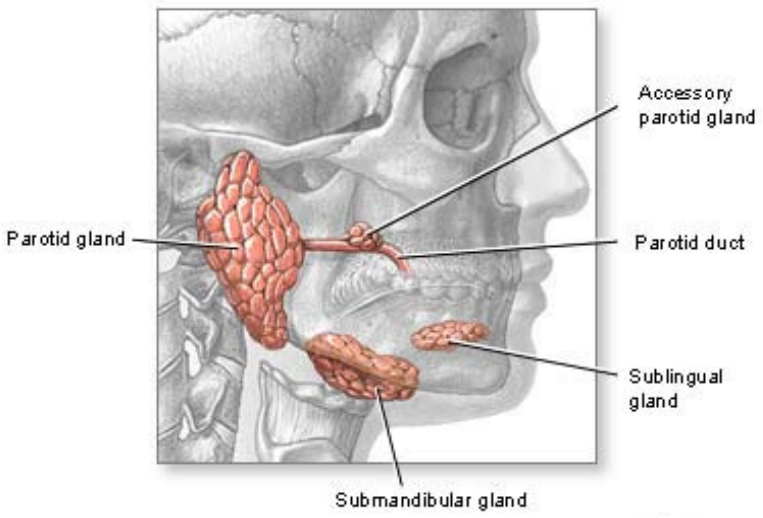
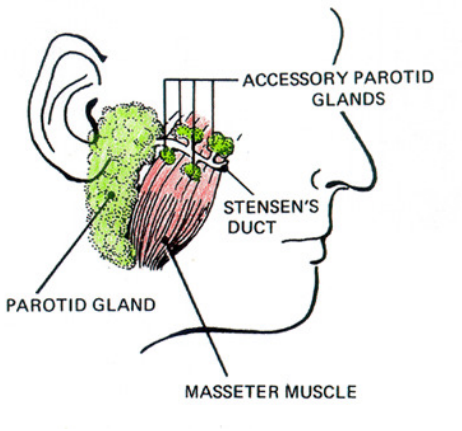
Salivary gland disorders



☑ Developmental anomalies:

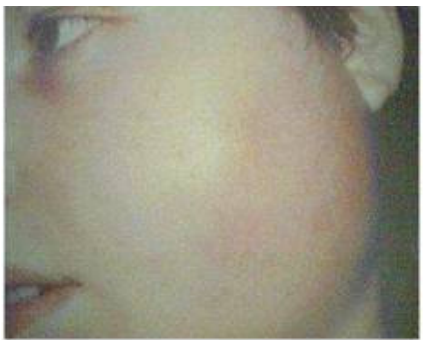
- Aplasia
- Atresia
- Ectopic tissue



☑ Sialadenitis:

🖷 Acute bacterial sialadenitis:

- Uncommon
- Parotid
- Xerostomia
- **Seen in pts with:**
  - ♦ Sjogren's syndrome
  - ♦ Tricyclic antidepressants

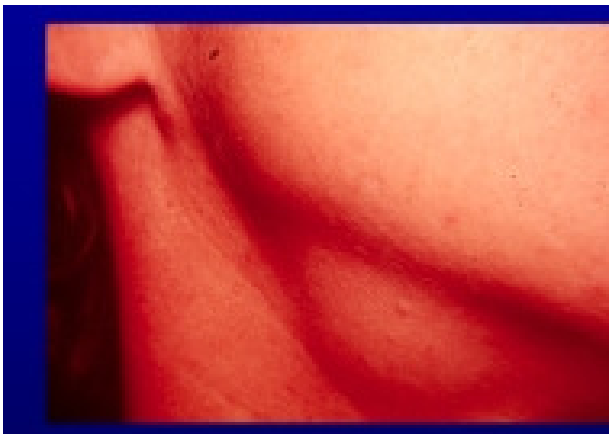


- ♦ Immunosuppression
- ♦ Obstructed glands

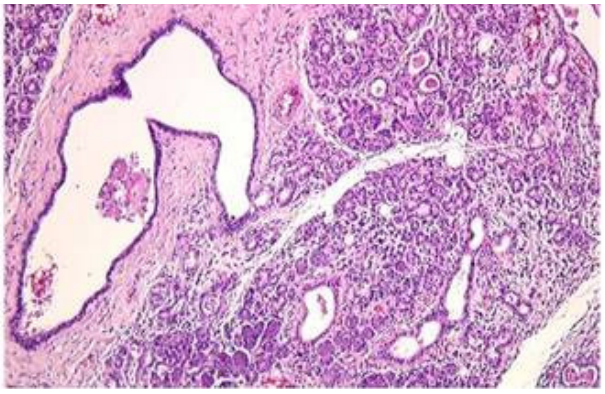
- **Microbiology:** mixed
- **Clinically:**
  - Rapid onset
  - Swelling
  - Pain
  - Fever
  - Malaise
  - Redness
  - LN
  - Pus
- **Hist:**
  - Intense AICI in acini, periductal tissue & within ducts
  - Ductal dilatation

🖷 Chronic bacterial sialadenitis:-

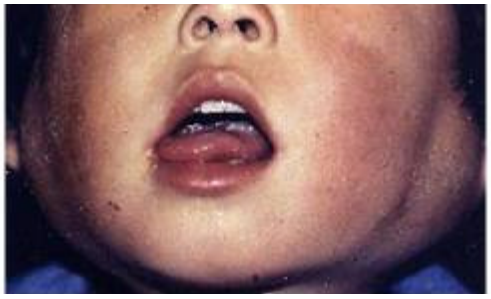
- Ductal obstruction or ↓ secretion
- Submandibular G
- Unilateral
- **Clinically:**
  - Recurrent tender swelling
  - Inflamed orifice
  - Pus



- **Hist:**
  - Destruction of acini
  - Duct dilatation & sq metaplasia
  - Scattered CICI
  - Interstitial fibrosis

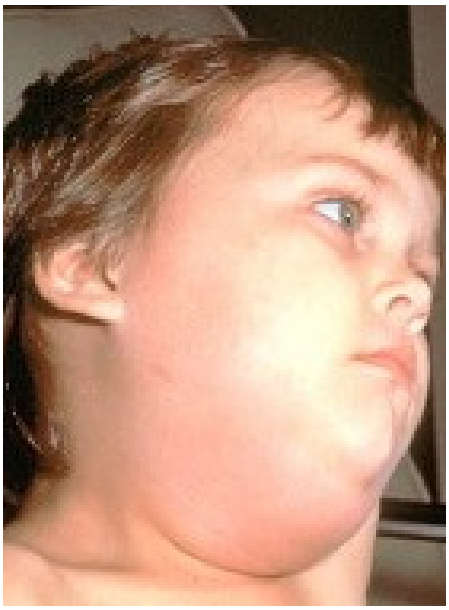


🖷 Recurrent Parotitis:



- Children
- Aetiology: ?
- **Clinically:**
  - Uni/bilateral recurrent painful swelling
  - ± Pus
  - **Most cases**: resolves spontaneously

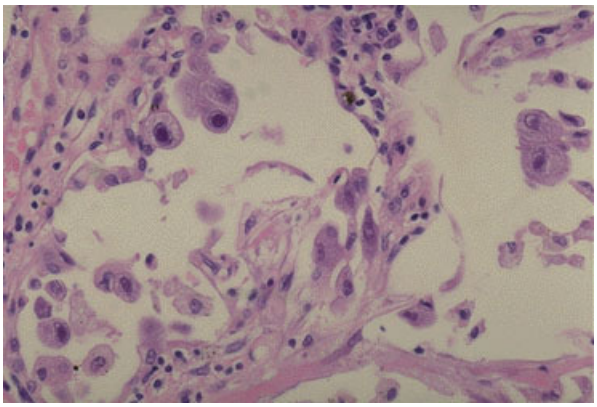
🖷 Mumps:



- Common
- Children
- Highly infectious: airborne droplets
- Parotid
- **Clinically:**
  - ★ IP →
  - Fever & malaise
  - Rapid bilateral swelling
  - Pain
- Duration
- **Prognosis**:
- Orchitis, Oophoritis, Encephalitis, Pancreatitis
- **Dx:** clinical, amylase, Abs to "s" & "v" Ags
- Immunity

🖷 Cytomegalic inclusion disease:

- Asymptomatic
- large, doubly contoured “owel-eye” inclusion bodies



🖷 Radiation induced sialadenitis:-

- Sensitive
- Serous acini
- ↑ dose → Irreversible fibrous replacement & sq metaplasia
- Complications

⌦ Sialadenitis of minor SGs:-

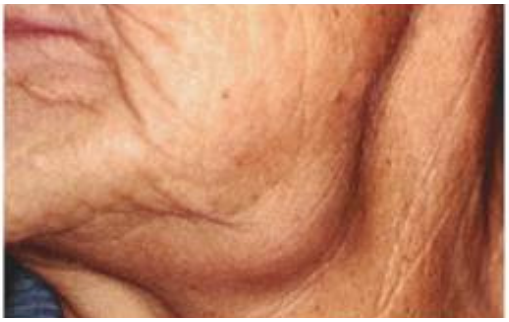
- MEC
- Necotinic stomatitis
- Sarcoidosis
- Sjogren’s syndrome

🕮 Obstructive & traumatic lesions:

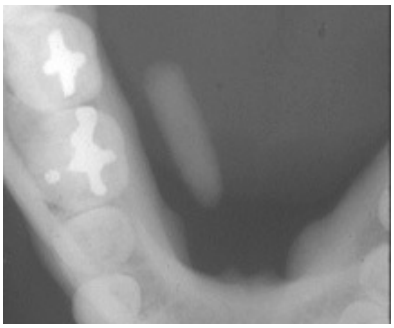
- **Causes:**

⭘ Sialolithiasis:

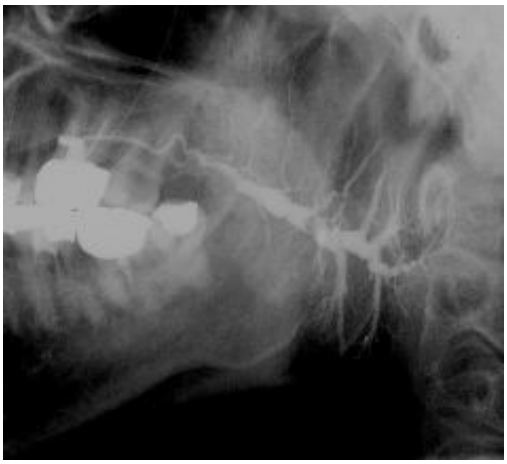
- Submandibular 80%, parotid 6%, sublingual & minor SGs 2%
- Gland or duct



- **Clinically:**
  - ➢ Adults, 2M: 1F
  - ➢ Unilateral
  - ➢ Can be multiple
  - ➢ Most cause symptoms: pain & swelling, retrograde infection
- **Dx:**
  - ➢ Palpation
  - ➢ Rx: parotid 40%, SMG 20%

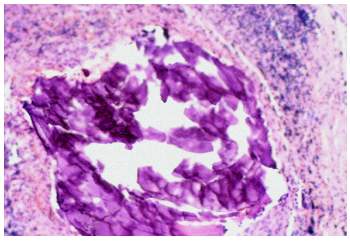


  - ➢ Sialography



- **Pathogenesis:** Ca salts around a nidus of organic material
- **Hist:-**

★ **Stone:**

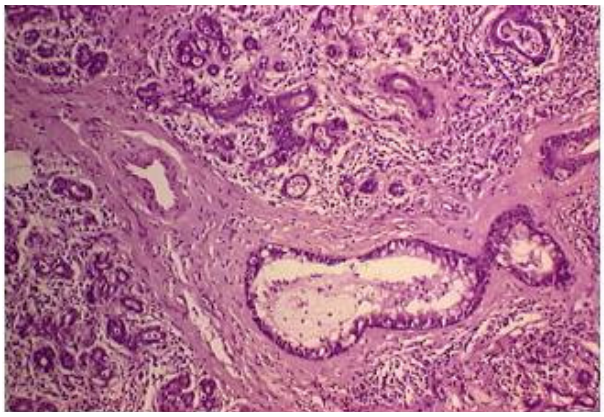


- ➢ **Grossly**: yellowish-white, round/oval, rough/smooth
- ➢ **Decalcification**: laminated w concentric rings w bacteria
- ➢ Ca, PO4, Bicarbonate

★ **Gland changes:**

- ➢ Duct dilatation w sq metaplasia

- ➢ Acinar atrophy & replacement fibrosis
- ➢ Periductal CICI & fibrosis
- ➢ CICI of lobules

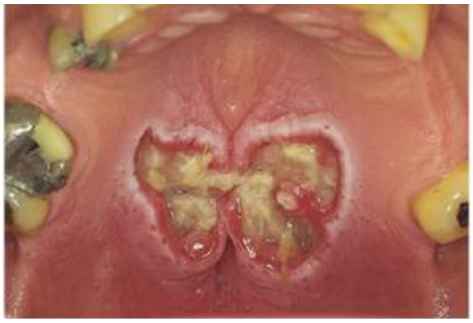


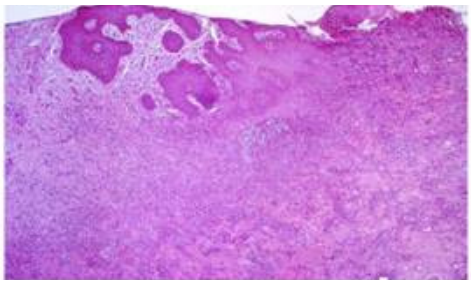
❶ Parotid papilla & duct stricture:

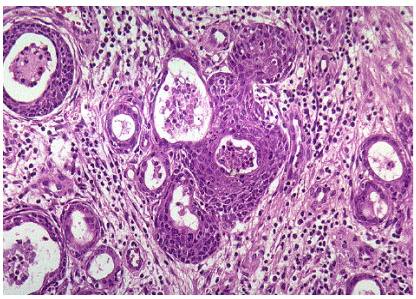
- Chronic trauma to parotid papilla
- Surgery
- Ulceration around a stone

❷ Necrotizing sialometaplasia:

- ? aetiology
- Spontaneous necrosis
- Site: H-S palate
- **Clinically:**
  - ➢ Middle age
  - ➢ Deep ulcer ≈ 2cms
  - ➢ Painless
  - ➢ 2 months
- **Hist:**
  - ➢ Necrosis of SG lobules
  - ➢ Sq metaplasia of ducts & acini
  - ➢ ME
  - ➢ CICI
  - ➢ Pseudoepitheliomatous hyperplasia

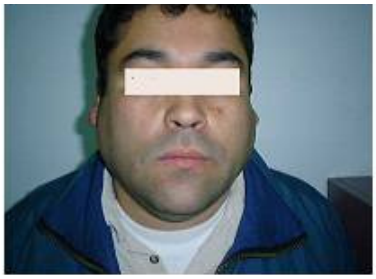






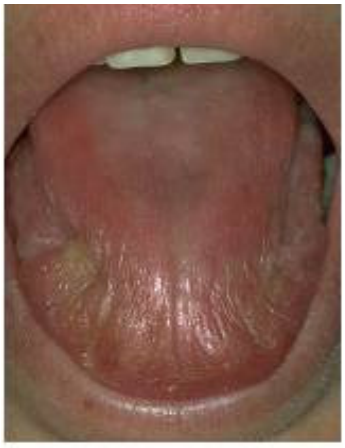
❍ Sialadenosis (Sialosis):-

- **Definition:**
- **Aetiology:** ?, defect in neurosecretory control
- Alcoholism, DM, pregnancy, Bulimia N., drugs, malnutrition, cirrhosis
- **Hist:** hypertrophy of acini & oedema of CT



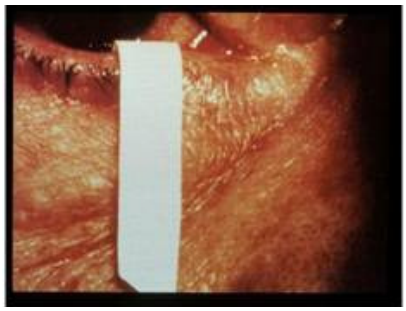
🕮 Sjogren's syndrome:-

- **Pathogenesis:**
  - ➢ Immune-mediated CI disease
  - ➢ Progressive lymphocytic infiltration & replacement of glandular parenchyma
  - ➢ Xerostomia & Xerophthalmia



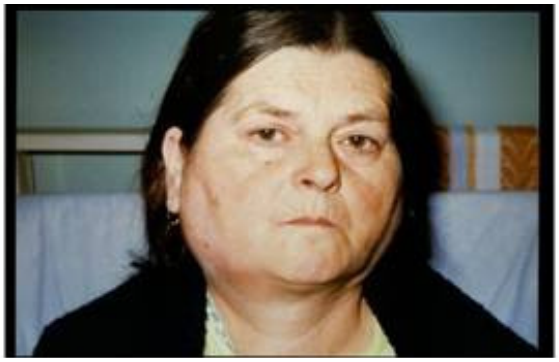
- **Clinically:**
  - ➢ ≈ 1% of population
  - ➢ Middle age
  - ➢ Females 80%
  - ➢ **Two types:**
    - ❶ **Primary SS (Sicca S):** xerostomia & Xerophthalmia
    - ❷ **Secondary SS:** xerostomia & xerophthalmia + CT disease
      - ✧ RA (15%)
      - ✧ SLE (30%)
      - ✧ Systemic sclerosis
      - ✧ Primary biliary cirrhosis
      - ✧ Dermatomyositis
      - ✧ Mixed CT disease
  - ➢ **Eyes:** Keratoconjunctivitis sicca
    - ⌑ Corneal keratotic lesions

- Failure of tear secretion: **Schirmer test**
- Conjunctivitis



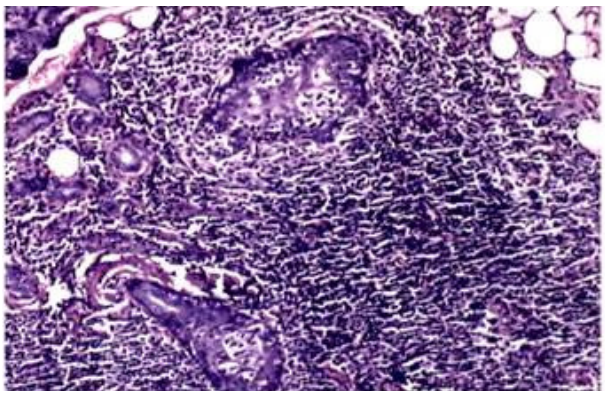
➢ **Mouth:**

- Discomfort
- Difficulties in eating, swallowing & speech
- Disturbed taste sensation
- Candidosis, sialadenitis, root caries
- Dry, red & shiny mucosa
- Red, atrophic, lobulated (cobble-stone) tongue

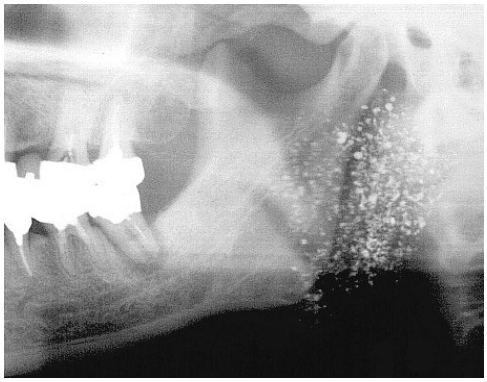


➢ **Others:**

- Severe tiredness & Arthralgia
- Xeroderma, nasal dryness, vaginal dryness
- Sinusitis, tracheitis, dysphagia, atrophic gastritis, pancreatitis, purpura
- Anaemia, leucopenia, thrombocytopenia
- SG enlargement



- **Hist:-**
  - Lymphocytic infiltrate (T)
  - Intralobular ducts
  - Glandular tissue
  - Acinar atrophy
  - Epimyoepithelial islands
  - Interlobular septa & capsule



- **Dx:**
  - Mixed SFR
  - Tear
  - SG **biopsy**
  - **Sialography**: sialectasis, “snowstorm”
  - Salivary **scintiscanning** [$^{99}T^{m}$] pertechnetate
  - **Ab screening**: RF, ANA, SS-A, SS-B

- ⌑ **Serology**: ↑ESR, hypergammaglobulinaemia

- **Aetiology:**
  - ⌑ Unknown
  - ⌑ Autoimmune: ?Ag
  - ⌑ CMV, EBV, HHV-6, Retrovirus
- **Complications:**
  - ⌑ B-cell malignant lymphoma

⌫⌦ Salivary gland tumours:

- Uncommon
- **80% in major Gs:** parotid ≈ 90%, SMG ≈10%, SLG ≈ 0.3%
- **20% in minor Gs:** palate ≈ 55%, UL ≈ 20%, others ≈ 25%
- **Malignancy:**
  - ⌑ **Parotid:** ≈ 15%
  - ⌑ **SMG:** ≈ 30%
  - ⌑ **SLG:** ≈ 86%
  - ⌑ **Minor SGs:** ≈ 50%
- **Classification:**

⇨ **Adenomas: slow growing, soft or rubbery, x ulcer, x N**

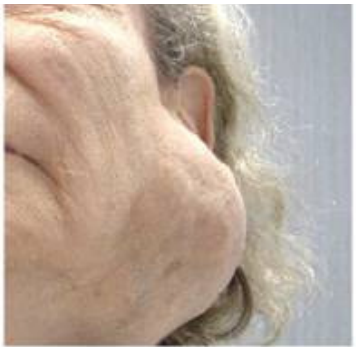
- ▫ Pleomorphic adenoma
- ▫ Warthin tumour
- ▫ Basal cell adenoma
- ▫ Oncocytoma
- ▫ Canalicular adenoma
- ▫ Ductal papillomas

⇨ **Carcinomas: ≈ fast-growing, ± hard, ± ulcerate, ± invasion, ± N**

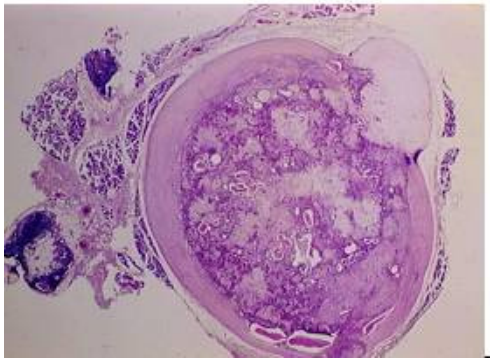
- ▫ Mucoepidermoid Ca
- ▫ Adenoid cystic Ca
- ▫ Acinic cell Ca

- Ca in PA
- Polymorphous low-grade adenoCa
- Others

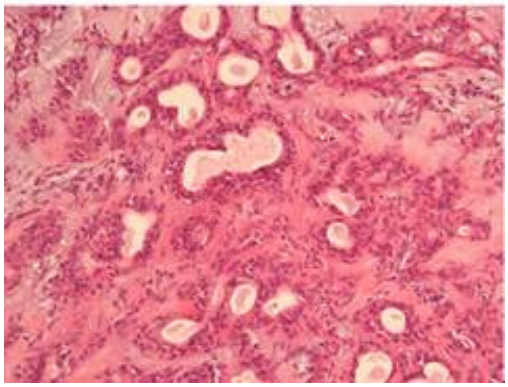
⌦ Pleomorphic A:



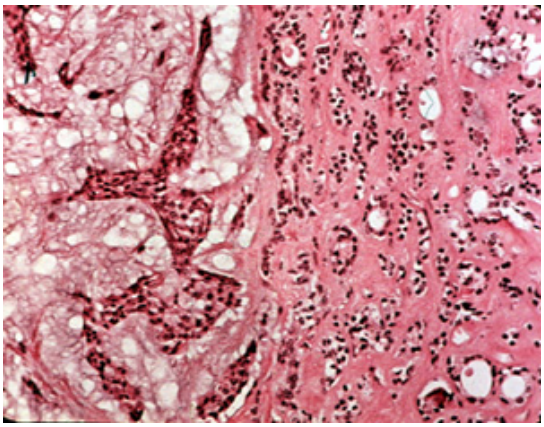
- Commonest
- 70% of PG, 50% of SMG, 7% in minor Gs (palate 55%)
- "Pleomorphic", "mixed tumour".
- Origin: epithelial &/or myoepithelial Cs
- **Clinically:**
  - © 5^{th} & 6^{th} decades, F>M
  - © Slowly-growing, w-d, painless, rubbery swelling
  - © Superficial lobe: spherical mass overlying angle of M
  - © Deep lobe: lateral pharynx
  - © Lobulated or multinodular

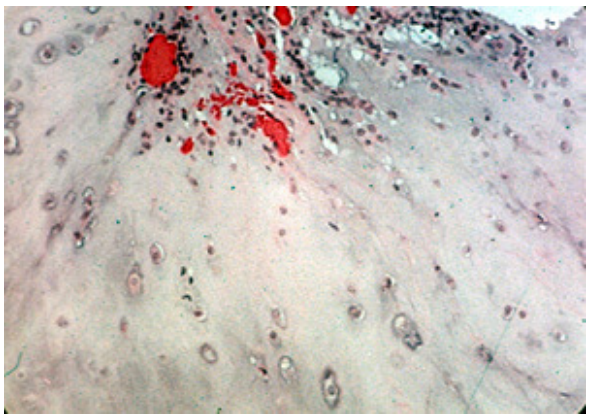


- **Hist:**
  - ÷ Extensive variations
  - ÷ Fibrous capsule
  - ÷ Epithelial & stromal components
  - ÷ **Epithelial duct Cs:** line duct-like structures
  - ÷ **Myoepithelial Cs:** spindle/stellate-shaped → sheets, clumps & strands
  - ÷ Plasmacytoid Cs
  - ÷ Sq metaplasia
  - ÷ **Abundant stroma:**
    - ¬ Fibrous/hyalinization
    - ¬ Myxoid
    - ¬ Chondroid



- **Malignant transformation:** < 1%, Ca ex PA





⌦ Warthin tumour:

- Hamartoma
- **Origin:** duct Cs in LNs → Adenolymphoma
- **Clinically:**

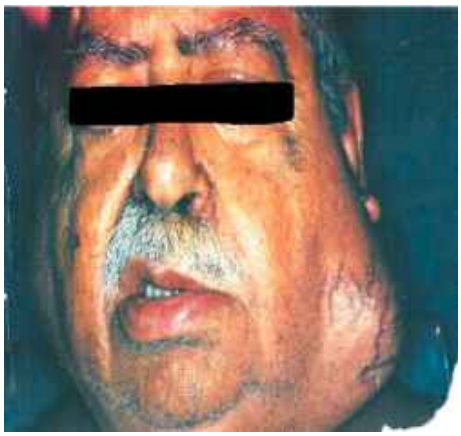
  © Almost exclusively in parotid, 9% of parotid tumours

  © M>F

  © 5th & 6th decade

  © Bilateral in 10% of cases

  © Multiple in same gland



- **Hist:**

  ⌑ **Grossly:** FC, irregular cystic spaces, mucoid material, papillary projections

  ⌑ **Microscopically:**

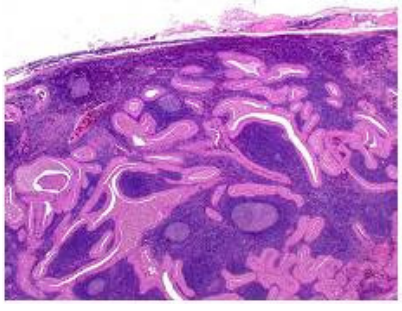
  Papillary fronds:

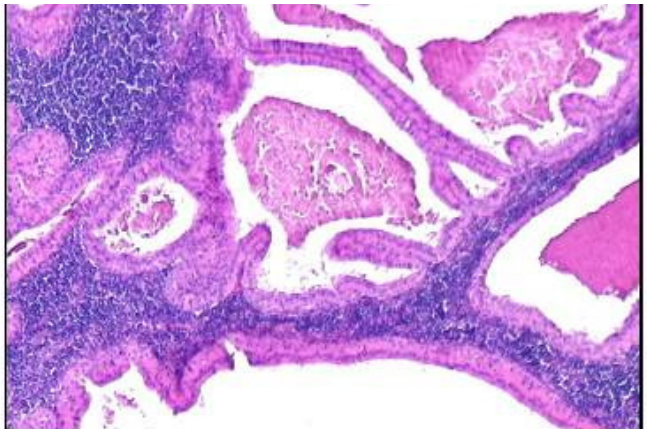
  ➢ Double layer of epith Cs

  ➢ Basal cuboidal Cs & superficial tall columnar Cs

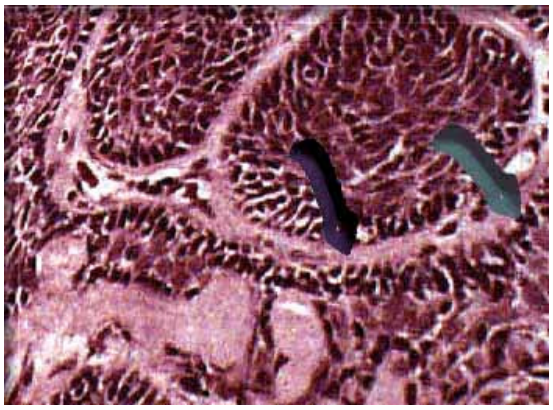
  ➢ Marked, granular eosinophilic cytoplasm (Oncocytes)

  ➢ Supported by lymphoid tissue



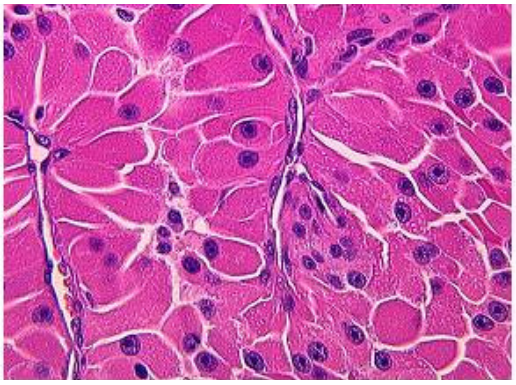


⌦ Basal Cell Adenoma:-



- 75% in parotid & 20% in UL
- 7th decade
- **Clinically:** ≈ PSA
- **Hist:**
  - ➢ Well-encapsulated
  - ➢ Cytologically uniform basaloid Cs
  - ➢ Different forms: solid, trabecular, tubular, membranous

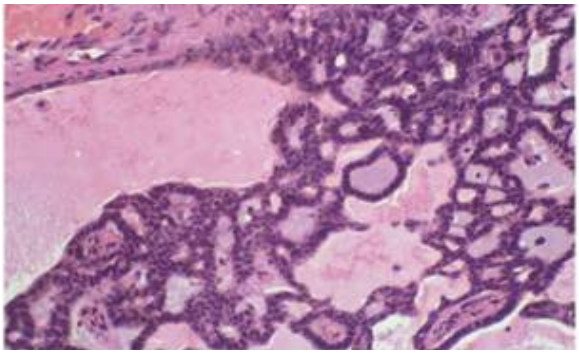
⌦ Oncocytoma:



- **Oncocyte:** abnormal C w prominent eosinophilic granular cytoplasm
- Rare
- Parotid
- F, 8th decade
- **Clinically:** ≈ PSA
- **Hist:**
  - ➢ Thin capsule
  - ➢ Oncocytes arranged in solid cords or acinar pattern
  - ➢ Lacks a fibrous stroma

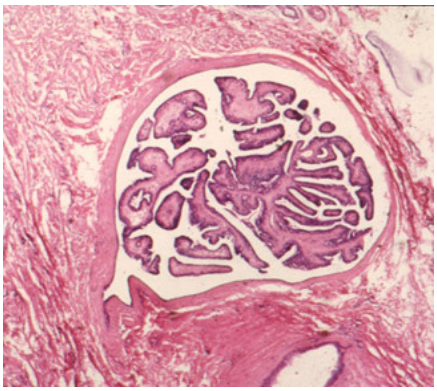
⌦ Canalicular adenoma:

- 7th decade
- 75% in UL
- Rare in major SGs
- **Hist:**
  - ➢ Capsule
  - ➢ Single-layered cub/colum ductal Cs
  - ➢ Arranged in elongated anastomosing cords
  - ➢ Myxomatous stroma & dilated capillaries
  - ➢ Degeneration of stroma



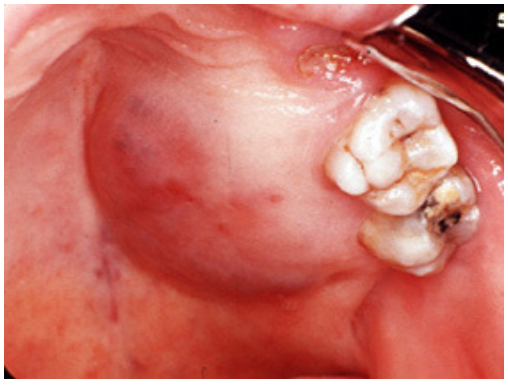
⌦ Ductal papillomas:

- Rare
- **Types:**
  - ⇨ Sialadenoma papilliferum
  - ⇨ Inverted ductal papilloma

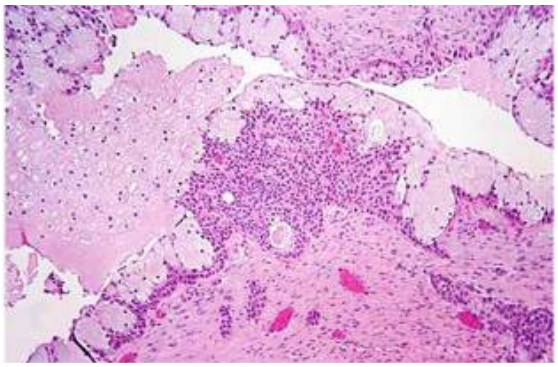


⌦ Mucoepidermoid Ca:

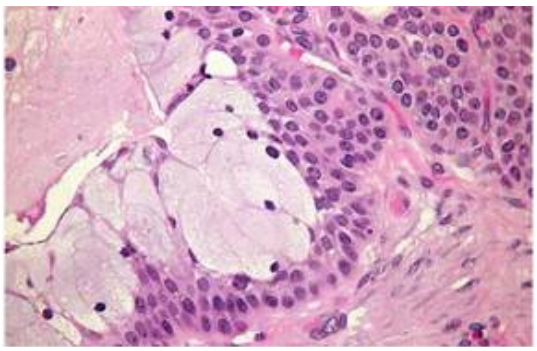
- 4th & 5th decade, F
- 50% parotid, 20% palate
- 10-15% of minor SG tumours
- **Clinically:**
  - ➢ ≈ PSA or signs of malignancy
- **Hist:**



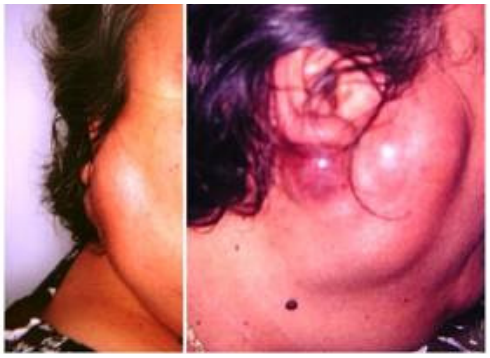
- No capsule
- Mucous, squamous & intermediate
- Nests, diffuse sheets & cystic spaces
- Invasion
- Low-grade or well-differentiated
- High-grade or poorly differentiated



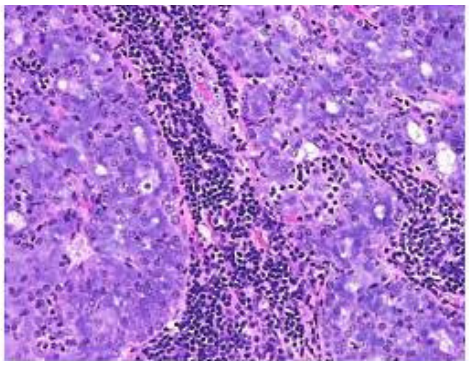
- **Prognosis:**
  - **Low-grade:** LRR < 10%, 95% 5-year SR
  - **High-grade:** LRR 80%, 30% 5-year SR



⌦ Acinic cell Ca:

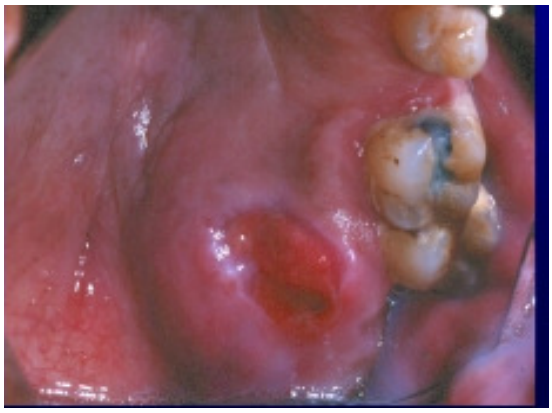


- Parotid
- **Clinically:**
  - Any age, F>M
  - ≈ PSA
- **Hist:**
  - Large Cs w granular basophilic cytoplasm often in acinar pattern
  - Solid, microcystic, papillary cystic, follicular
  - Very scanty stroma
  - W-d but lobulated
  - Some are poorly differentiated

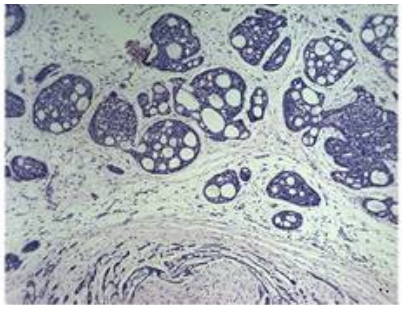


- **Prognosis:**
  - Generally low-grade w slow growth potential
  - **Low-grade:** 80-100% 5y-SR
  - **Poorly differentiated:** 65% 5y-SR

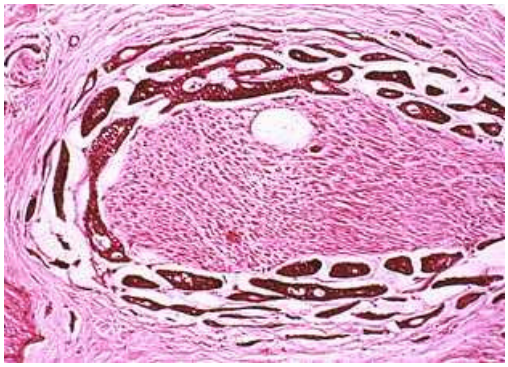
⌦ Adenoid cystic Ca:



- **Clinically:**
  - ➢ 7th decade
  - ➢ ≈ 30% of minor SG tumours
  - ➢ ≈ 3-6% of parotid G tumours
  - ➢ May ≈ PSA
  - ➢ Pain, ulceration, facial paralysis, paraesthesia
- **Hist:**
  - ➢ Oval nests of cuboidal or polygonal Cs w hyperchromatic nuclei
  - ➢ **Three main patterns:**
    - ❶ **Cribriform pattern:**
      - ➢ Classic form
      - ➢ Islands punctuated w multiple microcystic spaces
      - ➢ **"Swiss cheese"** or "honeycomb" appearance
      - ➢ Eosinophilic or basophilic substance

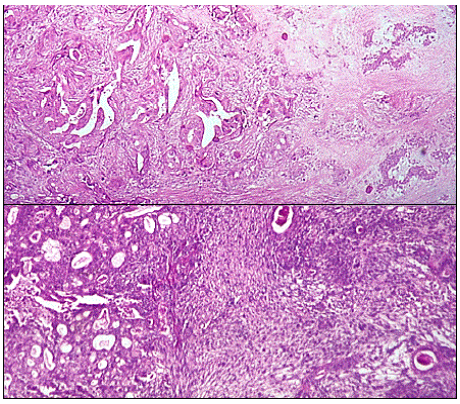


    - ❷ **Tubular pattern:**
      - ➢ Small ductal elements lined by basaloid Cs



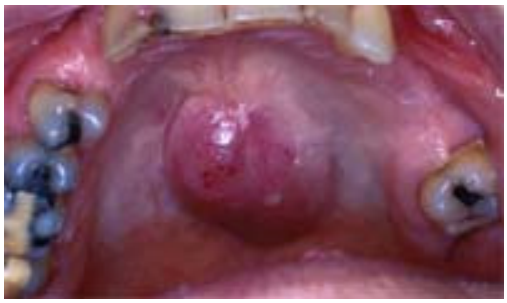
    - ❸ **Basaloid pattern:**
      - ➢ Solid nests of basal Cs
  - ➢ Nerotropism
  - ➢ Marrow spaces
- **Prognosis:**
  - ➢ 75% 5-y SR, 40% 10-y SR, <20% 20-y SR
  - ➢ Basaloid

⌦ Ca ex PSA:



- PSA (many ys & LR → pain, palsy, ulceration
- Uncommon
- Parotid
- **Hist:**
  - ➢ Ca features adjacent to PSA
  - ➢ AdenoCa, undifferentiated Ca
- **Prognosis:**

⌦ Polymorphous low-grade adenoCa:-



- Palate
- **Hist:**
  - ➢ Cytologically benign-looking pale-staining Cs
  - ➢ Tubular, lobular, papillary, papillary cystic, Cribriform
  - ➢ Invasion & spread

⌦ Other Ca:

- AdenoCa (NOS)
- Basal Cell AdenoCa
- SCC
- Sebaceous Ca
- Undifferentiated Ca