales (mixed)

Axis of soft pallate – aponeurosis palatina
(dense collagen c.t. + skeletal muscle *m. tensor veli palatini*)


20 µm

ORAL **soft pallate** **NASAL**

- SSE
- ruffled lamina basalis
- gll. palatinae
  MUCINOUS



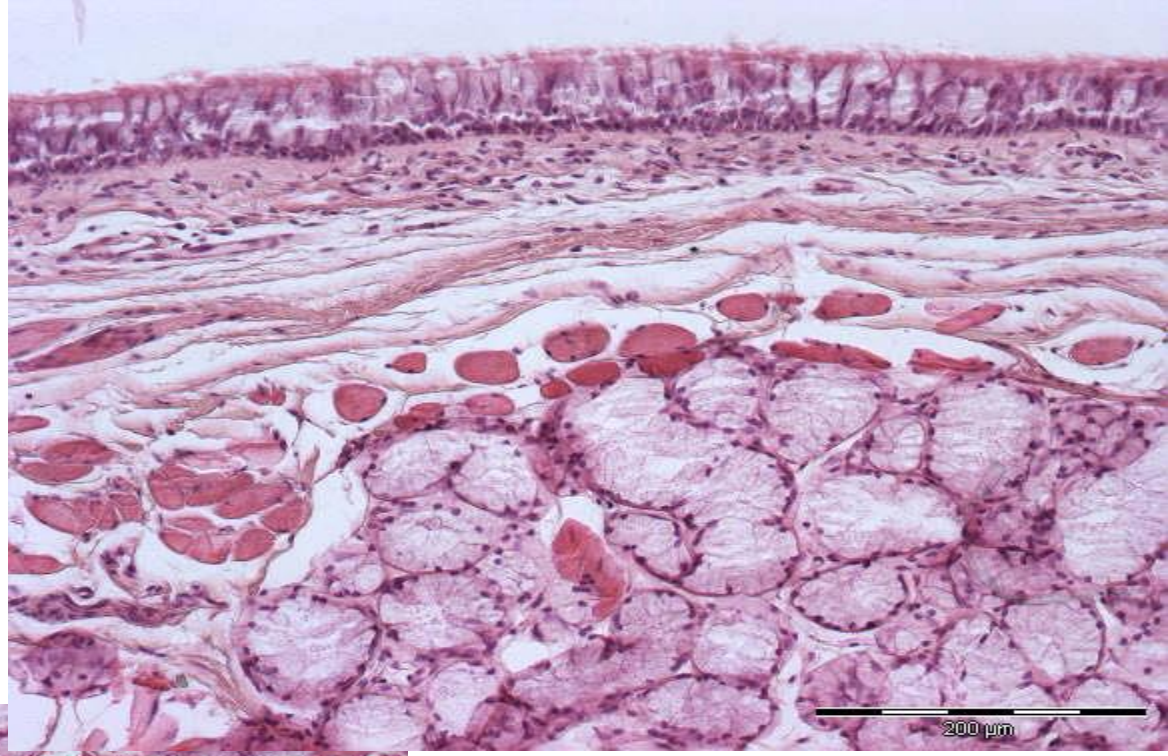
-*pseudstratified columnar epithelium
- straight lamina basalis
- gll. nasales MIXED

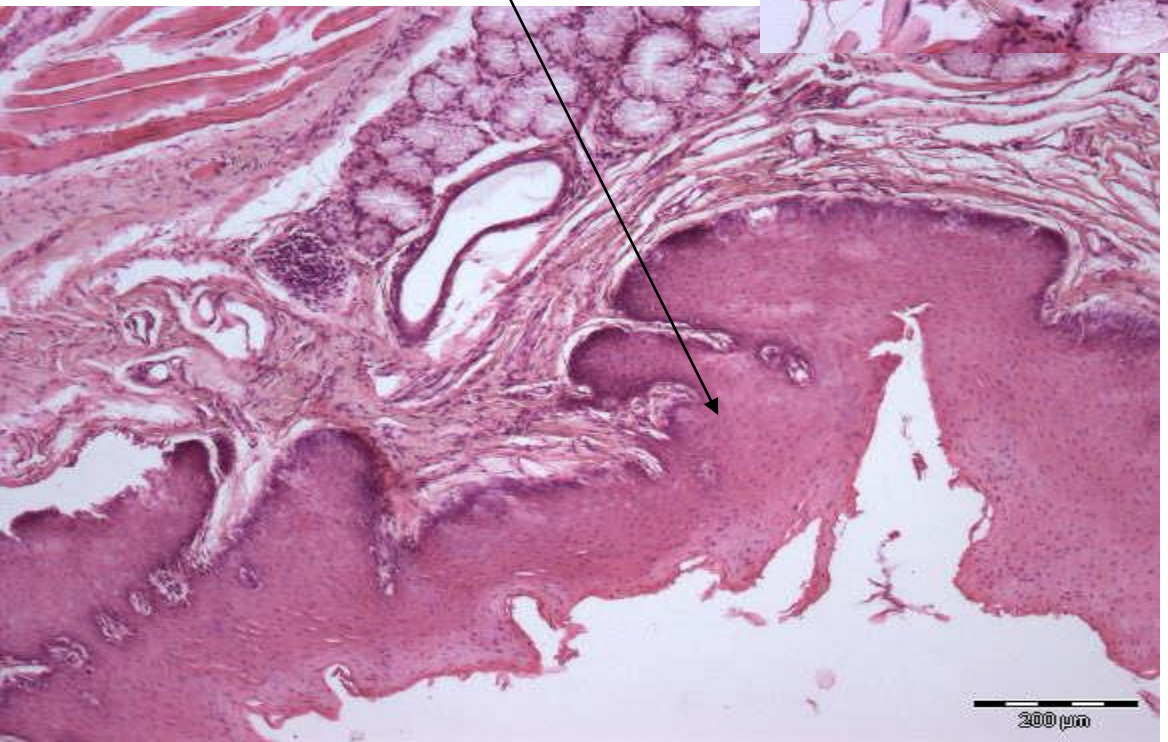
*METAPLASIA

Palatum molle

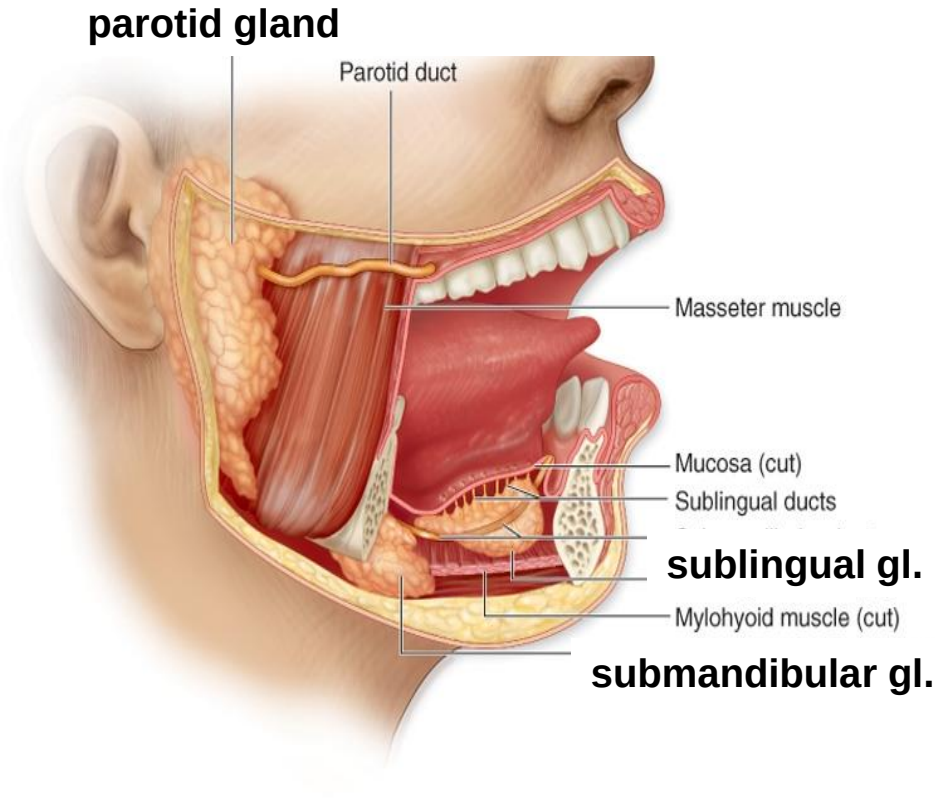
nasal side

oral side





Salivary glands



Small

gll. labiales – mixed
gll. buccales – mixed
gll. palatinae – mucinous

<u>tongue:</u>
gl. lingualis anterior – mixed
gll. gustatoriae (Ebneri) – serous
gll. linguales posteriores (Weberi) – mu

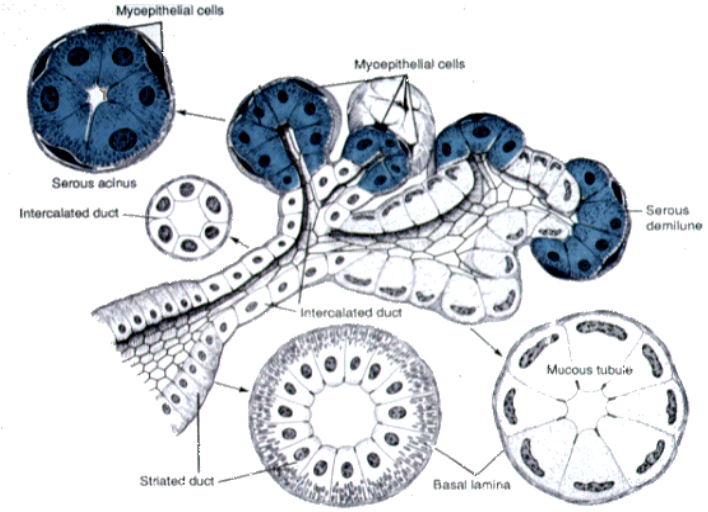
Large – *pair, compound, branched*

gl. parotis – serous (serous acini only)
gl. submandibularis – mixed (serous acini **>** mucinous tubules)
gl. sublingualis – mixed (mucinous tubules **>** serous acini)

General architecture of large salivary glands

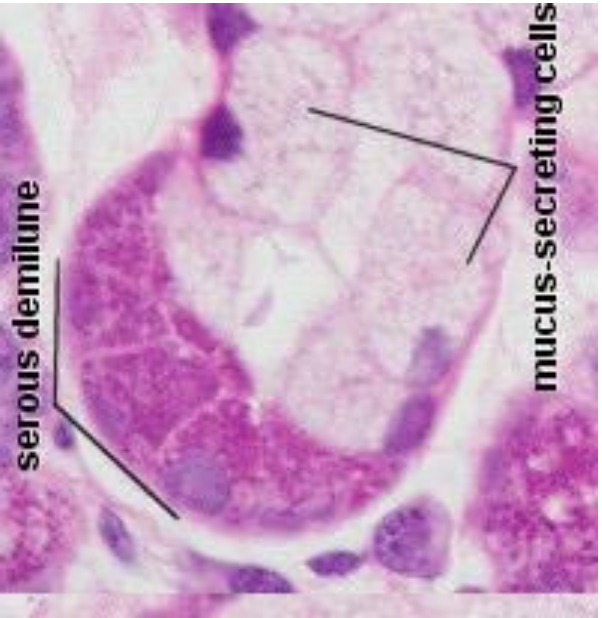
- Connective tissue
  - capsula fibrosa
  - septa

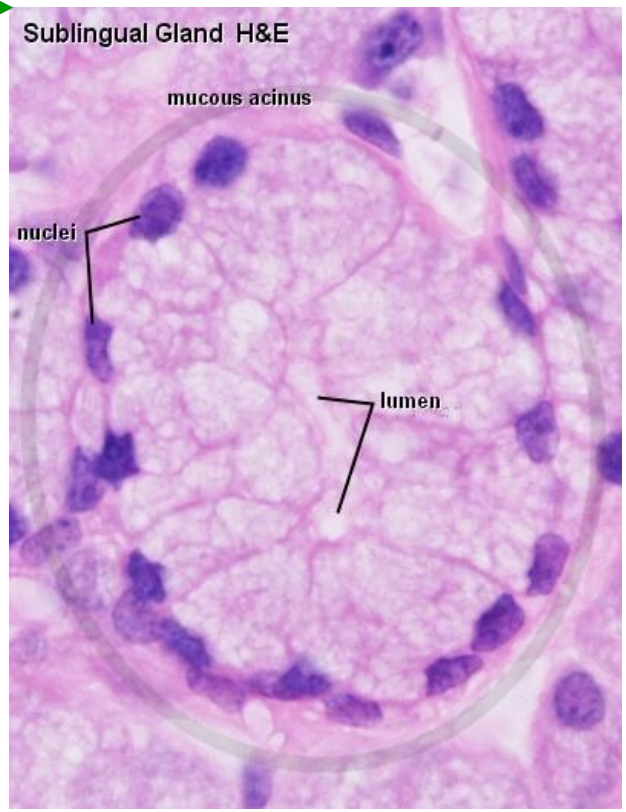
- Parenchyma - lobules
  - **Glandular parts**
    (*serous acini, mucinous tubules, demilune*)
  - **Ducts**
    (*intercalated ducts, striated, interlobular, main*)

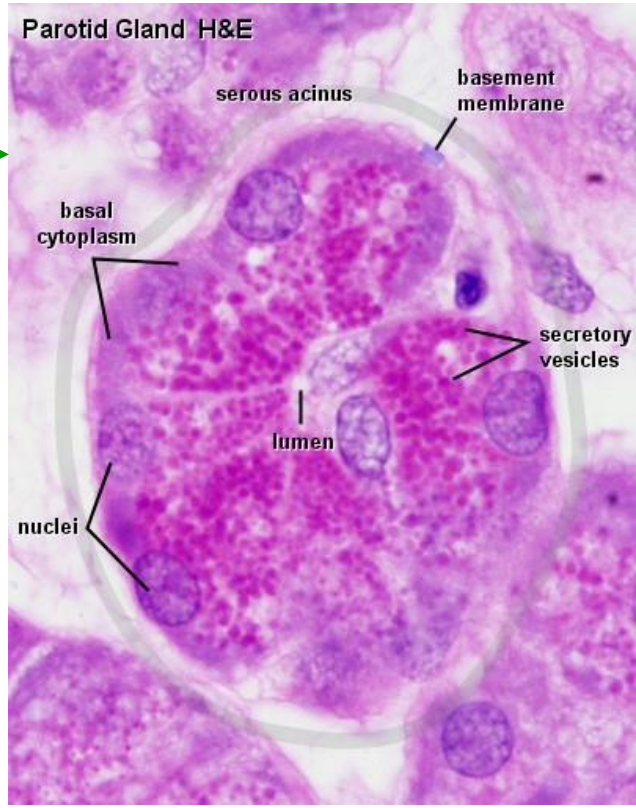


Secretory parts of salivary glands

- serous acinus
- mucinous tubulus
- demilune (Gianuzzi)



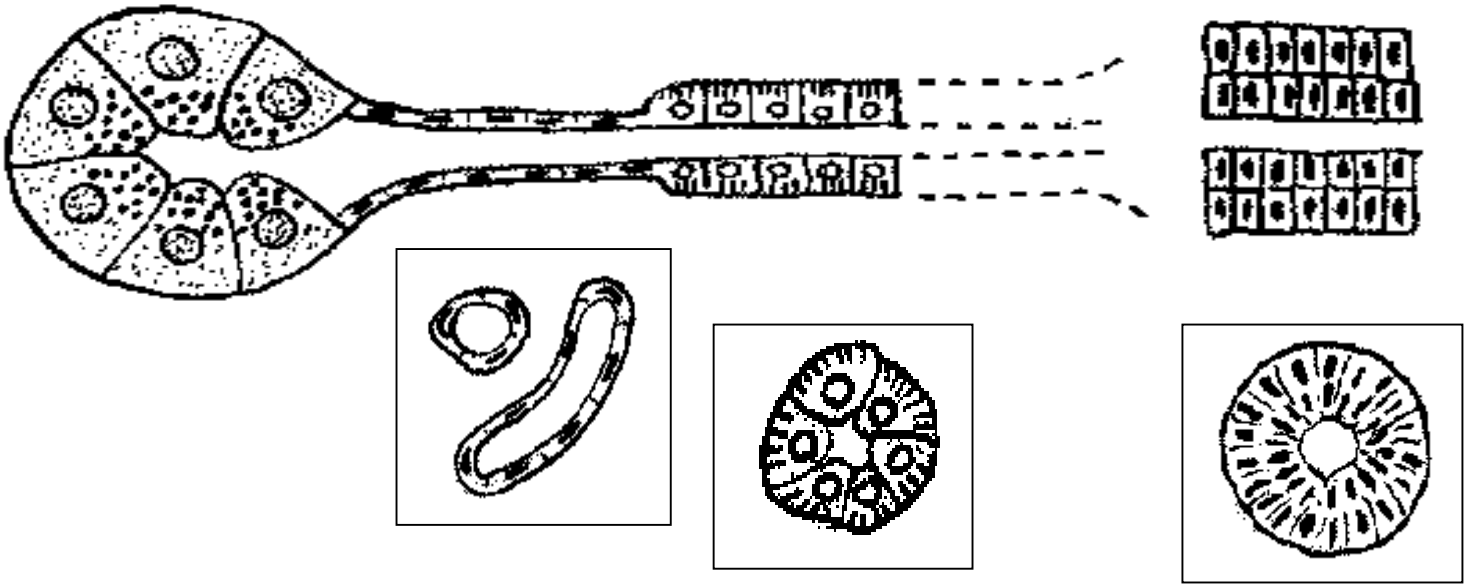




Ducts

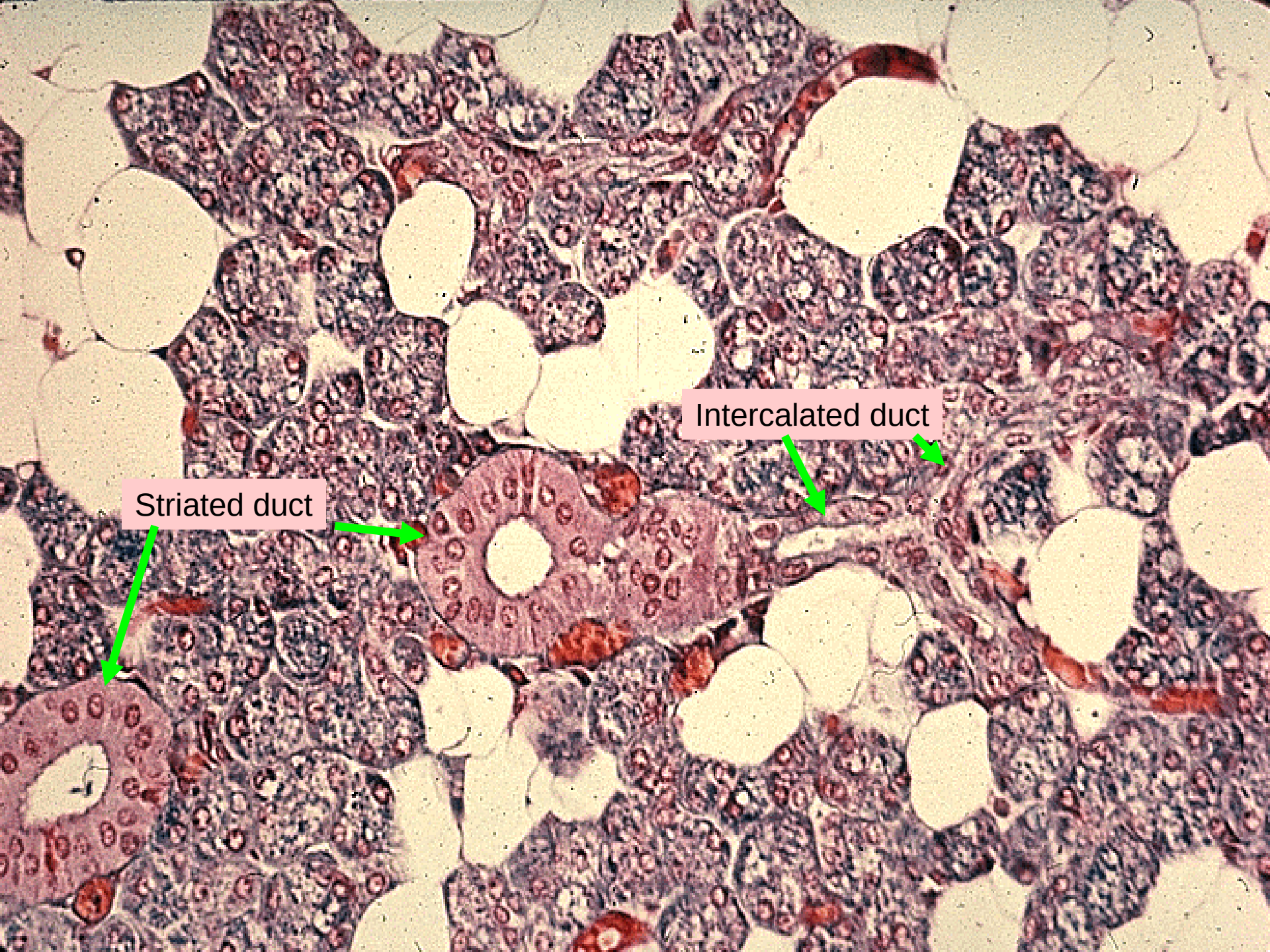
– intercalated *(simple squamous epithelium, only serous and mixed glands)*

– striated *(simple cubic epithelium; basal labyrinth-striation)*

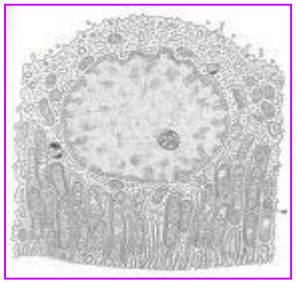


– interlobular *(simple – stratified columnar epithelium, septa)*

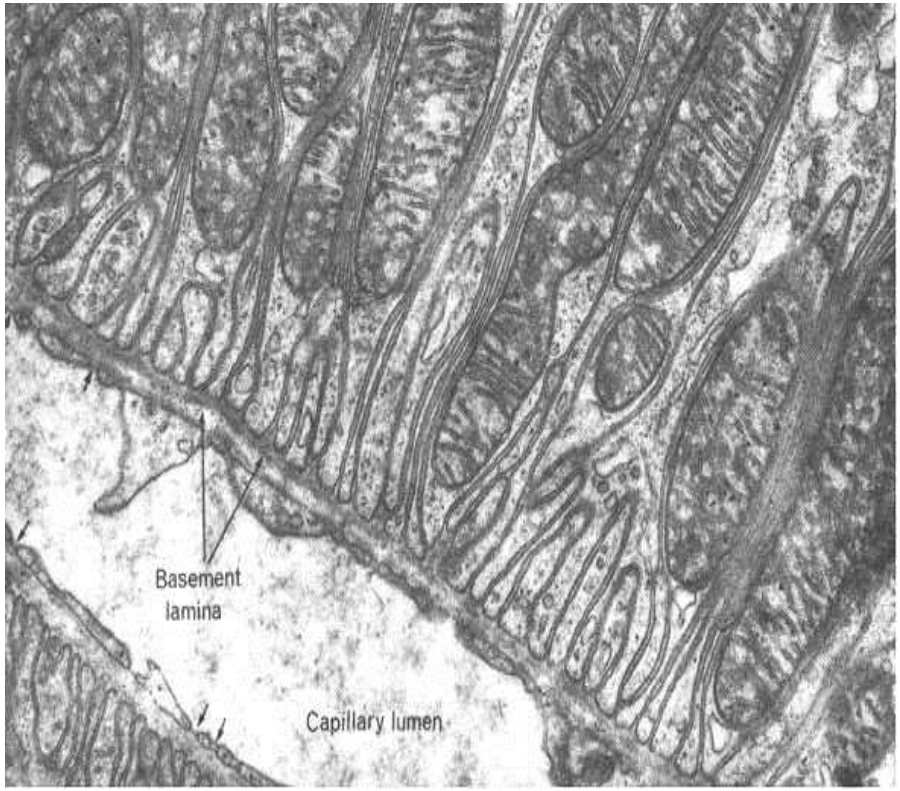
– main *(SSE)*


Intercalated duct
Striated duct

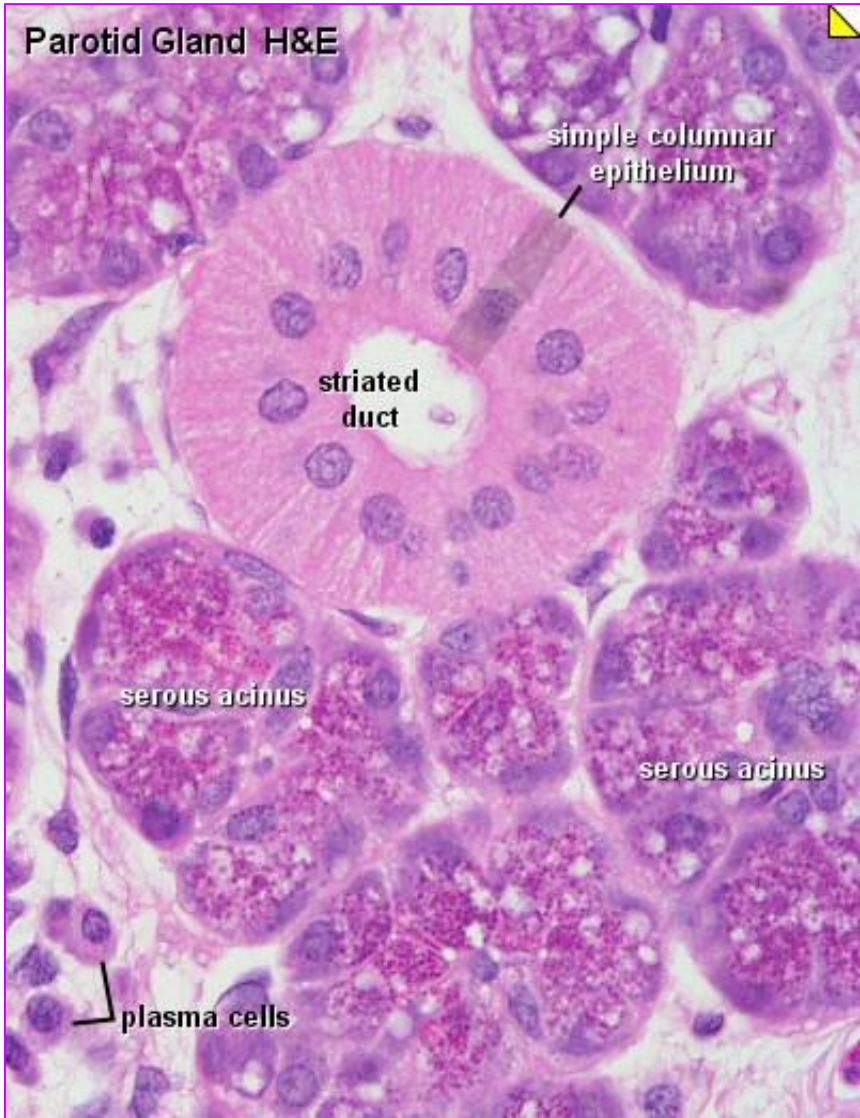
Striated duct – basal labyrinth



Epithelial cell

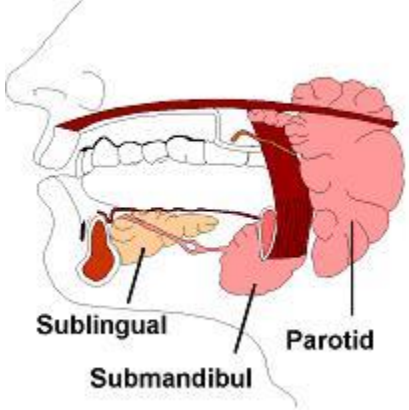


Basis of epithelial cell
Invaginations, mitochondria



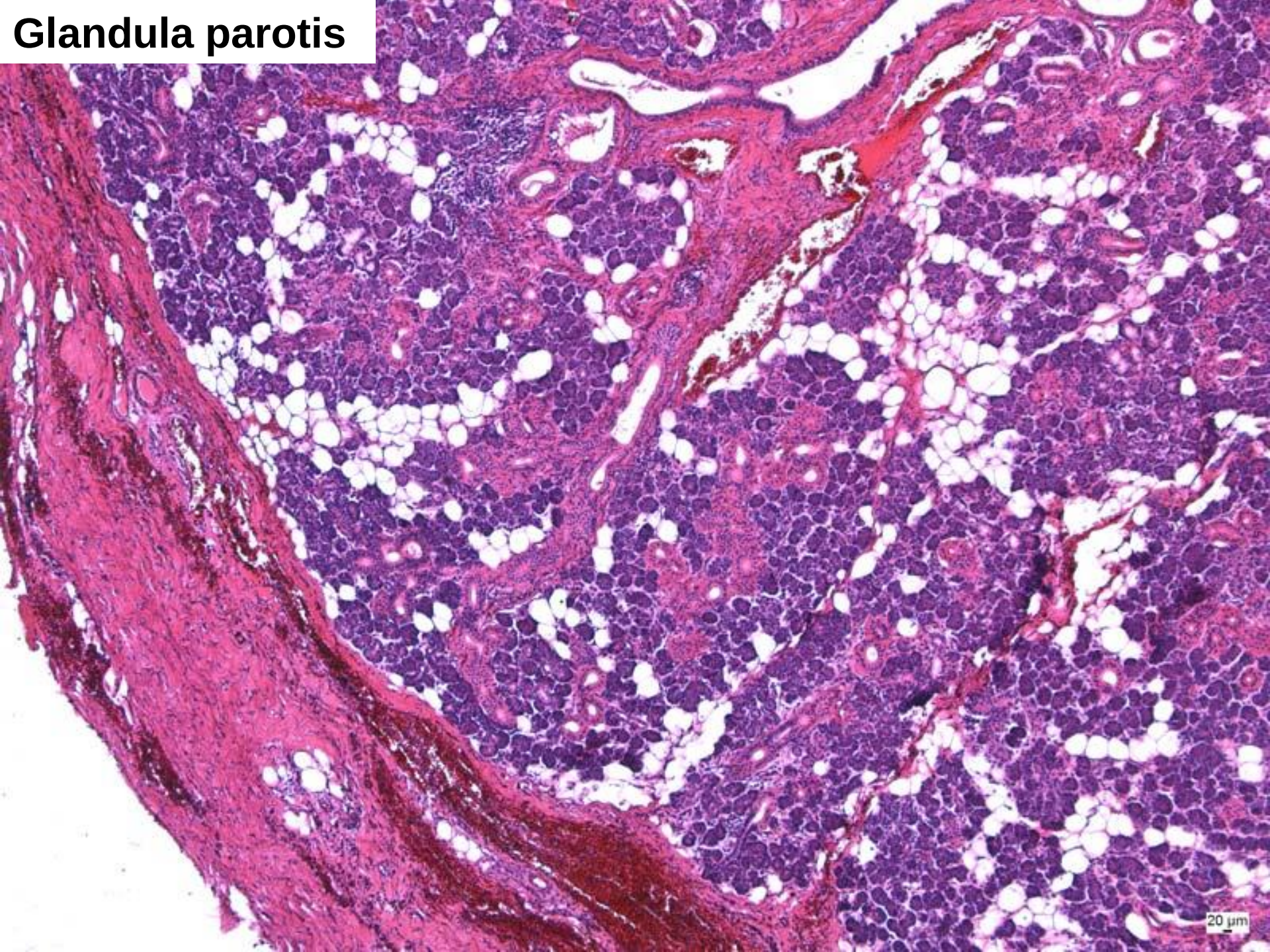
Glandula parotis

compound, branched, purely serous

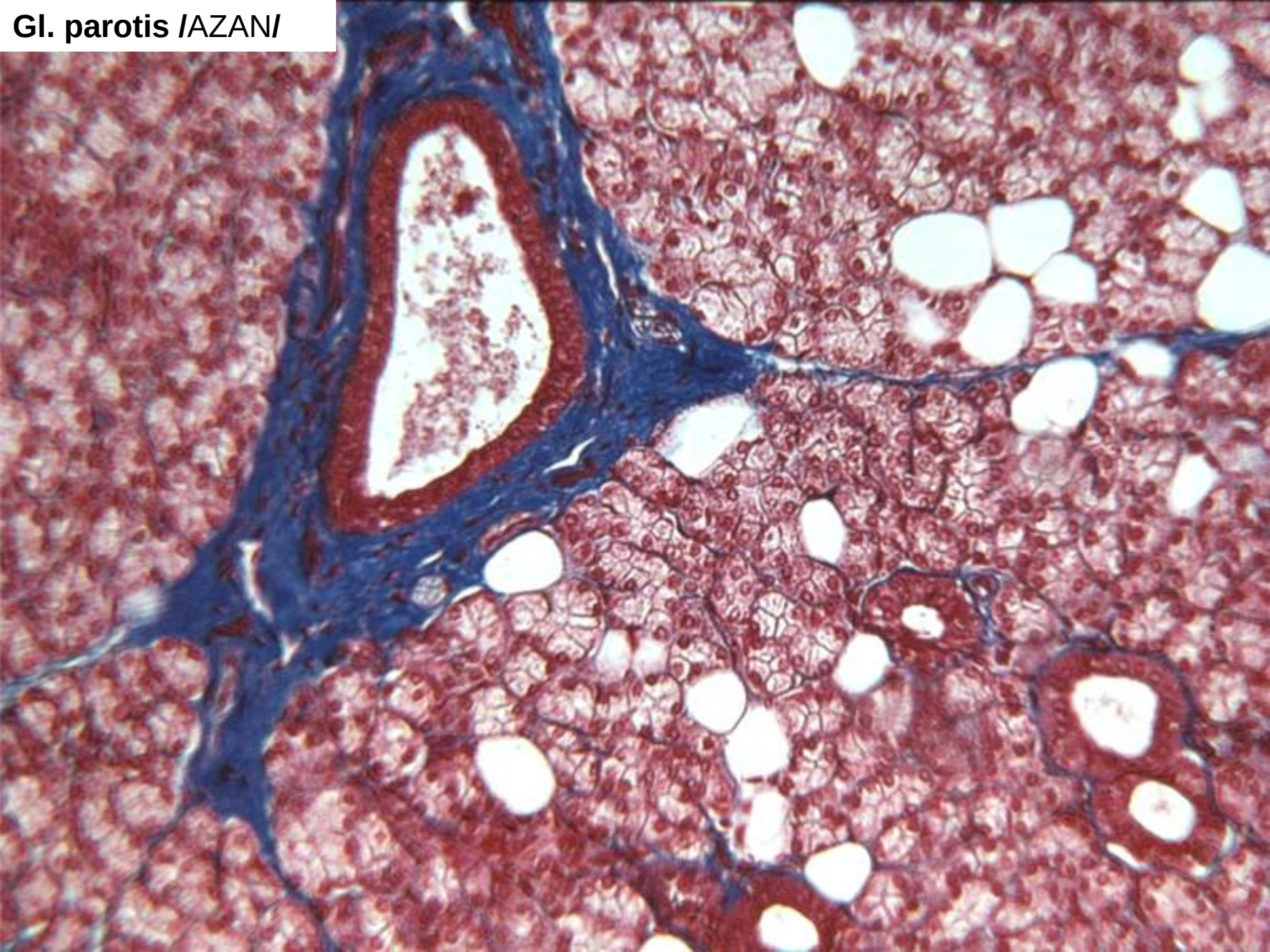


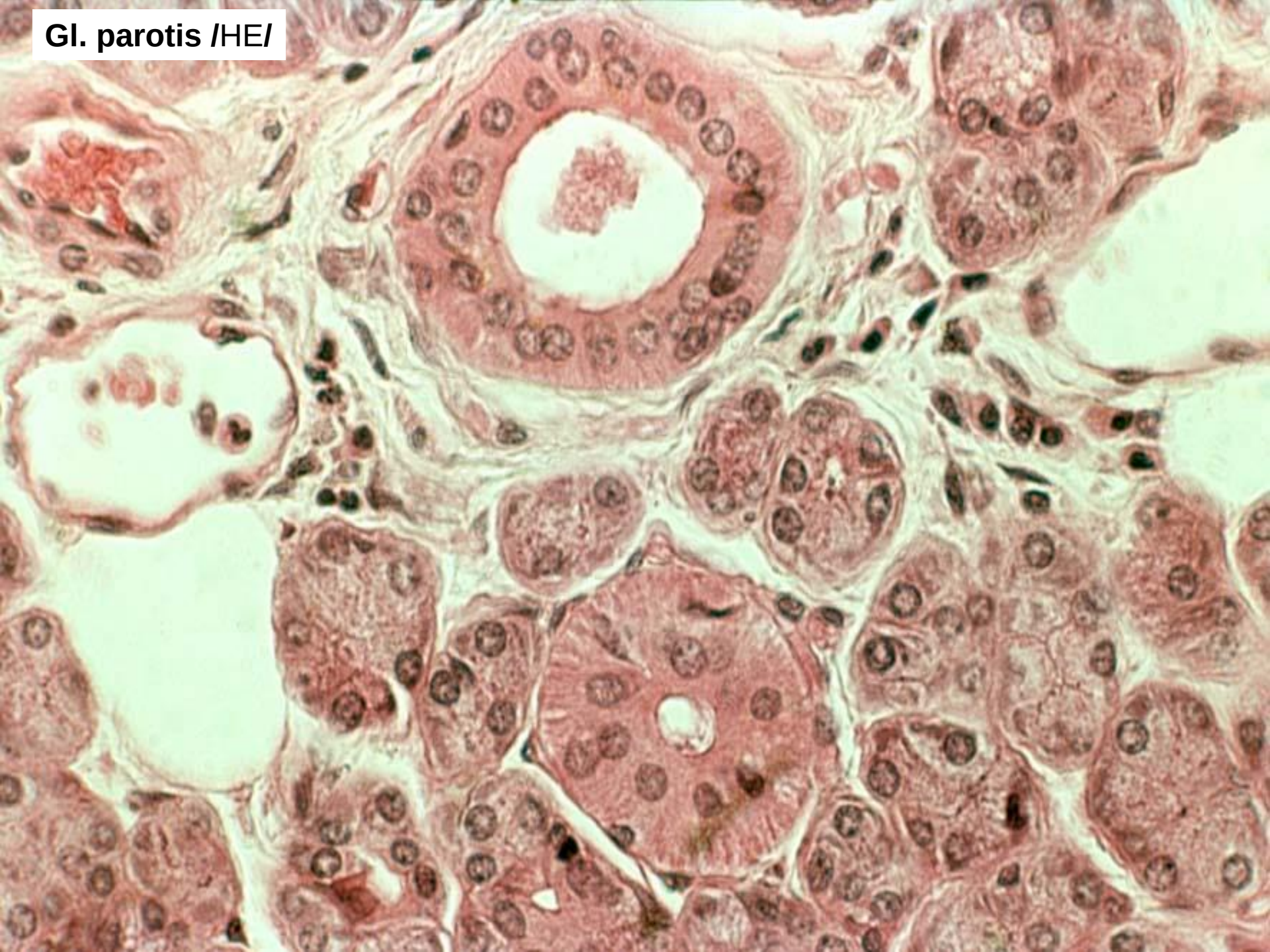
- Connective tissue:
  - **capsula fibrosa + septa** (vessels, nerves, interlobular ducts)
  - Loose c.t. in lobules
- Parenchyma:
  - Serous acini
  - ducts – intercalated, striated, interlobular, main
  - adipocytes

Glandula parotis



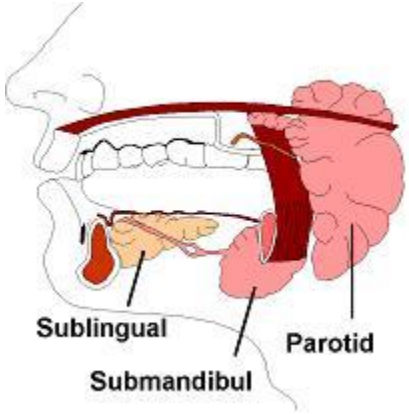
Gl. parotis /AZAN**/**




Gl. parotis /HE/

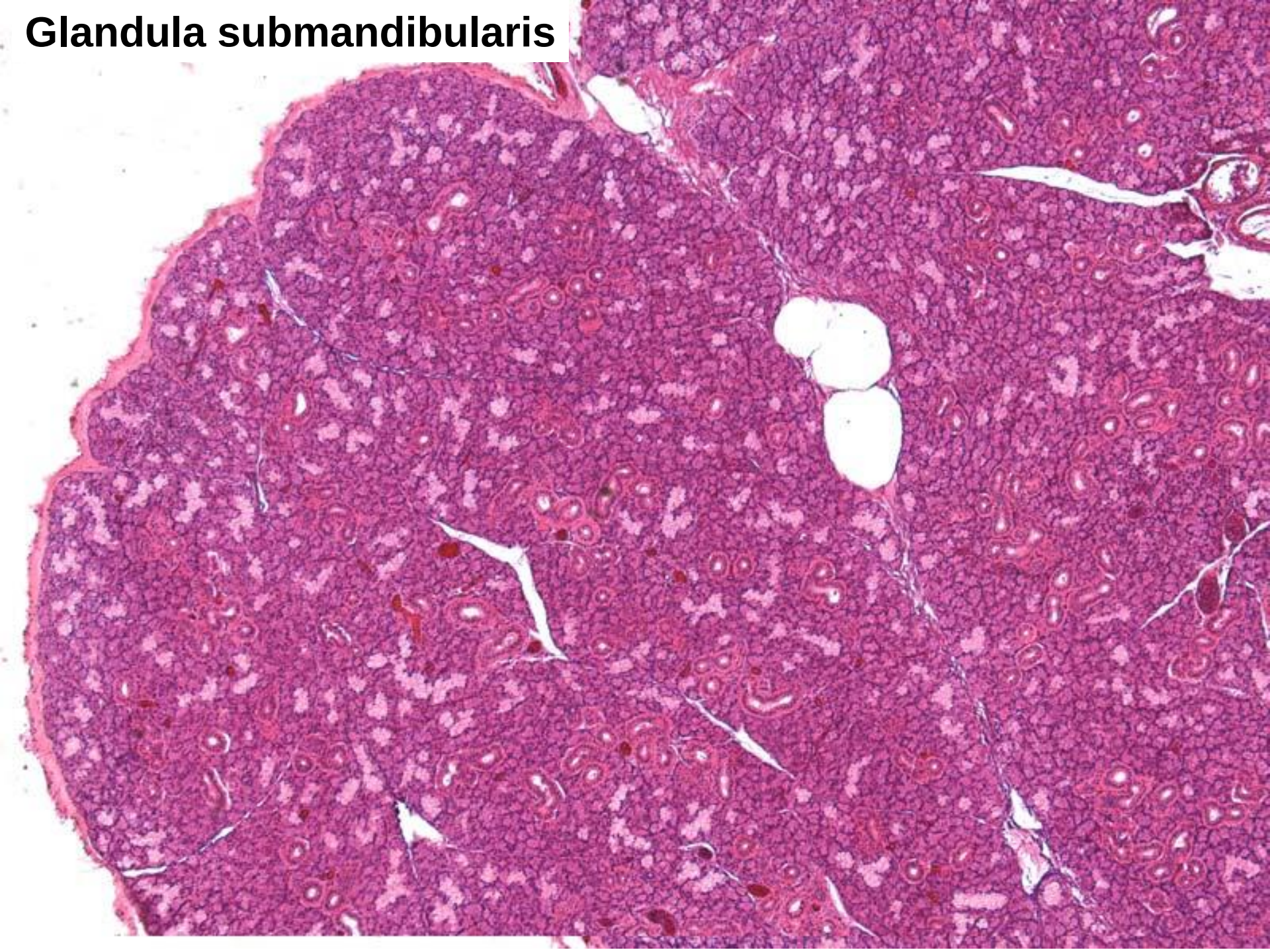
Glandula submandibularis

compound, branched, mixed gland with dominant serous part

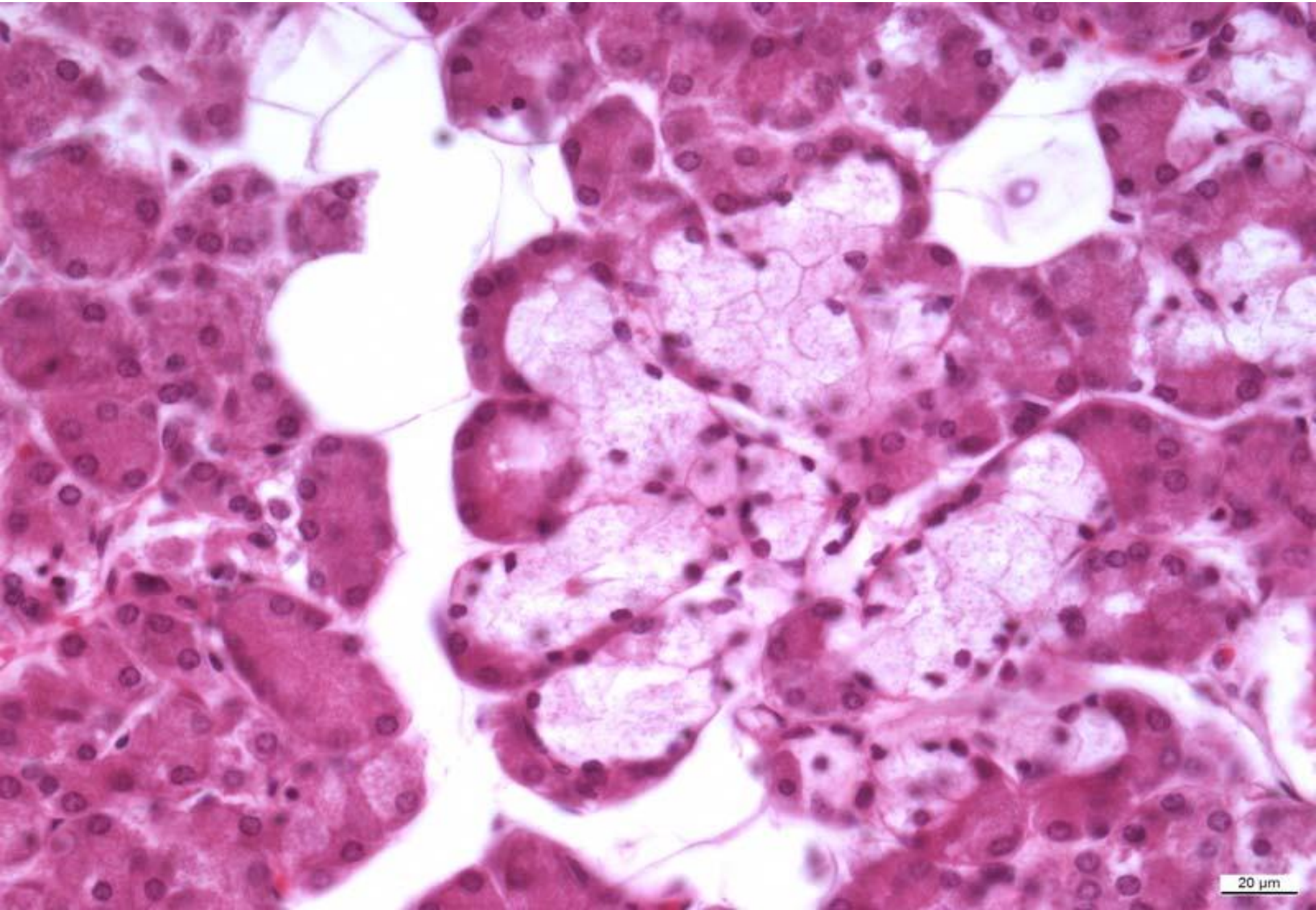


- Connective tissue:
  - **capsula fibrosa + septa** (vessels, nerves, interlobular ducts)
  - Loose c.t. in lobules
- Parenchyma:
  - Serous acini + mucinous tubules
  - ducts – intercalated, (striated), interlobular, main
  - adipocytes

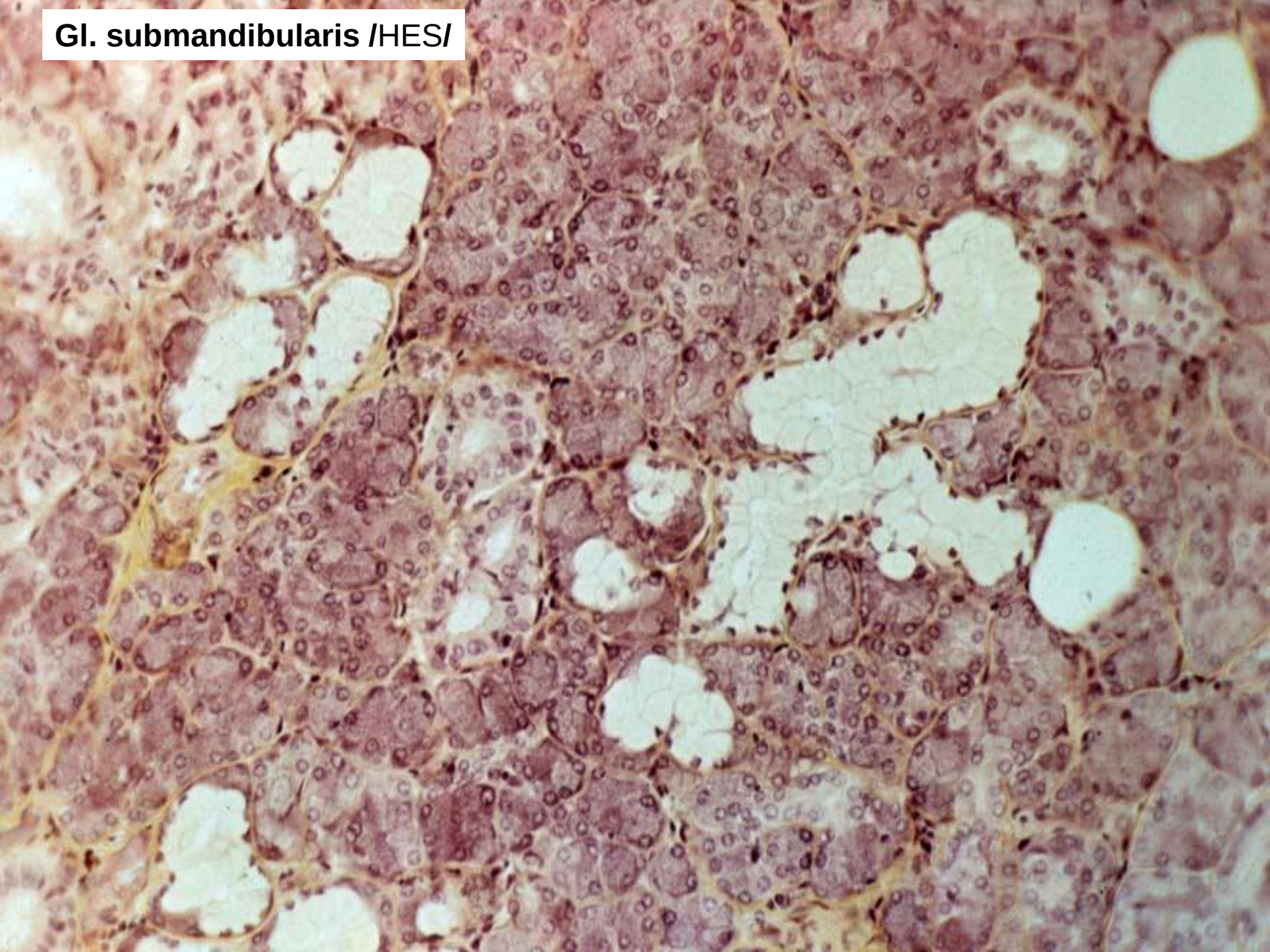
Glandula submandibularis



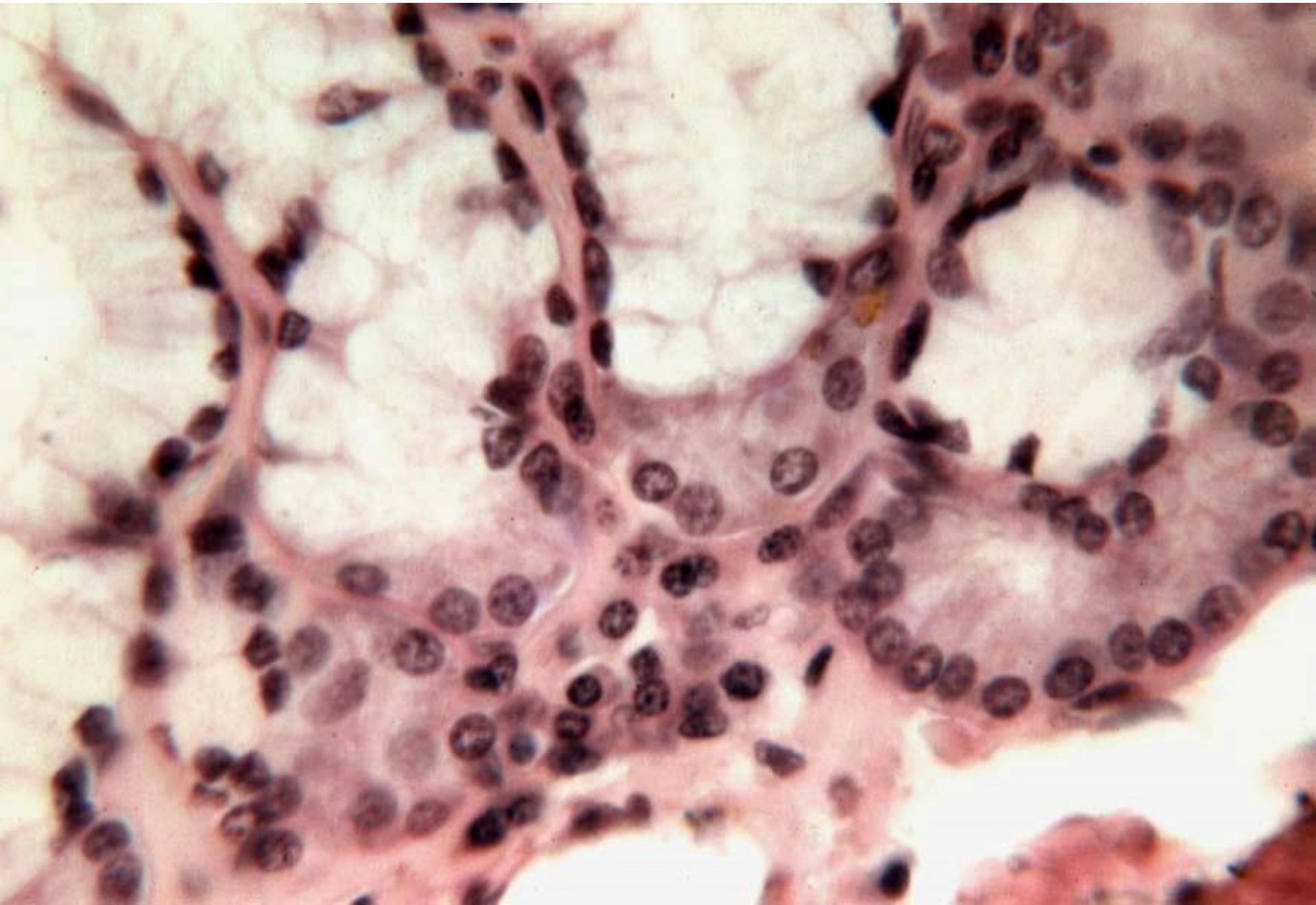
Glandula submandibularis




Gl. submandibularis /AZAN/

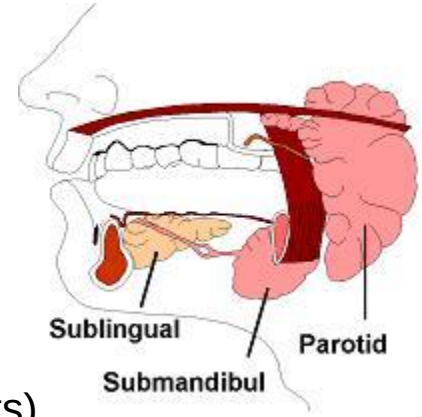

Gl. submandibularis /HES/

Gl. submandibularis /HE/ - Serous demillunes



Glandula sublingualis

compound, branched, mixed gland with dominant mucinous part

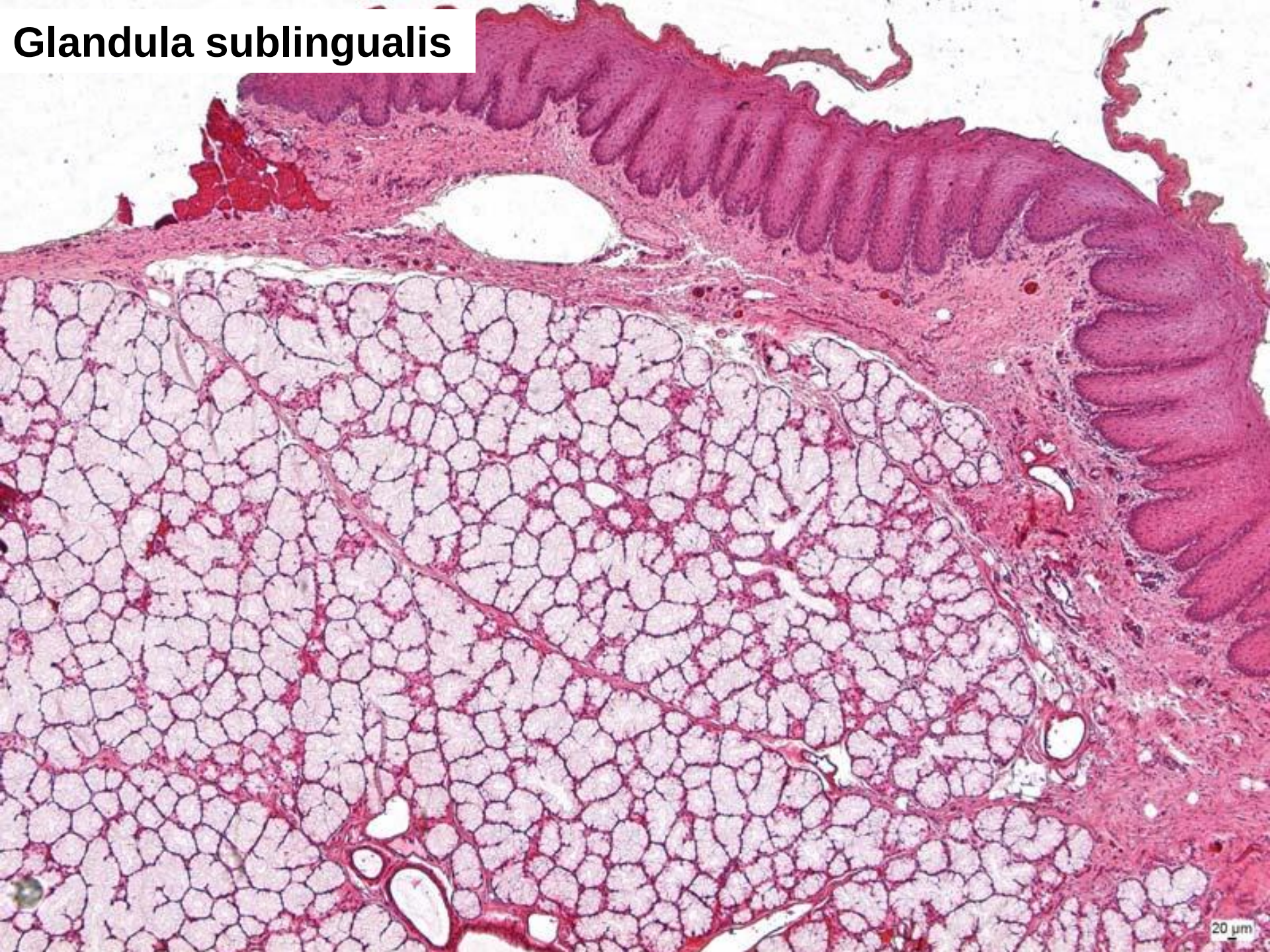


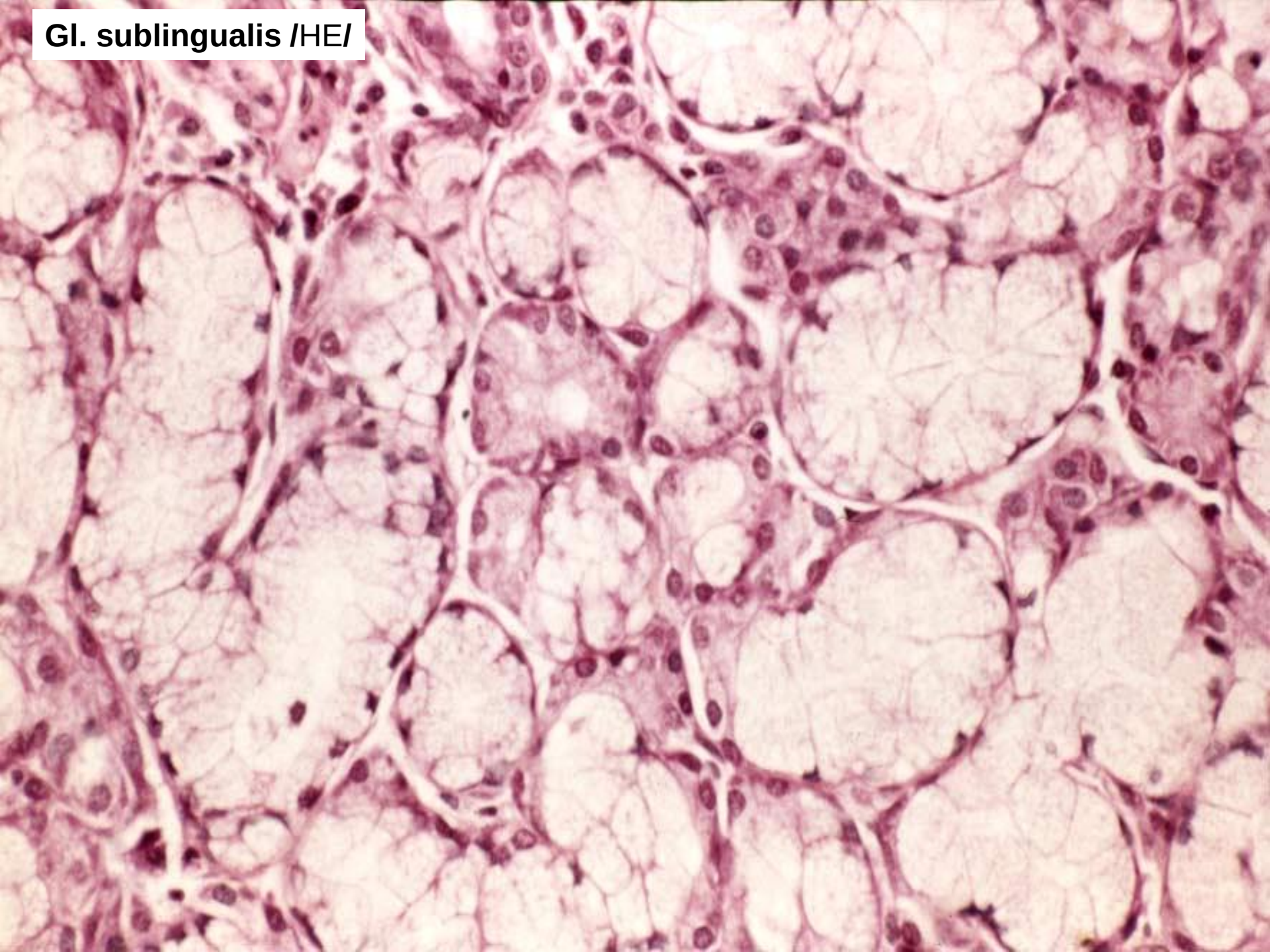
Connective tissue:

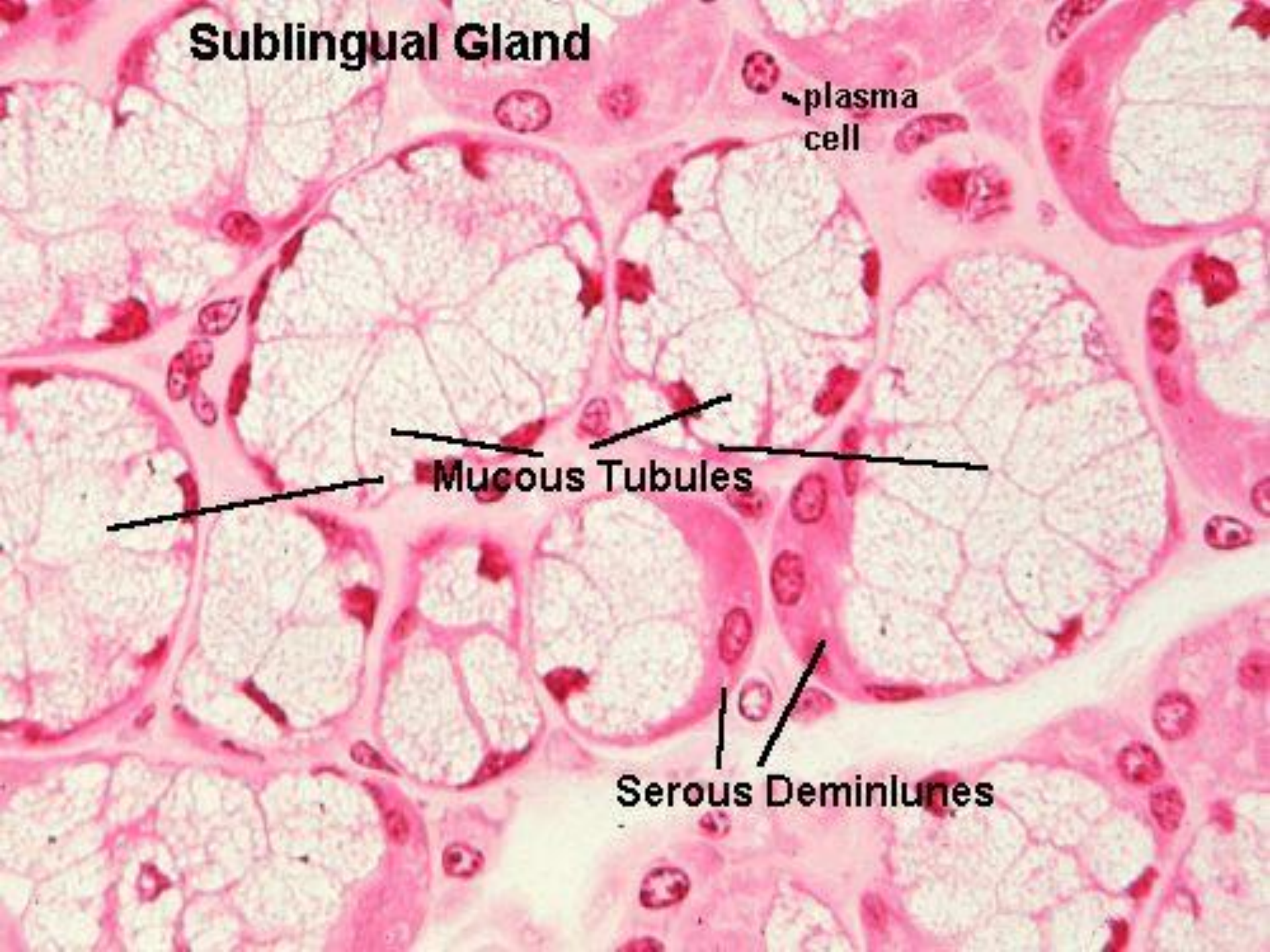
- capsula fibrosa + septa (vessels, nerves, interlobular ducts)
- loose c.t. in lobules

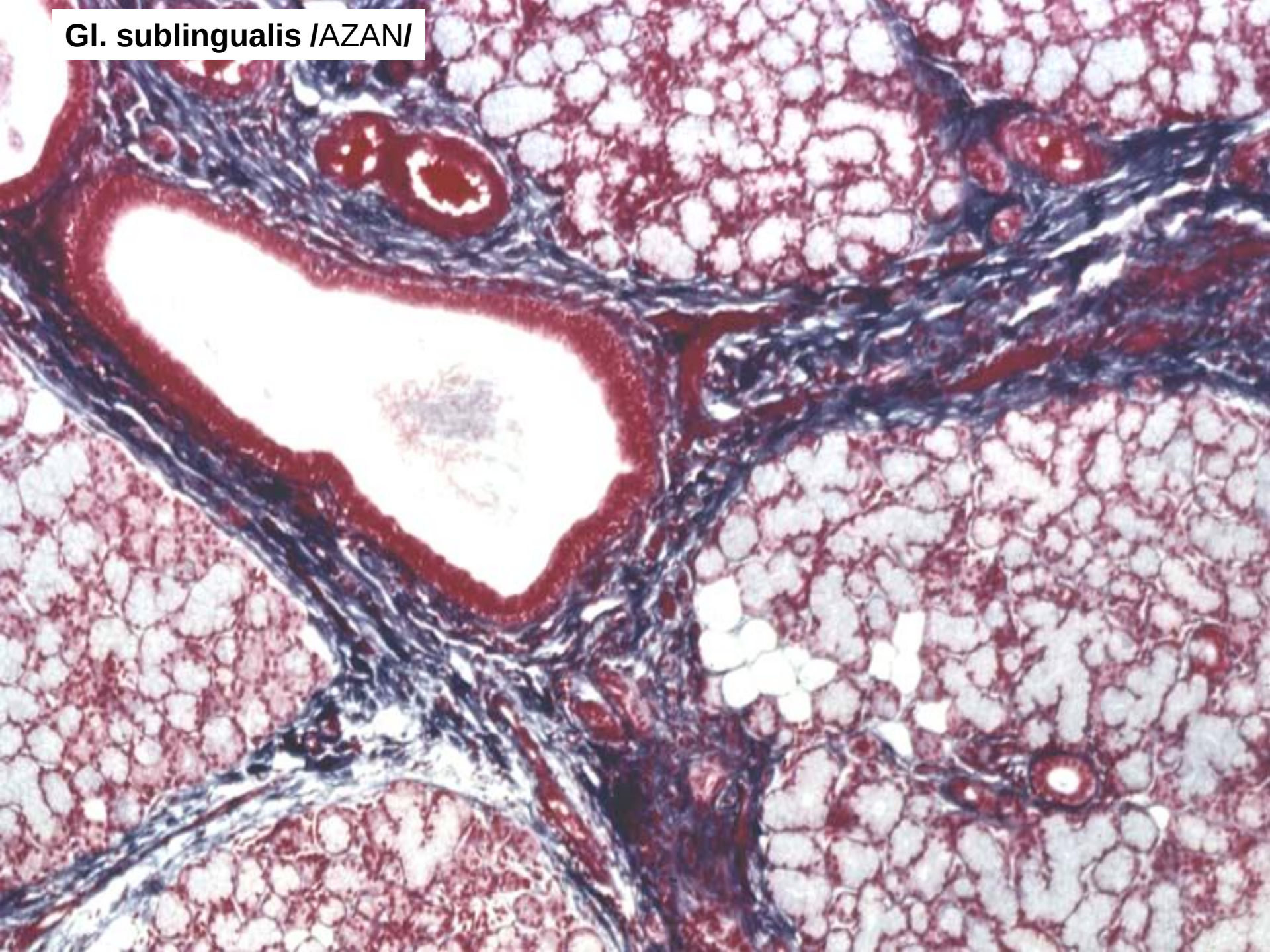
- **Parenchyma**:
  - mucinous ducts (serous acini)
  - ducts – intercalated, interlobular, main
  - adipocytes

Glandula sublingualis




Gl. sublingualis /HE/


Sublingual Gland
plasma cell
Mucous Tubules
Serous Deminlunes


Gl. sublingualis /AZAN/

GIT- I

Slides:

1. Labium oris (HE)
2. Apex linguae (HE)
3. Papilla circumvallata(HE)
5. Palatum molle(HE)
8. Glandula parotis (HE)
9. Glandula submandibularis(HE)
10. Glandula sublingualis