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ORAL MANIFESTATION OF VIRAL DISEASES



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THE AIM

- Viral diseases:
- 1-Herpes viruses
- 2-HPV
- 3-HIV
- Oral manifestation
- Management of viral infection



HERPES SIMPLEX VIRUS INFECTION

The primary infection which occurs on initial contact with the virus is acquired by inoculation of the mucosa, skin, and the eye with infected secretions.

The virus then travels along  the sensory nerve axon and establishes chronic, latent infection in the sensory ganglion(trigeminal ganglion)

- The most common sites of infection are the **oral** and **genital** mucosa and the **eye**
- HSV infection of the cornea(keratitis) is a major cause of blindness in the world
- HSV-1 OR -2 may cause **herpes whitlow** . This was a common occupational hazard before the widespread use of gloves



- HSV has been recovered in the endoneurial fluid of 77% of patients with **bell palsy**




- Treatment with antiviral therapy resulted in better outcomes, further supporting the concept of HSV involvement in the pathogenesis of bell palsy

PRIMARY GINGIVOSTOMATITIS

RECRUDESCENT HSV 

PRIMARY GINGIVOSTOMATITIS

- generally occur in children and teenagers
- there is a **one- to three days viral prodrome** of fever, loss of appetite, malaise, and myalgia
- Headache and nausea 
- Oral pain leads to poor oral intake, and patients may require hospitalization for hydration
- The disease is self-limiting in normal patients, and resolves within 10-14 days typical for a viral illness.

ORAL FINDING


- ◉ Within a few days of the prodrome **erythema and clusters of vesicles and ulcers** appear on the keratinized mucosa of the hard palate mucosa, attached gingiva and dorsum of the tongue and the non-keratinized mucosa
- ◉ Primary HSV infection in adults follows a similar pattern

PRIMARY GINGIVOSTOMATITIS





RECRUDESCENT ORAL HSV INFECTION

- Asymptomatic shedding of HSV is not associated with systematic signs and symptoms
- On the lips : RHL
- In the oral cavity : RIH 
- occurs in 8_10% of patients following dental treatment.
- Fever, UV, trauma, stress, and menstruation are important triggers for reactivation of HSV.

- Recrudescence HSV on the lips is called recurrent herpes labialis (RHL) and occurs in 20-40% of the young adult population
- With a prodrome of itching, tingling and burning
- Pain is present only within the first two days


RECURRENT HERPES LABIALIS



papules → vesicles → ulcers → crust → resolution




RECRUDESCENT INTRAORAL HSV

- RIH occurs on the keratinized on the keratinized mucosa of the hard palatal mucosa, attached gingiva, and dorsum of the tongue
- They present as 1-5 mm  single or clustered painful ulcers with a bright erythematous border

RECRUDESCENT INTRAORAL HSV



HSV IN IMMUNOCOMPROMISED PATIENTS

- Those undergoing chemotherapy , organ transplantation, AIDS, may occur at any site intraorally
- May be several centimeter  in size
- May last several weeks or months if undiagnosed and untreated

RECRUDESCENT HERPES SIMPLEX VIRUS INFECTION IN A PATIENT WITH LYMPHOMA.




LABORATORY DIAGNOSIS

Diagnosis is by culture, antigen identification, or nucleic acid amplification techniques.


HSV isolation by cell culture with further herpes typing is the **gold standard test** for the diagnosis.

MANAGEMENT

PRIMARY HSV INFECTION

- ◉ Pain control , supportive care
- ◉ **Acyclovir**: inexpensive , safe , available
- ◉ Inhibits viral replication and is activated by virally produced thymidine kinase 
- ◉ 15 mg/kg five times a day in children

RECRUDESCENT HSV

- Reducing tissue damage (sunscreen)
- 5% acyclovir cream 5 to 8 times a day 
- 2 g Valacyclovir twice a day

HSV IN IMMUNOCOMPROMISED PATIENTS

- Resistance is seen in immunocompromised patients.
- **Foscarnet or Cidofovir** in acyclovir-resistant HSV.
- A number of vaccines and new therapies against HSV are currently under development.

VARICELLA-ZOSTER VIRUS INFECTION

- ◉ VZV , an a. herpesvirus, leads to **varicella(chicken pox)**
- ◉ The virus becomes latent, in the dorsal root ganglia of cranial nerves
- ◉ Reactivation produces herpes zoster infection called **shingle**.
- ◉ Incidence Increases with **age** and the degree of **immunosuppression**
- ◉ Postherpetic neuralgia

CLINICAL FINDINGS

Primary Vzv infection occurs in the first two decade

Begins with a low-grade fever, malasia , maculopapular rash and vesicles.



Shingle occurs in adults , starts with a prodrome of **deep , aching pain**

- ◉ No fever- no lymphadenopathy
- ◉ 2 to 4 days later appearance of vesicles :
unilateral, linear, clustered

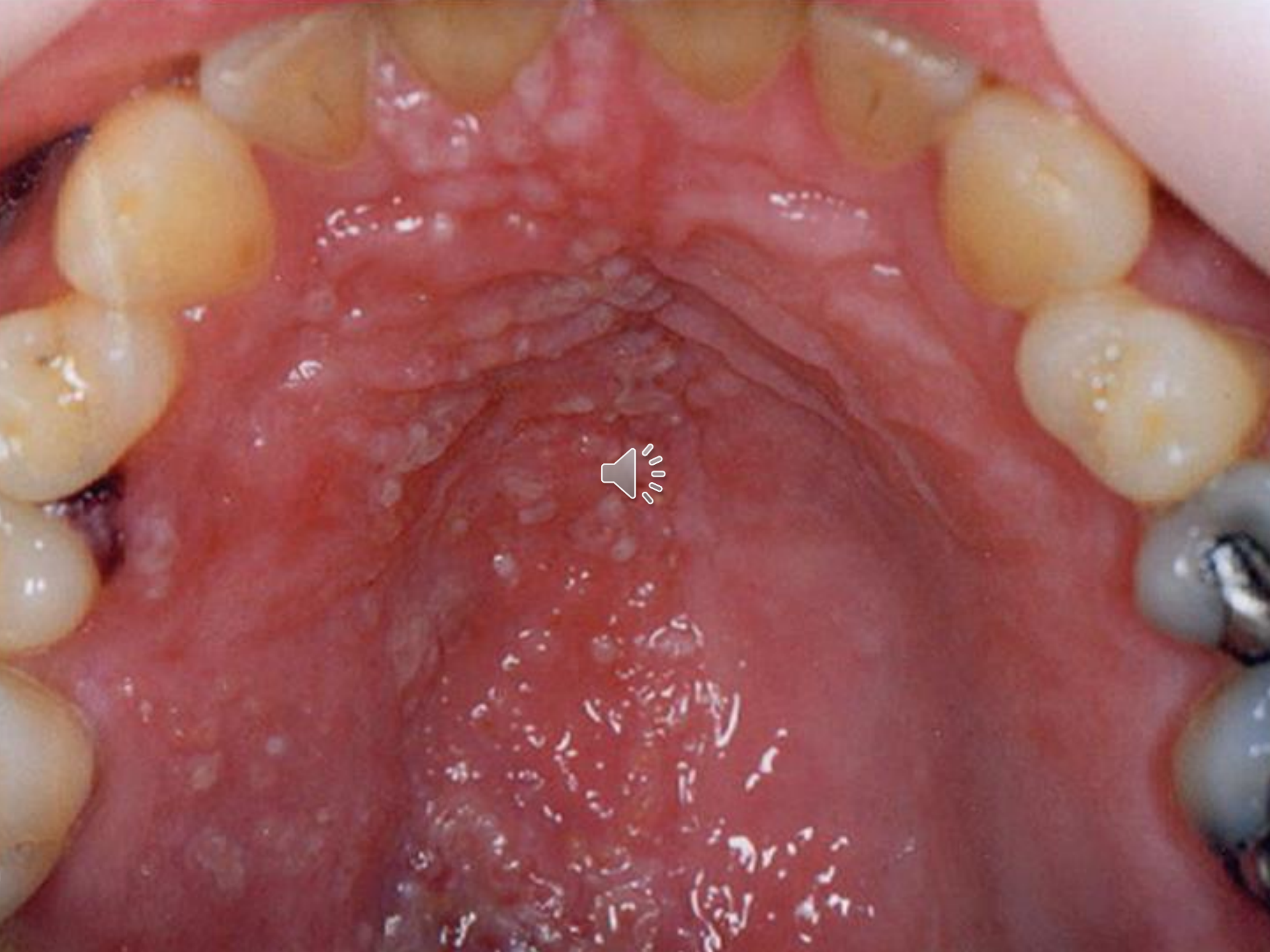
ORAL MANIFESTATION

- ⦿ The **ophthalmic (v1)** division is the most affected
- ⦿ Corneal involvement may lead to blindness





VZV






MANAGEMENT

- Pain control, supportive care
- VZV: acyclovir 800 mg 5 times a day
- HZI : valacyclovir 1000 mg 3 times a day/ (should be started within 72 hours)


- **Aspirin** use specially in children with **VZV** infection or **influenza** : reye syndrome
- **Ibuprofen** : the preferred analgesic

POSTHERPETIC NEURALGIA

- The first line: gabapentin, 5% lidocaine patch, topical capsaicin
- The second line:  opioid analgesics and tricyclic antidepressants and corticosteroids.

COXSACKIEVIRUS INFECTION


⦿ In the oral cavity , CV lead to three disease:

1. HFM disease 
2. herpangina
3. Lymphonodular pharyngitis

CLINICAL FINDINGS

- ◉ Children younger than 10 years
- ◉ Summer
- ◉ Low-grade fever and sore mouth
- ◉ The rash is first red and macular then becomes vesicular

ORAL MANIFESTATION

- ◉ Begin as **erythematous macules** and become **vesicles** and **ulcers**
- ◉ Locate on **tongue** -  **hard and soft palate** - **buccal mucosa**



HERPANGINA


○ CVA(1-10)



CLINICAL FINDINGS

- Children younger than 10
- Summer
- Fever - headache - myalgia (last 1-3 days)

ORAL MANIFESTATIONS

- The first symptom: sore throat and pain on swallowing
- Erythema of oropharynx  , soft palate, tonsillar pillars
- Vesicles break down to 2-4 mm ulcers (5-10 days)



Prof. Ricardo Gomez



LYMPHONODULAR PHARYNGITIS


◎ CVA10






Sore throat. No vesicles,
diffuse small & yellow
nodules

MANAGEMENT

- Self-limiting
- Control of fever and mouth pain 
- No antiviral agents

ORAL HPV ASSOCIATED LESIONS

- ◉ There are several benign oral epithelial virus-induced growths Principally caused by HPV.
- ◉ Viral papilloma (squamous papilloma) is common 
- ◉ Much attention has been focused on the relationship between oncogenic genotypes
- ◉ (predominantly HPV 16) and oropharyngeal carcinogenesis.


SQUAMOUS PAPILLOMA

- An isolated small (<1cm) growth
- On the palate
- Pink to white
- Wrinkled
- Exophytic
- pedunculated





COMMON WART (VERRUCA VULGARIS)

- ◉ HPV 2 - HPV 57
- ◉ Generally found on the skin (often on the fingers)

- ◉ When involving the oral cavity clinically are similar in appearance to viral papilloma
- ◉ Lips - gingivae - hard palate

COMMON WART (VERRUCA VULGARIS)



AIDS, HIV INFECTION, AND RELATED CONDITIONS

- **Etiology**

- AIDS is caused by HIV, a nontransforming retrovirus of the lentivirus family. There are two HIV subtypes:

- HIV-1



- and HIV-2, and many strains of each.

CLINICAL PRESENTATION

- ◉ **Signs and Symptoms:**
- ◉ During the first 2 to 6 weeks after initial infection with HIV, more than 50% of patients develop an acute flulike syndrome marked by viremia that may last 10 to 14 days.
- ◉ Others may not manifest this symptom complex.

CLINICAL PRESENTATION

- Symptomatic persons often develop lymphadenopathy, fever, pharyngitis and a skin rash but generally do not display circulation antibodies until the 6th week to 6th month.

ORAL COMPLICATIONS AND MANIFESTATIONS


-Common oral manifestations include

- ◉ candidiasis of the oral mucosa.

Kaposi sarcoma

- ◉ hairy leukoplakia of the lateral borders of the tongue

DENTAL MANAGMENT

- A major consideration in dental treatment of the patient with HIV infection/AIDS involves determining the current CD4+ lymphocyte count and level of immuno-suppression of the patient. 
- Generally, this is true for patients with a CD4+ cell count of more than 350/ μ L

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THANKS

