

*18th Annual*  
**HIV CONFERENCE**  
of the Florida/Caribbean AIDS Education and Training Center

May 1-2, 2009  
Orlando, FL

# Oral Health in HIV Patients

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## Disclosure of Financial Relationships

This speaker has no significant financial relationships with commercial entities to disclose.

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## Objectives

1. Recognize the importance of oral health to systemic health
2. Identify abnormal oral findings
3. Identify oral manifestations associated with HIV infection
4. Increase ability to treat oral conditions

## The oral cavity reflects the systemic status of the patient

- |                                   |  |
|-----------------------------------|--|
| 1. Diabetes                       |  |
| 2. Cardiovascular disease         | -Spread of infection from the oral cavity.             |
| 3. Chronic granulomatous diseases | -Injury from circulating microbial toxins.             |
| 4. Pregnancy issues               |  |
| 5. Immunocompromise               |  |
| 6. Cancer-Metastasis              | - Immunological injury induced by oral micro-organisms |



## Variation of Oral Structures





## Importance of Oral Health in the HIV Patient

- Impact in the quality of life
- Infections
- Neoplasms
- Nutrition
- Self esteem



## Goals of Oral Health Program

- Help maintain adequate nutrition
- Educate patient regarding health maintenance
- Treat pain
- Eliminate sources of infection
- Control bleeding
- Identify pathology
- Contribute to self-esteem and quality of life

## HIV Complications

- Bacterial infections:
  - Mycobacterium avium complex (MAC) (any organ)
  - TB: symbiotic relationship
  - Salmonella (gastrointestinal)
  - Bacillary angiomatosis (*Bartonella henselae*)
  - Syphilis
  - Gonorrhea
  - Other

## HIV Complications

- Virus:
  - Herpes simplex (HSV) : oral and genital
  - Herpes Zoster
  - HHV 8: Kaposi's sarcoma
  - HPV : Condyloma acuminatum and cancer
  - EBV: Hairy leukoplakia, nasopharyngeal carcinoma
  - Cytomegalovirus: ophthalmic lesions
  - Hepatitis B-C. Cancer (more toxicity from medications)
  - Polyomavirus: leukoencephalopathy
  - Other

## HIV Complications

- Fungus
  - Candida
  - Systemic fungal infections:
    - Cryptococcosis
    - Aspergillosis
    - Blastomycosis
    - Histoplasmosis
    - Coccidiomycosis
    - Zygomycosis

## HIV Complications

- Parasitic infections:
  - Pneumocystis carinii: respiratory system
  - Toxoplasmosis: encephalitis
  - Cryptosporidiosis: intestinal

## HIV Complications

- Cancer:
  - Kaposi's Sarcoma
  - Hodgkin's lymphoma: prior infection  
Epstein Barr virus
  - Cervical cancer: associated with HPV  
previous infection
  - Anal cancer: HPV
  - Squamous cell carcinoma: HPV - EBV
  - Other cancers: liver - Hepatitis B and C virus

## HIV Complications

- Gingival and periodontal disease
- Xerostomia
- Decay
- Oral lesions often first clinical sign of HIV disease
- Signify disease progression
- Impact nutrition
- Impact medication compliance

## HIV Complications

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• CD4&lt;500/mm<sup>3</sup>: aphthous ulcers           <ul style="list-style-type: none"> <li>– Linear gingival erythema</li> <li>– Candida</li> <li>– HPV</li> <li>– Hairy leukoplakia</li> <li>– Non Hodgkin's lymphoma</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• CD4&lt;200/mm<sup>3</sup> <ul style="list-style-type: none"> <li>– Major aphthous ulcers</li> <li>– Hairy leukoplakia</li> <li>– Necrotizing ulcerative periodontitis</li> <li>– Candida</li> <li>– Herpes</li> <li>– Kaposi's sarcoma</li> <li>– Chronic granulomatous disease</li> </ul> </li> </ul> |
|---|---|

## HIV complications

- Thrombocytopenia
- Wasting syndrome
- Neurological complications:
  - dementia, behavioral changes, encephalitis, meningitis, confusion, depression.

## Syphilis



## Candidiasis



- Immunodeficiency
- Antibiotic treatment
- Steroids
- Diabetes
- Xerostomia
- Smoking
- Dentures

## Pseudomembranous Candidiasis



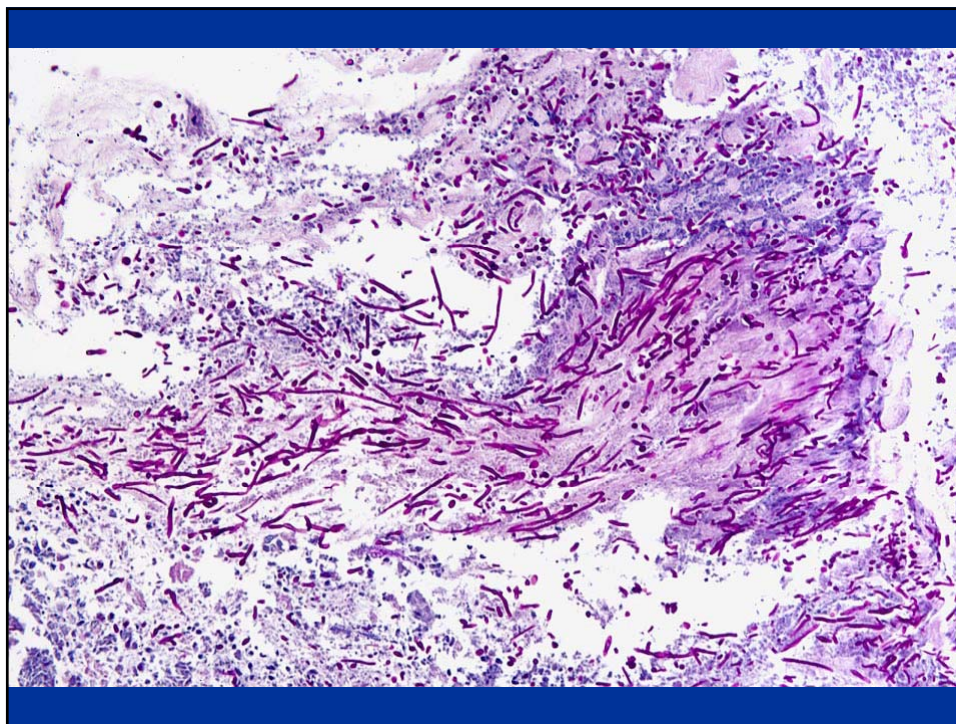


## Candidiasis



- Pseudomembranous candidiasis
- Atrophic
- Hyperplastic
- Median rhomboid glossitis
- Angular cheilitis





- Diagnosis:
  - Scraping test
  - Cytology
  - KOH
  - Culture
- Burning sensation
- Dysphagia
- Alteration of taste
- Bad taste

## Treatment

Topical Treatment: clotrimazole (Mycelex)  
nystatin pastilles (Mycostatin)  
Loz. 2000.000 U (#30) dissolve slowly in mouth 4-5  
times/day.  
Sus 4-6 mg/ml retain in mouth before swallowing

Note: may contain sugar  
Use topical fluoride in addition to antifungal agent

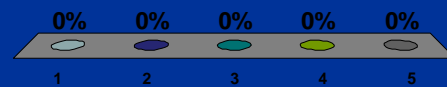
## Systemic

Fluconazole 100 mg tabs (Diflucan)  
Two tabs day one, then 1 per day for  
two weeks

- Intraconazole 100 mg (Sporanox) if  
no response to fluconazole for  
oropharyngeal candidiasis

The following factors may increase the risk of oral candidiasis, EXCEPT

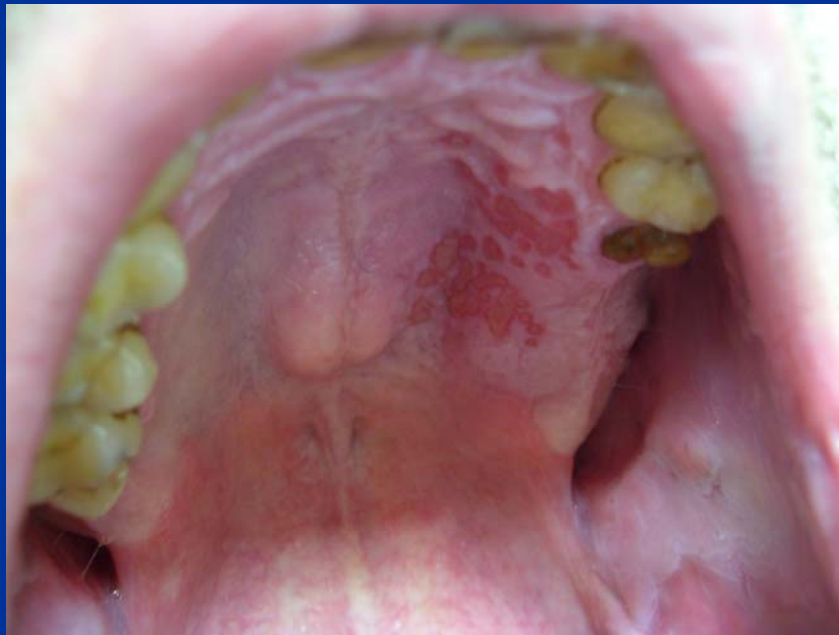
- 1- Antibiotics treatment
- 2- Immunodeficiency
- 3- Use of steroids
- 4- Use of antivirals
- 5- Removable dental appliances



## Common Viral Oral Lesions

- Herpes simplex (HSV)
- Condyloma acuminatum
- Hairy leukoplakia (EBV)
- Focal epithelial hyperplasia

## Recurrent Herpes Simplex





## Treatment

- Acyclovir (Zovirax)
- Caps: 200 mg
- Susp: 200mg/5ml
- Tab: 400 mg-800mg
  - 400 mg to 800 mg 5/day for 7-10 days
  - Adjust in renal disease

The following statements about recurrent herpes simplex are true, EXCEPT:

1. The most common involved area is the lip
2. May recur after dental treatment
3. Intra-orally, it appears in attached mucosa
4. Intraorally, it occurs only in immunocompromised patients

## Papilloma Virus- Condyloma Acuminatum







## Hairy Leukoplakia. EBV

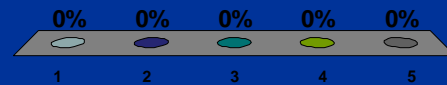


## Focal Epithelial Hyperplasia



## The following statements about Human Papilloma Virus are true, EXCEPT:

1. It is the etiology of verruca vulgaris
2. It is the cause of condyloma acuminatum
3. All types are associated with cervical cancer
4. It is the cause of squamous papilloma
5. Is the etiological factor of focal epithelial hyperplasia



## Chronic Granulomatous Diseases

- Histoplasmosis
- Cryptococcosis
- Blastomycosis
- Aspergillosis
- Toxoplasmosis
- TB

## Cryptococcosis

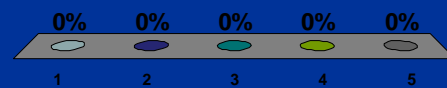


## Blastomycosis



## The following statement about histoplasmosis is true:

1. May affect spleen and liver.
2. Disseminated histoplasmosis is common in AIDS patients
3. Almost always affects lung
4. Lymphadenopathy is common
5. All of them are true



## The following statement is true:

1. Aspergillosis responds to antibiotics
2. One of the treatments for pneumocystis Carinii is famciclovir
3. Syphilis is treated with Amphotericin B
4. Candidiasis may be treated with fluconazole
5. Histoplasmosis refers to an anaerobic bacteria infection

## Linear gingival erythema



## Aphthous Ulcers



## Regarding aphthous ulcers:

1. They occur only in immunocompromised patients
2. Represent an immunologic reaction
3. They are rarely painful
4. Are associated with trauma
5. All of them are true

### For temporary relief of pain from several oral ulcers

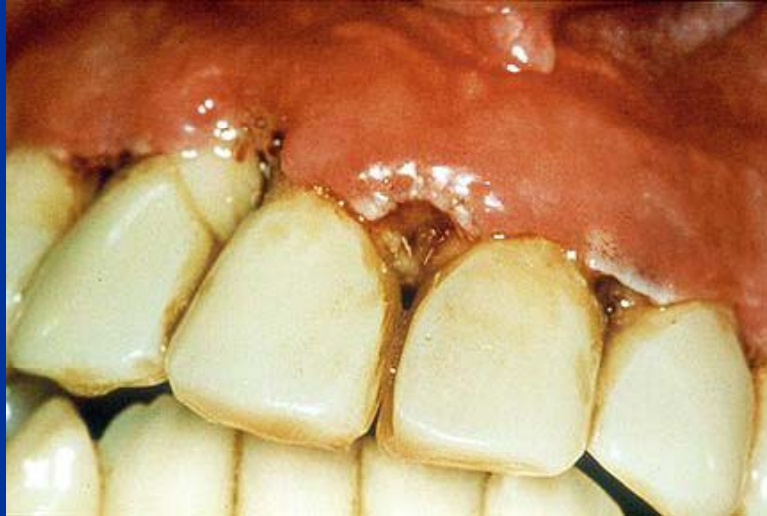
- Rx: Must be compounded
  - 80 ml 2% viscous xylocaine
  - 80 ml Maalox
  - 100 ml distilled water
- Disp: 260 ml
- Sig: Swish for 1 minute and expectorate

\*Note – gag reflex may be diminished or lost  
If one or two lesions, use Q-tip and apply

- Topical steroids:
  - Dexamethasone elixir (0.5 mg/5 cc)
    - Hold 1-2 teaspoonfuls in mouth 2 minutes, swish and expectorate, qid (for multiple ulcers)
  - Fluocinonide 0.05% ointment (Lidex), with 1:1 Orabase Apply qid
  - Clobetasol 0.05% (Temovate) Apply bid ..very potent
- Systemic corticosteroid therapy: for major or non-responsive lesions – as advised by physician

## Necrotizing Ulcerative Periodontitis

- Marker of severe immune suppression
- Extremely painful
- Exacerbated by tobacco & xerostomia



## Necrotizing Ulcerative Periodontitis Urgent Treatment

- Antibiotics
  - Metronidazole 250 mg 3 times per day for 7-10 days
  - Clindamycin 300 mg 3 times per day for 7-10 days
- Peridex or PerioGard Rinses (chlorhexidine gluconate 0.12%)
- Nutritional supplements
- Dental Tx within one week

- Xerostomia: oral dryness
  - Patient states they can't eat a meal without water
  - Frequent thirst
- Evidence of hyposalivation
  - Glove will stick to mucosa
  - No saliva observed in floor of mouth
  - Significant dental decay

- Sugar free gum
- Artificial saliva
- Biotene products
- Ice

## Anti-caries Treatment

### Fluorides

OTC: Gel-Kam  
(0.4% stannous fluoride)

Rx: Prevident Gel  
or Prevident 5000 Plus  
(toothpaste plus fluoride)

Non cariogenic diet as possible

## Neoplasms

- Squamous cell carcinoma
- Lymphoma
- Kaposi's sarcoma
- Other

## In situ

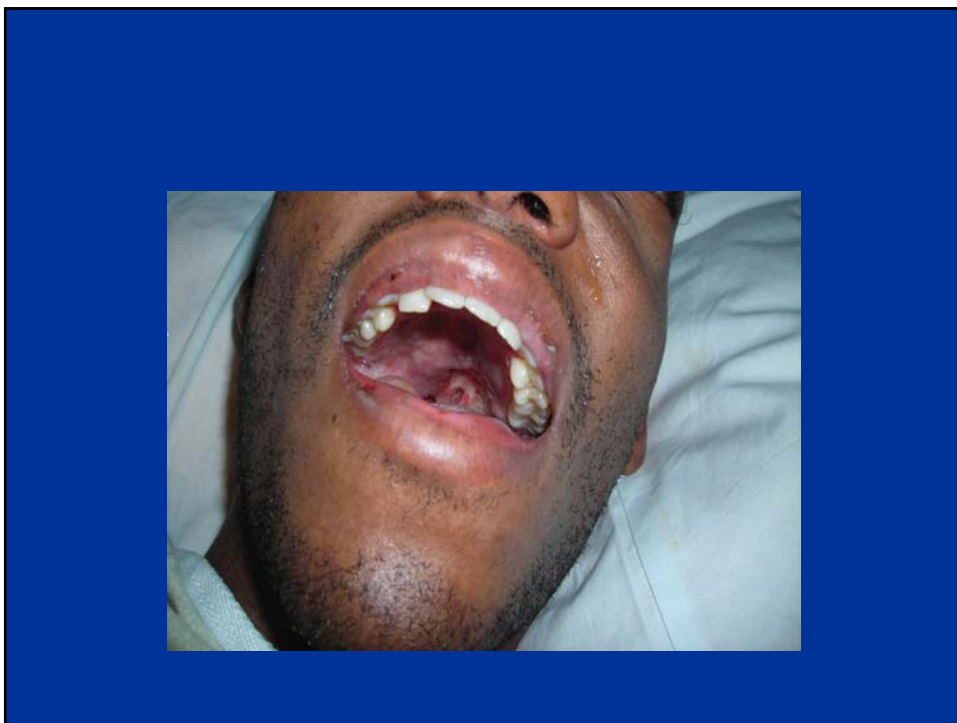


## Invasive squamous cell carcinoma









The most common location for oral cancer is:

1. Floor of the mouth
2. Gingiva
3. Dorsum of the tongue
4. Posterior lateral border of tongue
5. Hard palate

The following may be clinical manifestations of oral squamous cell carcinoma, EXCEPT:

1. A non healing ulcer
2. A crater-form lesion
3. A white verrucous lesion
4. Bilateral white striated lesions
5. An ulcerated mass

## The initial metastasis of oral cancer

1. To the liver
2. To the mandibular bone
3. Cervical lymph nodes
4. Vertebrae
5. Adrenal gland

## Lymphoma



# Lymphoma



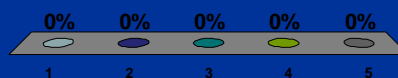


# Kaposi's sarcoma



## The etiologic factor of Kaposi's sarcoma is:

1. HIV
2. Herpes simplex 2
3. Cytomegalovirus
4. Herpes 8
5. Herpes zoster



## Medical Office

Initial management that can be provided in the medical office:

- Some periodontal conditions
- Pain and infections associated with dental decay
- Aphthous ulcers
- Urgent referral
  - Suspected oral cancer

0.12 % chlorhexidine gluconate  
rinses until the patient can be  
seen by a dentist.

## Dental Emergency

An acute emergency may include:

- Bleeding
- Swelling
- Fever
- Purulence
- Pain

## Emergency Situations Send to Hospital ER

- **Swelling if compromising the airway**  
– (Ludwig's angina)
- **Swelling if involving the eye**
- **Intraoral hemorrhage**

## Patient Home Care

- Brush at least 2 times per day
- Floss daily
- Dental cleaning at least every 6 months
- Non-abrasive toothpaste
- Fluoride
- Avoid tobacco
- Avoid alcohol
- Adequate Nutrition

- Routine screening for oral and skin cancer: Kaposi's sarcoma, melanoma, squamous cell carcinoma, basal cell carcinoma.
- Do not interrupt HIV treatment, that will increase risk of death
- Exercise in order to manage central fat gain during treatment

- HPV vaccine prevention of HPV related cancer
- HPV testing as indicator of the need of frequent screening for anal, cervix and oral cancer
- Periodic tests for cancer and TB
- Avoid cats contact to prevent toxoplasmosis
- Avoid being exposed to birds in order to prevent histoplasmosis
- Drink tap or bottle water and properly prepared food in order to prevent cryptosporidiosis

## Complications of ART

- Complications of ART involve the effect of HIV and the effect of ART superimposed on individual characteristics as genetics, age, gender
- Lipodystrophy
- Insulin resistance and glucose intolerance
- Dyslipidemia
- Lactic acidosis
- Avascular osteonecrosis
- Osteopenia and osteoporosis



- ***Thank you  
Very much  
for your  
attention***