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 “owl-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

- Parotid papilla & duct stricture:
  - Chronic trauma to parotid papilla
  - Surgery
  - Ulceration around a stone

- 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:**

    1. **Primary SS (Sicca S):** xerostomia & Xerophthalmia
    
    2. **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* \(^{99mTc}\) 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:**

- 5th & 6th 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 LN’s → Adenolymphoma
- **Clinically:**
  - ☢ Almost exclusively in parotid, 9% of parotid tumours
  - ☢ M>F
  - ☢ 5<sup>th</sup> & 6<sup>th</sup> 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
- 7\(^{th}\) decade
- **Clinically:** \(\approx\) 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, 8\(^{th}\) decade
- **Clinically:** \(\approx\) 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:**
    - **Cribriform pattern:**
      - Classic form
      - Islands punctuated w multiple microcystic spaces
      - “Swiss cheese” or “honeycomb” appearance
      - Eosinophilic or basophilic substance
    - **Tubular pattern:**
      - Small ductal elements lined by basaloid Cs
    - **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 adenocarcinoma:

- Palate

Hist:

- Cytologically benign-looking pale-staining cells
- Tubular, lobular, papillary, papillary cystic, Cribriform
- Invasion & spread

Other carcinomas:

- Adenocarcinoma (NOS)
- Basal cell adenocarcinoma
- SCC
- Sebaceous carcinoma
- Undifferentiated carcinoma