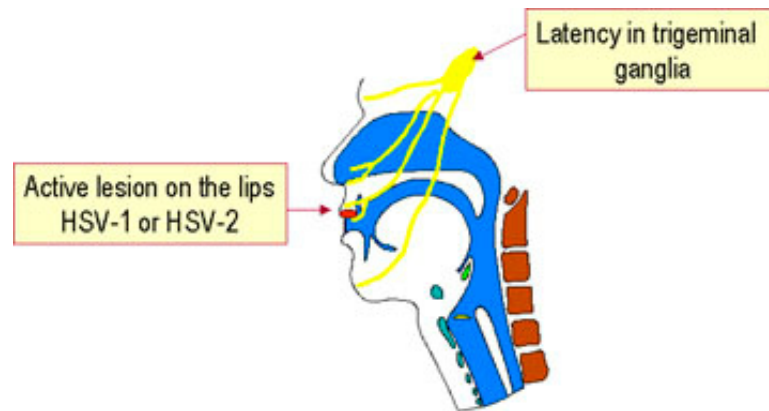
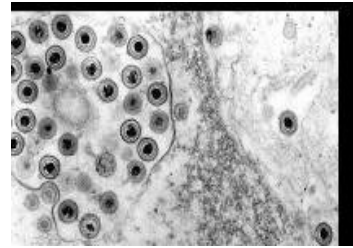


Oral Infections

❖ Viral Infections:

1. Herpes Simplex Virus:

- SS DNA
- Lytic to epithelial cells & latent in neural tissue
- Breaks in skin; intact mucus membranes ⇒ droplet spread or lesion contact
- Primary infection: most subclinical/mild pharyngitis
- Thru mucus membranes to infect peripheral nerves → ganglion
- Reactivation: stress, trauma, Cold, sunlight, fever, menstruation, gastric upset, immune ↓



- Migration → surface epithelial cells → recurrent infection (1/3)

▪ Primary herpetic gingivostomatitis:

- Young children
- Incubation period: ≈ 5 days
- Prodromal symptoms: fever & malaise
- Numerous, 2-3 mm vesicles on keratinized & non-keratinized mucosa
- + Widespread gingivitis
- Ulcers



- Fever, LN ↑ & tenderness, myalgia & dysphagia
- Circumoral crusting
- 7-10 days
- Eyes, chin

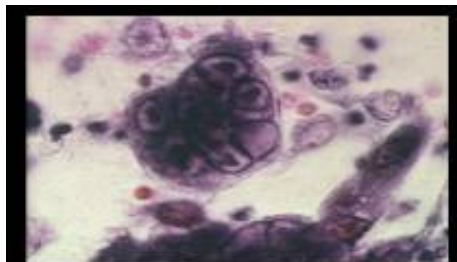
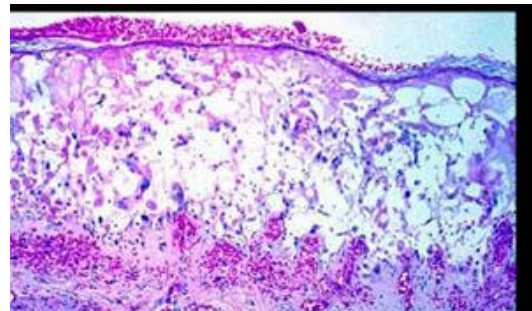


- **Herpetic whitlow:** vesicles, pain, ↑ fever, LN ↑ (axilla, arm)



- **Hist:**

- Intraepithelial vesicles
- Ballooning degeneration
- Giant Cs
- Variable ICI in LP



- **Recurrent herpetic infection:**

Δ: Local symptoms

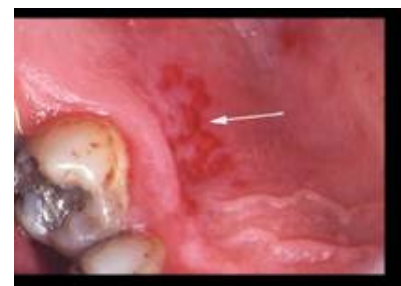
Δ: **Herpes labialis:**

- Prodromal phase
- Cluster of vesicles



Δ: **Recurrent intraoral herpes:**

- Dental treatment
- Hard palate, maxillary gingiva, LBT



2. Varicella-Zoster Virus (VZV):

- **Varicella or “chicken pox”**

- i. Childhood
- ii. Inhalation of droplets
- iii. IP for 2 wks \Rightarrow fever, malaise & characteristic rash
- iv. Oral vesicles
- v. \Rightarrow Latent



- **Herpes Zoster or “Shingles”**

- i. Rare
- ii. Predisposing factors
- iii. Age
- iv. Prodromal symptoms \Rightarrow Unilateral vesicular rash
- v. Trigeminal nerve
- vi. Complications:
 - a. Scarring
 - b. Post-herpetic Neuralgia
 - c. Ramsay-Hunt Syndrome



4. Herpangina:

- Coxsackie Virus (Picornavirus, RNA)
- Coxsackie A (1-23) & B (1-6)
- A (1-6, 8, 10, 12, 16, 22), B (1-5)
- Inhalation
- Outbreaks
- Clinically:
 - i. Sore throat, dysphagia, mild fever & malaise



ii. Small vesicles (oropharynx)

iii. \approx 7 days

5. Hand, foot & mouth disease:

- Coxsackie A16 & 9, and others
- Outbreaks
- Clinically:
 - Malaise, mild fever, nausea
 - Small vesicles with erythematous base/palms & feet
 - Then, oral vesicles for up to 2 wks

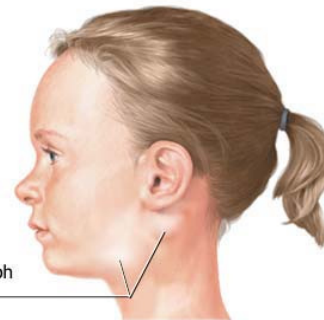


5. Infectious mononucleosis:

- EBV
- Children: Subclinical
- Adolescents & young children
- IP: 30-50
- Fever, malaise, anorexia, sore throat
- Facial edema & creamy tonsillar exudate
- Petechia & ulcers, pericoronitis
- Generalized tender LN \uparrow \pm \uparrow Liver & spleen
- **Dx:** serology, Monospot slide test, Paul-Bunnell test
- Hairy Leukoplakia, Burkitt's lymphoma, Nasopharyngeal Ca, Lymphoma

Mononucleosis causes:

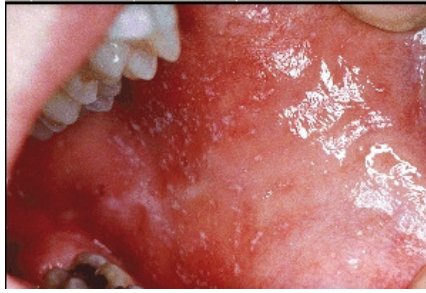
- Fever
- Fatigue
- Sore throat
- Swollen lymph glands



6. Measles:

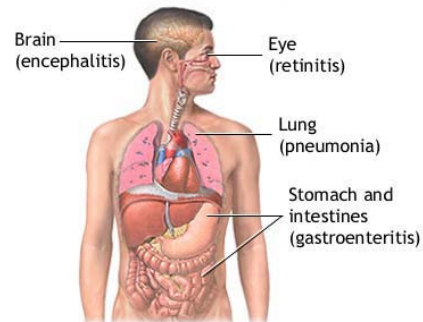
- Contagious
- RS \Rightarrow skin bld vessels \Rightarrow skin rash \pm pneumonia & encephalitis
- Fever, cough & headache

- Koplike spots
- Gangrenous stomatitis (Cancrum Oris, Noma)



7. Cytomegalovirus:

- Secretion
- Blood, intimate contact & organ transplant
- Infection in early childhood
- Latent in epithelial cells of Kn or oropharynx
- Immunocompetent \Rightarrow mild disease (pharyngitis, LN \uparrow , malaise, fever)
- Immunocompromised: IMN, hepatitis, pneumonia, encephalitis, thrombocytopenia
- Oral manifestations: non-specific ulceration, SGs, Cyclosporine-induced GH



❖ Bacterial infection:

▣ Acute necrotizing ulcerative gingivitis (ANUG)

- Uncommon
- Young adult males
- **Clinically:**
 - Sudden onset
 - Crater-shaped ulcers
 - at tips of interdental papillae
 - Margin
 - Slough
 - Marginal gingiva
 - Soreness, bleeding, halitosis, metallic taste, \uparrow salivation
 - Fever, malaise, LN \uparrow
- **Hist:**

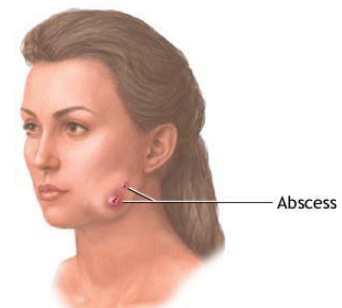
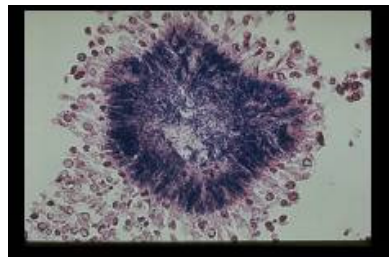


- No surface epith
- Slough: fibrin, necrotic Cs, bacteria, RBCs
- LP: Marked AICI
- G-stain: Anaerobic spirochetes & fusibacterium
- E.M: tissue invasion
- Endogenous
- **Predisposing factors:**
 - Poor OH
 - Gingivitis
 - Smoking
 - Stress
 - Fatigue
 - Trauma
 - Immunity
- Recurrence
- **Noma (Cancrum Oris)**



▣ **Actinomyces:**

- Actinomyces israelii, viscosus & naeslund
- Injury, surgery, extraction, periapical infection, pericoronitis
- Soft tissue swellings, multiple sinuses, trismus, mild pain
- Scarring
- **Hist:** sulphar granules

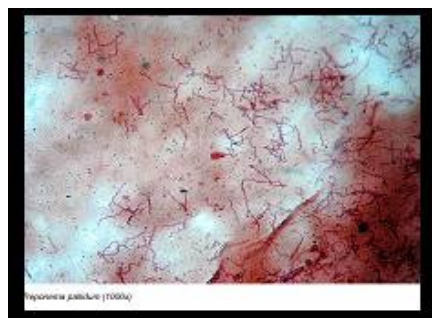


▣ **Syphilis:**

- Trepanoma pallidum
- **Three stages:**

■ **Primary syphilis:**

- IP 3 wks ⇒ firm nodule (≈ 6mm) ⇒ rounded, shallow, painless ulcer w clean base & raised, indurated edges (**Chancre**) + regional LN↑



- Genitals & oral cavity (A few wks)
- **Hist:** Ulcerated GT w a dense CICI



■ Secondary syphilis:

- 2-6 m of infection
- Mild fever, malaise, headache, sore throat & generalized LN↑
- Followed by rash (Coppery macules) & stomatitis
- Orally: “Snail’s track ulcers” & “mucous patches” (tonsils, LBT & Lips)
- Discharge: spirochetes
- 2-3 wks

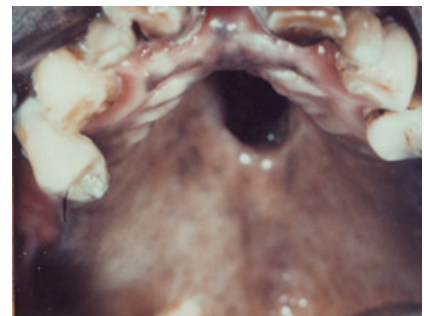


■ Tertiary syphilis:

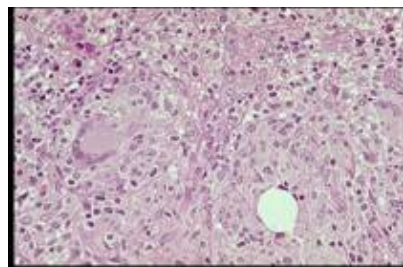
- ≥ 3 years of infection
- ≈ Every organ

• (1) *Gumma*:

- Palate, T, tonsils
- Swelling ⇒ necrosis ⇒ painless, deep round ulcer
- Severe scarring or perforation



➤ **Hist:**



- (2) *Atrophic glossitis*
- (3) *Syphilitic leukoplakia*



■ **Congenital syphilis:**

- Transplacental
- Severity varies
- Hutchinson triad: blindness, deafness & dental anomalies



■ **Tuberculosis:**

- Mycobacterium tuberculosis
- Aerosols \Rightarrow terminal alveoli \Rightarrow M Φ \Rightarrow adjacent tissues & regional LNs
- AIDS & resistance
- **Oral lesions:**
 - 3.5%
 - Immuno-compromised
 - Angular ulcer
 - Tuberculous lymphadenitis
 - Chronic osteomyelitis
- **Hist:** caseating granulomas



■ **Leprosy:**

- Mycobacterium leprae
- Southeast Asia, South America & India
- **2 types:**
 1. **Tuberculoid leprosy:** limited, CMI \uparrow ; HI \downarrow
 2. **Lepromatous leprosy:** generalized, CMI \downarrow ; HI \uparrow ,
- **Oral lesions:**
 - 50% of those w type 2
 - Nodules \rightarrow ulcers \rightarrow fibrosis
 - H & SP, AMxG & T
 - Facial deformity

