

Other Infections Occured in the Mouth



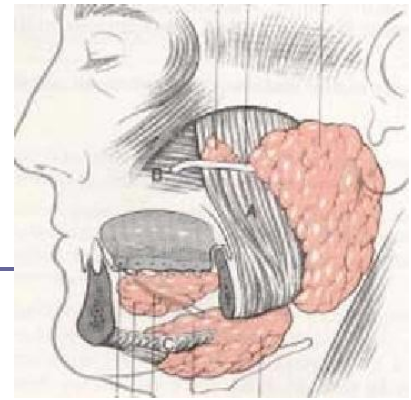
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What are they?

- ❑ **Salivary gland infections**
- ❑ **Gingivostomatitis**
- ❑ **Herpangina**
- ❑ **Other viral infections**
- ❑ **Ludwig angini**
- ❑ **Actinomycosis**
- ❑ **steomyelit**



Salivary gland infections



- Salivary gland infections (**siyaladenit**);
 - Commonly viral and less commonly bacterial
- Major salivary gland infections most commonly seen at **parotit**
- Salivary gland infections (apart from mumps, new born suppurative parotit and repetitive parotit) can be seen in adult periods

- **Sialadenit** prevalence-
 - Age
 - General health status
 - Immune system
 - Hydration status
 - Drugs and trauma

Aetiology

- Ductal anomaly
- Foreign body
- Dental treatment
- Systemic granulomatous disease

Salivary gland infections

- Clinical symptoms of **Sialadenitis** ;
 - **Swelling** and **pain** around salivary gland during feeding
 - **Pain** at salivary gland palpation during clinical examination
 - **Salivary juice rate** decreases
 - **Rash** at the site where canal and mouth meets
 - Oedema
 - Purulent secretion
 - Inflammation



Salivary gland infections

□ **Diagnosis**

- Ultrasonography
 - direct radiograms
 - computerized tomography
 - magnetics rezonance
- Important**
- White blood cell formula (help diagnosis)
 - Bakterial parotit: **leucocytosis**
 - Viral parotit: **leucopenia** and **lymphocytosis**

Viral Infections of Salivary Glands

Epidemic parotit (mumps)

- Agent mumps virus (MUMPS) (RNA virus)
- Target;
 - **Lymphocytes** in circulation, especially active **T lymphocytes**
- Virus,
 - Reach to salivary gland epithelial by circulation
 - Multiply in that cells
 - Join to salivary and blood
- **Infection;**
 - Oedoma at salivary gland and **mononuclear infiltration**

Mumps – Clinical Symptoms

- ❑ Fever, sore throat, trismus and ear ache
- ❑ Effect one or both of the Parotid glands
- ❑ Symptoms of infection **mild** and **short time** (2 days)
 - 2 weeks /high fever can also be seen
- ❑ Generally recoverable
 - meningoencephalitis (%30)
 - orchitis (%25)
 - thyroiditis, nevritis, myocarditis and nephritis (rare)
- ❑ **DIAGNOSIS:** Generally clinical
 - Serology: **IgM antibody** against mumps virus
 - Electron microscopy: **Viral particles** in salivary



COMPLICATION

Other Viral Infections

□ Other viral agents that infect salivary glands;

- Cytomegalovirus (CMV)
- HHV-7
- Parainfluenza type 2 and 3
- Echo viruses
- Coxsackie viruses

Rare

**NONSUPURATIVE
SIALADENITIS**

Bacterial Infections of Salivary Glands-

Akut suppurative parotit

- Most commonly in adults with salivary glands anomaly
 - Clinical Symptoms;
 - Swellings at Parotid glands (single or both sides)
 - Purulent secretion at opening point of the canal
 - trismus
 - Swelling around ear
- Infection is **polymicrobial**
- Most commonly seen **aerobes**;
- *S. aureus* and *H.influenzae*
- Most commonly seen **anaerobes**;
 - *Prevotella*, *Porphyromonas* and *Fusobacterium species*
 - *Peptostreptococcus species*



Bacterial Infections of Salivary Glands-

Akut suppurative parotit

TREATMENT

- After culture/antibiogram parenteral Ab application
 - Antibiotics resistant against Penicillinase
 - Surgical drainage in severe cases

KOMPLICATION

- Inflammation at neck;
 - Respiratory difficulty
 - Cellulitis around face and neck
 - Osteomyelitis at neighbour bones
 - meningitis
 - Rarely septicemia and death



Vincent Stomatit

□ Vincent stomatit;

- Pain, gingiva bleeding, necrosis at interdental papil
- Bad breath, psseudomembran formation, attached gingiva and necrosis on oral mucosa in severe cases
- **fusobacteria** and **spirochetes in mouth** are agents
- *Prevotella melaninogenica* and *Selenomonas* species are also agents

PREPARER FACTORS

- HIV, Viral INFECTIONS, stress, sleeplessness, malnutrition
- Leucopenia, bad mouth hygiene, smoking

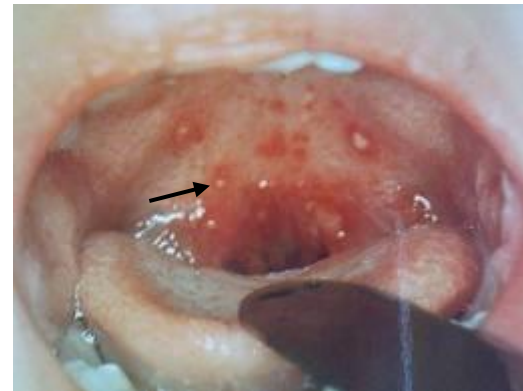
TREATMENT

- Penicilline, metronidazol, chlorhexidine gargle



Herpangina

- Agent: **Coxsackie A** virus (A2, A4, A5, A6 ve A8)
- Especially in children(all ages)
- **Clinical symptoms;**
 - Fever, sore throat, dysphagia, anorexia and sometimes neck stiffness
 - Additionally **oral** and **faryngeal lesions**
 - **Lesions;**
 - In mouth mucoses,especially in plate 1-2 mm diameter grey-white color in middle, red in edges papuloveziculer
 - Disease continue 3-4 days, vezicles recovers with lowering fever



Other Viral Infections :

Herpetic lesions

- *Herpesviridae* members
- Important common features;
 - Primer, latent and recurrent infection
- Primer herpetic gingivostomatitis
 - Agent HSV-1 and HSV-2
 - Fever, swelling of lymph nodes, starts with mouth and throat pain
 - Vesicles on Mouth mucosae, tongue, gingiva and lips
 - Small, irregular, grey-white ulcers
- Herpetic whitlow
 - Infections around nail edges during the contamination of salivary contaminated with viruses of medical personnel and dentists



Other Viral Infections:

EBV

- Infectious mononucleosis
- Burkitt lymphoma: malign tumour in African children
- Nasopharyngeal carcinoma: Significant geographics in China
- Oral Hairy leucoplakia
- Especially edges of tongue (lateral borders)
 - HIV infected people
 - Elongated white coloured lesions



Hairy
leucoplaki



Burkitt
lymphoma

Ludwig Angini



- ❑ Infections of Submandibular /sublingual space
- ❑ Generally(%90) **dental infection** or after **tooth extraction**
- ❑ Rarely occurs after submandibular sialadenitis
- ❑ **Clinical findings:**
 - High fever
 - Important complication can also be seen
 - 1-Nasopharynx narrowing and air way blocking during tongue and velopharynx oedema
 - 2- Infection spread to masticator and pharyngeal fascial spaces
 - 3- Death due to apnea
- ❑ **Agents:** *Bacteroides, Fusobacterium, anaerobic streptococci*
- ❑ **Treatment:** Parenteral treatment, close follow up, surgical intervention

Actinomycosis



□ Actinomycosis:

- Endogen, chronic, granulomatous disease
- Cervicofacial region (%65), abdomen (%10-20), lungs and skin

□ Agents: Most commonly *A. israelii*

- *A. israelii*, generally dental plate, tartar, decay
- Less commonly other *Actinomyces species* are agents

□ Become chronic due to insufficient treatment

Actinomycosis



Fig. 3. Infección por Actinomyces a través de un absceso maseterino drenando a piel.

Actinomyces infection from a masseter abscess opened to the skin.

- Pü drainage of fistula through skin
- Pü involves yellow granules
 - This granules “**sulphur granules**”

- Disease most commonly effects **submandibular** region
- Most commonly Maxillary sinuses, alivary glands and rarely tongue

- **Laboratory diagnosis**
 - Sulphur granule sin Pü samples
 - Culture: colonies like molar teeth
 - Gram stain; gram (+) filamentous basilli

Actinomycosis

TREATMENT

- Diagnosis of dental source and removal
- Incision of abscesses and drainage
- Antibiotic treatment
 - Penicillin 2-3 weeks
 - Tetracycline and clindamycin for penicillin allergens

Osteomyelitis

- Akut osteomyelitis more common in children below 10 years
- Chronic form is more common in adults
- Akut osteomyelitis agents
 - *S.aureus*, (75%) *H. influenzae*, *S.pneumoniae* and other *streptococci*
 - *Salmonella*, *Brucella* and *Bacterioides* rare
- Chronic osteomyelitis agents
 - Commonly *S.aureus*,
 - rarely *M.tuberculosis*, *Salmonella* and *Brucella*
- Sources of microorganisms is any septic lesion
- Spread to bones by hematogenously

Osteomyelitis in jaws

- Infection of medullar cavities of jaws
- Spread to cortical bone and periost can occur

- **Factors :**
 - Paget's diseases, osteopetrosis, fibrosis dysplasia, bone tumours
 - Radyotherapy applied to jaw bones
 - Malnutrition or immune immundeficiency

- **Infection;**
 - Reach to the jaw bone via blood stream or odontogene
 - Become chronic if untreated

- **Agents:** Most common *Bacterioides*, *Prevotella*, *Porphyromonas*, *Fusobakter* and *anaerobic streptococcus*
 - *S. aureus* and *Enterobacters* rare

Osteomyelitis in jaws

Clinik Symptoms:

□ Akut osteomyelitis

- Ağrı, hafif ateş, ilgili alanda ciltte parestezi veya anestezi
- Dişlerde mobilite
- Dişeti oluşu veya fistüllerde pü drenajı

□ Chronik osteomyelitis

- Systemic features of infection is minimal
- Few pü grainage in chronic fistula

□ **Treatment:** Penicillin G, clindamycin to allergens

□ Tooth extraction, **sequestrectomy, jaw resection and reconstruction**