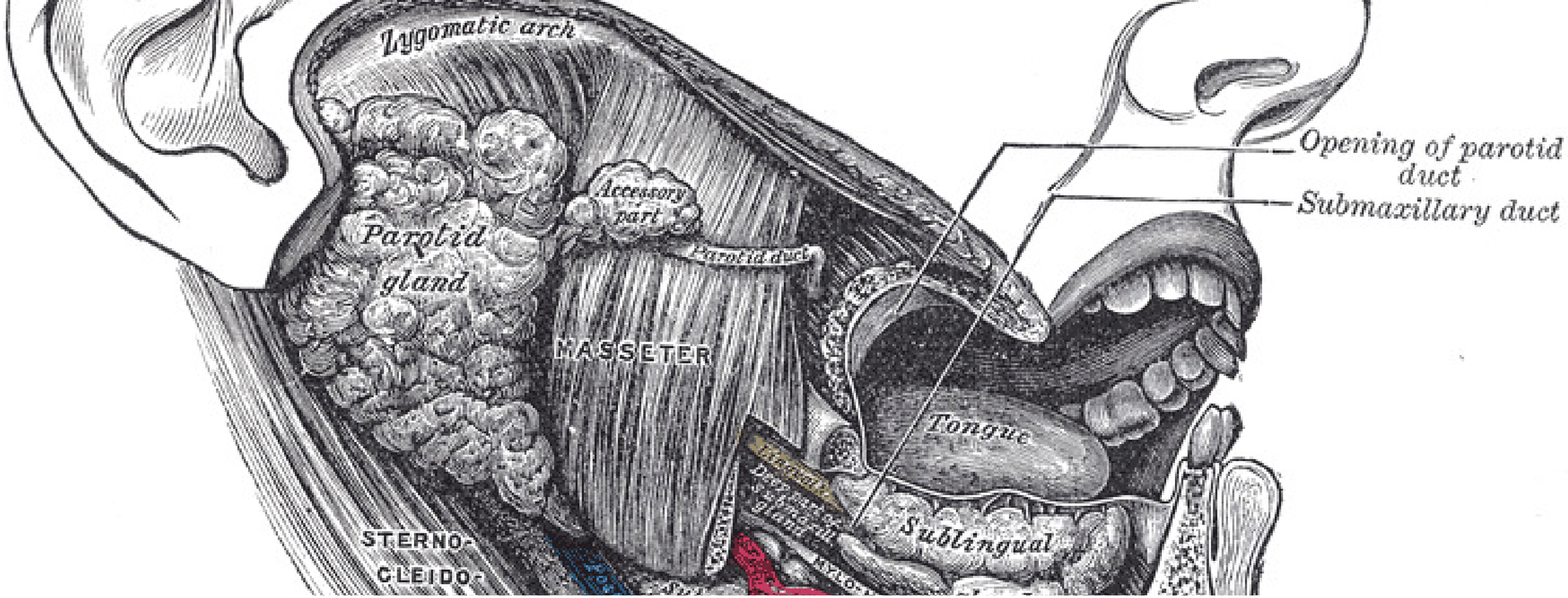
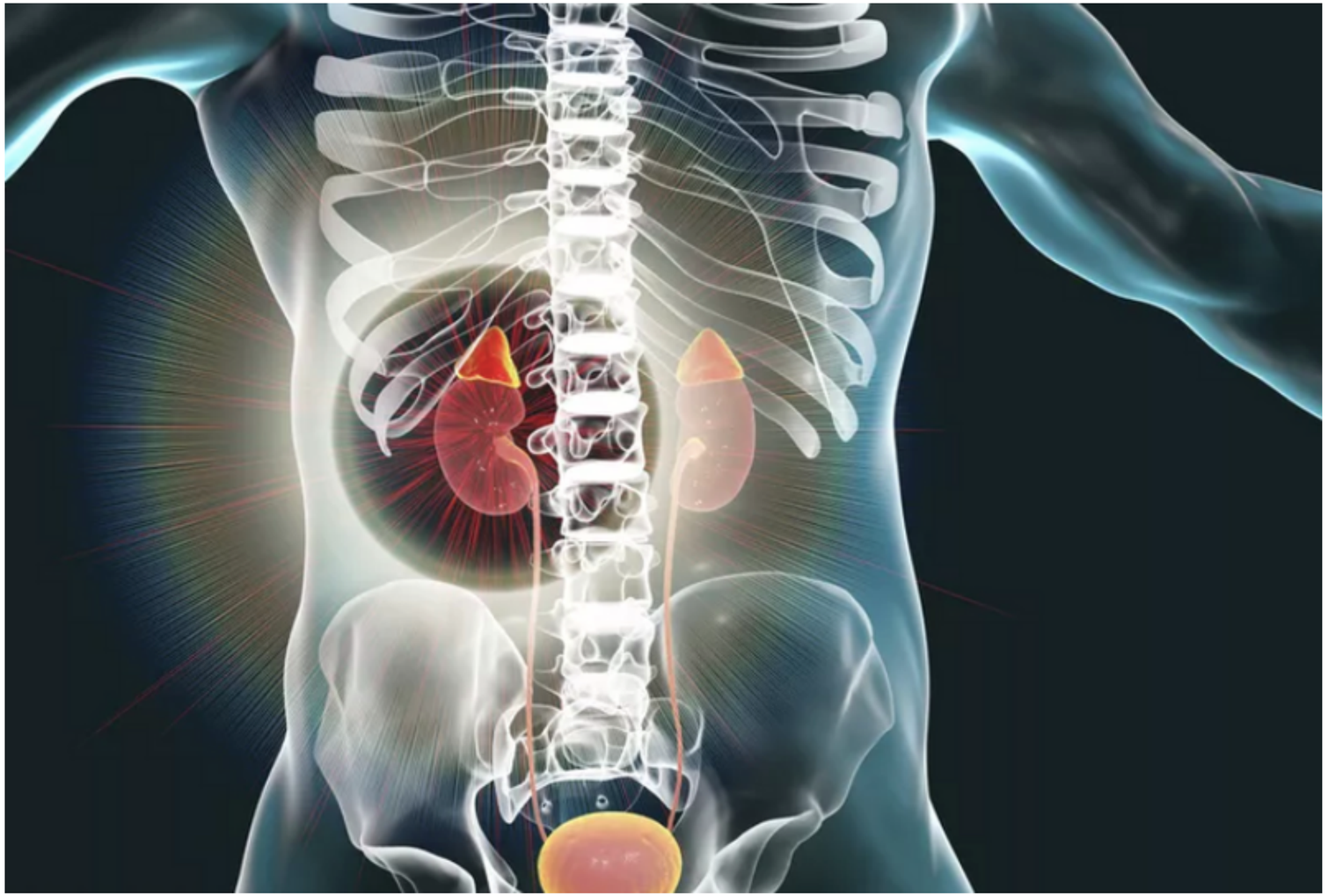


SALIVARY GLAND DISORDERS

Dr.Abhijeet Sande

GLANDS

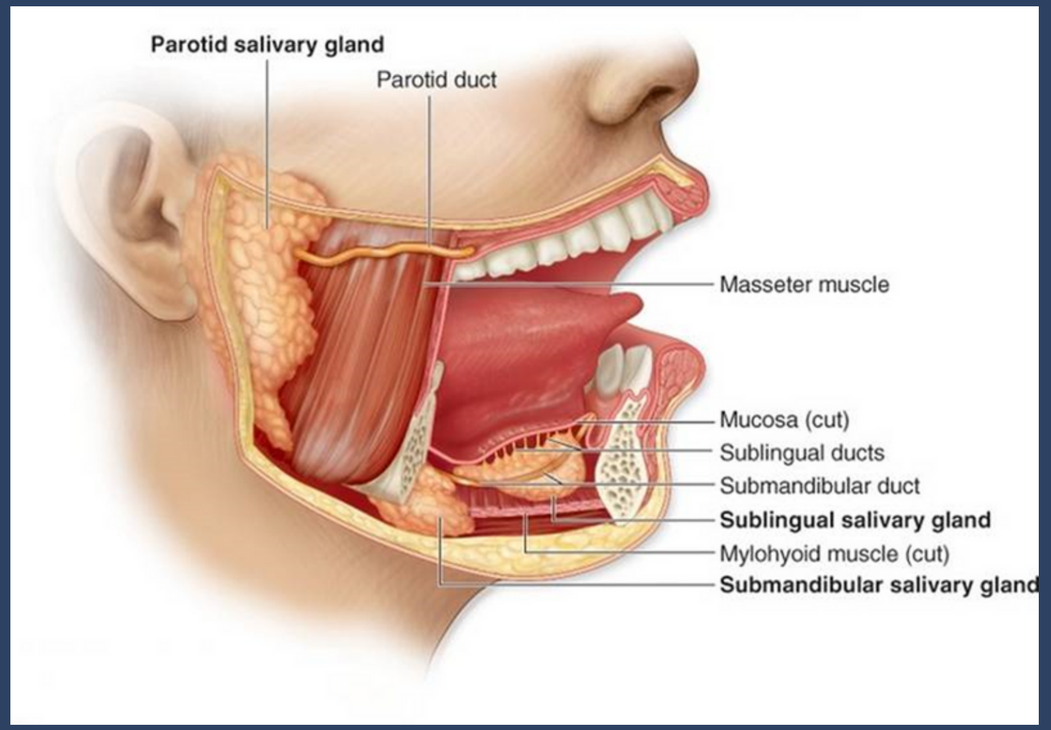
EXOCRINE AND ENDOCRINE



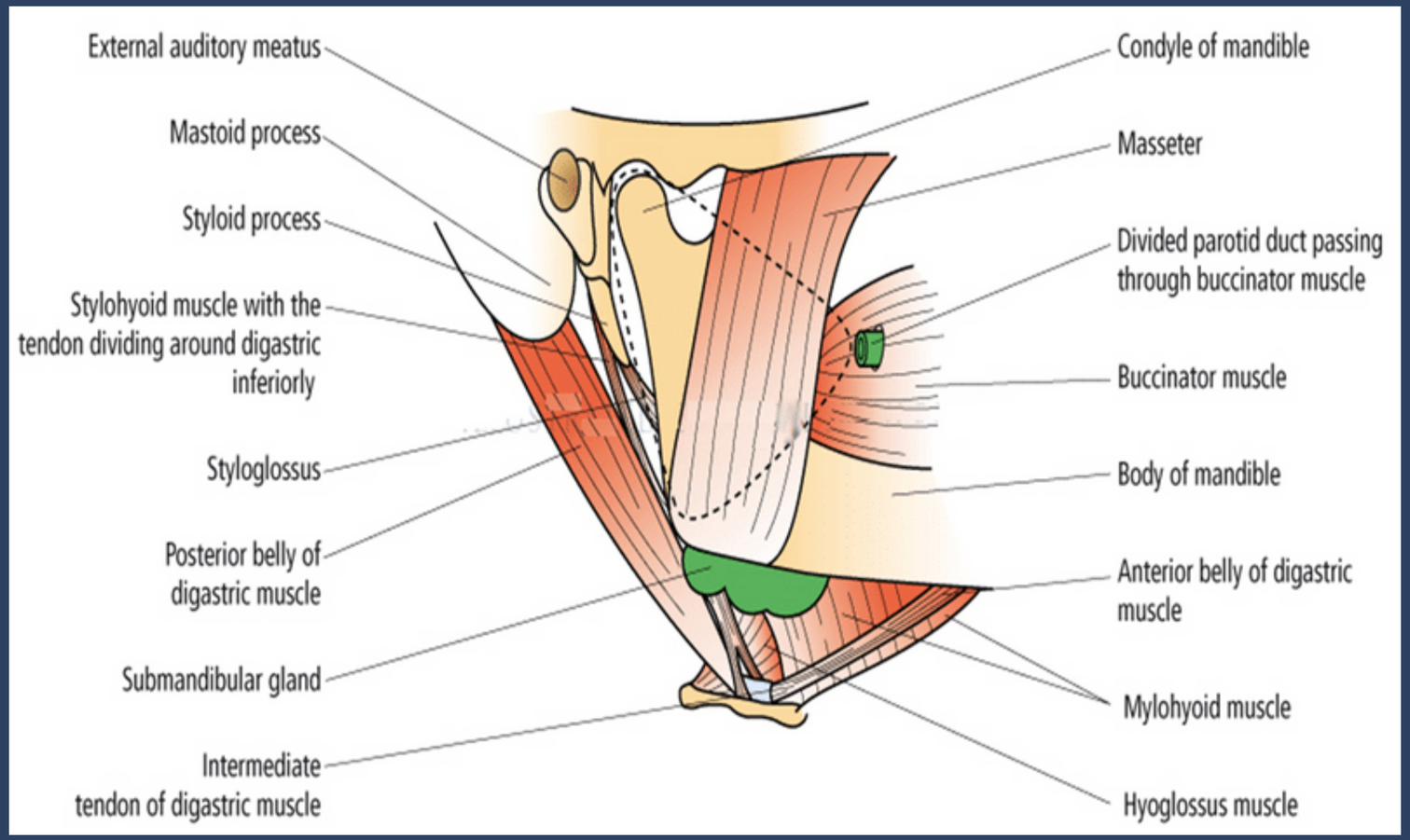
Salivary glands
are composed of 4 major glands, in addition to minor glands.

Major:
- 2 parotid glands.
- 2subman d-ibular gland

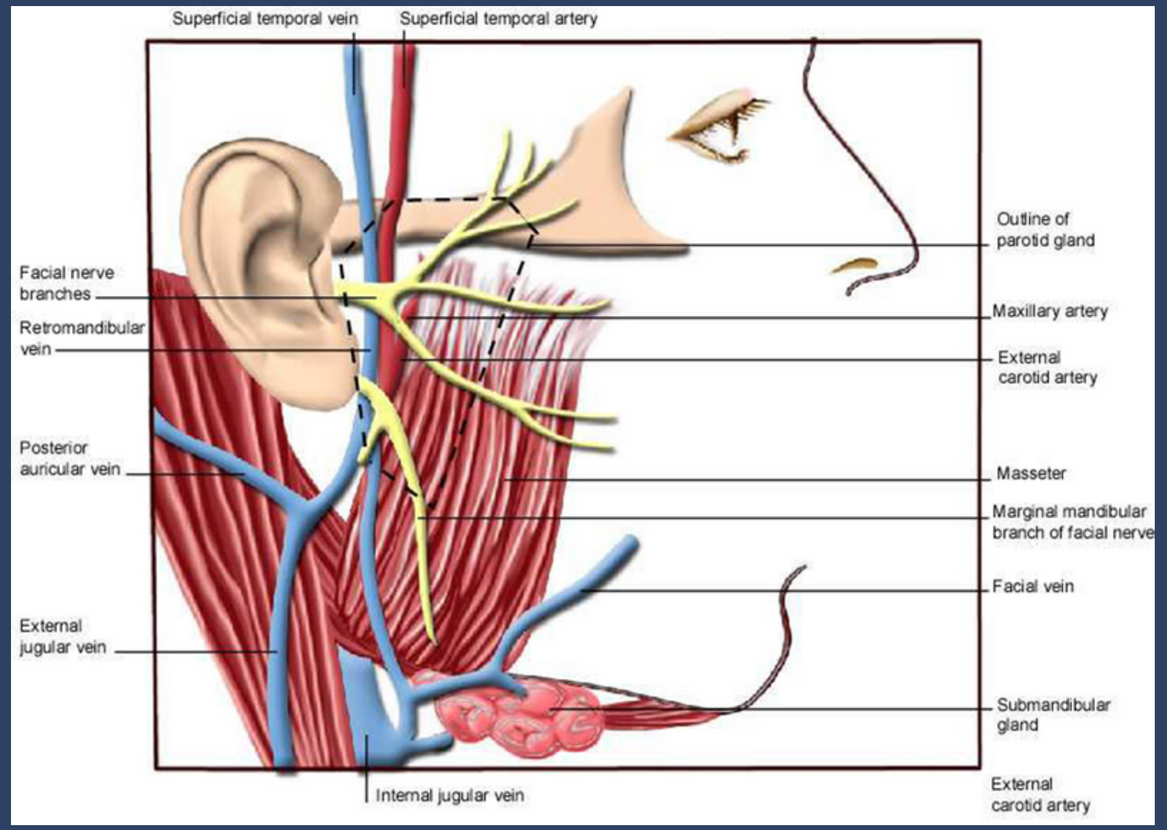
Minor:
- Sublingual.
- Multiple minor glands



Anatomy of Parotid Gland



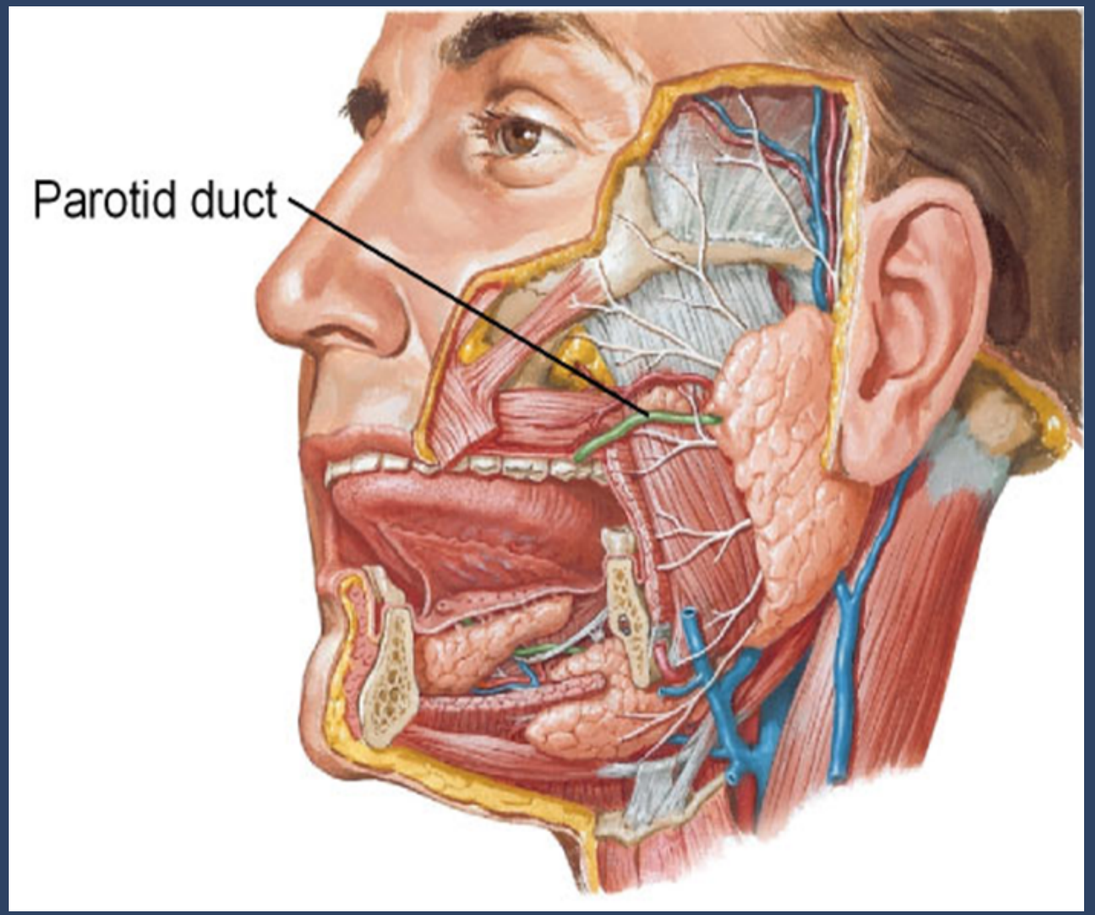
Important Structures



THE PAROTID DUCT:

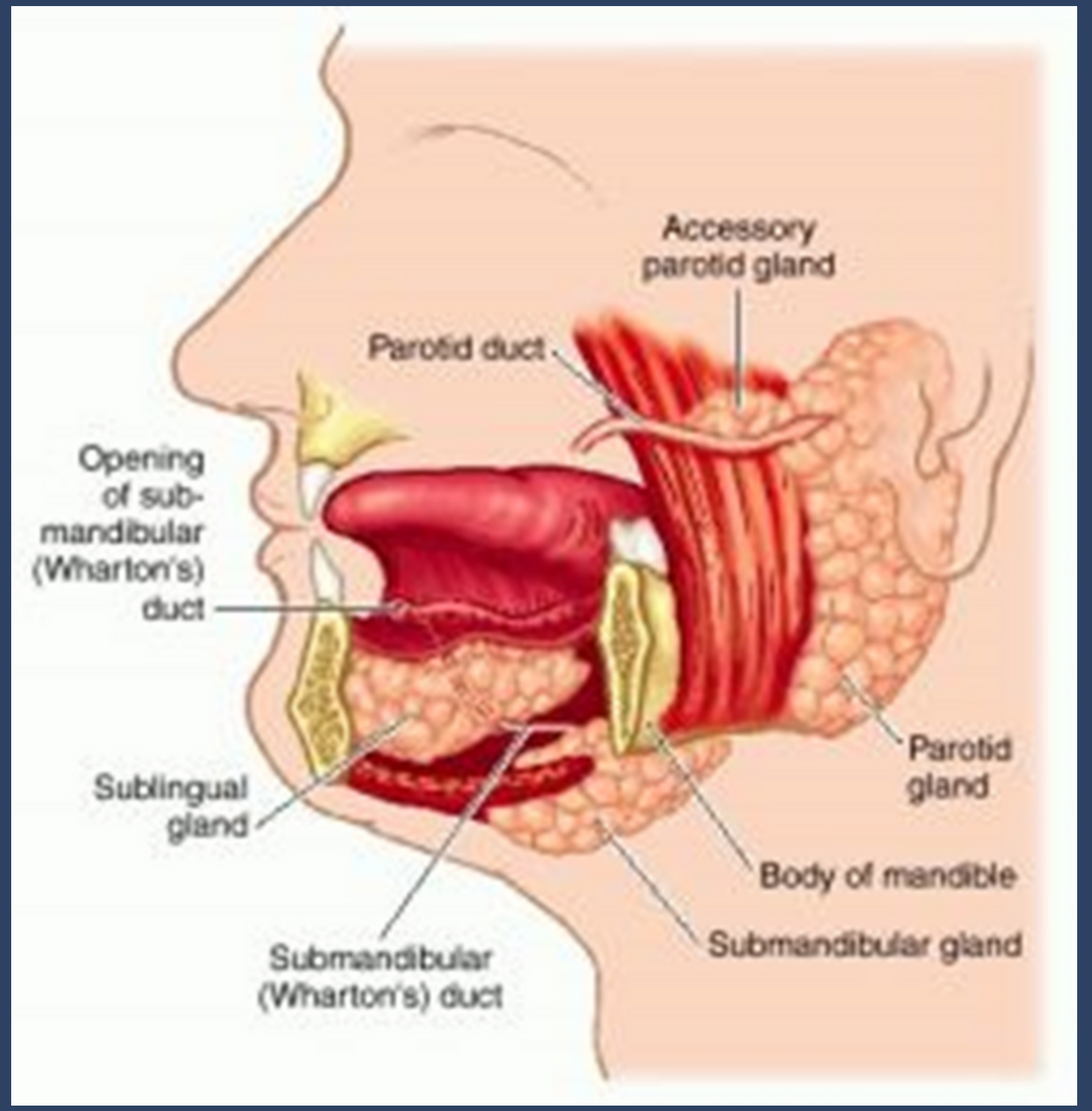
Stensen’s duct is 5 cm long.

open opposite the second upper molar tooth



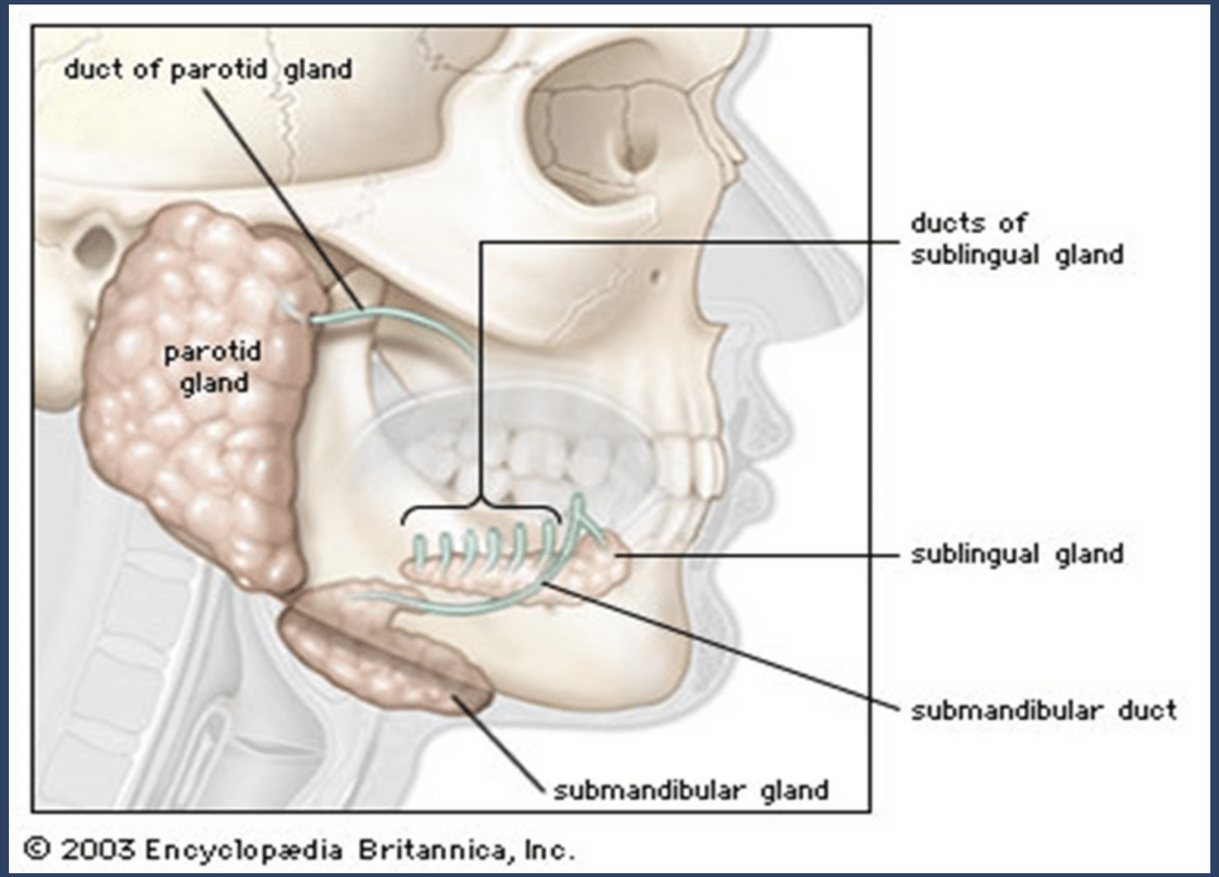
SUBMANDIBULAR GLAND

Warthon’s duct, drains submandibular gland that opens into anterior floor of mouth.



SUBLINGUAL GLAND

The ducts of the sublingual glands are called Bartholin’s ducts.



Based on type of secretions-

Serous salivary glands

eg- Parotid

Mucus salivary glands

eg-glosopalatine glands

Mixed glands

eg- Submandibular,sublingual

Saliva

Saliva is the secretions of major and minor salivary glands along with desquamated epithelial cells,microorganisms,food debris, serum components and inflammatory cells.

Volume - 600 - 1000 ml / day
Electrolytes- Na , ca, cl
Salivary amylase, immunoglobins A,G,M

Classification of SG Disorders

1. Developmental -

a. aplasia

b. atresia

2. Inflammatory -

a. viral- Mumps, coxachie

b. Bacterial - Acute bacterial sialdenitis, Chronic,Necrotising sialometaplasia

3.Cystic-

Retention cyst, Ranula extravasation cyst

4.Obstructive-

sailolithesis, stenosis

Classification of SG Disorders

5. Autoimmune -
a. Sjogren's sydrome

6. Functional disorders -
Xerostomioa
sialorrohea (ptyalism)

7.Metabolic-
Retention cyst, Ranula
extravasation cyst

8.Neoplastic-
a. Benign-
Pleomorphic adenoma (mixed)
monomorphic adenoma
Warthin's tumor

b. Malignant-
Mucoepidermoid carcinoma

Adenocystic carcinoma

Developmental

a. aplasia
b. atresia

2. Inflammatory -

MUMPS- (paramyxo virus)

Non suppurative bilateral acute sialadenitis of viral origin
Contageous - droplet infection
affects children within age group of 6-8 yrs
incubation period - 2-3 weeks

Clinical features

Painful parotid swelling lasts for 2 weeks
first affects unilateral later bilateral
Symptoms subside in 3-5 days total recovery in 2 weeks.

Complications-
Inflammation of the testicles (orchitis); this may lead to a decrease in testicular size (testicular atrophy)
Inflammation of the ovaries (oophoritis) and/or breast tissue (mastitis)

Treatment

It resolves in 5-10 days
Symptomatic relef from pain and fever
prevention of dehydration

Bacterial - Bacterial sialdenitis

Suppurative process affecting major salivary glands
common in parotid

Why common in parotid??
secretion ?
ductal opening?

Clinical features

sudden onset of unilateral / bilateral swelling
fever
involved gland painful ,tender
overlying skin erythematous
purulent discharge from duct

Treatment

culture and sensitivity
supportive measure - antibiotics and analgesics
hydration
improved oral hygene, sialogogues
faliure to respond - incisiona & drainage

Necrotising sialometaplasia

Necrotizing sialometaplasia (NS) is a benign, self-limiting inflammatory reaction of salivary gland tissue

ulcerative lesion over hard palate
painless

selflimiting heals within 3-4 weeks

3.Cystic-Mucocele

A mucocele is a benign, mucus-containing cystic lesion of the minor salivary gland. more over lower lip

Extravasation mucocele results from a broken salivary gland duct and consequent spillage into the soft tissue around this gland

Retention mucocele appears due to decrease or absence of glandular secretion produced by blockage of salivary gland ducts

3.Cystic-Ranula

A ranula is a fluid collection or cyst that forms in the mouth under the tongue. It is filled with saliva (spit) that has leaked out of a damaged salivary gland

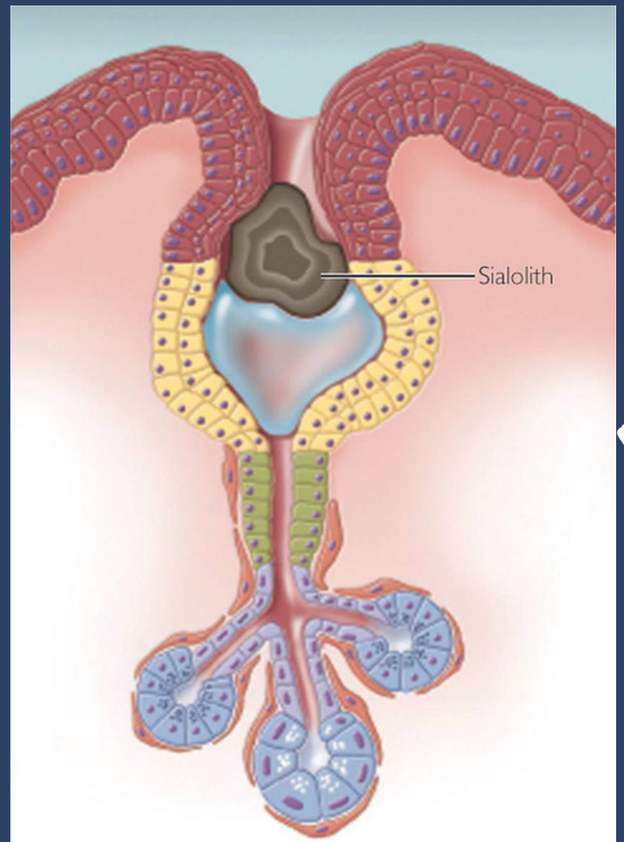
Deep plunging ranula (mylohyoid muscle)

surgical excision

4.Obstructive-
sailolithesis

Sialolithiasis is the presence of calculi in the salivary glands or ducts. Stones will form in the salivary gland or ducts following the stagnation of saliva; they are typically composed of calcium phosphate and ***hydroxyapatite***, as the saliva is rich in calcium

- Asymptomatic
- Intermittent facial swelling associated witrh eating ,painful/painless
- Usually unilateral
- on palpation stones can be felt / saliva drain through duct



Why 80% cases in submandibular gland??

INVESTIGATION

- Conventional radiographs using occlusal views
- Computed tomography
- USG
- MRI
- Sialoendoscopy
- Sialography: The Old "Gold Standard"

SIALOGRAPHY

A radiographic examination of the salivary glands and ducts using contrast media

Contrast media
a. Oil based
b. water based

Oil-based
More dense, absorb slower
can cause granuloma (stones)
hard to completely excrete
Sinographin

Water based iodinated (ionic or nonionic)
Less dense
absorbed faster
no residue
Conray

- INDICATIONS
- Stones (Calculi) sialolithiasis
- Obstruction / Strictures
- Pain Swelling
- Infection
- Masses / Tumors

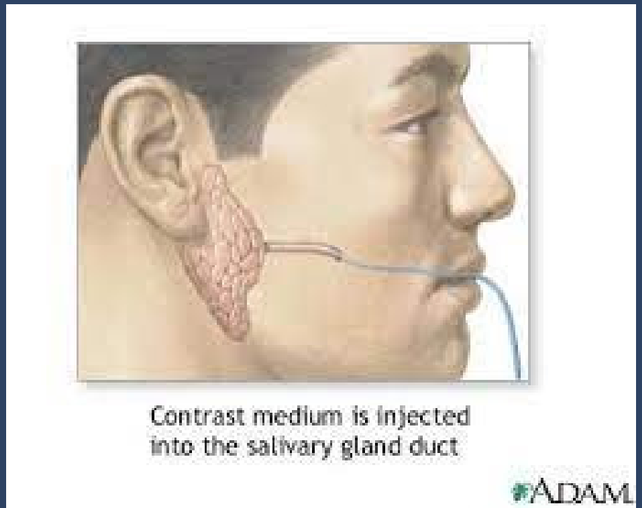
CONTRAINDICATIONS

- History of contrast media allergies
- Parotits (mumps)
- Severe inflammation of the salivary ducts

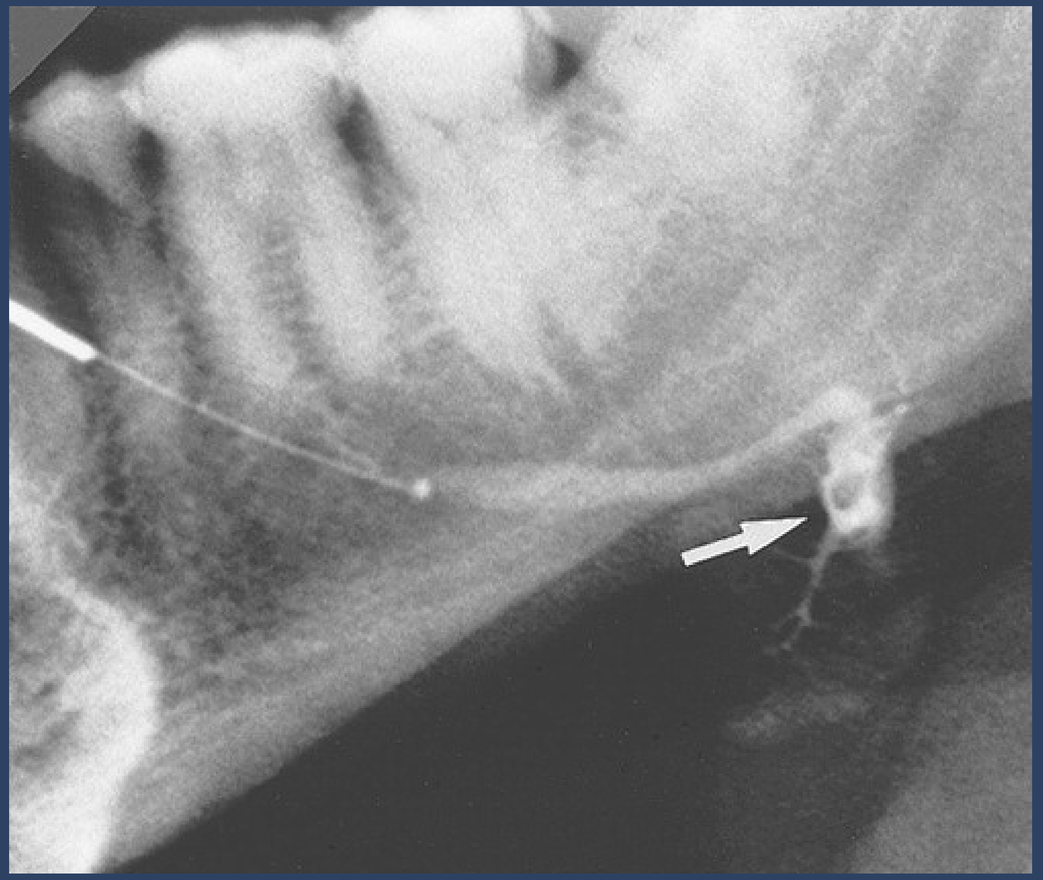
PROCEDURE

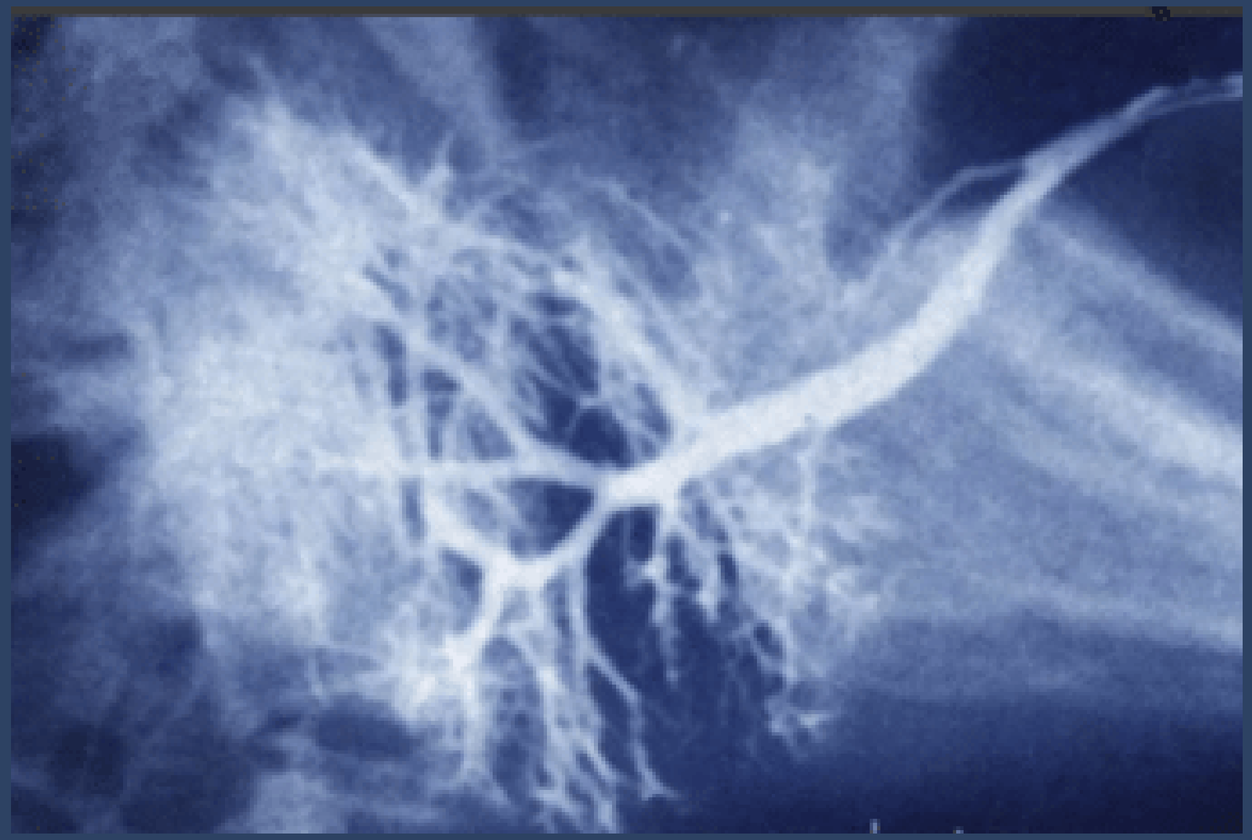
The patient may be asked to suck on a lemon or secretory stimulant for 2-3 minutes before sialography to make the salivary duct opening conspicuous for cannulation. (preoperative)

- once the gland / duct is located 24- 26 guage catheter is used
- up to 2 mL of water-soluble/ oil based contrast is instilled (filling phase)
- Removal of the cannula,lemon juice aids, emptying phase radiograph)
- care should be taken not to introduce air into the salivary ducts, as it can mimic a ductal calculus on sialography



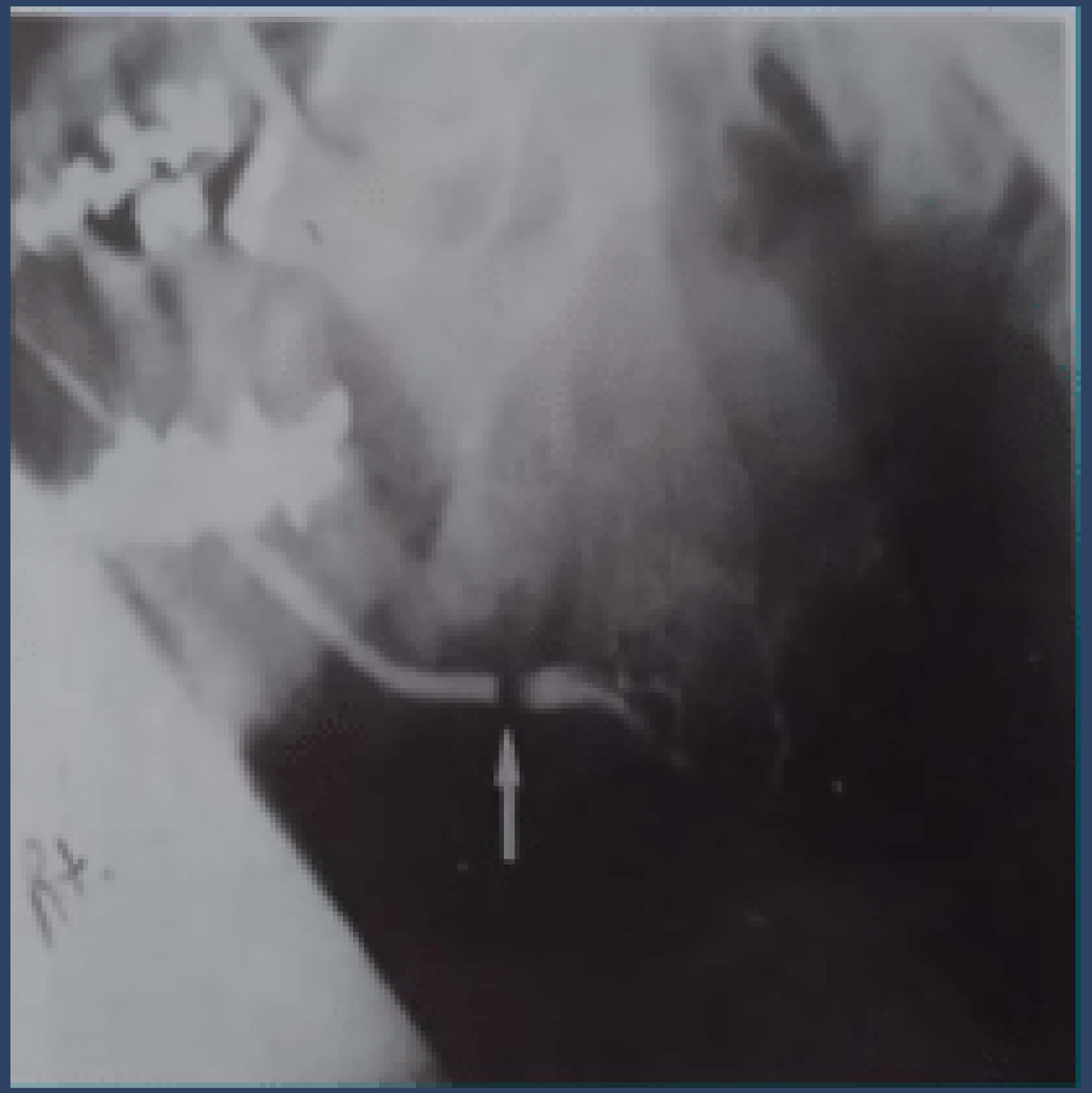
Radiographic Appearences

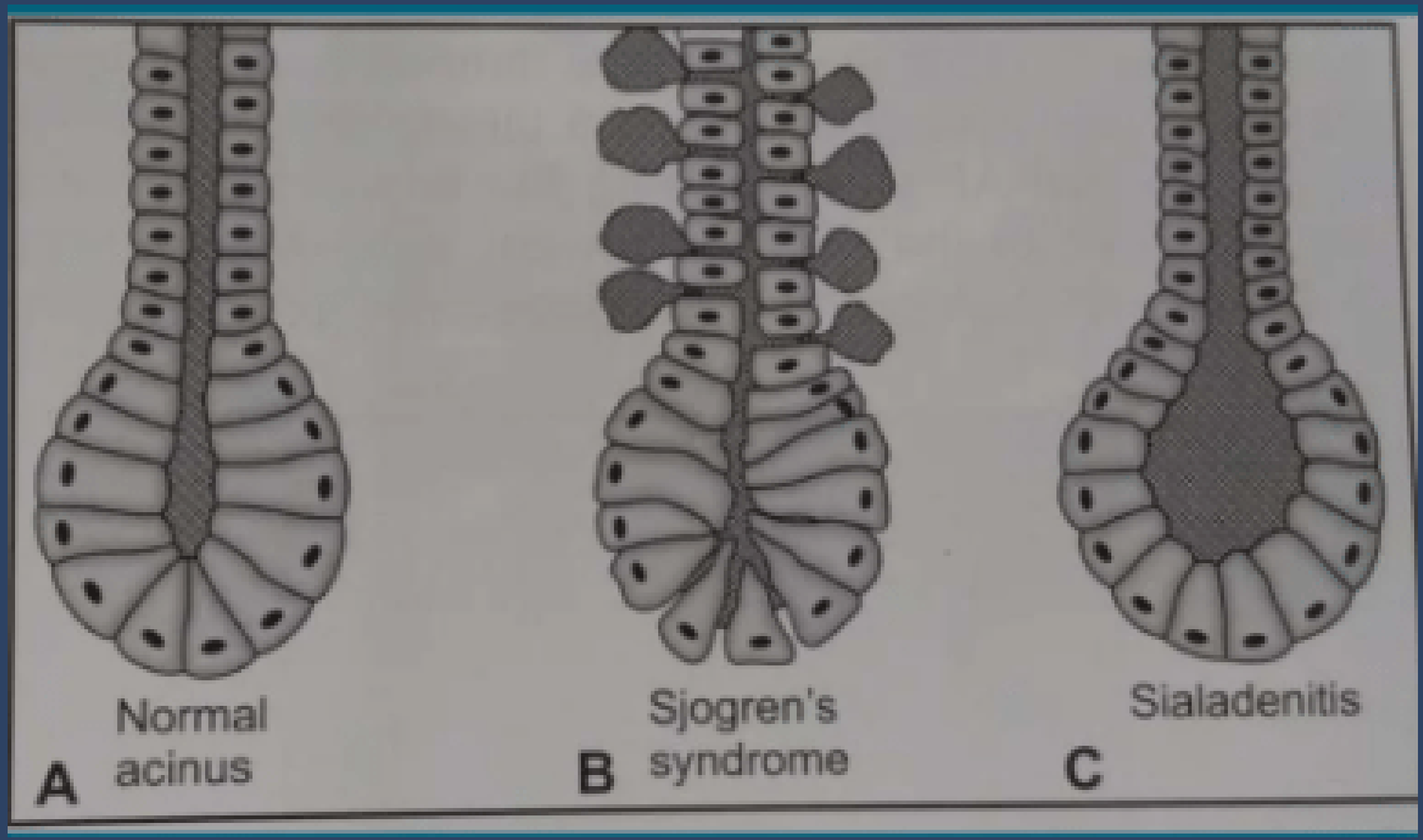




Normal - Tree in winter/ bush in winter

sailolithesis - filling defect




Normal acinus
A
Sjogren's syndrome
B
Sialadenitis
C

sialdenitis/sjogren's syndrome

branchless fruit laden/ cherry blossom appearence

5. Autoimmune - Sjogren's sydrome

Sjögren’s syndrome is a chronic inflammatory autoimmune disease of unknown origin, caracterised by lymphocytic infiltaration and destruction of salivary and lacirimal glands resulting in dry mouth and dry eyes.
Henrik Sjogren (1933)

Types -

1. Primary SS - Alone

2. Secondary SS- Associated with underlying systemic disease, Scleroderma, SLE ,RA

Pathogenesis-

Anti SS-A RO

Anti SS-B -RO

Clinical Features-

Dry mouth - xerostomia

multiple caries

candidiasis

parotid enlargement

dryness of eyes - keratoconjunctivitis sicca

other manifestations-

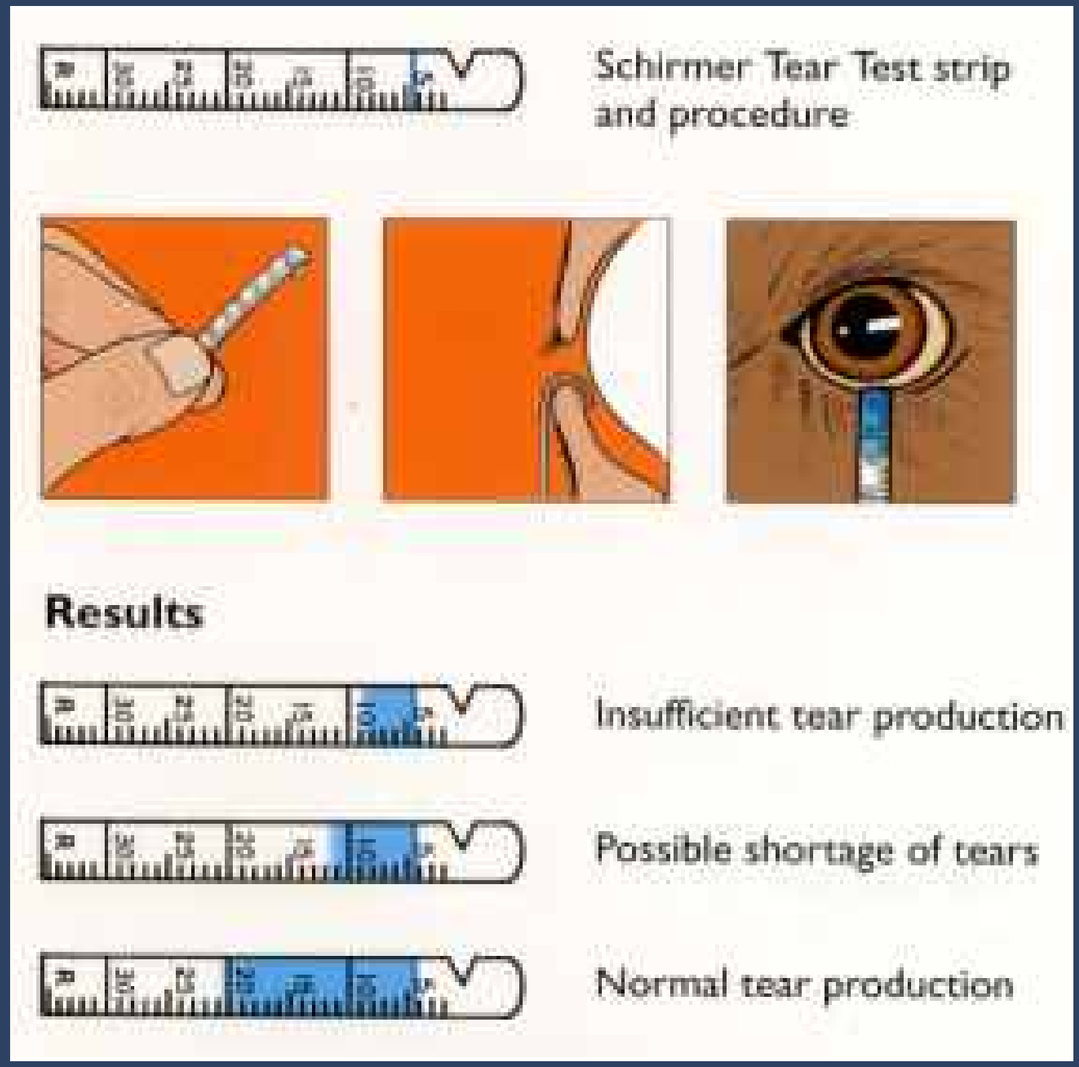
myalgia

arthritis

Tests-

Schirmer's test-
>15 mm in 5 min
normal
<5mm in 5 min
wetting

Rose bengal dye test



Revised classification for SS

Oclular symptoms- At least any one of these-

Dry eyes more than 3 months

feeling of granular / grains in eyes

need for tear substitute for more than 3 months

Oral symptoms-

Dry mouth > 3months

needs liquid to eat solid foods

Schimers or rose bengal test positive

Treatment

Symptomatic -

oclular - eye drops

xerostomia- artifical saliva, liquids, bromhexine

Systemic drugs for candidiasis

steriods if needed

- A 45 yr old female
- C/o – **slow growing, painless** swelling below the left side of ear for the past 5 months
- O/e – 5x3 cm,oval, lifting the ear lobule

No localised warmth, not tender

Surface-smooth, Margins- well defined. Retromand groove oblit.

Variable consistency. Mobile

Not adherent to skin, masseter muscle

No signs suggestive of facial N inv

Examination of oral cavity is normal

Tumors

Pleomorphic adenoma (PA) is a commonly occurring benign tumor originating in the salivary glands.
termed by wills
more commonly in parotid (85%) then minor salivary glands (10%)

The tumor has three components: an epithelial component, myoepithelial cell component, and mesenchymal component.

More common in F
Usually unilateral
40-45 yrs
curtain sign

Investigation -
MRI , FNAC

MUCOEPIDERMOID CARCINOMA

- Most common malignant salivary gland tumor in adult & childrens → 29 – 34%.
- Parotid gland MC involved. (80-90%),
- Intraorally MC→ Palate

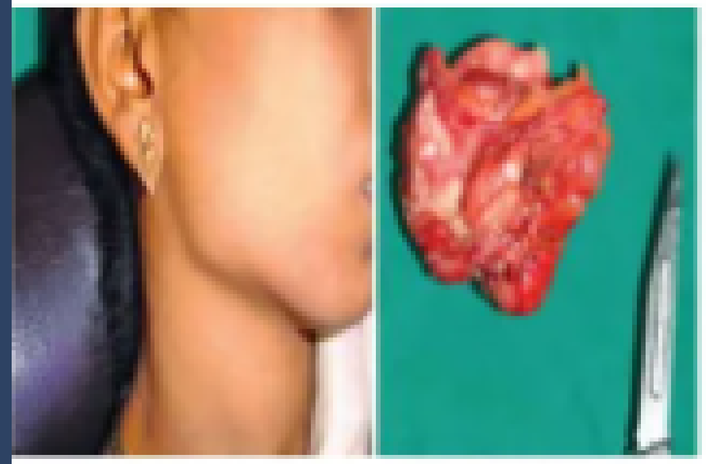
CLINICAL FEATURES

1) Appears as asymptomatic swelling,

F>M→ 3rd -5th decade.

2) Aware of lession for yr or less.

3) Fluctuant & blue/red color.



TREATMENT

1) For the most favorable tumours→ Superficial parotidectomy with facial nerve preservation, if possible.
2) Radical excision is necessary for pts with large &/or high-grade lesions.
3) Associative elective ND .
4) With more severe neck disease→ RND.
5) High grade tumours→ Require post op RT.