Salivary Glands

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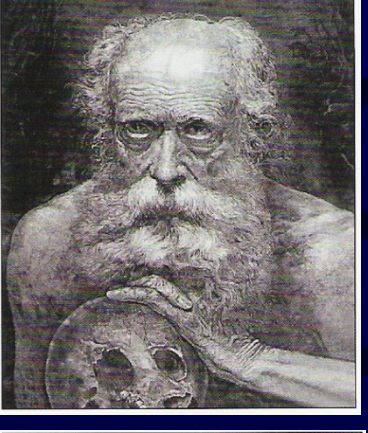


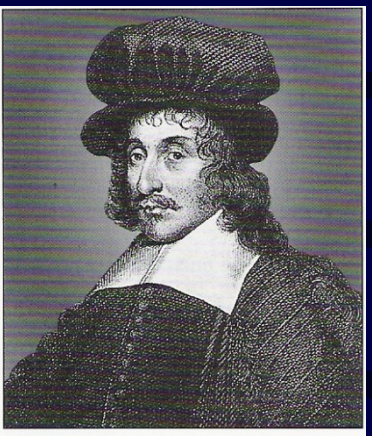


Fig. 1b
Thomas Wharton (1614–1673).

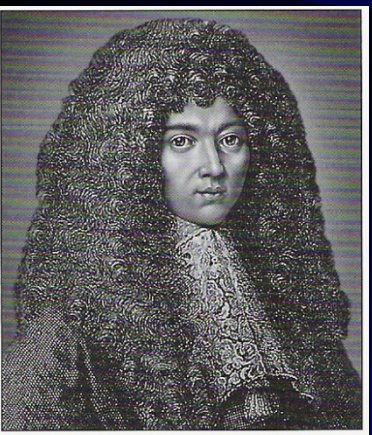


Fig. 1d
Caspar Bartholin (1655–1738).

- ***Hippocrates*** 460-370 BC described first the salivary gland diseases
- 1000 yrs later ***Abulcasis***, islamic surgeon – instruments, ranula
- ***Paulus Aeginata*** and ***Ambroise Paré*** described salivary tumours in 16th century.
- ***Wharton*** – ductal system in 17th century.
- ***Stenon***- anatomy of the parotid gland (Stensen`s)
- ***Bartholinus*** – subling. duct

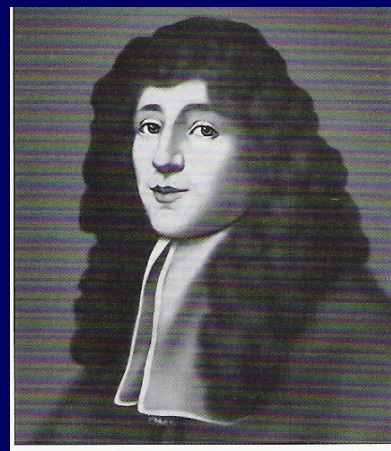
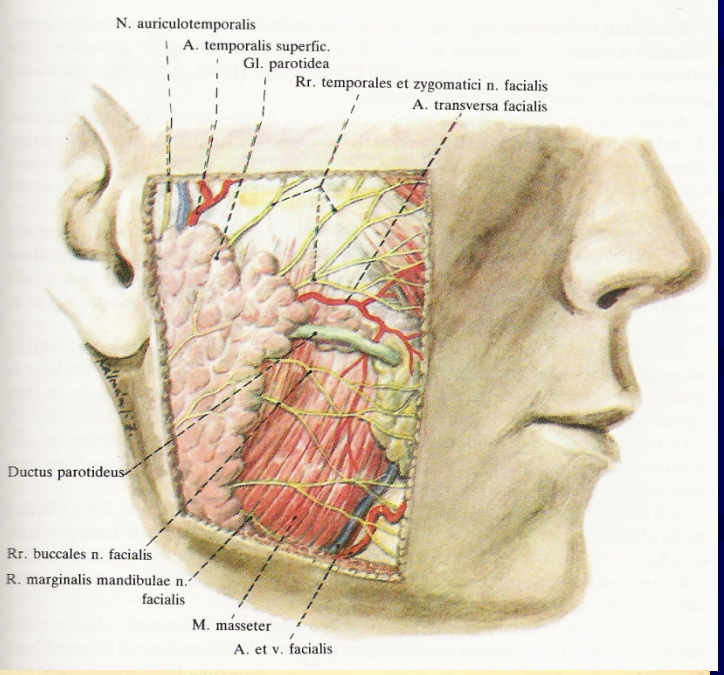
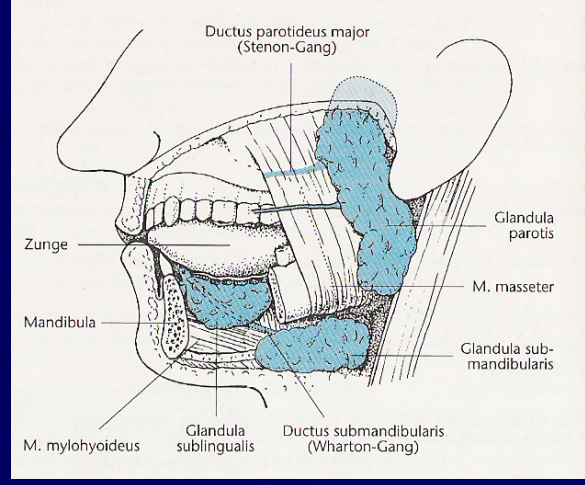
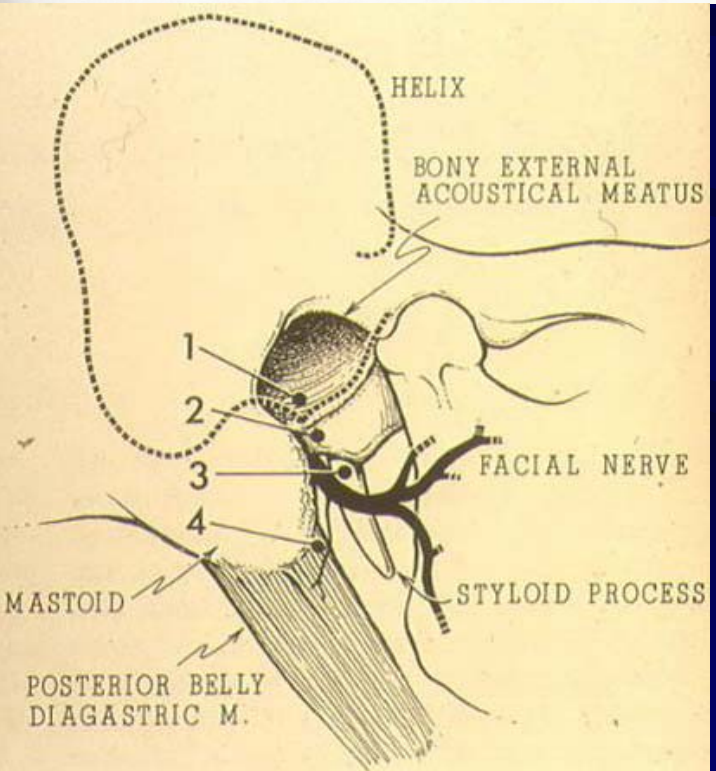


Fig. 1c
Nicolaus Stenonius (1638–1686),
Wellcome Institute Library, London.

Anatomy





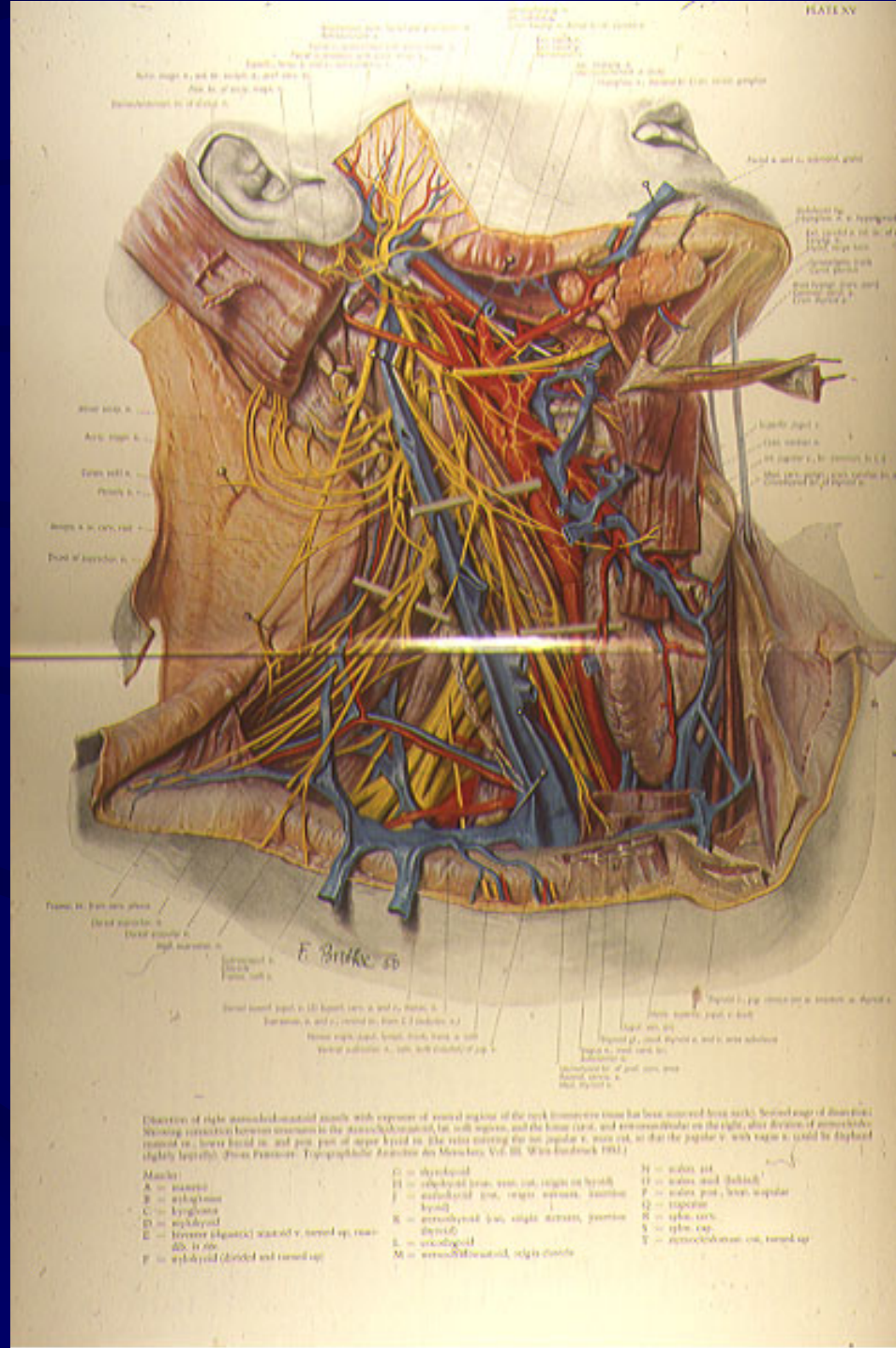


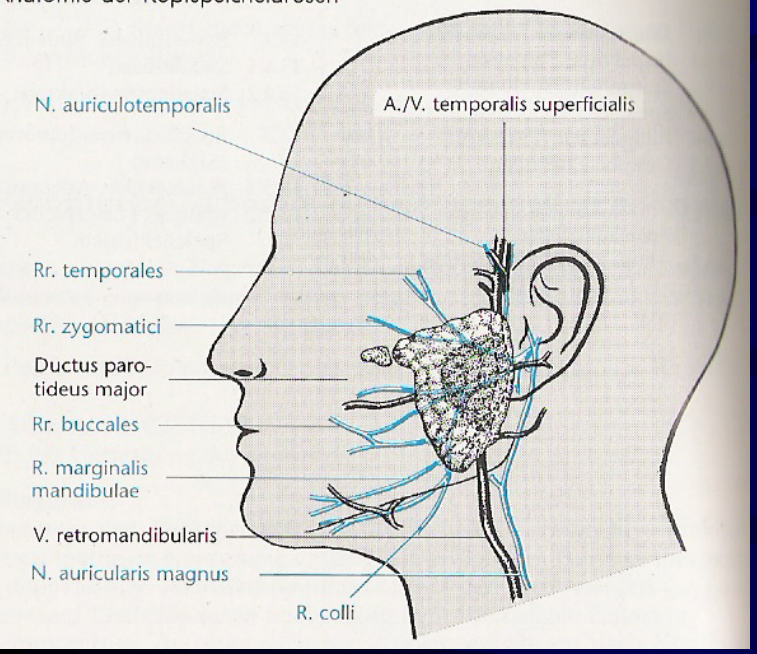
- Parotis – retromandibular fossa
- ***Posteriorly***: m.scm, proc.mastoid, ext. ear canal
- ***Anteriorly***: M. masseter, mandibula
- ***Superiorly***: TMJ, arc.zygomat.
- ***Inferiorly***: ~ 1cm mandib. proc.
- ***Medially***: cranial base, parapharyngeal space, m biventer post. belly
- ***Laterally:*** skin

Nerves:

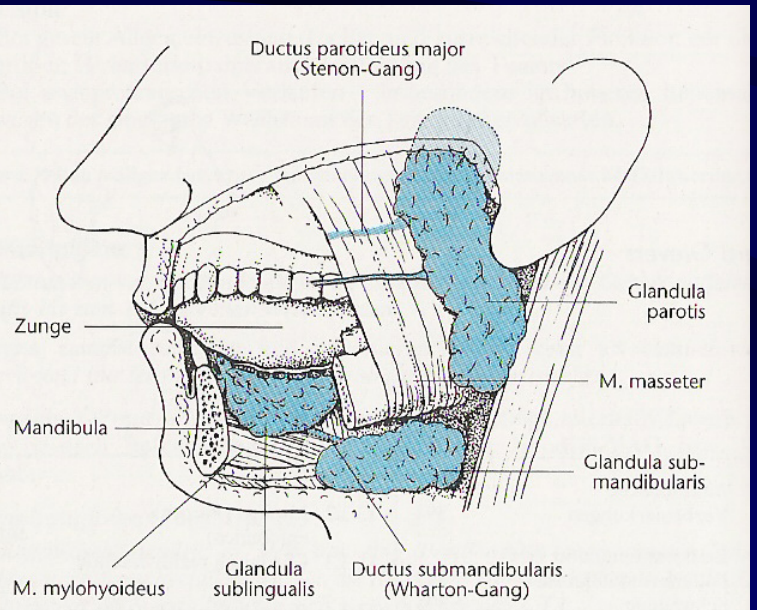
N. Facialis (n.VII.)

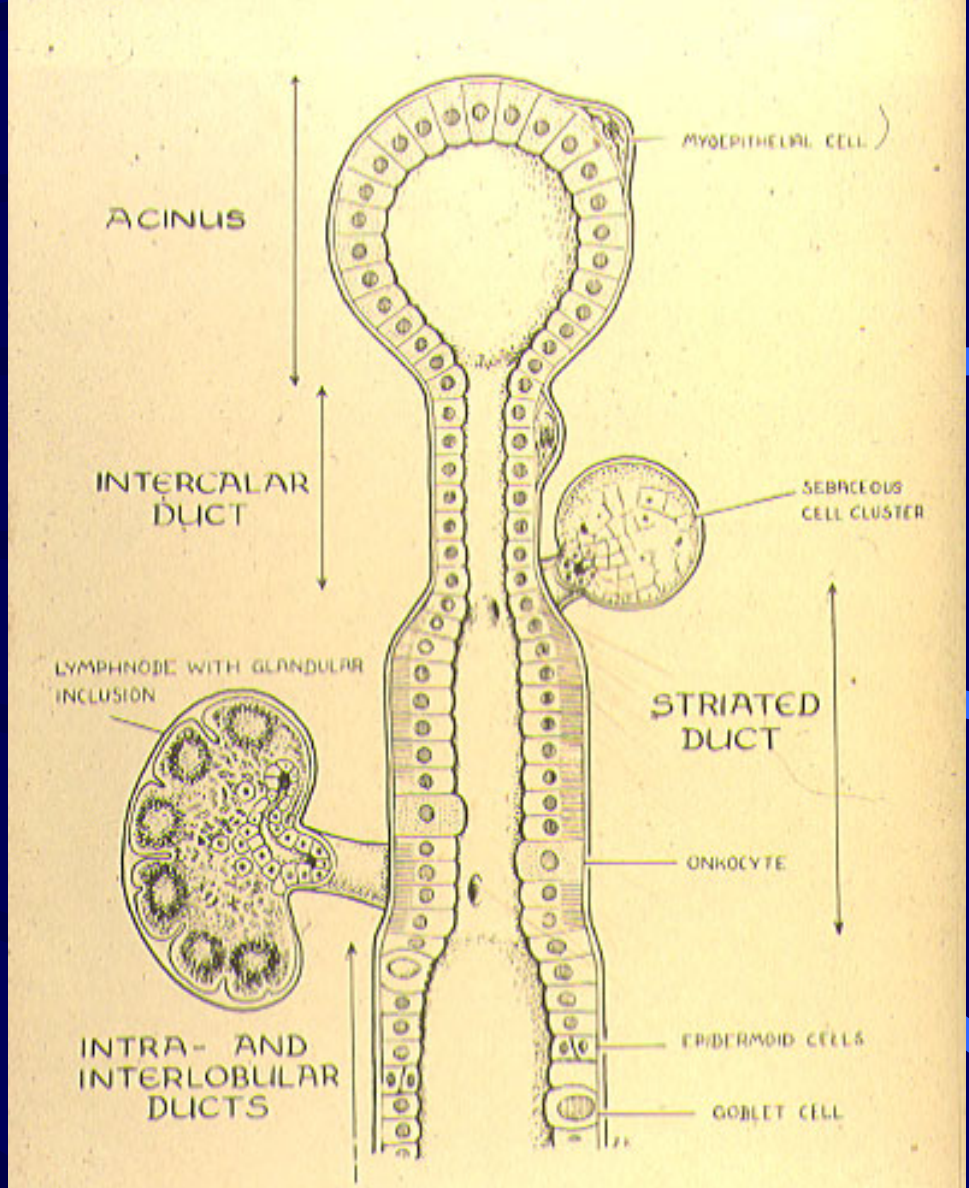
- n. petrosus major
- n. stapedius
- chorda tympany
- r. digastricus et stylohyoideus
- motor fibres





Serous and mucinous saliva





4–1: Schematic drawing of the histology of a normal parotid gland. The different cell types correspond to particular forms of tumors and hamartomas.

- N. petrosusu major---ggl.pterigopalatinum---n. lacrimalis (V/1) et n. zygomaticus(V/2)

  Lacrimal gland, nasal and oral mucosa

- Chorda tympani --- ggl.submandibulare --- n. lingualis (V/3)

  Gl. Submandibular and gl. sublingual

- N. petrosus minor (n.IX) --- ggl.oticum --- n. auriculotemporalis (V/3)

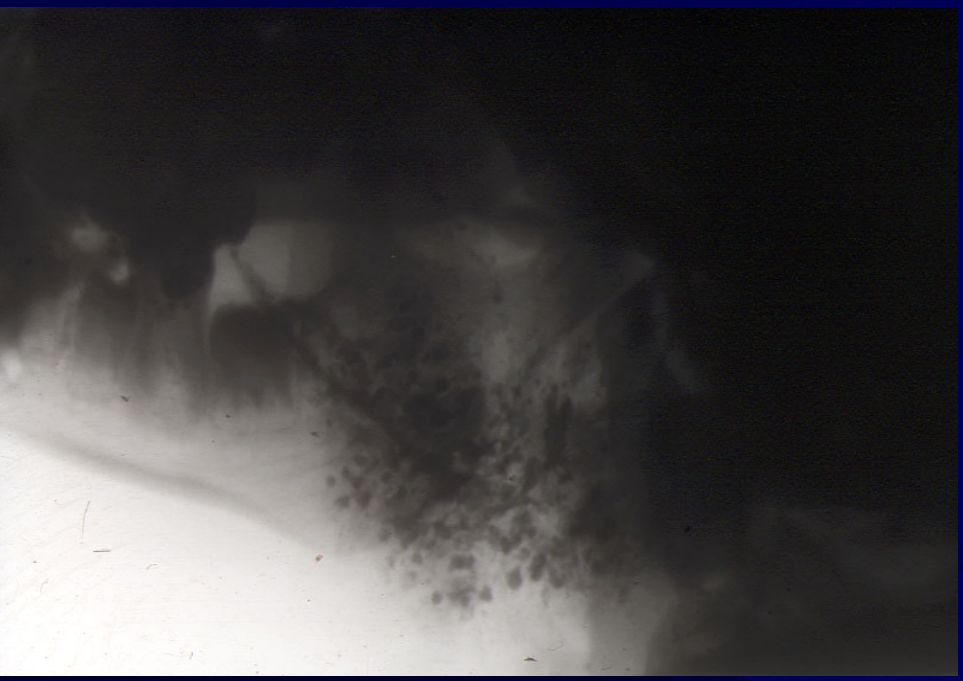
  Gl. parotis

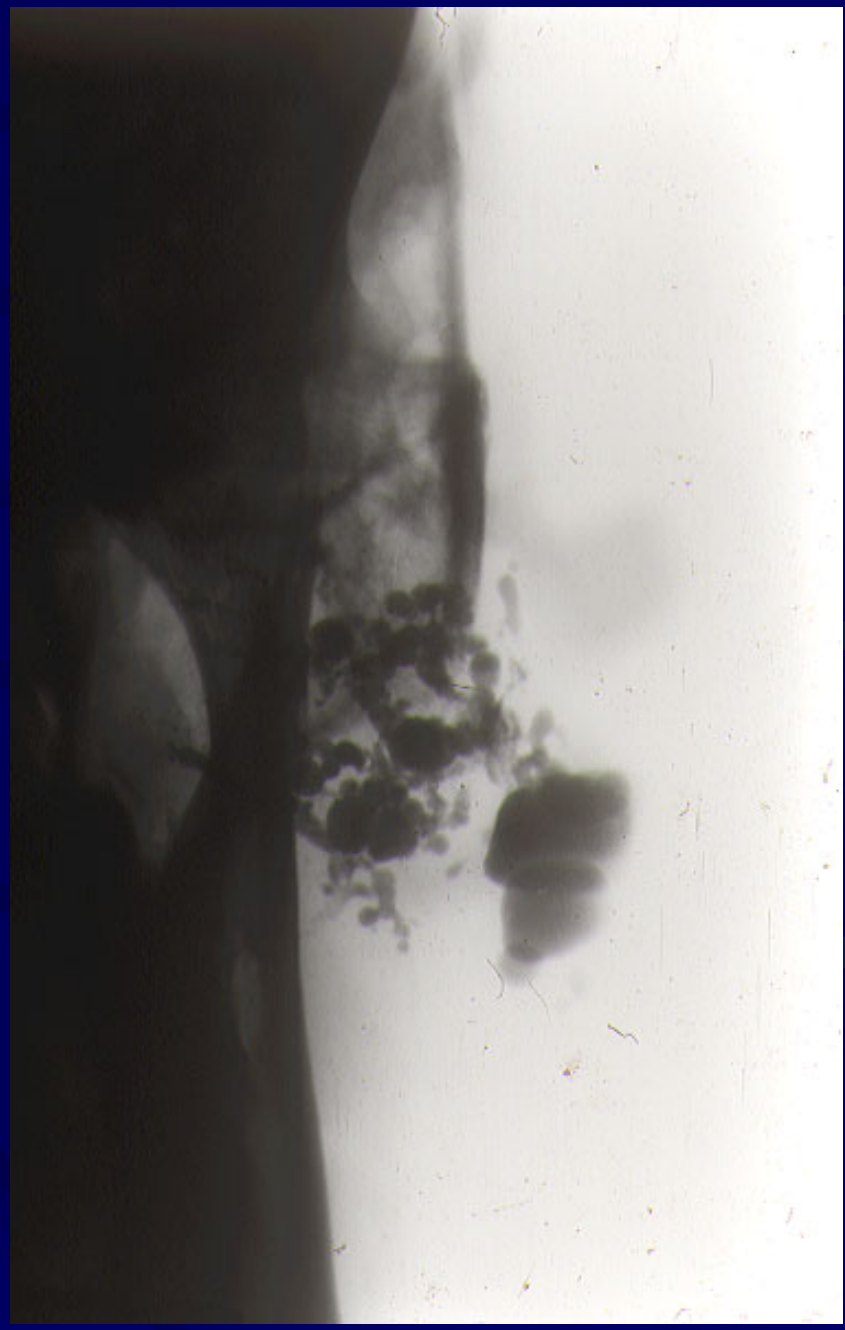
Formation and function of saliva

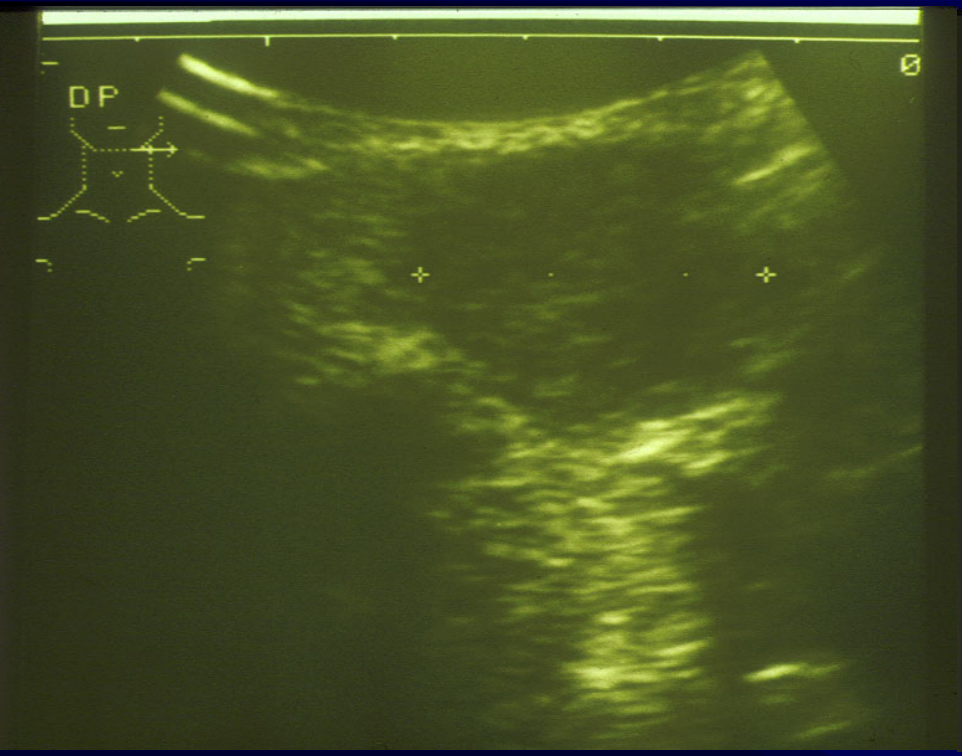
- 1000-1500 ml/day, 99,5% is water, pilocarpin stimulates production
- Parotid serous, subling. mucous,
- Electrolytes, protein, amylase, IgA, Alb, Lysosome, Kallikrein, Trypsine inhibitor
- Protection, digestive, excretion of aoutgenous or foreign materials (iodine, coag.factors, alkaloids, viruses, coxackie, cytomegaly, hepatitis, EBV), protection of teeth (fluor), mediates the sense of taste.
- Xerostomia (eg. Sjogren`s, RT, dehidration)
- Sialorrhea (oral cavity diseases)
- Ptyalismus (Parkinson`s, drooling)

Diagnostical procedures

- Hx (eating-pain-sialolith, sex-female-Sjogren`s)
- Inspection (bilat-mumps) and Examination and bimanula palpation
- Ultrasound
- X-ray (mandibula), Sialography
- Biopsy (FNA, open)
- CT
- MRI
- Thermograpy, scintigraphy, endoscopy, chemical analysis of saliva, lymphography…



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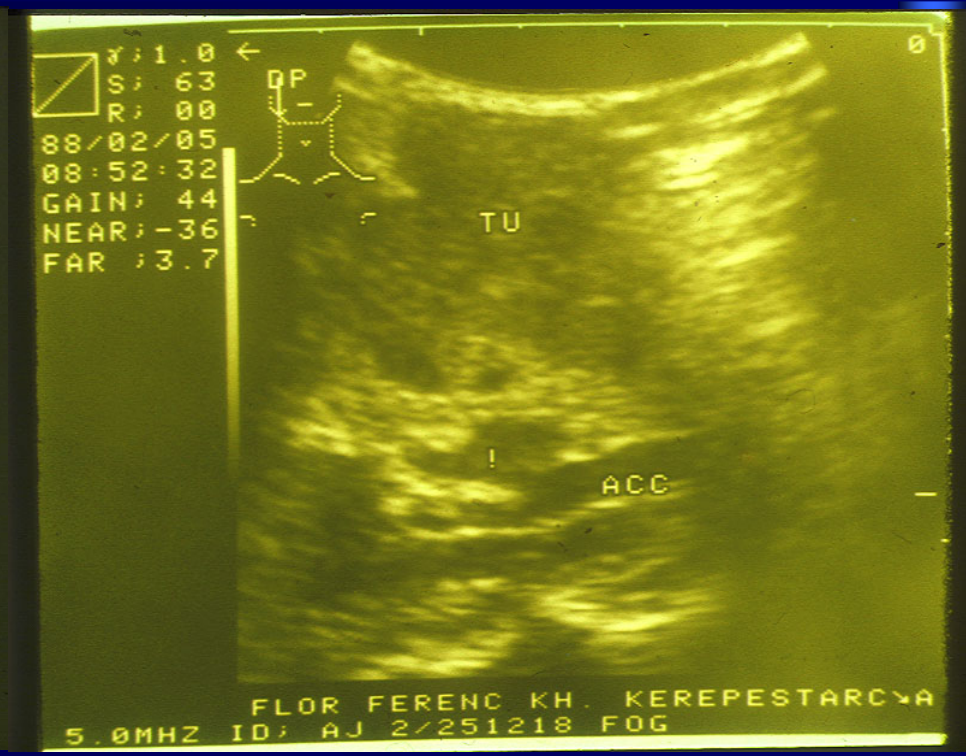
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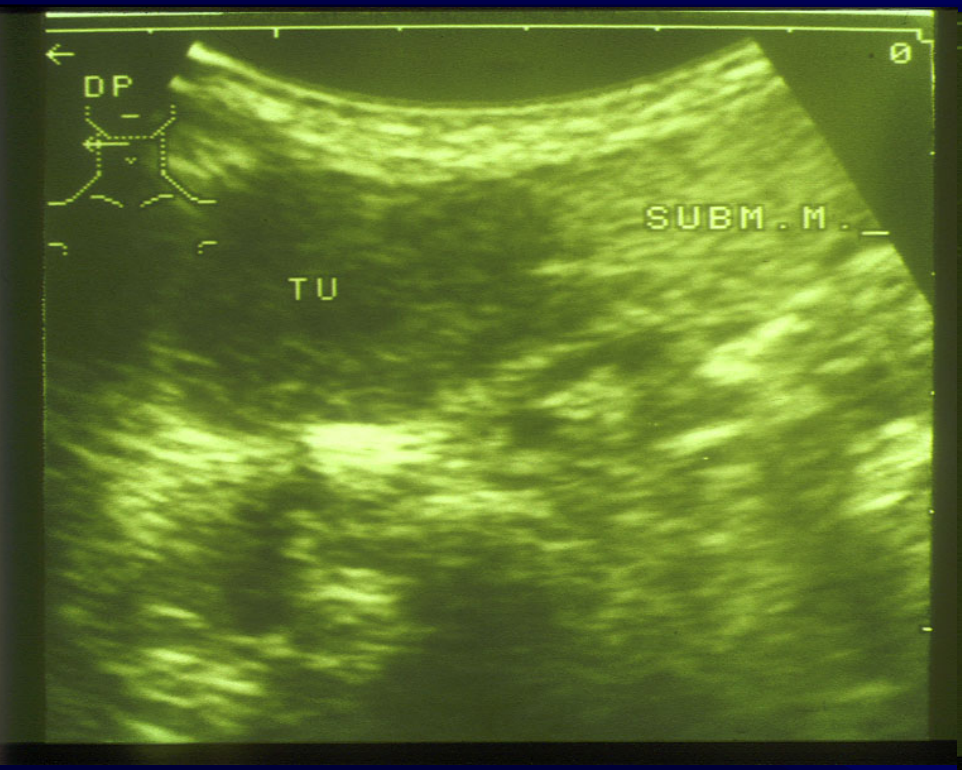
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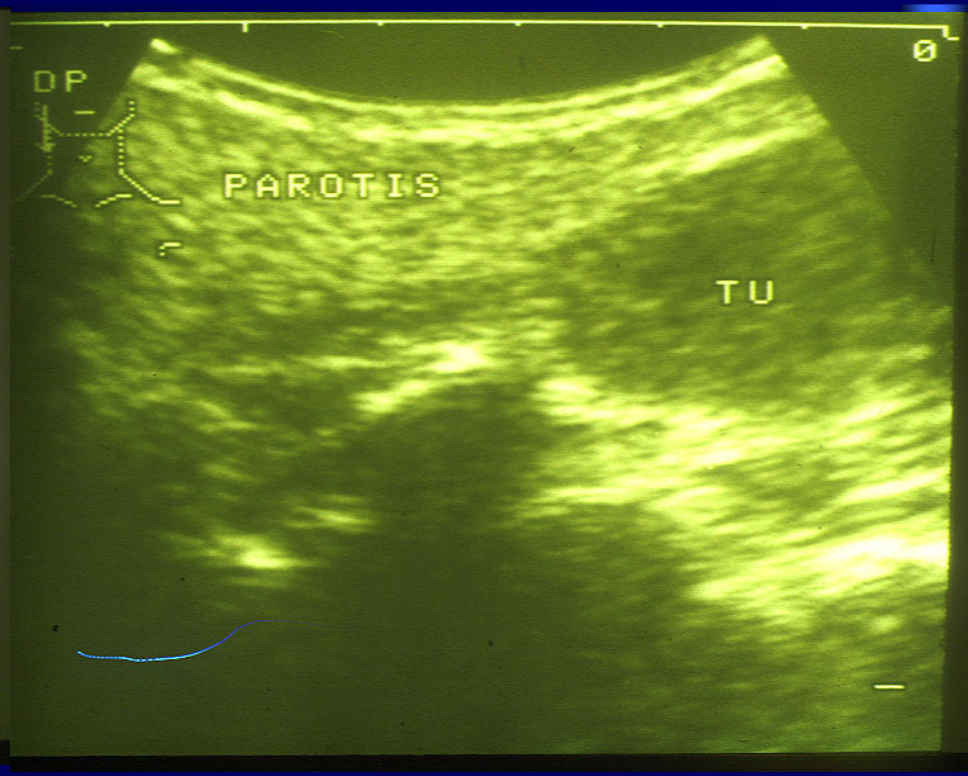
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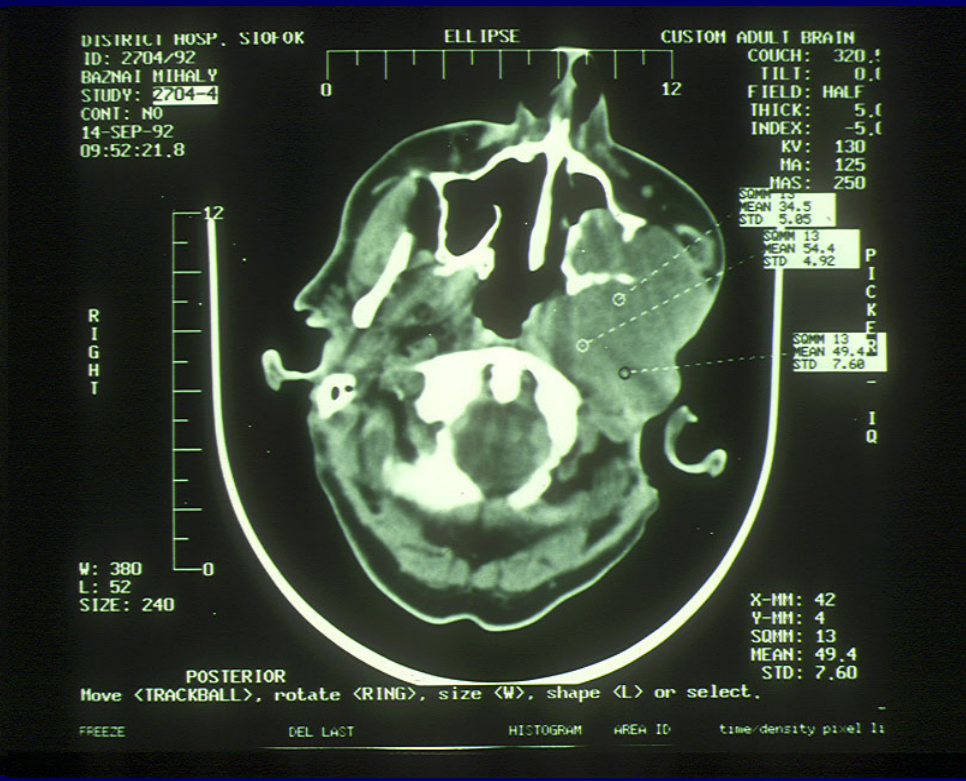
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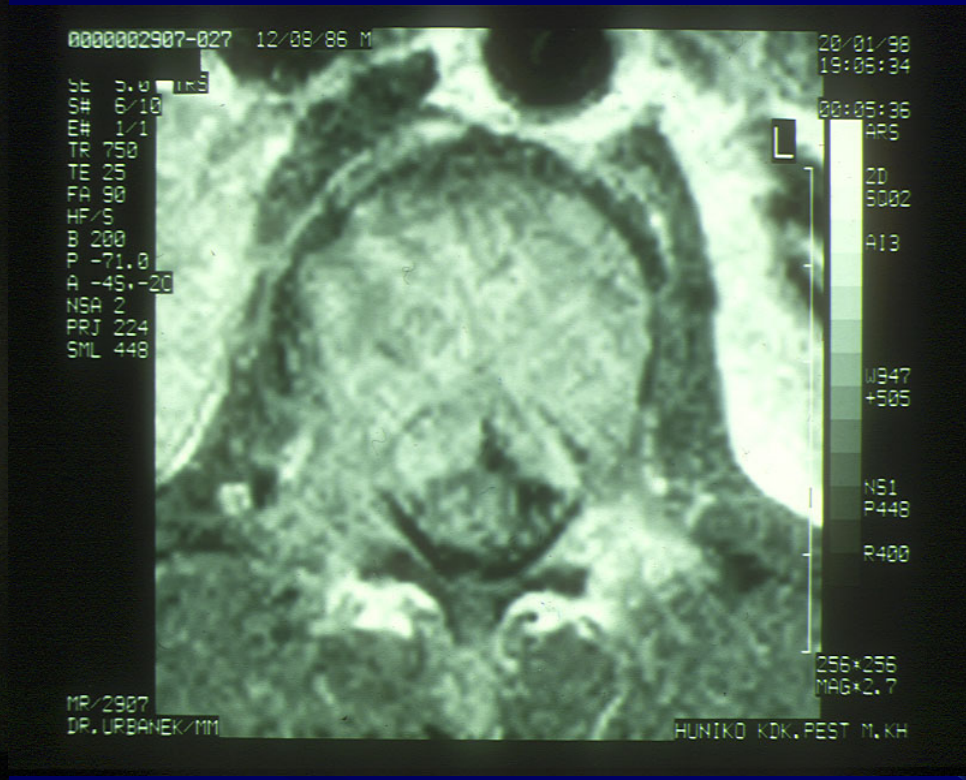
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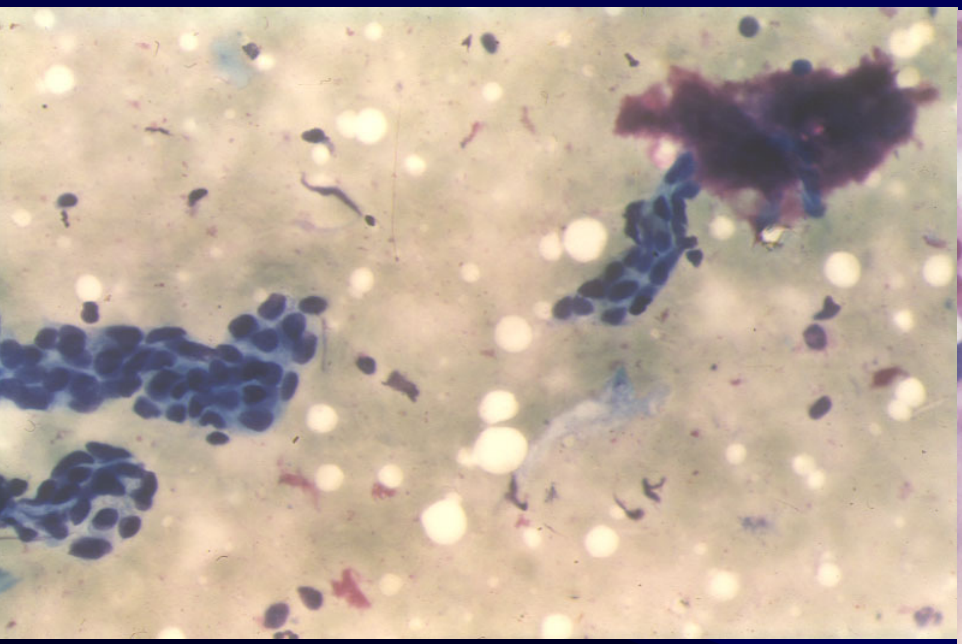
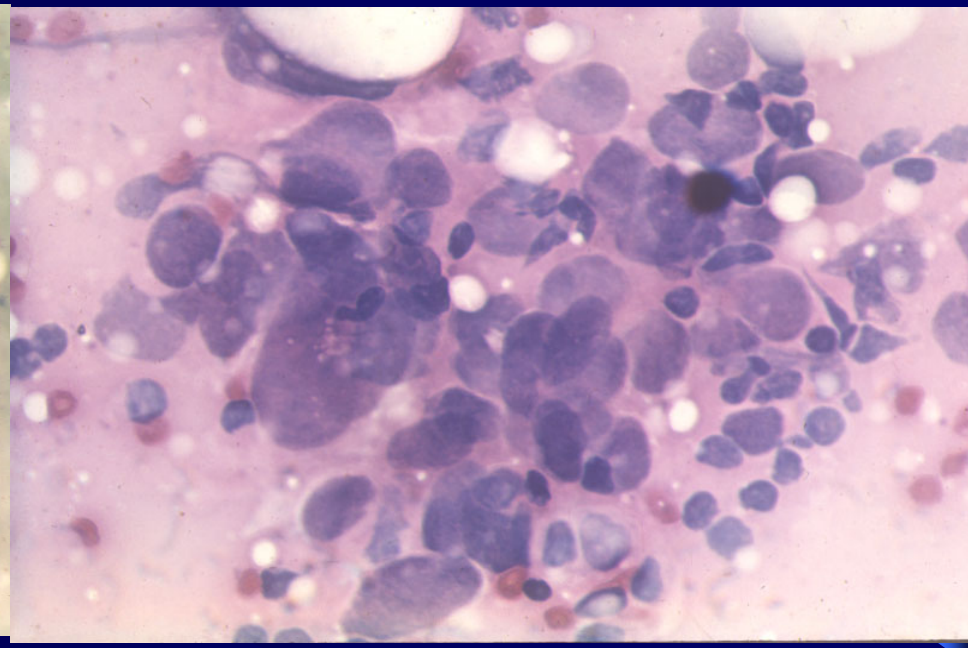
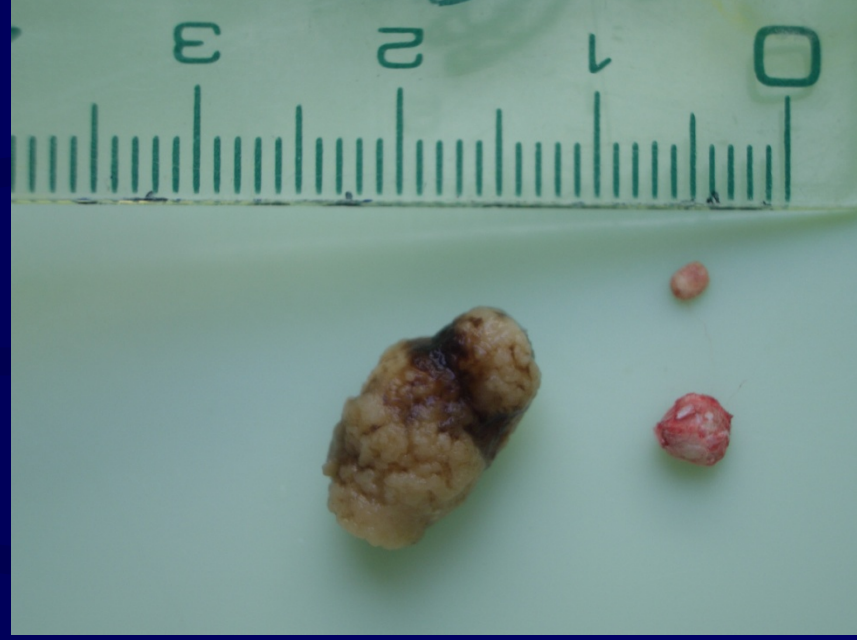




Diseases



- I. Siololithiasis (85% submandib, 15% parotis).
  hx, palpation, X-ray. US, sialogram > removal

- II. Sialoadenitis
  - *acut Bacterial* (swallen, tender, ear protrudes)
  - *Viral* (mumps, cytomegaly, coxackie, AIDS)
  - *Allergy* (drugs, food… very rare)

Diseases

- II. Sialoadenitis

  - *Chronic*

    # Chr. Sclerosing Sialadenitis of submandib.gl. Kuettner`s tumor

    # Chr. recurrent parotitis

    # Sjogren`s sy. sicca sy. of upper airway mucosa
    xerostomia, bilat parotid swelling
    keratoconjunctivitis sicca, joint disorders, rheumatic purpura, periarteritis nodosa, scleroderma

    autoimmun

    # Mikulicz sy symmetric swelling of salivary & lacrimal glands

    # Heerfordt sy = Uveoparotid fever (extrapulmonary sarcoid)
    parotis↑, lacrim.gl.↑
    uveitis, n.VII.palsy, SNHL, saliva↓,
    amylase ↓,

    # TB, radiotherapy….

Diseases

- III. Sialadenosis

  recurrent or persistent bilat painless swelling

  cause: endocrine and metabolic disorders
  (eg. alcoholism, DM, puberty, menopause, avitaminosis…)

- IV. Tumors 2/3 benign, 1/3 malignant

HISTOLOGICAL TYPING OF SALIVARY GLAND TUMORS I.
(G. Seifert with Sobin, L.H. WHO, 1991.)

1. ADENOMAS
1.1 Pleomorphic adenoma
1.2 Myoepitelioma
1.3 Basal cell adenoma
1.4 Warthin tumor
1.5 Oncocytoma
1.6 Canalicular adenoma
1.7 Sebaceus adenoma
1.8 Ductal papilloma
- 1.8.1 Inverted ductal papilloma
- 1.8.2 Intraductal papilloma
- 1.8.3 Sialadenoma papilliferum

1.9 Cystadenoma
- 1.9.1 Papillary cystadenoma
- 1.9.2 Mucinous cystadenoma

2. CARCINOMAS
2.1 Acinic cell cc.
2.2 Mucoepidermoid cc.
2.3 Adenoid cystic cc.
2.4 Polymorphous low grade adenocc.
2.5 Epithelial-myoepitelial cc.
2.6 Basal cell adenocc.
2.7 Sebaceous cc.
2.8 Papillary cystadenocc.
2.9 Mucinous adenocc.
2.10 Oncocytic cc.
2.11 Salivary duct cc.
2.12 Adenocc.
2.13 Malignant myoepitelioma
2.14 Malignant mixed tumor
2.15 Squamous cell cc
2.16 Small cell cc.
2.17 Undifferentiated cc.
2.18 Others

HISTOLOGICAL TYPING OF SALIVARY GLAND TUMORS II.
(G. Seifert with Sobin, L.H. WHO, 1991.)

3. NON EPITHELIALTUMORS

4. MALIGNANT LYMPHOMAS

5. SECONDARY TUMORS

6. UNCLASSIFIED TUMORS

7. TUMOR LIKE LESIONS

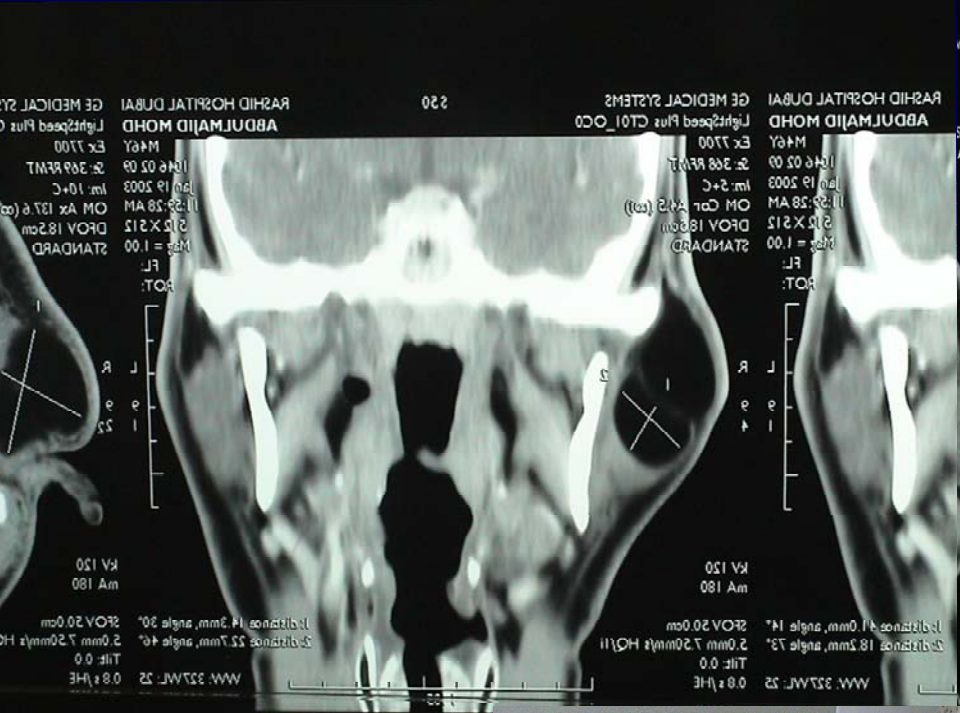
- 7.1 Sialadenosis
- 7.2 Oncocytosis
- 7.3 Necrotizing sialometaplasia
- 7.4 Benign lymphoepithelial lesion
- 7.5 Salivary gland cysts
- 7.6 Chronic sclerosing sialadenitis of submandibular gland (Küttner tumor)
- 7.7 Cystic lymphoid hyperplasia in AIDS

Benign

- Pleomorhic adenoma

  80% in parotis, unilateral, grows slowly(yrs), female, no pain, dumbbell - swallowing!, recurrent multicentric!, malignant degeneration in 3-5%
- Wharin`s tumor

  10% bilateral, in elderly, from salivary ducts (inf.)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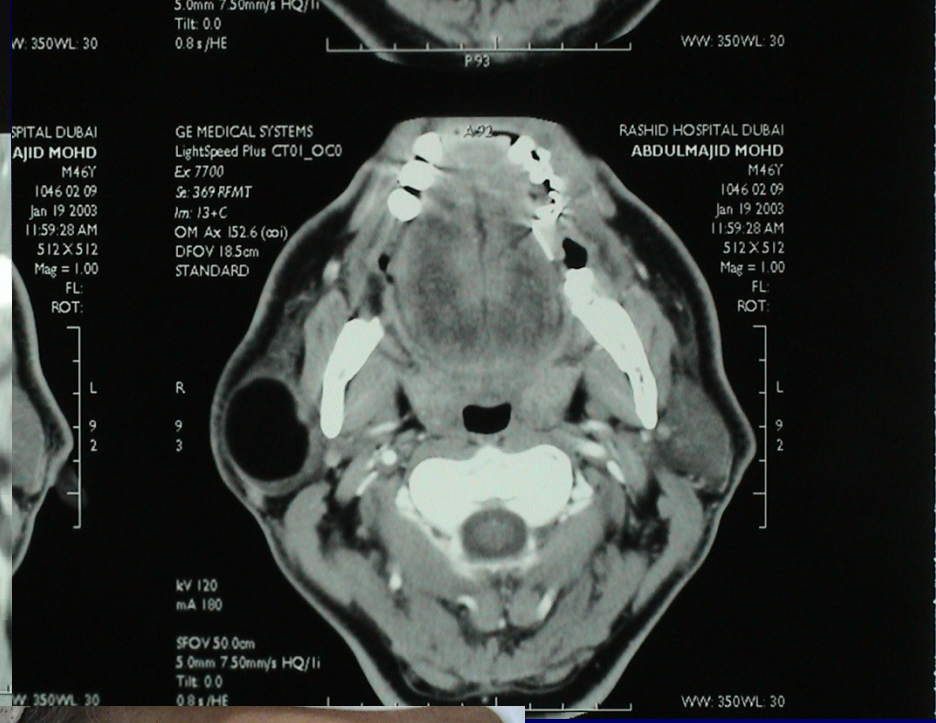
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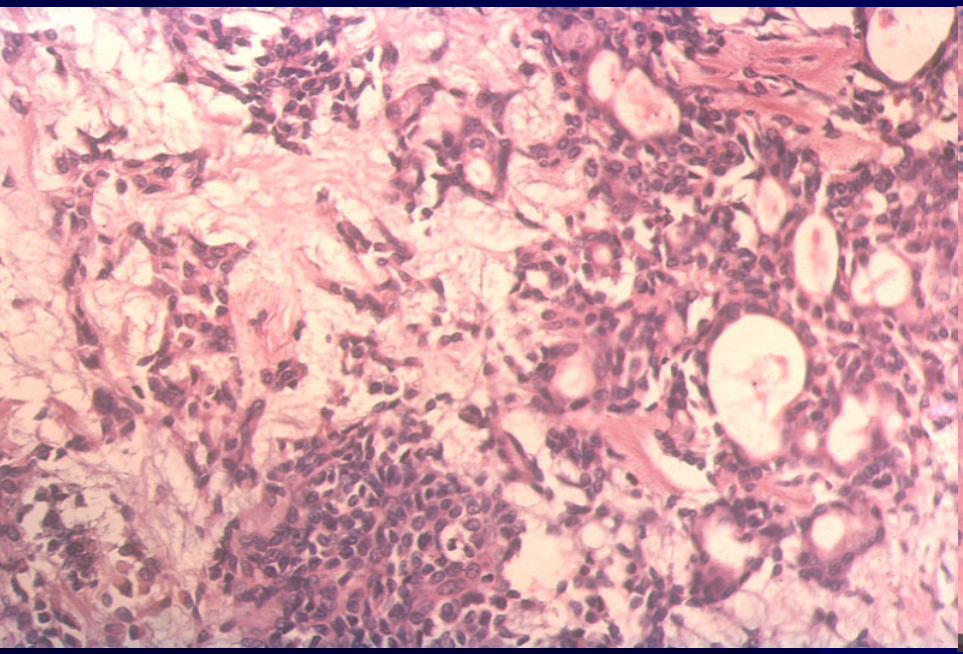

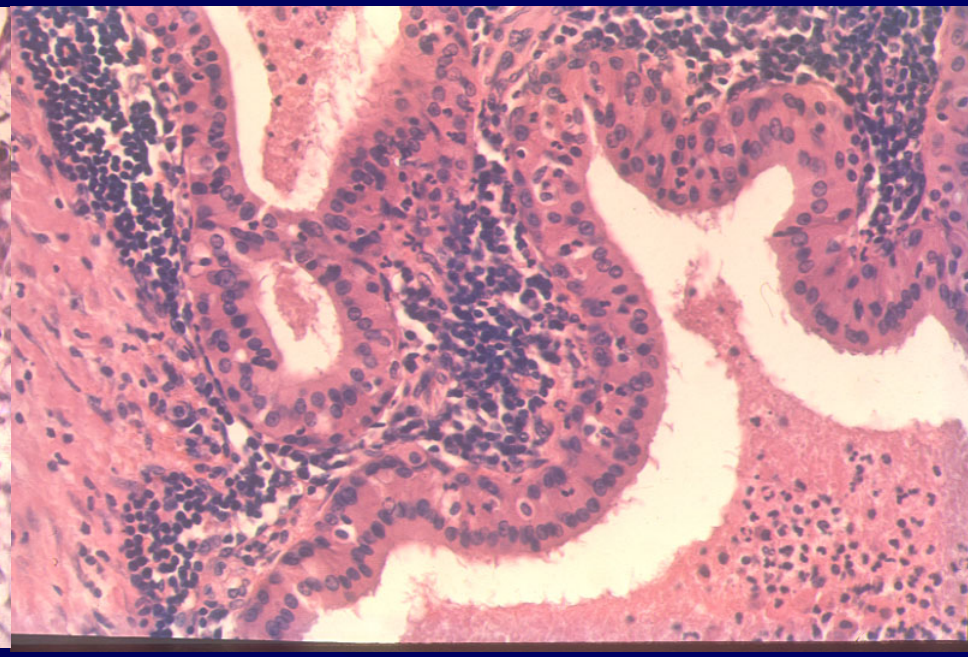

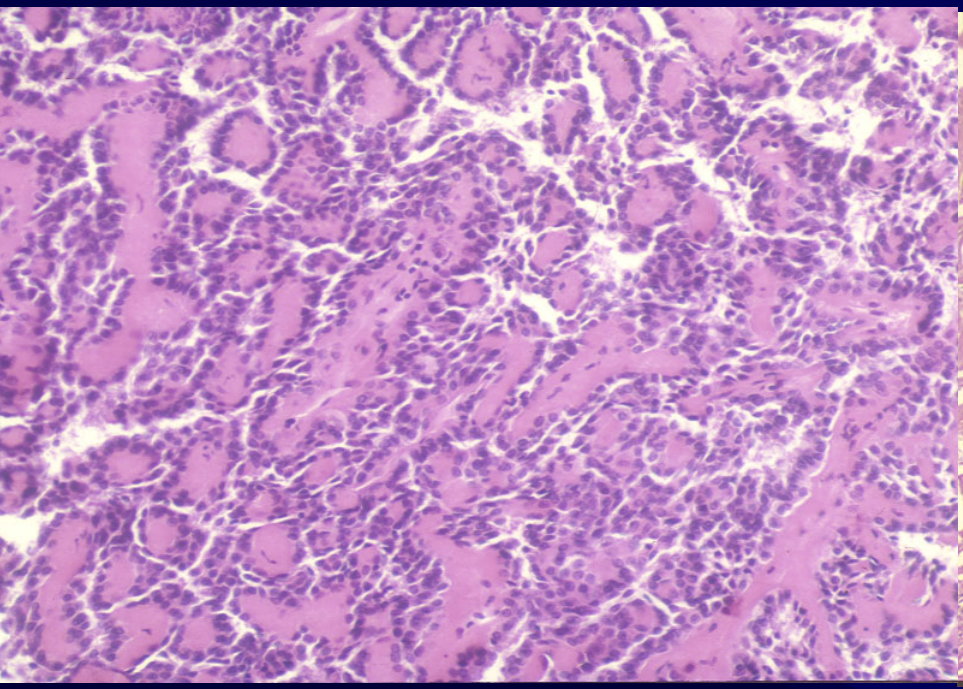

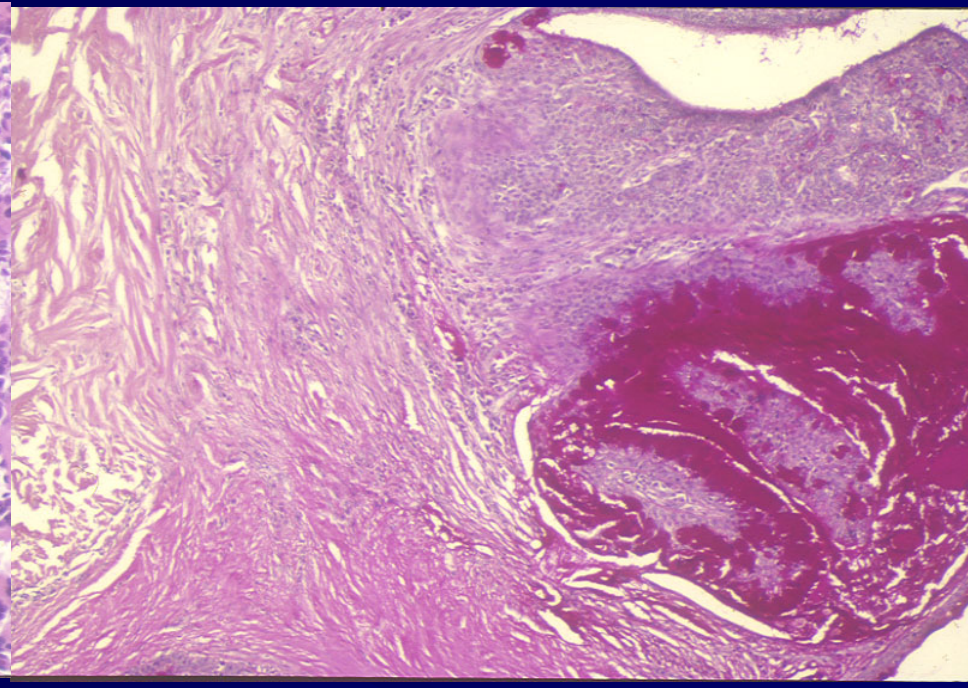

Malignant

- Rapid grows (exept adenoid cystic ca.)
- Pain
- Firm, perivasc.-perineural infiltration, fixed to its base
- Skin, facial nerve involvement,
- Cervival lymph nodes

Therapy

- Superficial parotidectomy
- Total parotidectomy (without facial nerve resection)
- Radical parotidectomy (with facial nerv resection) and reconstruction of nerve
  - same stage
  - second stage
- Radiotherapy